United States Department of Agriculture

BOTANICAL BIOLOGICAL EVALUATION
FOR
NATIONWIDE AERIAL APPLICATION
OF FIRE RETARDANT
ON NATIONAL FOREST SYSTEM LANDS

USDA FOREST SERVICE WASHINGTON OFFICE

Prepared By: Terry R. Miller
Botanist
Forest Service Enterprise Program

Reviewed By: Laura Conway
Natural Resource Specialist
Fire and Aviation Management

Contents

List of Tables

Introduction

In October of 2011, the Forest Service signed the Record of Decision for the Nationwide Aerial Application of Fire Retardant on National Forest System Land (United States Department of Agriculture Forest Service 2011c), after completing the Environmental Impact Statement (United States Department of Agriculture Forest Service 2011b) and associated Endangered Species Act Section 7 Consultations. The Record of Decision implemented an adaptive management approach to protect resources when using aerially applied fire retardant. A five-year review was completed in 2017. The Endangered Species Act Section 7 consultation documents (United States Department of Commerce, National Oceanic and Atmospheric Administration, 2011, and United States Department of Interior, Fish and Wildlife Service, 2011) with the Services were amended as needed. All consultation documents expired on January 1, 2022.

The Record of Decision approved the use of aerially applied fire retardant and implemented an adaptive management approach that protects resources and continues to improve the documentation of retardant effects through reporting, monitoring and application coordination. Aerial retardant drops are not allowed in mapped avoidance areas or waterways. This direction is mandatory and implemented in all cases except where human life or public safety is threatened and retardant use within avoidance areas could be reasonably expected to alleviate that threat. Any misapplication will be reported, assessed for impacts, monitored and remediated as necessary. The Record of Decision also provided direction to better protect important heritage, cultural, and tribal resources and sacred sites; and approved aircraft operational guidance, avoidance area mapping requirements, annual coordination and reporting and monitoring requirements, and modifications resulting from Endangered Species Act Section 7 Consultation.

In order to assist in implementation of the Record of Decision, the Forest Service published the Implementation Guide for Aerial Application of Fire Retardant in 2012. The Implementation Guide has been updated as needed (United States Department of Agriculture Forest Service 2019). The document provides guidance for completing avoidance area mapping; requirements for pilots, fire operations, and resource specialists; reporting and monitoring instructions; and seasonal duties and annual training.

Avoidance area maps were developed beginning with the 2012 fire season and included aquatic avoidance areas and terrestrial avoidance areas. For aquatic avoidance areas, waterways, including perennial streams, intermittent streams, lakes, ponds, identified springs, reservoirs and vernal pools are given a minimum 300-foot buffer. Terrestrial avoidance areas are used to avoid impacts on a) one or more federally listed threatened, endangered or proposed plant or animal species or critical habitat where aerial application of fire retardant may affect habitat and/or populations; or b) any Forest Service terrestrial sensitive or candidate species where aerial application of fire retardant may result in a trend toward federal listing under the Endangered Species Act or a loss of viability on the planning unit (Forest). Depending on the species and protection requirements, there may be additional buffer widths for both aquatic and terrestrial mapped avoidance areas.

Each year the maps are reviewed, updated, and republished. The maps are available at different scales (Forest wide or by quadrangle) and from several data sources, both internal to the Forest Service and external. The Record of Decision also included a requirement for the Forest Service to annually assess five percent of all fires that are less than 300 acres in size and during which

aerially delivered fire retardant had been used and aquatic or terrestrial avoidance areas exist. The intent of this requirement was to determine if underreporting of retardant misapplications was occurring.

In total, from 2012 through 2019 there were 457 intrusion assessments completed for 244 fires with intrusions (Appendix B). In some cases, the misapplication was identified first, and that fire was used as the 5 percent reporting requirement by the forest. Of the reported intrusions: 213 were partially in water; 217 were in the water buffer only; 27 were in terrestrial avoidance areas. Out of the estimated 56,868 number of drops from 2012 through 2019, 0.80% were intrusions into avoidance areas. The percent of fires with an intrusion was 0.46 percent.

The purpose of this document is to disclose the potential effects of using aerially applied fire retardants, included now or in the future on the Forest Service Qualified Products list[1], on Regional Foresters' Sensitive Plant Species (i.e., "sensitive plants"). Forest Service Manual 2670 direction requires preparation of a biological evaluation for all Forest Service planned, funded, executed, or permitted programs and activities for possible effects on threatened, endangered, proposed, candidate for listing, or sensitive species. The Endangered Species Act requires a biological assessment to be completed to determine whether a proposed action is likely to "adversely affect listed species or designated critical habitat; jeopardize the continued existence of species that are proposed for listing; or adversely modify proposed critical habitat." The biological assessment prepared for this project is a separate document and fulfills both Forest Service Manual 2670 and Endangered Species Act requirements for threatened, endangered, and proposed species. This report addresses the potential effects on sensitive species, including candidate species, of the actions proposed in the Nationwide Aerial Application of Fire Retardant on National Forest System Lands Supplemental Environmental Impact Statement, and builds updates the information contained in Laufmann and Carsey (2011). This botanical biological evaluation analyzes 2,454 plant species listed as sensitive. A separate biological evaluation has been prepared for terrestrial and aquatic wildlife species. Impacts to nonnative invasive species are discussed in Appendix C.

Project Description

The U.S. Department of Agriculture, Forest Service, proposes to continue the nationwide use of aerial application of fire retardant. Effects described within this biological evaluation refer to aerial delivery of retardant only. This analysis does not address use of foams, water enhancers, ground-based application of retardants, or the environmental effects of wildland fire. Aerial use of fire retardant is a programmatic activity with no end date.

Proposed Action (Modified Alternative 3)

This alternative would allow aerially applied fire retardants, included now or in the future on the Forest Service Qualified Products List, to be used on NFS lands as follows:

- Aerial retardant drops would be prohibited in aerial retardant avoidance areas (see definition below), which include:

[1] Products that have been submitted for evaluation as described in USDA Forest Service (2020) and have successfully met the requirements stated therein shall be added to the Forest Service Qualified Products List.

    - Waterways or their buffers, whether mapped or not, when water is present (also referred to as aquatic avoidance areas).
    - All or part of the habitat of certain Endangered Species Act threatened, endangered, proposed, or candidate species or Regional Forester sensitive species, as mapped per the requirements described in the "Aerial Retardant Avoidance Areas Mapping Requirements" section of this alternative.
    - Areas mapped by the local unit.

- The above direction would be mandatory nationwide except when human life or public safety are threatened and retardant use in the aerial retardant avoidance area could be reasonably expected to alleviate that threat.
- When an intrusion (formerly termed misapplication'; see definition below) occurs for any reason it would be reported, and if necessary it would be assessed for impacts, monitored, and remediated.

The definition of 'aerial retardant avoidance area' has been updated to clarify its purpose and ensure consistency in use. An aerial retardant avoidance area (also referred to simply as 'avoidance area') is defined as *an area in which application of aerial fire retardant is prohibited in order to avoid, limit, or mitigate potential impacts to specified resources*.

- The term 'aquatic avoidance area' refers to any avoidance area, whether mapped or not, that is based on the presence of water, or as mapped to reduce impacts to Endangered Species Act threatened, endangered, proposed, or candidate species or critical habitat or Regional Forester sensitive species or habitat associated with waterways, waterbodies, or riparian areas.

- The term 'terrestrial avoidance area' refers to any avoidance area that is mapped to protect Endangered Species Act threatened, endangered, proposed, or candidate species or critical habitat or Regional Forester sensitive species or habitat or other resources that are not associated with waterways or riparian areas.

The term 'misapplication' has been replaced by the term 'intrusion' for clarity of meaning. An intrusion is defined as *the intentional or unintentional application of aerial fire retardant into an aerial retardant avoidance area*.

The term 'waterway' in this context includes but is not limited to perennial streams, intermittent streams, lakes, ponds, identified springs, reservoirs, vernal pools, wetlands, peatlands, and riparian vegetation.

In addition to the above direction, this alternative includes five components that provide specific direction for aircraft operations, aerial retardant avoidance area mapping, coordination, reporting and monitoring, and procedures for additions to the Qualified Products List, as described below. Additional information on implementation of these components, as well as guidance on operations planning and on the role and function of resource specialists are found in the Implementation Guide for Aerial Application of Fire Retardant (USDA 2019 or subsequent versions).

Aircraft Operational Guidance

This guidance shall not require pilots to fly in a manner that endangers their aircraft or other aircraft or structures, or that compromises the safety of ground personnel or the public.

Operational guidance to ensure retardant drops are not made within avoidance areas:

Incident commanders and pilots should follow guidance in the current version of the Implementation Guide for Aerial Application of Fire Retardant (USDA 2019 or subsequent versions), which will be updated as needed. This guidance includes:

- Requirements for providing pilots with maps or other information about the location of all avoidance areas on the unit.
- Information on performing dry runs or other methods for ensuring retardant is not applied in avoidance areas.
- Information on when and how to terminate and resume application of fire retardant when approaching and departing avoidance areas.
- Guidance on flight conditions that allow for safe and effective use of retardant, including keeping retardant out of avoidance areas.

Operational guidance to limit potential impacts outside of avoidance areas to species listed under the Endangered Species Act or to Regional Forester Sensitive species:

Whenever practical, agency administrators and incident commanders should use water or other less toxic suppressants in habitats of species listed under the Endangered Species Act or certain Regional Forester sensitive species, where those habitats are not mapped as avoidance areas.

Operational guidance to provide protection of cultural resources, including historic properties, traditional cultural resources, and sacred sites:

These resources cannot be mapped using a national protocol or addressed with a standard prescription that would apply to all instances. Cultural resources specialists, archaeologists, and tribal liaisons would assist on a case-by-case basis in the consideration of effects and alternatives for protection when aerial application of fire retardant is ordered. Incident commanders would consider the effects of aerial applications on known or suspected historic properties, any identified traditional cultural resources, and sacred sites.

Avoidance Areas Mapping Requirements

All forests and grasslands would review and update maps annually, following current national mapping protocols described in the Implementation Guide for Aerial Application of Fire Retardant (USDA 2019 or subsequent versions).

Requirements for mapping or identifying aerial retardant avoidance areas are as follows:

- Any waterway (including but not limited to perennial streams, intermittent streams, lakes, ponds, identified springs, reservoirs, vernal pools, wetlands, peatlands, and riparian vegetation) in which water is present at the time of retardant application, and buffers extending no less than 300 feet on either side of a waterway, is considered an avoidance area (also called aquatic avoidance area), whether mapped or not.
- Mapping of waterways that are dry at the time of retardant application is not required.
- Map avoidance areas where aerial application of fire retardant may impact one or more aquatic or terrestrial Endangered Species Act threatened, endangered, proposed, or

candidate plant or animal species or designated critical habitat, as identified in consultations.

- Map avoidance areas where aerial application of fire retardant may impact certain aquatic or terrestrial Regional Forester sensitive species or their habitat.
- Avoidance areas may be adjusted or established based on local conditions, including to comply with forest plan requirements such as those for Species of Conservation Concern or to protect other biological or cultural resources. Avoidance area buffers around waterways may not be less than 300 feet on either side of a waterway in which water is present but may be increased where needed. Adjustments related to Endangered Species Act threatened, endangered, proposed, and candidate species would be coordinated with the United States Department of Interior Fish and Wildlife Service (Fish and Wildlife Service) and the United States Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries).
    - Consult with local tribes to identify any avoidance areas needed to protect cultural resources or sacred sites.

Annual Coordination

The Forest Service would coordinate annually with:

- The Fish and Wildlife Service and NOAA Fisheries (collectively, 'the Services')
- Aviation managers and pilots
- Cooperators/other agencies

Coordination would ensure that requirements of this alternative are met, and would maintain relationships and allow problem resolution to occur at the lowest management level. Guidance on coordination meetings would be provided in the Implementation Guide for Aerial Application of Fire Retardant (USDA 2019 or subsequent versions).

Reporting Requirements

The Forest Service would maintain a database for reporting intrusions of aerially applied fire retardant into avoidance areas. Intrusion reporting requirements are described in the Implementation Guide for Aerial Application of Fire Retardant (USDA 2019 or subsequent versions), and include requirements for upward reporting to the Services for any intrusions into avoidance areas for any threatened, endangered, proposed, or candidate species or critical habitat. The Forest Service would provide to the Services annual reports summarizing retardant use and intrusions, as described in the Implementation Guide.

If a retardant drop occurs on a cultural resource, a traditional cultural property, or a sacred site, then the site condition would be assessed by a qualified archaeologist and reported to the State Historic Preservation Officer and, if appropriate, tribal representatives including the Tribal Historic Preservation Officer. If the affected resource is a sacred site or a traditional cultural property, then tribal notification and consultation would be required as part of the determination of effects. If the effect is found to be adverse, then the agency would consult with the tribe to determine an appropriate course of action to mitigate or resolve the adverse effect.

Consultation Procedures for Additions to the Qualified Products List

Private companies submit retardants to the Forest Service for potential addition to the Qualified Products List. New products or new formulations of existing products must meet Forest Service specifications for long-term retardant (United States Department of Agriculture, Forest Service, Specification 5100-304 Long-term Retardant, Wildland Firefighting) to be included on the Qualified Products List. In addition to meeting those specifications, any retardant added to the Qualified Products List would meet the requirements of the Endangered Species Act as follows:

- Products or new formulations do not require additional consultation as long as the maximum extent and duration of effects of the new products do not exceed the effects of other products already considered in the biological assessments and biological opinions for this action. Products will generally meet these criteria when amount of retardant salts when delivered at standard coverage levels, and the percentage of thickeners, coloring agents, and performance ingredients in the total mixed product do not exceed those established in completed consultations. The toxicity levels of new products must not exceed those of products with completed consultations, and there must be no risk factors risks not previously identified and assessed in completed consultations. The Services will be notified of additions to the Qualified Products List and will be provided appropriate supporting information.
- Products or new formulations that do not meet the above criteria would require re-initiation of consultation with the Services. The product would not be eligible for addition to the Qualified Products List until all required tests and consultations are completed.

In the future, any retardant that is added to the Qualified Products List could be used under the direction provided in this alternative.

Methodology

Surveys and inventories for species have been conducted for many years by various individuals, organizations and government agencies including but not limited to the Forest Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, universities and researchers, and state wildlife and natural resource agencies. Through this process, surveys are completed as needed and updates to national and state databases are completed at the project level during the NEPA process at the single National Forest level.

Environmental effects to all sensitive species have been analyzed on a nationwide, programmatic scale. The information on amounts of retardant use contained in this analysis is derived from the most accurate, readily available data on aerial application of fire retardant use. Analysis is based on what the expected effects of aerial application of fire retardant on species will be based on the screening process, avoidance mapping to reduce effects, and known information on use in the past projected into the immediate and near future. The spatial extent of this analysis includes all National Forest System lands (approximately 193 million acres). The temporal extent for cumulative effects analysis is the next 10 to 20 years. This time frame encompasses the period of time in which aerially applied retardant could reasonably be expected to have an impact. A few studies show effects from fertilizers lasting up to 22 years, but most studies of retardants show effects to plants lasting 1 to 2 years; therefore, this temporal extent is conservative with respect to retardant impacts.

National Effects Screening Process

The National Effects Screening Process was developed as a coarse filter for all sensitive species to determine the impacts based on the potential use of aerial application of fire retardant on wildlife, plant, and aquatic species and habitats. Unit-specific determinations have been made. For example, a "No Impact (NI)" determination is warranted for a forest that doesn't aerially apply fire retardant, but another forest within the range of that species that uses aerial application of fire retardant could have a "May Impact Individuals and Habitat (MIIH)" determination. Tables 1 shows the process to standardize impacts determinations for sensitive terrestrial and aquatic species, respectively, addressed in this analysis. The third column of Table 1 shows the coarse filter impacts determination. NatureServe G1 and G2 rankings for plant species were used as the coarse filter criteria for determining whether a species is a small, isolated population. When coarse filter determination was "MIIH or WII" a fine filter approach was used to determine impacts for a final determination. Information was obtained from individual units or available databases (e.g., CNDDB, CalFlora) to determine the distribution of the species on the forest to consider whether aerial retardant was likely to impact the species within a single fire event. Species that occurred on more than one unit were not considered to be a small, isolated population. Additional consideration was given to life form since trees, shrubs and succulents are less likely to be threatened by the potential spread of non-native invasive species through fertilization effects from retardant use. Perennial species are able to withstand nitrates in soil until they diminish in a couple years, and are less likely to have long term adverse impacts from aerial retardant treatment. Local specialists were contacted for input on the number of occurrences, distribution of occurrences, threats to local occurrences from non-native invasive species and whether the species was adapted to fire.

Information and Assumptions Used in the National Effects Screening Process

The occurrence of past fires and retardant drops provide a baseline and indicator for considering when and where retardant may be used in the future. Retardant application potential is described for each unit as 'very low', 'low', 'moderate' or 'high' based on the average annual retardant use by forest between 2012 and 2019 and the maximum total gallons of retardant used in any given year from 2012 through 2019 (Table 3). These category assignments may be adjusted for a specific unit based on the percent of National Forest System land on which aerially delivered retardant is used annually, on average, along with the frequency (number of years retardant was used over the 8-year period) of use for that unit. This adjustment takes into consideration that smaller units could experience greater impact if a larger proportion of the land base is affected by retardant annually.

The retardant application potential for each forest is listed in Appendix D. The criterion for the categories is as follows:

- 'Very low' retardant application potential:
  - annual average of less than 25,000 gallons,
  - maximum of 100,000 gallons,
  - average aerial retardant used on up to 0.01 of forest unit annually, and
  - frequency of generally less than 0.375.

- 'Low' retardant application potential:
  - less than 50,000 gallons on average annually,
  - less than 200,000 gallons maximum,
  - average aerial retardant used on up to 0.01 of forest unit annually, and

- generally less than 0.625 frequency.

- 'Moderate' retardant application potential:
  - less than 150,000 gallons on average annually, and
  - less than 500,000 gallons maximum,
  - average aerial retardant used on up to 0.01 of forest unit annually, and
  - generally between 0.5 to 0.8 frequency.

- 'High' retardant application potential:
  - 150,000 gallons on average annually,
  - greater than 500,000 gallons maximum, average aerial retardant used on more than 0.01 of forest unit annually, and greater than 0.8 frequency.

The national effects screening process also relied on the following assumptions:

- Historical Fire Season Data: The 2012-2019 fire season statistics (Table 3) provide a reasonable representation of the potential for retardant applications on National Forest System lands over the next 20 years.

- Avoidance area designations would protect known species occurrences from adverse impacts by prohibiting retardant use in those areas.

- Intrusions of aerial fire retardant may occur in avoidance areas on rare occasions. Data from intrusion of retardant in terrestrial avoidance areas averaged 0.06 percent of the estimated number of drops (range 0.02 – 0.16 percent) from 2012 through 2019 (Appendix B). Intrusions into water or buffer zones averaged 0.76 percent (range 0.40 – 1.48 percent) across all years. This analysis assumes that intrusion rates will remain similar in the future.

- Past retardant use and intrusion data does not allow for predictions about when or where intrusions may occur in the future. Assuming the potential for an intrusion is higher in areas where more retardant is applied, all species that occur in these areas could be impacted unless other factors (habitats) determine otherwise.

- Under some circumstances, terrestrial wildlife populations that are isolated or rare could be more vulnerable to impacts of aerial fire retardant application, depending on the potential for retardant use where they occur.

National Effects Screens

Table 1 shows the screens used process to standardize impacts determinations for sensitive terrestrial and aquatic species, respectively, addressed in this analysis. The screens rely on information about species habitat and distribution as well as on the potential for aerial retardant application on the unit where the species occurs and is identified as a Regional Forester sensitive species. As shown in the table, some species may require further screening through the terrestrial or aquatic wildlife species screens, which are discussed below.

Table 1: National impacts screening process for sensitive wildlife species

Aerial Retardant Application Potential[2]	National Screening Factor for Aerially Applied Retardant	Impact[1]
none	Species/habitat occur in areas with no fires, therefore no potential retardant use. Examples: cliffs, caves, estuaries, marshes, lakes, ocean shoreline, sand dunes.	NI
none	Species occurs near, but not on national forest lands and effects from retardant use on forest lands are not anticipated.	NI
none	No retardant use recorded on forests where species occur or are suspected[2]	NI
Aquatic Habitats		
very low to low	Species occurs on forest with very low or low retardant application potential	MIIH
moderate to high	Species occurs on forest with greater than low retardant application potential.	MIIH or WII: use Aquatic Effects screen
Terrestrial Habitats		
very low to high	Species occurs or is suspected of occurring on a forest with less than 0.01 percent of its land base impacted by retardant on average annually[3], and retardant is generally not used in species habitat. Examples include desert, dense forest canopy, alpine, talus/scree slopes.	NI
very low to high	Species occurs or is suspected of occurring on a forest with **less than** 0.01 percent of its land base impacted by retardant on average annually[3], and retardant may be used in species habitat. Species populations are **not isolated**.	MIIH
very low to high	Species occurs or is suspected of occurring on a forest with **less than** 0.01 percent of its land base impacted by retardant on average annually[3], and retardant may be used in species habitat. Species populations are isolated.	MIIH or WII: use Terrestrial Effects screens
very low to high	Species occurs or is suspected of occurring on a forest with **greater than** 0.01 percent of its land base impacted by retardant on average annually[3], and retardant is generally not used in species habitat.	MIIH
very low to high	Species occurs or is suspected of occurring on a forest with **greater than** 0.01 percent of its land base impacted by retardant on average annually[3], and retardant may be used in species habitat.	MIIH or WII: use Terrestrial Effects screens

[1]NI: no impact; MIIH: May impact individuals and habitat – no trend toward listing; WII: Will impact individuals and habitat – trend toward listing

[2]As described in Appendix D

Affected Environment

The Forest Service is comprised of nine Regions covering 193 million acres of land. All National Forest System lands within the United States comprise the affected environment. In some areas, this may extend approximately one mile from National Forest System lands to include those species on the boundary or juxtaposition to National Forest System lands. Amounts of retardant

use on terrestrial habitats are estimated by ecoregion (Bailey 1995; table 2) that contain different wildlife and habitat groups. For most of this analysis, the affected environment is described by ecoregion to determine effects on habitat types; however, since most of the data recorded for aerial retardant use are by national forest or Forest Service region, there is not a direct correlation to habitat type by ecoregion. Table 2 displays complete descriptions and retardant application rates for each ecoregion, as well as peak fire season, by ecoregion. The occurrence of peak fire season within an ecoregion is an important consideration in assessing risk to sensitive species, since that is when chemical use is more likely to happen. If chemical application coincides with the presence of vulnerable life stages of a species, adverse impacts may be more likely (Auxilio Management Services 2020).

Fire retardants could be applied wherever a wildfire occurs, and no one ecosystem can represent the variety of site conditions that are found in all areas where wildland fire is possible. Retardant application can occur in various types of vegetation including annual and perennial grasslands, conifer forests, summer and fall hardwood forests, sagebrush with grass, intermediate brush, southern rough vegetation, and mixed chaparral areas. Table 3 shows the representative use of aerially applied fire retardant for each forest and region from 2012-2019. Based on drop tests, retardant does not land evenly. Therefore, the calculations provide a range of acres impacted based on the following assumptions:

- Calculations for each tanker are based on gallons of retardant reported divided by the maximum retardant load for the aircraft multiplied by drop acres.

- Overlap in drops is not accounted for, so the values are a conservative estimate of acres impacted (i.e., a maximum value).

Table 4 lists fire retardants currently approved for use by the Forest Service, along with their ammonia and phosphate concentrations. In addition, the ecological risk from Fortress FR-100 and Fortress FR-200 LLC, long-term retardants containing magnesium and chloride salts, will be evaluated.

Fire fighters and fire planners describe the affected environment by fuel-model type. Firefighters integrate fuel models and fuel descriptions to determine the appropriate retardant coverage level. Fuel models are classified into four fuel-complex groups that include grasses, brush, timber litter, and slash. The fire behavior relates to the fuel loading expressed in tons per acre and the fuel bed depth, which relates to the fuels distribution among the fuel-size classes. Knowing which fuel model a certain habitat type occurs in determines the amount of fire retardant that may be applied to that habitat type.

A determination of the impacts on wildlife habitats can also be assessed by describing impacts to the habitat's ecological function, rather than ecoregion type or fuel-model type. The analysis includes the following wildlife-habitat types (Cooperrider et al. 1996):

- Wetlands, tidal marshes, bogs, springs (with aquatic associated plant species);
- Riverine wash and riparian upland (those areas immediate adjacent to streams and waterways discussed under the aquatics section);
- Arid, semi-arid, or desert; Great Basin, Mojave, Sonoran, and Chihuahuan;
- Grasslands and meadows and pine-oak savannah;
- Brush or chaparral; (including southern rough and pinyon-juniper-sage)
- Fossorial or subterranean;

- Forested (including hardwood, coniferous and mixed forest as well as various seral stages of development and age groups);
- Rocky areas (including outcrops, talus, cliffs, and caves); and
- Arboreal (snags, poles, and other perch sites for birds).

Peak fire season (Auxilio Management Services 2020) and retardant coverage levels based on fuel types and fuel models (Anderson 1982) provide approximations of when and how much retardant could be applied in certain ecoregions of the country. Scott and Burgan (2005) further refined fuel models by including non-burnable fuel types (urban, ice, water, rock) and sub-grouping the fuel complexes by adding moisture-climatic-condition classes along with the fuel loading and distributions.

Table 2. Representative ecoregions for retardant application

Forest Service Region	Description[a]	EcoRegions- Divisions[a]	Geographic Location	Number of Fires 2012 – 2019	Retardant Application (gallons per 100 square feet)	Peak Fire Season[c]
R1	shrubland, needleleaf forest annual and perennial grasslands, sagebrush with grass	Prairie; Temperate Desert; Temperate Steppe; Temperate Steppe Mountains	ID, MT, ND, SD, WY	6,398	1 to 3	April - October
R2	shrubland, needleleaf forest, annual and perennial grasslands, sagebrush with grass	Temperate Desert; Temperate Desert Mountains; Temperate Steppe; Temperate Steppe Mountains; Tropical/Subtropical Mountains; Tropical/Subtropical Steppe	SD, NE, CO, WY	4,116	1 to 3	June - October
R3	shrubland, needleleaf forest, annual and perennial grasslands, woodlands	Temperate Steppe; Temperate Steppe Mountains; Tropical/Subtropical Desert; Tropical/Subtropical Mountains; Tropical/Subtropical Steppe	AZ, NM	8,665	1 to 4	May - July
R4	shrubland, needleleaf forest; dry steppe, annual and perennial grasslands, woodlands	Mediterranean Mountains; Temperate Desert; Temperate Desert Mountains; Temperate Steppe; Temperate Steppe Mountains; Tropical /Subtropical Desert; Tropical/Subtropical Steppe	NV, UT, WY, ID	5,080	1 to 4	June - October

Forest Service Region	Description[a]	EcoRegions- Divisions[a]	Geographic Location	Number of Fires 2012 – 2019	Retardant Application (gallons per 100 square feet)	Peak Fire Season[c]
R5	mosaic of fire adapted woodland/shrubland, needle leaf evergreen and broadleaf woodlands; sagebrush with grass	Mediterranean; Mediterranean Mountains; Temperate Desert; Tropical/Subtropical Desert	CA	10,415	3 to >6	August - October
R6	short needle closed conifer; needle leaf evergreen and broadleaf woodlands; sagebrush with grass; short needle conifer	Marine, Marine Mountains: Mediterranean Mountains; Temperate Desert; Temperate Steppe Mountains	OR, WA	9,893	3 to 4	June - October
R8	cold-deciduous broadleaf forests; cold-deciduous broadleaf forests; fall hardwood; southern rough; summer hardwood; herbaceous with broadleaf; shrublands	Hot Continental; Hot Continental Mountains; Prairie; Savanna Mountains; Subtropical	South Eastern U.S.	4,867	2	September - July
R9	short and long needle conifer cold-deciduous broadleaf forests; summer hardwood; herbaceous woodlands; shrublands	Hot Continental, Hot Continental Mountains; Prairie; Warm Continental	North Eastern	3,234	2	April - October
R10	Pacific coastal mountains and meadows	Marine Mountains; Subarctic	AK	115	3 to 6	June - September

[a]Based on Bailey (1995)

[b]Mixed (diluted) product

[c]National Protection Fire Association

Table 3. Aerial fire retardant use information by region and forest

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
1	Beaverhead-Deerlodge	3,393,381	497	266	33	664,125	83,016	64-146	56-115	0.0019-0.0043%	0.0017-0.0034%
1	Bitterroot	1,594,659	552	233	29	582,587	72,823	56-128	49-101	0.0035-0.0080%	0.0031-0.0063%
1	Custer Gallatin	3,040,134	540	127	16	317,046	39,631	31-70	27-55	0.0010-0.0023%	0.0009-0.0018%
1	Dakota Prairie grasslands	1,257,901	128	4	1	10,477	1,310	1-2	1-2	0.0001-0.0002%	0.0001-0.0002%
1	Flathead	2,414,162	463	40	5	100,701	12,588	10-22	8-17	0.0004-0.0009%	0.0003-0.0007%
1	Helena-Lewis and Clark	2,856,442	370	521	65	1,302,675	162,834	126-287	109-226	0.0044-0.0100%	0.0038-0.0079%
1	Idaho-Panhandle	2,498,072	758	348	44	870,343	108,793	84-192	73-151	0.0034-0.0077%	0.0029-0.0060%
1	Kootenai	2,243,219	687	279	35	697,339	87,167	68-154	58-121	0.0030-0.0069%	0.0026-0.0054%
1	Lolo	2,216,287	1023	2,013	252	5,033,651	629,206	488-1109	422-873	0.0220-0.0500%	0.0190-0.0394%
1	Nez Perce - Clearwater	3,935,562	1380	528	66	1,319,283	164,910	128-291	111-229	0.0033-0.0074%	0.0028-0.0058%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
Region 1 Subtotal		**25,449,819**	**6,398**	**4,359**	**545**	**10,898,227**	**1,362,278**	**1056-2401**	**914-1890**	**0.0041-0.0094%**	**0.0036-0.0074%**
2	Arapaho & Roosevelt	1,597,940	404	89	11	221,819	27,727	21-49	19-38	0.0013-0.0031%	0.0012-0.0024%
2	Bighorn	1,105,310	106	13	2	33,452	4,182	3-7	3-6	0.0003-0.0006%	0.0003-0.0005%
2	Black Hills	1,251,148	589	116	14	289,091	36,136	28-64	24-50	0.0022-0.0051%	0.0019-0.0040%
2	Grand Mesa Uncompahgre and Gunnison	2,965,320	252	44	5	109,297	13,662	11-24	9-19	0.0004-0.0008%	0.0003-0.0006%
2	Medicine Bow-Routt	2,892,559	540	341	43	853,602	106,700	83-188	72-148	0.0029-0.0065%	0.0025-0.0051%
2	Nebraska	1,054,075	173	5	1	11,532	1,442	1-3	1-2	0.0001-0.0003%	0.0001-0.0002%
2	Pike and San Isabel	2,757,586	890	219	27	547,857	68,482	53-121	46-95	0.0019-0.0044%	0.0017-0.0034%
2	Rio Grande	1,838,862	114	70	9	173,871	21,734	17-38	15-30	0.0009-0.0021%	0.0008-0.0016%
2	San Juan	1,865,618	620	194	24	484,464	60,558	47-107	41-84	0.0025-0.0057%	0.0022-0.0045%
2	Shoshone	2,439,091	157	209	26	523,740	65,468	51-115	44-91	0.0021-0.0047%	0.0018-0.0037%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
2	White River	2,288,696	271	288	36	720,561	90,070	70-159	60-125	0.0031-0.0069%	0.0026-0.0055%
Region 2 Subtotal		**22,056,205**	**4,116**	**1,588**	**198**	**3,969,286**	**496,161**	**385-874**	**333-688**	**0.0017-0.0040%**	**0.0015-0.0031%**
3	Apache-Sitgreaves	2,015,925	1093	94	12	235,089	29,386	23-52	23-41	0.0011-0.0026%	0.0010-0.0020%
3	Carson	1,491,916	508	33	4	83,413	10,427	8-18	8-14	0.0005-0.0012%	0.0005-0.0009%
3	Cibola	1,879,318	500	326	41	813,951	101,744	79-179	79-141	0.0042-0.0095%	0.0036-0.0075%
3	Coconino	1,844,098	1787	215	27	537,088	67,136	52-118	52-93	0.0028-0.0064%	0.0024-0.0050%
3	Coronado	1,719,928	609	849	106	2,123,058	265,382	206-468	206-368	0.0120-0.0272%	0.0103-0.0214%
3	Gila	3,269,965	812	336	42	838,779	104,847	81-185	81-145	0.0025-0.0057%	0.0021-0.0044%
3	Kaibab	1,543,675	805	44	6	110,178	13,772	11-24	11-19	0.0007-0.0016%	0.0006-0.0012%
3	Lincoln	1,095,603	298	211	26	527,713	65,964	51-116	51-92	0.0047-0.0106%	0.0040-0.0084%
3	Prescott	1,257,034	364	819	102	2,048,302	256,038	198-451	198-355	0.0158-0.0359%	0.0137-0.0282%
3	Santa Fe	1,546,059	600	244	31	610,190	76,274	59-134	59-106	0.0038-0.0087%	0.0033-0.0069%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
3	Tonto	2,866,880	1289	1,022	128	2,555,214	319,402	248-563	249-443	0.0087-0.0196%	0.0075-0.0155%
Region 3 Subtotal		**20,530,401**	**8,665**	**4,193**	**524**	**10,482,975**	**1,310,372**	**878-1997**	**878-1572**	**0.0043-0.0097%**	**0.0037-0.0077%**
4	Ashley	1,378,472	145	25	3	63,315	7,914	6-14	5-11	0.0004-0.0010%	0.0004-0.0008%
4	Boise	2,204,674	695	1,084	136	2,710,760	338,845	263-597	227-470	0.0119-0.0271%	0.0103-0.0213%
4	Bridger-Teton	3,432,162	300	514	64	1,284,666	160,583	124-283	108-223	0.0036-0.0082%	0.0031-0.0065%
4	Caribou-Targhee	2,899,406	324	45	6	113,397	14,175	11-25	10-20	0.0004-0.0009%	0.0003-0.0007%
4	Dixie	1,632,111	358	531	66	1,326,390	165,799	128-292	111-230	0.0078-0.0179%	0.0068-0.0141%
4	Fishlake	1,709,014	309	140	18	350,182	43,773	33-75	29-59	0.0019-0.0044%	0.0017-0.0035%
4	Humboldt-Toiyabe	6,253,933	810	868	108	2,169,855	271,232	210-478	182-376	0.0034-0.0076%	0.0029-0.0060%
4	Manti-La Sal	1,340,351	363	133	17	331,292	41,412	32-73	28-57	0.0024-0.0054%	0.0021-0.0043%
4	Payette	2,310,111	486	630	79	1,574,718	196,840	153-347	132-273	0.0066-0.0150%	0.0057-0.0118%
4	Salmon-Challis	4,355,403	383	316	40	791,114	98,889	77-174	66-137	0.0018-0.0040%	0.0015-0.0031%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
4	Sawtooth	2,111,959	250	300	37	749,524	93,691	73-165	63-130	0.0035-0.0078%	0.0030-0.0062%
4	Uinta-Wasatch-Cache	2,158,851	657	1,106	138	2,765,419	345,677	128-291	111-229	0.0059-0.0135%	0.0051-0.0106%
Region 4 Subtotal		**31,786,447**	**5,080**	**5,692**	**712**	**14,230,632**	**1,778,829**	**1056-2401**	**914-1890**	**0.0033-0.0076%**	**0.0029-0.0059%**
5	Angeles	668,279	1110	1,511	189	3,777,882	472,235	366-832	317-655	0.0548-0.1254%	0.0474-0.0980%
5	Cleveland	426,804	625	934	117	2,334,163	291,770	226-514	196-405	0.0530-0.1204%	0.0459-0.0949%
5	Eldorado	615,035	434	566	71	1,416,203	177,025	137-312	119-246	0.0223-0.0507%	0.0193-0.0400%
5	Inyo	1,987,906	367	356	44	889,980	111,248	86-196	75-154	0.0043-0.0099%	0.0038-0.0077%
5	Klamath	1,505,983	767	1,647	206	4,118,014	514,752	399-907	345-714	0.0265-0.0602%	0.0229-0.0474%
5	LTBMU	154,268	332	1	0	2,075	259	0	0	0.0000%	0.0000%
5	Lassen	1,154,416	329	240	30	599,516	74,940	58-132	50-104	0.0050-0.0114%	0.0043-0.0090%
5	Los Padres	1,780,182	253	3,715	464	9,287,593	1,160,949	900-2046	779-1611	0.0506-0.1149%	0.0438-0.0905%
5	Mendocino	918,349	136	297	37	741,948	92,744	72-163	62-129	0.0078-0.0177%	0.0068-0.0140%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
5	Modoc	1,679,173	709	771	96	1,927,851	240,981	187-425	162-334	0.0111-0.0253%	0.0096-0.0199%
5	Plumas	1,205,685	794	735	92	1,838,511	229,814	178-405	154-319	0.0148-0.0336%	0.0128-0.0265%
5	San Bernardino	673,294	1069	2,385	298	5,962,980	745,373	578-1314	500-1034	0.0858-0.1952%	0.0743-0.1536%
5	Sequoia	1,114,954	436	1,510	189	3,773,826	471,728	366-831	317-655	0.0239-0.0745%	0.0261-0.0587%
5	Shasta-Trinity	2,139,325	999	1,387	173	3,467,858	433,482	336-764	291-601	0.0157-0.0357%	0.136-0.0281%
5	Sierra	1,316,193	504	2,673	334	6,681,406	835,176	647-1472	560-1159	0.0492-0.1118%	0.0425-0.0881%
5	Six Rivers	1,167,659	438	565	71	1,412,888	176,611	137-311	119-245	0.0117-0.0266%	0.0102-0.0210%
5	Stanislaus	898,739	440	1,062	133	2,655,013	331,877	257-585	223-460	0.0286-0.0651%	0.0248-0.0512%
5	Tahoe	854,807	673	318	40	795,873	99,484	77-175	67-138	0.0090-0.0205%	0.0078-0.0161%
Region 5 Subtotal		**20,261,051**	**10,415**	**20,673**	**2,584**	**51,683,580**	**6,460,448**	**5007-11387**	**4335-8964**	**0.0247-0.0562%**	**0.0214-0.0442%**
6	Columbia River Gorge	83,339	138	7	1	17,248	2,156	2-4	1-3	0.0024-0.0048%	0.0012-0.0036%
6	Colville	1,104,904	355	174	22	434,907	54,363	42-96	36-75	0.0038-0.0087%	0.0033-0.0068%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
6	Deschutes and Ochoco	2,338,099	1856	518	65	1,294,840	161,855	125-285	109-225	0.0053-0.0122%	0.0047-0.0096%
6	Fremont-Winema	2,253,654	809	178	22	445,661	55,708	43-98	37-77	0.0019-0.0043%	0.0016-0.0034%
6	Gifford Pinchot	1,357,447	262	82	10	204,580	25,573	20-45	17-35	0.0015-0.0033%	0.0013-0.0026%
6	Malheur	1,722,070	787	379	47	946,825	118,353	92-209	79-164	0.0053-0.0121%	0.0046-0.0095%
6	Mt. Baker-Snoqualmie	1,762,266	384	0	0	0	0	0	0	0.0000%	0.0000%
6	Mt Hood	1,015,873	644	40	5	100,219	12,527	10-22	8-17	0.0010-0.0022%	0.0008-0.0017%
6	Okanogan-Wenatchee	4,010,517	1003	1,190	149	2,975,955	371,994	288-656	250-516	0.0072-0.0164%	0.0062-0.0129%
6	Olympic	632,646	59	0	0	0	0	0	0	0.0000%	0.0000%
6	Rogue River-Siskiyou	1,719,305	721	805	101	2,012,446	251,556	195-443	169-349	0.0113-0.0258%	0.0098-0.0203%
6	Siuslaw	630,204	122	0	0	0	0	0	0	0.0000%	0.0000%
6	Umatilla	1,404,806	547	283	35	707,359	88,420	69-156	59-123	0.0049-0.0111%	0.0042-0.0088%
6	Umpqua	986,610	593	168	21	419,817	52,477	41-92	35-73	0.0042-0.0093%	0.0035-0.0074%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
6	Wallowa-Whitman	2,403,487	733	439	55	1,098,137	137,267	106-242	92-190	0.0044-0.0101%	0.0038-0.0079%
6	Willamette	1,689,648	880	63	8	158,428	19,804	15-35	13-27	0.0009-0.0021%	0.0008-0.0016%
Region 6 Subtotal		**25,114,875**	**9,893**	**4,327**	**541**	**10,816,422**	**1,352,053**	**1048-2383**	**907-1876**	**0.0042-0.0095%**	**0.0036-0.0075%**
8	Chattahoochee-Oconee	867,578	283	7	1	17,420	2,178	2-3	1-3	0.0002-0.0005%	0.0001-0.0003%
8	Cherokee	660,211	208	8	1	19,954	2,494	2-4	2-3	0.0003-0.0006%	0.0003-0.0005%
8	Daniel Boone	709,856	383	0	0	0	0	0	0	0.0000%	0.0000%
8	El Yunque	28,805	0	0	0	0	0	0	0	0.0000%	0.0000%
8	Francis Marion & Sumter	635,197	251	0	0	0	0	0	0	0.0000%	0.0000%
8	George Washington and Jefferson	1,799,145	185	0	0	0	0	0	0	0.0000%	0.0000%
8	Kisatchie	608,535	326	0	0	0	0	0	0	0.0000%	0.0000%
8	Land Between the Lakes NRA	171,239	29	0	0	0	0	0	0	0.0000%	0.0000%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
8	NFs in Alabama	671,667	302	0	0	0	0	0	0	0.0000%	0.0000%
8	NFs in Florida	1,203,415	679	40	5	99,660	12,458	10-22	8-17	0.0008-0.0018%	0.0007-0.0014%
8	NFs in Mississippi	1,191,206	563	0	0	0	0	0	0	0.0000%	0.0000%
8	NFs in North Carolina	1,256,188	685	8	1	19,583	2,448	2-4	2-3	0.0002-0.0003%	0.0002-0.0002%
8	NF in Texas	677,696	289	4	1	11,200	1,400	1-2	1-2	0.0001-0.0003%	0.0001-0.0003%
8	Ouachita	1,783,951	418	0	0	0	0	0	0	0.0000%	0.0000%
8	Ozark-St. Francis	1,160,921	266	0	0	0	0	0	0	0.0000%	0.0000%
Region 8 Subtotal		**13,425,610**	**4,867**	**67**	**8**	**167,817**	**20,977**	**16-37**	**14-29**	**0.0001-0.0003%**	**0.0001-0.0002%**
9	Allegheny	513,794	51	0	0	0	0	0	0	0.0000%	0.0000%
9	Chequamegon-Nicolet	1,525,127	146	0	0	0	0	0	0	0.0000%	0.0000%
9	Chippewa	672,128	253	4	1	10,796	1,350	1-2	1-2	0.0001-0.0003%	0.0001-0.0003%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
9	Green Mountain and Finger Lakes	427,053	32	0	0	0	0	0	0	0.0000%	0.0000%
9	Hiawatha	898,451	98	0	0	0	0	0	0	0.0000%	0.0000%
9	Hoosier	204,274	104	0	0	0	0	0	0	0.0000%	0.0000%
9	Huron-Manistee	978,891	859	0	0	0	0	0	0	0.0000%	0.0000%
9	Mark Twain	1,507,887	848	7	1	18,170	2,271	2-4	2-3	0.0001-0.0003%	0.0001-0.0002%
9	Midewin	18,225	10	0	0	0	0	0	0	0.0000%	0.0000%
9	Monongahela	920,783	40	0	0	0	0	0	0	0.0000%	0.0000%
9	Ottawa	998,994	48	0	0	0	0	0	0	0.0000%	0.0000%
9	Shawnee	286,311	125	0	0	0	0	0	0	0.0000%	0.0000%
9	Superior	2,173,267	227	34	4	84,126	10,516	8-19	7-15	0.0004-0.0009%	0.0003-0.0007%
9	Wayne	244,258	348	0	0	0	0	0	0	0.0000%	0.0000%
9	White Mountain	807,799	45	0	0	0	0	0	0	0.0000%	0.0000%
Region 9 Subtotal		**12,177,242**	**3,234**	**45**	**6**	**113,092**	**14,137**	**11-5**	**9-20**	**0.0001-0.0002%**	**0.0001-0.0002%**
10	Chugach	5,400,752	48	0	0	0	0	0	0	0.0000%	0.0000%

Forest Service Region	Forest Name	Acres	Total Number of Fires 2012-2019	Total Number of Retardant Drops 2012-2019[1]	Average Drops per Year[2]	Total Gallons 2012-2019	Average Gallons per Year 2012 – 2019[3]	Acres of Impact at 4 gpc[3]	Acres of Impact at 8 gpc[3]	Percent National Forest System Land with Fire Retardant at 4 gpc[3]	Percent National Forest System Land with Fire Retardant at 8 gpc[3]
10	Tongass	16,747,705	67	0	0	0	0	0	0	0.0000%	0.0000%
Region 10 subtotal		**22,148,457**	**115**	**0**	**0**	**0**	**0**	**0**	**0**	**0.0000%**	**0.0000%**
TOTAL		**192,950,107**	**52,783**	**40,945**	**5,118**	**102,362,031**	**12,795,254**	**9916-22552**	**8586-17753**	**0.0051-0.0117%**	**0.0044-0.0092%**

[1]Data derived from National Interagency Fire Center ABS database

[2]Data averaged over 2012-2019

[3]gpc = 100 ft^2; 4 gpc = 4 gallons/100 ft^2 = 1,740 gallons/acre; 8 gpc = 8 gallons/100ft^2 = 3,480 gallons/acre; 1 acre = 43,500 ft^2

Table 4. Component amounts of fire retardants currently on the Qualified Products List

Nutrients Delivered at Specific Coverage Levels[1]				
Retardant	**pounds of ammonia per square foot delivered at 4 gallons per square foot retardant**	**pounds of phosphate per square foot delivered at 4 gallons per square foot retardant**	**pounds of ammonia per square foot delivered at 8 gallons per square foot retardant**	**pounds of phosphate per square foot delivered at 8 gallons per square foot retardant**
Phos-Chek LC-95A-R	0.0095	0.0301	0.0190	0.0602
Phos-Chek LC-95A-Fx	0.0095	0.0273	0.0191	0.0546
Phos-Chek LC-95-W	0.0095	0.0276	0.0191	0.0553
Phos-Chek MVP-Fx	0.0053	0.0199	0.0105	0.0399
Phos-Chek 259-Fx	0.0070	0.0203	0.0140	0.0406
Phos-Chek LCE20-Fx	0.0073	0.0208	0.0147	0.0415
	pounds of magnesium per square foot delivered at 4 gallons per square foot retardant	**pounds of chloride per square foot delivered at 4 gallons per square foot retardant**	**pounds of magnesium per square foot delivered at 8 gallons per square foot retardant**	**pounds of chloride per square foot delivered at 8 gallons per square foot retardant**
Fortress FR-100	0.0093	0.0270	0.0185	0.0541
Fortress FR-200 LLX	0.0094	0.0275	0.0188	0.0549

[1]Source: Hunter Jones, Project Leader-Chemist, Wildland Fire Chemicals, Forest Service National Technology and Development Program

Data collected from 2012 through 2019 indicate that Regions 2, 8, 9, and 10 use relatively low amounts of retardant, annually, when compared to the other regions; Regions 3, 4, and 6 use similar amounts ranging from an average of 1.3 to 1.8 million gallons annually; Region 5 uses the most retardant, averaging 6.5 million gallons annually (table 4). The percent of National Forest System land receiving aerial application of fire retardant during the 2012 through 2019 reporting period had an average annual range of 0.0051-0.0117 percent of National Forest System lands at 4 gallons per 100 square feet, and an average annual range of 0.0045-0.0092 percent of National Forest System lands at 8 gallons per 100 square feet. No one forest exceeded more than 0.1952 percent (San Bernardino National Forest) of its land base annually. Retardant applications are based on a number of factors including fuel type, application rates, delivery systems, and other fire-fighting tactics. Application rates range between 1 and 8 gallons per 100 square feet, with the majority of applications being between 4 and 8 gallons per 100 square feet (Johnson 2010). Usually, the width and length of a retardant drop varies based on the type of aircraft used for delivery. An average drop is 50 to 75 feet wide by up to 800 feet long. Depending on fire-fighting tactics, retardant drops may be strung together creating a continuous path of retardant on the

ground or used to create a barrier in combination with other naturally occurring barriers to the advancement of fires (i.e. ridgetops, roads, waterways).

The following forests were over 0.01 percent use in 2011 and 2020: (R1) Helena-Lewis and Clark; (R2) None; (R3) Cibola, Coronado, Lincoln, Prescott, (R4) None; (R5) Angeles, Cleveland, Los Padres, Mendocino, Plumas, San Bernardino, Sequoia, Shasta-Trinity, Stanislaus; (R6) Deschutes, Ochoco, Okanogan-Wenatchee; (R8) None; (R9) None; (R10) None.

The following forests increased to over 0.01 percent use in 2020: (R1), Lolo, (R2) None; (R3) Tonto; (R4) Boise, Dixie, Sawtooth, Uinta-Wasatch-Cache; (R5) Eldorado, Inyo, Klamath, Lassen, Modoc, Sierra, Six Rivers, Tahoe; (R6) Malheur, Rogue River-Siskiyou, Umatilla, Wallowa-Whitman; (R8) None; (R9) None; (R10) None.

Both the Payette National Forest (R4) and Cherokee National Forest (R8) were over 0.01 percent use in 2011 but decreased below that amount in 2020.

Intrusion data gathered annually for the period of 2012 through 2019 show the number of fires on National Forest System lands with intrusions averaged 0.46 percent (range 0.28 to 0.61 percent). The total number of intrusions divided by the estimated number of retardant drops averaged 0.80 percent (range 0.56 to 1.52 percent) across all years (Appendix B).

Environmental Consequences

This section focuses on the effects of aerial application of fire retardant on sensitive plant species and their habitats. This analysis addresses 2,454 sensitive species (Appendix A), in habitats ranging from arid and semi-arid to riparian, upland, forest, rocky areas, and many others. In addition to threatened, endangered, proposed, and candidate species (addressed in the biological assessment), the effects as described for sensitive plant species is expected to apply to all plants.

Assumptions

A main assumption to the screening process is that forests that currently use aerial fire retardant would continue to do so at a rate similar to use described in table 3.

General Assumptions:

- Guidelines for mapping avoidance areas would continue to be implemented at the field level.
- The mitigation measures of avoidance mapping for habitat and populations will include established trigger points (at local level) for restricting the use of retardants within watersheds where retardant has caused adverse impacts to a species or population.
- Yearly pre-season coordination meetings will still occur and help in reducing impacts to species and habitats by discussing changes in new population information and monitoring needs for species prior to season use.
- Small isolated populations could also be identified to receive avoidance mapping; determined at field level.

Analysis of Effects Common to All Sensitive Species

Given the programmatic nature of this environmental analysis, this assessment uses qualitative rather quantitative values due to the impossibility of accurately predicting where and when the aerial application of fire retardant will be used as a firefighting tool, or how much it will be used.

Regardless of whether fire retardant is used, the following assumptions may be made concerning large wildland fires (Geier-Hayes 2011), they:

- often burn for long durations in a variety of weather and fuel conditions that can produce high fire severity effects across a large area.
- have more potential to affect a greater proportion of the population of a species or their habitats at one time, particularly for endemics or species whose populations or habitats are limited in distribution or have been affected by fragmentations or changes in land use surrounding them.
- have the potential to increase the spread of nonnative plant species, which favor ground disturbances, and thus, may reduce the quality of habitat for native plant species.

Potential Direct and Indirect Effects Common to All Sensitive Species

Chemical Risks

A Risk Assessment (Auxilio Management Services 2020, 2021a, 2021b, 2021c) was prepared for the Forest Service for a number of chemicals used in long-term fire retardants. Text is quoted directly from the Risk Assessment (Auxilio Management Services 2020, 2021a, 2021b, 2021c) to ensure that information is conveyed without losing context through summarization. The risk assessment uses the ecoregions classifications described by Bailey (1995; table 3) and considers areas of the United States where firefighting chemicals are more likely to be applied. The risk evaluation for plant species is summarized below.

• Few studies have evaluated the potential effects of fire retardants on terrestrial vegetation. Overall, they indicate the possibility of phytotoxic effects to individual plants of more sensitive species at the application rates typically used, but generate no expectation of widespread or enduring impacts.

• The phytotoxic effects and vegetation diversity endpoints in this analysis have underlying links related to mechanisms of toxicity (for example, varying susceptibility to effects on seed germination among plant species). However, further exhaustive or quantitative analysis of the topic is not warranted, since only limited areas are treated with these products and the vegetation would otherwise be severely affected by the fire itself in the absence of their use.

The analysis from the Risk Assessment (Auxilio Management Services 2020, 2021a, 2021b, 2021c) follows:

<u>Phytotoxicity</u>

Impacts on terrestrial plants from ingredients in the retardant formulations were evaluated. The exposure characterization for plants was based on the same application scenarios as the exposure

characterization for wildlife species. Limited data were expected to be available for the effects characterization, so the risk characterization was planned to be quantitative where possible and qualitative where data were limited.

The potential toxicity to plants of ingredients in the retardants was evaluated semi-quantitatively, depending on the nature of the chemical-specific plant toxicity information that was available for each ingredient, if any.

A field study (Larson and Newton 1996) examined the effect of a retardant that is no longer commercially available (containing monoammonium phosphate and diammonium sulfate), applied at a rate of 1 gallons per 100 square feet, on vegetation in a North Dakota mixed grass prairie. In each test area, four plots were evaluated: a control, application of product only, application of product plus burn, and burn only. The retardant application produced a notable increase in herbaceous biomass for the first growing season only, regardless of whether the plot was also burned, and caused no effects on shoot, leaf, or stem growth characteristics. This study's observations regarding species diversity effects are discussed in the following vegetation diversity section.

A follow-up study (Larson et al. 1999) evaluated the same retardant product when applied to Great Basin shrub steppe vegetation, in northern Nevada. Growth, resprouting, flowering, and incidence of galling insects were not affected by treatment with the retardant applied at a rate of 3 gallons per 100 square feet. This study's observations regarding species diversity effects are also discussed in the following vegetation diversity section.

Shoot and whole plant death on individual plants were recorded following experimental application of a retardant that is no longer commercially available (containing diammonium sulfate, diammonium phosphate, and monoammonium phosphate) to plots on an Australian heathland (Bell 2003, Bell et al. 2005). Adverse effects varied by species, and increased with increasing application rate (from 0.5 to 1.5 liters mixed retardant per square meter, or 1.2 to 3.7 gallons per 100 square feet). However, there was little change in visual estimates of percent foliar cover between treated and untreated areas.

Few studies have evaluated the potential effects of fire retardants on terrestrial vegetation. Overall, they indicate the possibility of phytotoxic effects to individual plants of more sensitive species at the application rates typically used, but generate no expectation of widespread or enduring impacts. Visible browning of leaves, possibly related to chemical burn caused by direct application of an ammonium-based product as well as dehydration of the leaf surface from exposure to the elevated salt content of the fire retardant, has been documented in field studies by Larson and Newton (1996); however, regeneration of leaf material was recorded later in the same growing season and herbivory was not affected.

Vegetation Diversity

Positive and negative effects of chemicals on plant species' growth were considered qualitatively. A major focus of the analysis was the potential for enhancement of invasive species' spread and corresponding decline of native species.

This topic was evaluated qualitatively based on a literature review of the effects of fire suppression on the vegetative community. Available literature was limited and was both habitat and chemical-specific.

Information on the effects of fire retardant chemicals on vegetation diversity is extremely limited. Larson et al. (1999) suggested that many effects of ammonium-based retardants can be anticipated based on studies with fertilizers. Similar to the effects of fertilizers, fire retardants may encourage growth of some plant species, giving them a competitive advantage over others, thus resulting in changes in community composition and species diversity (Tilman 1987, Wilson and Shay 1990). Bell et al. (2005) recorded enhanced weed invasion in an Australian heathland ecosystem, particularly in areas receiving high concentrations of a retardant that is no longer commercially available (containing diammonium sulfate, diammonium phosphate, and monoammonium phosphate). The effects of a retardant that is no longer commercially available (containing monoammonium phosphate and diammonium sulfate) were also evaluated in a North Dakota grassland community (Larson and Newton 1996) and in a shrub steppe area in the Great Basin in Nevada (Larson et al. 1999). The researchers measured community characteristics, including species richness, evenness, diversity, and number of stems of woody and herbaceous plants.

- In the North Dakota prairie ecosystem, species richness was reduced in plots exposed to retardant regardless of whether the plot was burned or unburned. All plots were dominated by *Poa pratensis*, which clearly gained a competitive advantage from retardant application and crowded out other species.
- Investigations in the Great Basin shrub steppe ecosystem also showed that plots treated with fire chemicals experienced initial declines in species richness; however, differences among plots were undetectable after a year. Depression of species richness was most pronounced in the riparian corridor.

Overall, vegetative community response to burning was more dramatic than was the response to chemical application. In both studies, the authors note that each study was short-term, and that long-term ecological responses should be measured over several growing seasons. However, they did recommend that managers intending to use these chemicals to control prescribed burns should consider the effects on species richness or on individual species of concern (invasive species) when they evaluate management objectives on a landscape scale.

In an evaluation of the application of Phos-Chek XA fire retardant (containing diammonium phosphate) that was applied to a California grassland during the course of fighting a wildland fire, Larson and Duncan (1982) studied the effects on vegetative productivity. The two-year study reported that application of the retardant produced almost twice the yield of forage in the first year after application in both burned and unburned areas; this relative increase continued into the second year for the unburned treated plot. In the second year, there was no statistically significant increase in forage production in either the treated or untreated burned plots compared to the unburned, untreated control area. The authors reported that, although forbs usually increase in annual grassland after a fire, nitrogen fertilizer favors grasses, which dominated the first year after the fire. Forbs dominated the second year.

Although the phytotoxic effects and vegetation diversity endpoints in this analysis have underlying links related to mechanisms of toxicity (for example, varying susceptibility to effects on seed germination among plant species), further exhaustive or quantitative analysis of the topic is not warranted, since only limited areas are treated with these products and the vegetation would otherwise be severely affected by the fire itself in the absence of their use.

The Risk Assessment (Auxilio Management Services 2020, 2021a, 2021b, 2021c) does not address phytotoxicity and vegetation diversity impacts of magnesium chloride. Most of the studies on plant responses to magnesium chloride have focused on the application of formulations used for dust abatement. These studies have focused primarily on damage to tree species that have resulted in needle loss, severe damage and mortality (Goodrich and Jacobi 2012, Goodrich et al. 2009). Magnesium chloride use for dust abatement occurs repeatedly throughout the life of roadside vegetation, but repeated application of magnesium chloride based retardant on the same location is unlikely. Some species may be susceptible to damage from the application of magnesium chloride based aerial retardant, but the limited number of applications and area of applications would reduce the impact to individual species and vegetation diversity.

The use of aerial fire retardants may prevent more wildfires from becoming much larger and impacting more habitat for a particular species. Fires are getting larger and burning with higher intensities than in the past. For example, on the Plumas National Forest 767,859 of the 1,203,113 total acres of the forest ownership are within the footprint of 7 major fires occurring between 2017-2022. This represents 64% of Plumas National Forest ownership (USFS 2022). Thirty three percent (397,481 acres) of Plumas National Forest ownership have burned at high severity in these recent fires. Beneficial effects of using fire retardant may include the protection of habitat from burning by the prevention of large scale, stand replacing events in those area that are not adapted to larger fires. The beneficial use of aerial retardant on plant occurrences may outweigh the negative impacts by reducing the intensity of burns near or within occurrences. The use of retardant may also reduce the amount of direct impacts that can result from the hand and bulldozer construction of fireline. Short term increases in productivity from fertilizer effects occur over a smaller area than the disturbance created by high intensity fire. This may reduce the overall risk of spread of non-native invasive species into sensitive plant habitat.

Potential Cumulative Effects Common to All Sensitive Species

The proposed action has the potential to result in a positive or negative cumulative effect to sensitive species viability or habitats, when combined with several past, present, and reasonably foreseeable natural and human-caused actions. These actions include habitat restoration and rehabilitation projects, habitat destruction from land development, recreational activities, natural disasters, such as hurricanes, climate change, grazing, timber harvesting, road construction and maintenance, mining, etc. Components of Forest Plans provide for protection and restoration as well as for wildlife species and habitats, including habitats for sensitive species

As previously described, the use of aerial application of fire retardant is expected to have short-term effects. Additionally, the use of aerial application of fire retardant is expected to assist in preventing wildfires from increasing and consuming habitat for species.

The cumulative effect of aerial application on sensitive species is likely to be minor because of the small amount of area affected by retardant each year, spread widely across the United States (less than 1 percent of all National Forest System lands). Once a wildfire has burned through an area, the re-application to these same locations in the future is highly improbable due to the fact that fire and use of retardant would not occur due to low fuel loads. In other words, once a fire burns an area, it is highly improbable to burn at the same intensity, again, to cause the Forest Service to drop more retardant in that area. In addition, sensitive species located within retardant avoidance mapped areas would be protected from the effects of retardant. However, the amount

of retardant could increase, decrease or stay the same depending on fire-fighting tactics used in the surrounding area. Establishing trigger points for restricting the use of retardants within watersheds where fire retardant has caused adverse effects to a species or population, and annual coordination should help reduce impacts to sensitive species and habitats. To summarize, avoidance area mapping for habitat and populations, establishing trigger points that restrict the use of retardants within watersheds where fire retardant has caused adverse effects to a species or population, and annual coordination should help reduce impacts to species and habitats.

Overall, the cumulative risk to most sensitive plant species is minor, with the exception of small, isolated, endemic populations. For species that are wide-ranging and have larger populations, aerial application of fire retardant on a specific fire would occur only within the habitat of a very small portion or fraction of a population; therefore, cumulative effects would be very minor.

Summary of Determinations

For the 2,454 Forest Service sensitive plant species, the unit specific determinations are summarized in Table 5. There are:

1,395 species unit occurrences with No Impacts due to no retardant use or not in habitat where fire retardant would be used.

- 3,440 species unit occurrences with a May Impact Individuals or Habitat determinations.
- 0 sensitive species have a potential risk to be trending towards listing with use of aerial application of fire retardant.

Appendix A displays sensitive plant species by Region and Forest, along with the determination for each unit where the species occurs and the rationale for the determination.

Table 5. Determinations by Region.

Region	number of species	no impact	may impact individual or habitats but will not lead to a trend in federal listing	will impact individuals and habitats and lead to a trend in federal listing
1	205	18	287	0
2	86	27	200	0
3	173	3	224	0
4	220	68	229	0
5	481	22	796	0
6	543	222	1215	0
8	312	322	311	0
9	698	698	178	0
10	16	16	0	0

Some species may be mapped for avoidance by individual National Forests for reasons outside of this analysis, but none are required to do so due to a will trend to list determination.

References Cited

Anderson. 1982. Hal E. Anderson April 1982. Aids to Determining Fuel Models for Estimating Fire Behavior. General Technical Report INT-122, USDA Forest Service, Intermountain Forest and Range Experimental Station, Ogden, Utah 84401. Order Number NFES 1574, PMS 435-1. 22pp.

Auxilio Management Services. 2020. Ecological risk assessment of wildland fire-fighting chemicals: long term fire retardants. Prepared for Fire and Aviation Management & National Technology and Development Program, U.S. Forest Service, Missoula, MT.

Auxilio Management Services. 2021a. Ecological risk assessment of wildland fire-fighting chemicals: long term fire retardants. Prepared for Fire and Aviation Management & National Technology and Development Program, U.S. Forest Service, Missoula, MT. May. 86 pages.

Auxilio Management Services. 2021b. Ecological risk assessment of wildland fire-fighting chemicals: long term fire retardants. Prepared for Fire and Aviation Management & National Technology and Development Program, U.S. Forest Service, Missoula, MT. June. 86 pages.

Auxilio Management Services. 2021c. Ecological risk assessment of wildland fire-fighting chemicals: long term fire retardants. Prepared for Fire and Aviation Management & National Technology and Development Program, U.S. Forest Service, Missoula, MT. November. 90 pages.

Bailey, R.G. 1995. Description of the ecoregions of the United States. 2d ed., rev.. Misc. Publ. No. 1391(rev.). Washington, DC: U.S. Department of Agriculture, Forest Service. 108 p. https://www.fs.fed.us/land/ecosysmgmt/ .

Bell, T.L. 2003. Effects of fire retardants on vegetation in eastern Australian heathlands - a preliminary investigation. Department of Sustainability and Environment, research report no. 68. Victoria. https://www.ffm.vic.gov.au/__data/assets/pdf_file/0016/21085/Report-68-Effects-of-fireretardant-on-vegetation-in-Eastern-Australian-heathlands-a-preliminary-investig.pdf

Bell, T., K. Tolhurst, and M. Wouters. 2005. Effects of the fire retardant Phos-Chek on vegetation in eastern Australian heathlands. International Journal of Wildland Fire 14:199-211.

Cooperrider et al 1986. Cooperrider, A.Y., R.J. Boyd, and H.R. Stuart, eds. 1986. Inventory and Monitoring of Wildlife Habitats. USDI Bureau of Land Management Service Center, Denver, CO. 858 pp.

Geier-Hayes, Kathleen. 2011. Fire Ecology Specialist Report for Aerial Application of Fire Retardant Draft EIS.

Goodrich, B.A and W.R Jacobi. 2012. Foliar Damage, Ion Content, and Mortality Rate of Five Common Roadside Tree Species Treated with Soil Applications of Magnesium Chloride. Water Air and Soil Pollution 223: 847-862. DOI 10.1007/s11270-011-0907-5

Goodrich, B.A, R.D. Koski, and W.R. Jacobi. 2009. Condition of Soils and Vegetation Along Roads Treated with Magnesium Chloride for Dust Suppression. Water Air and Soil Pollution. 198(1):165-188. DOI:10.1007/s11270-008-9835-4

Larson, D.L., and W.E. Newton. 1996. Effects of fire retardant chemicals and fire suppressant foam on North Dakota prairie vegetation. Proceedings of the North Dakota Academy of Science. 50:137-144.

Larson, D.L., W.E. Newton, P.J. Anderson, and S.J. Stein. 1999. Effects of fire retardant chemical and fire suppressant foam on shrub steppe vegetation in northern Nevada. International Journal of Wildland Fire 9(2):115-127.

Laufmann, J. and K. Carsey. 2011. Botany Report and Biological Evaluation for Aerial Application of Fire Retardant Final Environmental Impact Statement.

NatureServe. 2020. NatureServe Explorer [2.0]. NatureServe, Arlington, Virginia. Available https://explorer.natureserve.org/. (Accessed: 2020).

Scott, Joe H.; Burgan, Robert E. 2005. Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model. Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 72 p.

Tilman, D. 1987. Secondary succession and the pattern of plant dominance along experimental nitrogen gradients. Ecological Monographs 57:189-214.

US Congress. 1973. Endangered Species Act of 1973, as amended. 16 U.S.C. 1531 et seq.

USDA Forest Service. 2005. Wildlife, Fish, and Sensitive Plant Management. Chapter 2670, Threatened, Endangered, and Sensitive Plants and Animals, USDA Forest Service, National Headquarters, Washington, D.C.

USDA Forest Service. 2020. Specification 5100-304d for Long-Term Retardant, Wildland Firefighting. January 7, 2020. 28 pages + appendices.

USDA Forest Service. 2022. Identifying restoration opportunities in recently burned and unburned mixed conifer forest across the Plumas National Forest. eds. Kirsten Bovee and Michelle Coppoletta.

Wilson, S.D., and J.M. Shay. 1990. Competition, fire and nutrients in a mixed grass prairie. Ecology 71:1959-1967.

.

Appendix A: Regional Forester Sensitive Plant Species

Forest Service Senstive Plant Determination Summary by Region and Forest Where Species Occur

7-Jul-23

This spreadsheet displays the Forest Service Regional Forester designated sensitive plant species and summarizes the rationale and determinations for the Nationwide Aerial Delivery of Fire Retardant on National Forest System Lands SEIS for each unit where the species occur. The Biological Evaluation describes the national screening process used. This spreadsheet includes the responses to the screening criteria, and additional information used to make a determination. For sensitive species, determinations are made at the planning unit (forest or administrative unit) level, and can vary between units based on retardant use.

Species included on Regional Sensitive Species lists that are listed or proposed to be listed as threatened or endangered were included in the analysis in the Biological Assessment. These species are not included in the Biological Evaluation and determinations are not found in this spreadsheet for them. Species that were federally listed as threatened or endangered and are delisted are included on the Regional Sensitive Species list for 5-years post delisting (FSM 2670) and are included in this analysis.

Forests that have completed Forest Plan Revisions under the 2012 Planning Rule no longer have sensitive species. Those Forests have been hidden from the lists in each Region. Forests with new Forest Plans under the 2012 Planning Rule include:
Region 1: Flathead (2018), Helena - Lewis and Clark (2021), Custer-Gallatin (2022)
Region 2: Rio Grande (2020)
Region 3: Cibola (2022); Carson (2022); Santa Fe (2022)
Region 4:
Region 5: Inyo (2019); Sierra (2023); Seqouia (2023, not including the Sequoia National Monument)
Region 6:
Region 8: Francis Marion (2017); El Yunque (2019); Nantahala and Pisgah (2023)
Region 9
Region 10: Chugach (2020)

Codes in this spreadsheet:
NI = no impact
MIIH - may impact indiviuals and habitat but will not lead to a trend in federal listing
WII - may impact indiviuals and habitat and will lead to a trend in federal listing
Forests Names in Red font indicate those forests where retardant use averages over 1 percent of the land base in a year.

Notes:
1. Sensitive species are not identified on the 2018 Region 8 sensitive species list for the Francis Marion National Forest because the Forest Plan was completed in 2017.
2. The sensitive species list for the National Forests in North Carolina, which include the Nantahala and Pisgah National Forests, is not broken out by individual forest; therefore the entire species lists is included in this analysis.
3. The sensitive species list for the Sequoia National Forest is not broken out for the Sequoia National Monument; therefore all species on the Sequoia National Forest list are included in this analysis.

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	muskroot	*Adoxa maschatellina*	MIIH								MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	Cusick's giant hyssop	*Agastache cusickii*	NI										No	No	NI-Talus	NI-Talus		
plant - vascular	western joepye-weed	*Ageratina (Eupatorium) occidentalis*	MIIH	MIIH						MIIH	MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications		
plant - vascular	Hooker's onion	*Allium acuminatum*	MIIH	MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	small onion	*Allium parvum*	MIIH	MIIH									No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	small round-leaved orchid	*Amerorchis rotundifolia*								MIIH	MIIH		No	Yes	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	bog-rosemary	*Andromeda polifolia*							MIIH				No	No	No, riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	denseleaf pussytoes	*Antennaria densifolia*	NI										No	No	NI-Talus	NI-Talus		
plant - vascular	potato bean	*Apios americana*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	small flower columbine	*Aquilegia brevistyla*											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	oval-leaf milkweed	*Asclepias ovalifolia*											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	maidenhair spleenwort	*Asplenium trichomanes*							NI			NI	No	No	NI-Cliffs and talus	NI-Cliffs and talus		
plant - vascular	Barr's milkvetch	*Astragalus barrii*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	Lackschewitz' milkvetch	*Astragalus lackschewitzii*											Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	least balddery milkvetch	*Astragalus microcystis*							MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Payson's milkvetch	*Astragalus paysonii*		MIIH					MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Bitterroot milkvetch	*Astragalus scaphoides*	MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	sandweed	*Athysanus pusillus*		MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	large-leaved balsamroot	*Balsamorhiza macrophylla*	MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	bog birch	*Betula pumila*							MIIH				No	No	No, riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	Beck water-marigold	*Bidens beckii*								MIIH	MIIH		No	Yes	No, riparian buffers likely to provide protection	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	deer fern	*Blechnum spicant*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Mount Sapphire rockcress	*Boechera fecunda*	MIIH	MIIH							MIIH		Yes	Yes	Yes	MIIH or WII -G1/G2, Use over 0.01 application rate, habitat potentially impacted.	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	
plant - vascular	upward-lobed moonwort	*Botrychium ascendens*							MIIH	MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	wavy moonwort	*Botrychium crenulatum*	MIIH						MIIH	MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	western moonwort	*Botrychium hesperium*	MIIH							MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	lanceleaf moonwort	*Botrychium lanceolatumvar. Lanceolatum*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	linearleaf moonwort	*Botrychium lineare*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Mingan Island moonwort	*Botrychium minganense*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	mountain moonwort	*Botrychium montanum*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	leathery grape-fern	*Botrychium multifidum*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	peculiar moonwort	*Botrychium paradoxum*	MIIH						MIIH	MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	stalked moonwort	*Botrychium pedunculosum*							MIIH	MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	northern moonwort	*Botrychium pinnatum*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	least moonwort	*Botrychium simplex*				MIIH			MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	watershield	*Brasenia schreberi*								MIIH	MIIH		No	Yes	No, riparian buffers likely to provide protection	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - non-vascular	a bug-on-a-stick moss	*Buxbaumia aphylla*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - non-vascular	a bug-on-a-stick moss	*Buxbaumia viridis*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	broadfruit mariposa lily	*Calochortus nitidus*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	marsh bellflower	*Campanula aparinoides*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Constance's bittercress	*Cardamine constancei*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	foxtail sedge	*Carex alopecoidea*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	big-leaf sedge	*Carex amplifolia*								MIIH			No	No	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, Riparian buffers likely to provide protection		
plant - vascular	Buxbaum's sedge	*Carex buxbaumii*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	creeping sedge	*Carex chordorrhiza*							MIIH	MIIH	MIIH		No	Yes	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	bristly sedge	*Carex comosa*							MIIH				No	No	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	yellow sedge	*Carex flava*							MIIH				No	No	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	handsome sedge	*Carex formosa*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	heavy sedge	*Carex gravida*											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Idaho sedge	*Carex idahoa*	MIIH										No	No	yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, Riparian buffers likely to provide protection		
plant - vascular	lake-bank sedge	*Carex lacustris*											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	bristly-stalk sedge	*Carex leptalea*				MIIH			MIIH			MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	pale sedge	*Carex livida*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	poor sedge	*Carex magellanica*		MIIH					MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	prairie sedge	*Carex prairea*								MIIH			No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	glaucus beaked sedge	*Carex rostrata*								MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	many-headed sedge	*Carex synchnocephala*										MIIH	No	No	yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	sheathed sedge	*Carex vaginata*								MIIH			No	No	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted but riparian buffers likely to provide protection		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	Coville indian paintbrush	*Castilleja covilleana*	MIIH	MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	smooth goosefoot	*Chenopodium subglabrum*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	bulb-bearing water-hemlock	*Cicuta bulbifera*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
fungi	French Crane's-bill	*Cladonia andereggii*										MIIH	Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	diamond clarkia	*Clarkia rhomboidea*		MIIH						MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	sand springbeauty	*Claytonia arenicola*									NI		No	Yes	NI- talus	NI-Talus		
fungi	pustulate tarpaper lichen	*Collema curtisporum*								MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	maiden blue eyed mary	*Collinsia parviflora*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Pacific dogwood	*Cornus nuttallii*										MIIH	No	No	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	pale corydalis	*Corydalis sempervirens*								MIIH			No	No	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	Missouri foxtail cactus	*Coryphantha (Escobaria) missouriensis*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Torrey's cat's-eye	*Cryptantha torreyana*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	shining flatsedge	*Cyperus bipartitus*				MIIH							No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	white lady's-slipper	*Cypripedium candidum*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	clustered lady's-slipper	*Cypripedium fasciculatum*							MIIH	MIIH	MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	small yellow lady's-slipper	*Cypripedium parviflorum*		MIIH						MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	large yellow lady's slipper	*Cypripedium parviflorum var. pubescens*							MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	sparrow's-egg lady's-slipper	*Cypripedium passerinum*								MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	showy lady's-slipper	*Cypripedium reginae*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	Daubenmire's dasynotus	*Dasynotus daubenmirei*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	treelike clubmoss	*Dendrolycopodium dendroideum*							MIIH	MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	north Idaho monkeyflower	*Diplacus (Mimulus) clivicola*								MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	dwarf purple monkeyflower	*Diplacus (Mimulus) nanus*		MIIH									No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Idaho dwarf-primrose	*Douglasia idahoensis*		MIIH								MIIH	No	No	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	English sundew	*Drosera anglica*	MIIH	MIIH						MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	oblong-leaved sundew	*Drosera intermedia*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	slenderleaf sundew	*Drosera linearis*								MIIH			No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	crested shieldfern	*Dryopteris cristata*		MIIH					MIIH	MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	beaked spikerush	*Eleocharis rostellata*	MIIH										No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	marsh willowherb	*Epilobium palustre*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	giant helleborine	*Epipactis gigantea*	MIIH	MIIH					MIIH	MIIH	MIIH	MIIH	No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	marsh horsetail	*Equisetum palustre*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	meadow horsetail	*Equisetum pratense*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	whitestem goldenbush	*Ericameria discoidea var. discoidea (Haplopappus macronema var. macronema)*	MIIH	MIIH									No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	Idaho fleabane	*Erigeron asperugineus*	NI	NI									No	No	NI-Alpine	NI-Alpine		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	Evermann fleabane	*Erigeron evermannii*		MIIH									No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	Lackschewitz' fleabane	*Erigeron lackschewitzii*											No	Yes	NI- Alpine and talus	NI-Alpine and talus		
plant - vascular	nodding wild buckwheat	*Eriogonum cernuum*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Visher's buckwheat	*Eriogonum visheri*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	slender cottongrass	*Eriophorum gracile*				MIIH				MIIH			No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	green-keeled cottonsedge	*Eriophorum viridicarinatum*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	wingstem monkeyflower	*Erythranthe (Mimulus) alsinoides*							MIIH			MIIH	No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	stalk-leaved monkeyflower	*Erythranthe (Mimulus) ampliata*								MIIH		MIIH	No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	short-flowered monkeyflower	*Erythranthe (Mimulus) breviflora*								MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	thinsepal monkeyflower	*Erythranthe (Mimulus) hymenophylla*										NI	Yes	No	NI- Cliffs	NI-Cliffs		
plant - vascular	primrose monkeyflower	*Erythranthe (Mimulus) primuloides*	MIIH	MIIH									No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	burning bush	*Euonymus atropurpureus*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	northern bog bedstraw	*Galium labradoricum*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications		
plant - vascular	creeping snowberry	*Gaultheria hispidula*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	prairie gentian	*Gentiana affinis*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Macoun's gentian	*Gentianopsis macounii*											No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	hiker's gentian	*Gentianopsis simplex*	MIIH							MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	spiny greasebush	*Glossopetalon nevadense*		MIIH									No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	northern rattlesnake-plantain	*Goodyera repens*											No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications		
plant - non-vascular	Britton's dry rock moss	*Grimmia brittoniae*							NI	NI	NI		Yes	Yes	NI- Cliffs	NI-Cliffs		
plant - vascular	Howell's gunweed	*Grindelia howellii*							MIIH	MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	northern oak fern	*Gymnocarpium dryopteris*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	puzzling rockcress	*Halimolobos perplexa*		MIIH								MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	hoary frostweed	*Helianthemum bicknellii*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	water star-grass	*Heteranthera dubia*											No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	western perl-flower	*Heterocodon rariflorum*		MIIH						MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - non-vascular	hookeria moss	*Hookeria luscens*							MIIH			MIIH	No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	wooly beachheather	*Hudsonia tomentosa*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	larger Canadian St. John's-wort	*Hypericum majus*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	scalepod	*Idahoa scapigera*		MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	harlequin blueflag	*Iris versicolor*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	Hall's rush	*Juncus hallii*	MIIH										No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications		
plant - vascular	latah tule pea	*Lathyrus bijugatus*								MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	prairie pinweed	*Lechea stricta*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	mountain star-lily	*Leucocrinum montanum*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	northern wildrye	*Elymus innovatus*											No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	yellow widelip orchid	*Liparis loeselii*				MIIH							No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	Geyer's biscuitroot	*Lomatium geyeri*								MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	salmonflower bicuitroot	*Lomatium salmoniflorum*										MIIH	No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	northern bog clubmoss	*Lycopodiella inundata*							MIIH	MIIH			No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	running-pine	*Lycopodium lagopus*								MIIH			No	No	NI-Alpine	NI-Alpine		
plant - vascular	arctic starflower	*Lysimachia europaea (Trientalis arctica)*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - non-vascular	meesia moss	*Meesia longiseta*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - non-vascular	meesia moss	*Meesia triquetra*		MIIH						MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	dwarf mentzelia	*Mentzelia pumila*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	bog buckbean	*Menyanthes trifoliata*				MIIH							No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	Oregon bluebells	*Mertensia bella*									MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	streamside bluebells	*Mertensia ciliata*				MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	storm saxifrage	*Micranthes tempestiva*	NI	NI									Yes	Yes	NI- Alpine	NI-Alpine		
fungi	alpine foxtail lichen	*Nodobryoria subdivergens*		MIIH						MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	sensitive fern	*Onoclea sensibilis*				MIIH							No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	adder's tongue	*Ophioglossum pusillum*				MIIH				MIIH			No	No	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	stalked-pod locoweed	*Oxytropis podocarpa*	NI										No	Yes	NI-Alpine	NI-Alpine		
plant - vascular	Lemhi beardtongue	*Penstemon lemhiensis*	MIIH	MIIH									No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Payette beardtongue	*Penstemon payettensis*		MIIH									No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	goldback fern	*Pentagramma triangularis*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	sweet coltsfoot	*Petasites frigidus*										MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	alpine butterbur	*Petasites frigidus var. palmatus*							MIIH			MIIH	No	No	Yes, but riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	northern beechfern	*Phegopteris connectilis*							MIIH	MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	allysum-leaf phlox	*Phlox alyssifolia*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Missoula phlox	*Phlox kelseyi var. missoulensis*	MIIH								MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	keeled bladderpod	*Physaria carinata ssp. carinata*	MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	beautiful bladderpod	*Physaria carinata ssp. pulchella*	MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Bitterroot bladderpod	*Physaria humilis*		NI									Yes	No	NI-Alpine	NI-Alpine		
plant - vascular	limber pine	*Pinus flexilis*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Austin's knotweed	*Polygonum douglasii ssp. austiniae*	MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	western polypody	*Polypodium glycyrrhiza*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Braun's hollyfern	*Polystichum braunii*							MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	lanceleaf cottonwood	*Populus x acuminata*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	blunt-leaved pondweed	*Potamogeton obtusifolius*									MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	fiveleaf cinquefoil	*Potentilla nivea var. pentaphylla*	MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	alkali primrose	*Primula alcalina*	MIIH										Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	mealy primrose	*Primula incana*	MIIH										No	No	No, Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	dwarf wooly-heads	*Psilocarphus brevissimus*								MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	beartooth large-flowered goldenweed	*Pyrrocoma (Haplopappus) carthamoides var. subsquarrosa*											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	large sticky goldenweed	*Pyrrocoma (Haplopappus) hirta var. sonchifolia*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - non-vascular	a rhizomnium moss	*Rhizomnium nudum*							MIIH			MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection		
plant - vascular	white beaksedge	*Rhynchospora alba*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	eastern prickly gooseberry	*Ribes cynosbati*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Barratt's willow	*Salix barrattiana*											No	Yes	NI-Alpine	NI-Alpine		
plant - vascular	hoary willow	*Salix candida*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	bog willow	*Salix pedicellaris*				MIIH			MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	Weber's saw-wort	*Saussurea weberi*	NI										No	No	NI- Alpine	NI-Alpine		
plant - vascular	pod grass	*Scheuchzeria palustris*	MIIH	MIIH					MIIH	MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	water bulrush	*Schoenoplectus subterminalis*							MIIH	MIIH	MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - non-vascular	a scorpidium moss	*Scorpidium scorpioides*								MIIH			No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	shoshonea	*Shoshonea pulvinata*											No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.		
plant - vascular	zigzag goldenrod	*Solidago flexicaulis*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - non-vascular	Mendocino peatmoss	*Sphagnum mendocinum*							MIIH			MIIH	No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	alkali sacaton	*Sporobolus airoides*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	small twistedstalk	*Streptopus streptopoides*							MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	boreal aster	*Symphyotrichum boreale (Aster junciformis)*							MIIH				No	No	No, riparian buffers likely to provide protection	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	Idaho kittentails	*Synthyris platycarpa*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	sunbright	*Talinum parviflorum*				NI							No	No	NI- Dunes and outcrops	NI-Dunes and outcrops		
plant - vascular	alpine meadowrue	*Thalictrum alpinum*	MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	Sierra marsh fern	*Thelypteris nevadensis*							MIIH			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Idaho goldenweed	*Tonestus (Haplopappus) aberrans*		NI									No	No	NI- Cliffs	NI-Cliffs		
plant - vascular	silky townsend-daisy	*Townsendia exscapa*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Hooker's townsend-daisy	*Townsendia hookeri*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	western false asphodel	*Triantha occidentalis*							MIIH			MIIH	No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	Hudson's Bay bulrush	*Trichophorum alpinum*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	tufted club-rush	*Trichophorum cespitosum*	MIIH							MIIH			No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	Douglas' clover	*Trifolium douglasii*										MIIH	Yes	No	No, riparian	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	wooly-head clover	*Trifolium eriocephalum*	MIIH	MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	hollyleaf clover	*Trifolium gymnocarpon var. amplifolium*	MIIH	MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		
plant - vascular	plumed clover	*Trifolium plumosum*										MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	purple sandgrass	*Triplasis purpurea*				MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		

Category	Common name	scientific name	Beaverhead-Deerlodge	Bitterroot	Custer-Gallatin	Dakota Prairie Grasslands	Flathead	Helena-Lewis and Clark	Idaho-Panhandle	Kootenai	Lolo	Nez-Perce Clearwater	Species Rank G1/G2?	Use over 0.01	Habitat potentially impacted?	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?
plant - vascular	flatleaf bladderwort	*Utricularia intermedia*								MIIH			No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	small cranberry	*Vaccinium oxycoccos*							MIIH				No	No	No, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection		
plant - vascular	California false-hellebore	*Veratrum californicum*	MIIH	MIIH									No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection		
plant - vascular	great-spurred violet	*Viola selkirkii*								MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted		
plant - vascular	Idaho barren strawberry	*Waldsteinia idahoensis*							MIIH		MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted		

VERSION: 6/27/2023

Category	Common name	*scientific name*	Bighorn	Black Hills	Grand Mesa, Uncompahgre and Gunnison	Medicine Bow-Routt and Thunder Basin NG	Nebraska, Samuel R. McKelvie NFs and Oglala, Buffalo Gap and Fort Pierre NGs	Rio Grande	Arapahoe-Roosevelt and Pawnee NG	Pike-San Isabel, Cimmaron Comanche NG	San Juan	Shoshone	White River	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Simple Determination
plant - vascular	stonecrop gilia	*Aliciella sedifolia*			NI						NI			Yes	Yes	NI- Alpine	NI- Alpine	NI
plant - vascular	Rydberg's golden columbine	*Aquilegia chrysantha*								MIIH				Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Laramie columbine	*Aquilegia laramiensis*				MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Siberian sea thrift	*Armeria maritima ssp. sibirica*				NI			NI	NI			NI	No	No	NI- Alpine	NI- Alpine	NI
plant - vascular	wheel milkweed	*Asclepias uncialis*							MIIH	MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Barr's milkvetch	*Astragalus barrii*				MIIH	MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	violet milkvetch	*Astragalus iodopetalus*									MIIH			Yes	No	Yes	MIIH G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	park milkvetch	*Astragalus leptaleus*				MIIH			MIIH	MIIH			MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Missouri, or Archuleta milkvetch	*Astragalus missouriensis var. humistratus*									MIIH			Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Aztec milkvetch	*Astragalus proximus*									MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Ripley's milkvetch	*Astragalus ripleyi*												No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	triangleglobe moonwort	*Botrychium ascendens*	MIIH						MIIH	MIIH		MIIH	MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Iowa, or prairie moonwort	*Botrychium campstre*		MIIH		MIIH			MIIH					No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	peculiar moonwort	*Botrychium paradoxum*	MIIH		MIIH	MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	smooth northern-rockcress	*Braya glabella*			MIIH					MIIH			MIIH	No	No	NI- Alpine	NI- Alpine	NI
plant - vascular	winding mariposa lily	*Calochortus flexuosus*												No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	foxtail sedge	*Carex alopecoidea*		MIIH		MIIH								No	No	Yes	MIIH- Not G1/G2, Nouse over 0.01, habitat potentially impacted	MIIH
plant - vascular	lesser panicled sedge	*Carex diandra*	MIIH			MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	livid sedge	*Carex livida*				MIIH			MIIH	MIIH		MIIH	MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	sandhill goosefoot	*Chenopodium cycloides*							MIIH	MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	prairie, or Wyoming dodder	*Cuscuta plattensis*				MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	mountain lady's slipper	*Cypripedium montanum*	MIIH											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	lesser yellow lady's slipper	*Cypripedium parviflorum*	MIIH	MIIH		MIIH			MIIH	MIIH	MIIH		MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Wyoming, or Wind River tansymustard	*Descurainia torulosa*										MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	clawless, or Gary's Peak draba	*Draba exunguiculata*				NI			NI	NI			NI	Yes	No	NI- Alpine	NI- Alpine	NI
plant - vascular	Gray's draba	*Draba grayana*				NI			NI	NI			NI	Yes	No	NI- Alpine	NI- Alpine	NI
plant - vascular	Smith's draba	*Draba smithii*								NI	NI			Yes	No	NI- Alpine	NI- Alpine	NI
plant - vascular	Weber's draba, or whitlowgrass	*Draba weberi*								MIIH			MIIH	Yes	No	Yes, but riparian	MIIH G1/G2, No use over 0.01, habitat potentially impacted, Riparian buffers likely to provide protection	MIIH

Category	Common name	*scientific name*	Bighorn	Black Hills	Grand Mesa, Uncompahgre and Gunnison	Medicine Bow-Routt and Thunder Basin NG	Nebraska, Samuel R. McKelvie NFs and Oglala, Buffalo Gap and Fort Pierre NGs	Rio Grande	Arapahoe-Roosevelt and Pawnee NG	Pike-San Isabel, Cimmaron Comanche NG	San Juan	Shoshone	White River	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Simple Determination
plant - vascular	English sundew	*Drosera anglica*	MIIH								MIIH	MIIH		No	No	No	MIIH- Not G1/G2, No use over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	roundleaf sundew	*Drosera rotundifolia*			MIIH	MIIH			MIIH	MIIH			MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	elliptic, or slender spikerush	*Eleocharis elliptica*				MIIH								No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	giant helleborin, or stream orchid	*Epipactis gigantea*		MIIH						MIIH	MIIH		MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Brandegee's buckwheat	*Eriogonum brandegeei*								MIIH				Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	dropleaf buckwheat	*Eriogonum exilifolium*				MIIH			MIIH					No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Visher's buckwheat	*Eriogonum visheri*				MIIH	MIIH							No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Chamisso's bristlegrass or cottongrass	*Eriophorum chamissonis*	MIIH		MIIH					MIIH	MIIH	MIIH	MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	slender bristlegrass or cottongrass	*Eriophorum gracile*	MIIH		MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	plains rough fescue	*Festuca hallii*	MIIH			MIIH			MIIH	MIIH		MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	roundleaf orchid	*Galearis rotundifolia*										MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	lone mesa snakeweed	*Gutierrezia elegans*									MIIH			Yes	No	No	MIIH-G1/G2, No use over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	scarlet gilia	*Ipomopsis aggregata ssp. weberi*				MIIH			MIIH					No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	simple bog sedge	*Kobresia simpliciuscula*			MIIH	MIIH			MIIH	MIIH		MIIH	MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - vascular	Fremont's bladderpod	*Lesquerella fremontii*										MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Pagosa Springs bladderpod	*Lesquerella pruinosa*									MIIH			Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	yellow widelip orchid	*Liparis loeselii*					MIIH							No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	groundcedar	*Lycopodium complanatum*		MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Colorado tansyaster	*Xanthisma (Machaeranthera) coloradoensis*			MIIH	MIIH				MIIH	MIIH		MIIH	No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	white adder's-mouth orchid	*Malaxis monophyllos var. brachypoda*				MIIH			MIIH	MIIH				No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Rocky Mountan, budding, or Weber monkeyflower	*Mimulus gemmiparus*				MIIH			MIIH	MIIH				Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Bill's neoparrya	*Neoparrya lithophila*								MIIH				No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Pike's Peak alpineparsely	*Oreoxis humilis*								NI				Yes	No	NI- Alpine	NI- Alpine	NI

Category	Common name	*scientific name*	Bighorn	Black Hills	Grand Mesa, Uncompahgre and Gunnison	Medicine Bow-Routt and Thunder Basin NG	Nebraska, Samuel R. McKelvie NFs and Oglala, Buffalo Gap and Fort Pierre NGs	Rio Grande	Arapahoe-Roosevelt and Pawnee NG	Pike-San Isabel, Cimmaron Comanche NG	San Juan	Shoshone	White River	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Simple Determination
plant - vascular	mancos shale packera	*Packera mancosana*									MIIH			Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Kotzebue's grass of Parnassus	*Parnassia kotzebuei*	MIIH			MIIH			MIIH	MIIH	MIIH	MIIH	MIIH	No	No	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Absaroka, or Absaroka Range beardtongue	*Penstemon absarokensis*										MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	Cary's beardtongue	*Penstemon caryi*	MIIH											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Degener's beardtongue	*Penstemon degeneri*								MIIH				Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Harrington's beardtongue	*Penstemon harringtonii*				MIIH			MIIH				MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	common twinpod	*Physaria didymocarpa var. lanata*	MIIH											Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	cushion bladderpod	*Physaria pulvinata*									MIIH			Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	silver, or west silver bladderpod	*Physaria scrotiformis*									MIIH			Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	lesser roundleaved orchid	*Platanthera orbiculata*		MIIH										No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection	MIIH
plant - vascular	Rock, or Rocky Mountain cinqefoil	*Potentilla rupincola*							NI	NI				Yes	No	NI- Cliffs and Outcrops	NI- Cliffs and Outcrops	NI
plant - vascular	Greenland primrose	*Primula egaliksensis*								MIIH		MIIH		No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Porter's false needlegrass	*Ptilagrostis porteri*								MIIH			MIIH	Yes	No	Yes, but riparian	MIIH G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	largeflower goldenweed	*Pyrrocoma carthamoides var. subsquarrosa*										MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	tranquil goldenweed	*Pyrrocoma clementis var. villosa*	MIIH									MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	many-stemmed goldenweed	*Pyrrocoma integrifolia*										MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	ice cold buttercup	*Ranunculus grayi*			NI	NI			NI	NI		NI	NI	No	No	NI-Alpine	NI- Alpine	NI
plant - vascular	dwarf raspberry	*Rubus arcticus ssp. acaulis*	MIIH		MIIH	MIIH			MIIH	MIIH			MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Arizona willow	*Salix arizonica*									MIIH			Yes	No	No, but riparian	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.Riparian buffers likely to provide protection	MIIH
plant - vascular	Barratt's willow	*Salix barrattiana*										MIIH		No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection	MIIH
plant - vascular	sageleaf, or sage willow	*Salix candida*		MIIH	MIIH	MIIH			MIIH	MIIH	MIIH		MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH

Category	Common name	*scientific name*	Bighorn	Black Hills	Grand Mesa, Uncompahgre and Gunnison	Medicine Bow-Routt and Thunder Basin NG	Nebraska, Samuel R. McKelvie NFs and Oglala, Buffalo Gap and Fort Pierre NGs	Rio Grande	Arapahoe-Roosevelt and Pawnee NG	Pike-San Isabel, Cimmaron Comanche NG	San Juan	Shoshone	White River	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Simple Determination
plant - vascular	blueberry willow	*Salix myrtillifolia*								MIIH		MIIH		No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection	MIIH
plant - vascular	autumn willow	*Salix serissima*		MIIH		MIIH			MIIH	MIIH			MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - vascular	bloodroot	*Sanguinaria canadensis*		MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	Hall's bulrush	*Schoenoplectus hallii*					MIIH							No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection	MIIH
plant - vascular	club spikemoss	*Selaginella selaginoides*				MIIH								No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - vascular	Shoshone carrot	*Shoshonea pulvinata*										MIIH		No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - non-vascular	sphagnum	*Sphagnum angustifolium*			MIIH	MIIH				MIIH	MIIH		MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - non-vascular	baltic sphagnum	*Sphagnum balticum*			MIIH					MIIH	MIIH		MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - vascular	Cathedral Bluff meadowrue	*Thalictrum heliophilum*			NI								NI	Yes	No	NI-Talus	NI-Talus	NI
plant - vascular	cushion Townsend daisy	*Townsendia condensata var anomola*										MIIH		No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.	MIIH
plant - vascular	largeflower triteleia	*Triteleia grandiflora*				MIIH					MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH
plant - vascular	lesser bladderwort	*Utricularia minor*	MIIH		MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	MIIH	No	No	No, but Riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide protection	MIIH
plant - vascular	American cranberrybush, or mooseberry	*Viburnum opulus var. americanum*		MIIH		MIIH							MIIH	No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but Riparian buffers likely to provide protection	MIIH
plant - vascular	Selkirk's violet	*Viola selkirkii*		MIIH		MIIH			MIIH	MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted	MIIH

VERSION: 6/27/2023

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
TUFTED SAND VERBENA	*Abronia bigelovii*												Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PIMA INDIAN MALLOW	*Abutilon parishii*					MIIH						MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
WRIGHT'S DOGWEED	*Adenophyllum wrightii var. wrightii*						MIIH						No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
TONTO BASIN AGAVE	*Agave delamateri*				MIIH					MIIH		MIIH	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
HOHOKAM AGAVE	*Agave murpheyi*											MIIH	Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SANTA CRUZ STRIPED AGAVE	*Agave parviflora ssp. parviflora*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, fire is a threat to the species			
PHILLIPS' AGAVE	*Agave phillipsiana*				MIIH					MIIH			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
TRELEASE AGAVE	*Agave schottii var. treleasei*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SACRED MOUNTAIN AGAVE	*Agave verdensis*				MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PAGE SPRINGS AGAVE	*Agave yavapaiensis*				MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
GOODDING'S ONION	*Allium gooddingii*	MIIH			MIIH		MIIH		MIIH				Yes	Yes	Yes	MIIH- G1/G2, One or more forests over 0.01 application rate, Fire is a threat to the species			
SAIYA	*Amoreuxia gonzalezii*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
LARGE-FLOWERED BLUE STAR	*Amsonia grandiflora*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
MOGOLLON DEATH CAMAS	*Anticlea mogollonensis (=Zigadenus m.)*						MIIH						Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, Fire is a threat to the species			
CHAPLINE'S COLUMBINE	*Aquilegia chaplinei (=A. chrysantha var. chaplinei)*								MIIH				No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CHIRICAHUA ROCK CRESS	*Arabis tricornuta*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
MT. DELLENBAUGH SANDWORT	*Arenaria aberrans*				MIIH			MIIH		MIIH		MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
LEMMON MILKWEED	*Asclepias lemmonii*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species			
GREENE MILKWEED	*Asclepias uncialis ssp. uncialis*	MIIH				MIIH	MIIH			MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
ZUNI MILKVETCH	*Astragalus accumbens*												No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
GUMBO MILKVETCH	*Astragalus ampullarius*							MIIH					Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
TALL MILKVETCH	*Astragalus altus*								MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
MAGUIRE'S (COPPERMINE) MILKVETCH	*Astragalus cobrensis var. maguirei*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate,habitat potentially impacted, Fire is a threat to the species			
MARBLE CANYON MILKVETCH	*Astragalus cremnophylax var. hevronii*							MIIH					Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CLIFF MILKVETCH	*Astragalus cremnophylax var. myriorrhaphis*							MIIH					Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
VILLOUS GROUNDCOVER MILKVETCH	*Astragalus humistratus var. crispulus*	MIIH					MIIH						No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
HUACHUCA MILKVETCH	*Astragalus hypoxylus*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
KERR'S MILKVETCH	*Astragalus kerrii*								MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
CHACO MILKVETCH	*Astragalus micromerius*												No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PAGOSA MILKVETCH	*Astragalus missouriensis var. humistratus*												No	No	No	MIIH- Not G1/G2, No forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
RIPLEY MILKVETCH	*Astragalus ripleyi*												No	No	Yes	MIIH- Not G1/G2, No forests over 0.01 application rate, habitat potentially impacted			
RUSBY'S MILKVETCH	*Astragalus rusbyi*				MIIH			MIIH					No	No	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
ONE-FLOWERED MILKVETCH	*Astragalus wittmannii*												Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
AYENIA	*Ayenia jaliscana (= A. truncata)*				MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, No known occurrences on FS			
SIERRA BLANCA KITTENTAILS	*Besseya oblongifolia*								NI					Yes	No	NI- Alpine			
CRENULATE MOONWORT	*Botrychium crenulatum*				MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
BUSH-VIOLET	*Browallia eludens*					MIIH							Yes	Yes	Yes	WII or MIIH- G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests ove 0.01 to reduce determination to MIIH	no	no	annual - Species has short life cycle; occurring on moist soils of temporary streams. This would be post fire season. Per Region no need for avoidance mapping. Final determination MIIH.
PECOS MARIPOSA LILY	*Calochortus gunnisonii var.*												No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
CHILTEPIN	*Capsicum annuum var. glabriusculum*					MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CHIHUAHUAN SEDGE	*Carex chihuahuensis*					MIIH						MIIH	No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Riparian buffers likely to provide protection			
COCHISE SEDGE	*Carex ultra (=C.spissa var. ultra)*				MIIH	MIIH				MIIH		MIIH	No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Riparian buffers likely to provide protection			
KAIBAB PAINTBRUSH	*Castilleja kaibabensis*							MIIH					Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
WHITE MOUNTAINS PAINTBRUSH	*Castilleja mogollonica*	MIIH											Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
TRANS-PECOS INDIAN PAINTBRUSH	*Castilleja nervata*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, No known occurrences on FS			
SANTA CRUZ STAR LEAF	*Choisya mollis*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
TUSAYAN RABBITBRUSH, DISTURBED RABBITBRUSH	*Chrysothamnus molestus*				MIIH			MIIH					No	No	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat that is unlikely to have retardant applications. Also, this species needs fire to maintain its habitat.			
ARIZONA BUGBANE	*Cimicifuga arizonica*				MIIH			MIIH				MIIH	Yes	No	No, but riparian	MIIH- G1/G2, One or more forests over 0.01 application rate, plant is within riparian corridors already mapped for aquatic protection			
GILA THISTLE	*Cirsium gilense*	MIIH					MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
MOGOLLON THISTLE	*Cirsium parryi ssp. mogollonicum*				MIIH								Yes	No	Yes, but riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, Riparian buffers likely to provide protection			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
WRIGHT'S MARSH THISTLE	*Cirsium wrightii*															Addressed in BA			
ARIZONA LEATHERFLOWER,	*Clematis hirsutissima var. hirsutissima*				MIIH			MIIH	N/A				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
MEXICAN HEMLOCK PARSLEY	*Conioselinum mexicanum*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, No known occurrences on FS			
SANTA CRUZ BEEHIVE CACTUS	*Corypantha recurvata*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
SMOOTH BABYBONNETS	*Coursetia glabella*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
WOOTON'S HAWTHORN	*Crategus wootoniana*						MIIH		MIIH				Yes	Yes	Yes	MIIH- G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species			
YELLOW LADY'S-SLIPPER	*Cypripedium parviflorum var. pubescens (=C.*	MIIH					MIIH		MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
GENTRY INDIGO BUSH	*Dalea tentaculoides*				MIIH								Yes	No	No, but riparian	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, but Riparian buffers likely to provide protection			
ALPINE LARKSPUR	*Delphinium alpestre*													No	No	NI- Alpine			
ROBUST LARKSPUR	*Delphinium robustum*												Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
METCALFE'S TICK-TREFOIL	*Desmodium metcalfei*				MIIH	MIIH	MIIH			MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
HEIL'S ALPINE WHITLOWGRASS	*Draba heilii*													No	No	NI- Alpine			
SMALL-HEADED GOLDENWEED	*Ericameria microcephala (=Haplopappus m.)*												Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
GUADALUPE RABBITBRUSH	*Ericameria nauseosa var. texensis (=Chrysothamnus*								MIIH				No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
MOGOLLON FLEABANE	*Erigeron anchana*											MIIH	Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
ARID THRONE FLEABANE	*Erigeron arisolius*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual or perrenial - Plant occurs in grasslands, often on moist and rocky soils. Per Region no need for avoidance mapping. Final determination MIIH.
HELIOGRAPH PEAK FLEABANE	*Erigeron heliographis*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species			
HESS' FLEABANE	*Erigeron hessii*						MIIH						Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CHIRICAHUA FLEABANE	*Erigeron kuschei*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Fire is a threat to the species			
FISH CREEK FLEABANE	*Erigeron piscaticus*											MIIH	Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, plant is within riparian corridors already mapped			
ROCK FLEABANE	*Erigeron saxatilis*				MIIH			MIIH		MIIH			No	Yes	No	MIIH- Not G1/G2,One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SIVINSKI'S FLEABANE	*Erigeron sivinskii*												Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PECOS FLEABANE	*Erigeron subglaber*												Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
HEATHLEAF WILD BUCKWHEAT	*Eriogonum ericifolium var. ericifolium*	MIIH			MIIH					MIIH			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
MORTON WILD BUCKWHEAT	*Eriogonum mortonianum*							MIIH					Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, No known occurrences on FS			
RIPLEY WILD BUCKWHEAT	*Eriogonum ripleyi*				MIIH					MIIH		MIIH	Yes	Yes	No	MIIH- G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
ATWOOD WILD BUCKWHEAT	*Eriogonum thompsonae var.*							MIIH					No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, No known occurrences on FS			
VILLARD'S PINCUSHION CACTUS	*Escobaria villardii*								MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
WISLIZENI GENTIAN	*Gentianella wislizeni*	MIIH				MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	annual
SHOOTINGSTAR GERANIUM	*Geranium dodecatheoides*								MIIH				Yes	Yes	No, but riparian	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide			
BARTRAM STONECROP	*Graptopetalum bartramii*					~~MIIH~~								Yes		Addressed in BA			
FLAGSTAFF PENNYROYAL	*Hedeoma diffusum*				MIIH			MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
ARIZONA SNEEZEWEED	*Helenium arizonicum*	MIIH			MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
ARIZONA SUNFLOWER	*Helianthus arizonensis*	MIIH			MIIH								Yes	No	Yes	MIIH G1/G2, No use over 0.01, habitat potentially impacted,			
RUTTER'S FALSE GOLDENASTER	*Heterotheca rutteri*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
EASTWOOD ALUM ROOT	*Heuchera eastwoodiae*	MIIH			MIIH					MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
ARIZONA ALUM ROOT	*Heuchera glomerulata*	MIIH				MIIH						MIIH	No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Riparian buffers likely to provide some protection			
SANDIA ALUM ROOT	*Heuchera pulchella*												Yes	Yes	No	MIIH- G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CAPITAN PEAK ALUMROOT	*Heuchera woodsiaphila*								NI				Yes	Yes	No	NI- G1/G2, Use over 0.01 application rate,Talus Scree habitat unlikely to burn and/or unlikely to have retardant applications.			
COLEMAN'S CRESTED CORALROOT	*Hexalectris colemanii*				MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
CHISOS MT. CRESTED CORALROOT	*Hexalectris revoluta*								MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
WOOTON'S ALUMROOT	*Heuchera wootonii*								MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
ARIZONA CORALROOT	*Hexalectris spicata var. arizonica*					MIIH		MIIH	MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
TEXAS PURPLE-SPIKE	*Hexalectris warnockii*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Species may remain below ground for several years. Final determination MIIH.
MOGOLLON HAWKWEED	*Hieracium brevipilum (=H. fendleri var. mogollense)*	MIIH					MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
RUSBY HAWKWEED	*Hieracium abscissum (= H. rusbyi)*					MIIH	MIIH						Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	threatened by loss of habitat due to wildfire, therefore avoidance area mapping would be detrimental
NEW MEXICO BITTERWEED	*Hymenoxys ambigens var. neomexicana*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, No known occurrences on FS			
TALL BITTERWEED	*Hymenoxys brachyactis*												No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SIERRA BLANCA CLIFF DAISY	*Ionactis elegans (=Chaetopappa e.)*								MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
KAIBAB BLADDERPOD	*Lesquerella kaibabensis*							MIIH					No	No	No	MIIH- Not G1/G2, use not over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
LEMON LILY	*Lilium parryi*					MIIH							No	Yes	No, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide			
WOOD LILY	*Lilium philadelphicum*								MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted,			
CHIRICAHUA MUDWORT	*Limosella pubiflora*					MIIH							Yes	Yes	No, but riparian	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, Riparian buffers likely to provide			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?	
ALAMOS DEER VETCH	*Lotus alamosanus*				MIIH								No	No	No, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Riparian buffers likely to provide protection				
HORSESHOE DEER VETCH	*Lotus mearnsii var. equisolensis*											MIIH	No	No	No	MIIH- Not G1/G2, No use over 0.01 application rate,				
HUACHUCA MOUNTAINS LUPINE	*Lupinus huachucanus*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species				
BROADLEAF LUPINE	*Lupinus latifolius ssp. leucanthus*									MIIH			No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Riparian buffers likely to provide protection				
LEMMON'S LUPINE	*Lupinus lemmonii*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.	
MAPLELEAF FALSE SNAPDRAGON	*Mabrya acerifolia (=Maurandya a.)*											MIIH	Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
SUPINE BEAN	*Macroptilium supinum*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.	also dormant unless rainy season
ARIZONA MANIHOT	*Manihot davisiae*				MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted				
CHAMA BLAZING STAR	*Mentzelia conspicua*												Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
SPRINGER'S BLAZING STAR	*Mentzelia springeri*												No	No	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
WIGGINS MILKWEED VINE	*Metastelma mexicanum (=Cynanchum wigginsii)*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Fire is a threat to the species				
LADIES'-TRESSES	*Microthelys rubrocallosa (=Schiedeella r., Spiranthes*								MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species				
SOUTHWESTERN MUHLY	*Muhlenbergia palmeri (=M.*				MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
SYCAMORE CANYON MUHLY	*Muhlenbergia elongata (=M. xerophila)*					MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
HEARTLEAF GROUNDSEL	*Packera cardamine (=Senecio cardamine)*	MIIH					MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted				
TOUMEY GROUNDSEL	*Packera neomexicana var. toumeyi (=Senecio n. var.*						MIIH					MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted				
SPELLENBERG'S GROUNDSEL	*Packera spellenbergii (=Senecio s.)*												No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
VIRLET PASPALUM	*Paspalum virletii*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, Use over 0.01, habitat potentially impacted, No known occurrences on FS				
ARIZONA PASSIONFLOWER	*Passiflora arizonica*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, Use over 0.01, habitat potentially impacted				
BEARDLESS CHINCHWEED	*Pectis imberbis*															Addressed in BA				
KAIBAB PINCUSHION CACTUS	*Pediocactus paradinei*							MIIH					Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to species				
FICKEISEN PINCUSHION CACTUS	*Pediocactus peeblesianus var.*							MIIH								Adressed in BA, Federally endangered; no critical habitat mapped				
CHIHUAHUA SCURF-PEA	*Pediomelum pentaphyllum*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, use over 0.01 application rate, habitat potentially impacted, no known occurrences on FS				
VERDE BREADROOT	*Pediomelum verdiensis*				MIIH					MIIH		MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no		
LYNGHOLM'S BRAKEFERN	*Pellaea lyngholmii*				MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to species				
ALAMO PENSTEMON	*Penstemon alamosensis*								MIIH				No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				
GUADALUPE PENSTEMON	*Penstemon cardinalis ssp. regalis*								MIIH				No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.				

Common Name	***Scientific Name***	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	**G1/G2**	**Use over 0.01**	Habitat potentially impacted	**Initial Determination from National Screen Process**	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
SUNSET CRATER BEARDTONGUE	*Penstemon clutei*				MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
CATALINA BEARDTONGUE	*Penstemon discolor*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Threatened by invasive species therefore include monitoring of any known occupied habitat where retatrdant is used and mitigate if invasives are present and increase. Final determination MIIH.
MAGUIRE'S BEARDTONGUE	*Penstemon linarioides ssp.*	MIIH					MIIH						No	No	Yes	MIIH- Not G1/G2, Use over 0.01, habitat potentially impacted, No known occurrences on FS			
METCALFE'S PENSTEMON	*Penstemon metcalfei*						MIIH						Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to species			
FLAGSTAFF BEARDTONGUE	*Penstemon nudiflorus*				MIIH			MIIH		MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
SAN MATEO PENSTEMON	*Penstemon pseudoparvus*												No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to species			
CHIRICAHUA ROCKDAISY	*Perityle cochisensis*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SALT RIVER ROCKDAISY	*Perityle gilensis var. salensis*											MIIH	Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
FISH CREEK ROCKDAISY	*Perityle saxicola*											MIIH	Yes	No	No	MIIH- G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CLOUDCROFT SCORPIONWEED	*Phacelia cloudcroftensis*								MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual - species may be threatened by potential increase of invasive species; however avoidance areas could impact ability to protect town of Cloudcroft. Include monitoring of any known occupied habitat where retatrdant is used and mitigate if invasives are present and increase. Final determination MIIH.
ARIZONA PHLOX	*Phlox amabilis*	MIIH			MIIH			MIIH		MIIH		MIIH	Yes	Yes	Yes	MIIH- G1/G2, Use over 0.01, habitat potentially impacted, fire is a threat to species			
BROADLEAF GROUND CHERRY	*Physalis latiphysa*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
ALCOVE BOG ORCHID	*Platanthera zothecina*				MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
HINCKLEY'S POLEMONIUM	*Polemonium pauciflorum ssp. hinckleyi*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
HUALAPAI MILKWORT	*Polygala rusbyi*				MIIH					MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
WHITE-FLOWERED CINQUEFOIL	*Potentilla albiflora*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, Use over 0.01, habitat potentially impacted, fire is a threat to species			
CHIRICAHUA CINQUEFOIL	*Potentilla rhyolitica var. chiricahuensis*					MIIH							Yes	Yes	Yes	MIIH- G1/G2, Use over 0.01, habitat potentially impacted, fire is a threat to species			
HUACHUCA CINQUEFOIL	*Potentilla rhyolitica var. rhyolitica*					MIIH							Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
MEXICAN TANSY ASTER	*Psilactis gentryi (=machaeranthera*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
WHISK FERN	*Psiilotum nudum*					MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
DAVIDSON'S CLIFF CARROT	*Pteryxia davidsonii*	MIIH					MIIH						Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to species			
PARISH'S ALKALI GRASS	*Puccinellia parishii*	MIIH											Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to species			
GRAND CANYON ROSE	*Rosa stellata ssp. abyssa*							MIIH					No	No	No	MIIH-Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
ERTTER'S ROSE	*Rosa woodsii var. ertterae*				MIIH								No	No	Yes, but riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, Riparian buffers likely to provide protection			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?
SIERRA BLANCA CINQUEFOIL	*Potentilla sierrae-blancae*								MIIH				No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
BLUMER'S DOCK	*Rumex orthoneurus*	MIIH			MIIH	MIIH						MIIH	No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, 300 foot riparian buffer likely to provide some protection.			
ARIZONA WILLOW	*Salix arizonica*	MIIH											No	No	No, but riparian	MIIH- G2G3, Use over 0.01 for one or more forests, 300 foot riparian buffer likely to provide protection.			
BEBB'S WILLOW	*Salix bebbiana*	MIIH			MIIH								No	No	No, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, 300 foot riparian buffer likely to provide protection.			
GALIURO SAGE	*Salvia amissa*					MIIH						MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	riparian obligate
MEARNS SAGE	*Salvia dorrii ssp. mearnsii*				MIIH					MIIH			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
CHIRICAHUA MOUNTAIN BROOKWEED	*Samolus vagans*					MIIH							Yes	Yes	Yes, but riparian	MIIH- G1/G2, Use over 0.01 application rate, habitat potentially impacted, But, plant is within streams already mapped.			
MIMBRES FIGWORT	*Scrophularia macrantha*						MIIH						Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, fire is a threat to the species			
NEW MEXICAN STONECROP	*Sedum integrifolium ssp. neomexicana*								NI					Yes	No	NI- Alpine			
HUACHUCA GROUNDSEL	*Senecio multidentatus var. huachucanus (=s.*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, Use over 0.01 application rate, habitat potentially impacted, but Fire is a threat to the species			
NODDING BLUE-EYED GRASS	*Sisyrinchium cernuum*					MIIH							No	Yes	Yes, but riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, some protection through riparian buffers			
GUADALUPE MOUNTAINS GOLDENROD	*Solidago wrightii var. guadalupensis*								MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
GUADALUPE MESCAL BEAN	*Sophora gypsophila var. guadalupensis*								MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PORSILD'S STARWORT	*Stellaria porsildii*					MIIH	MIIH						Yes	Yes	Yes	MIIH- G1/G2, Use over 0.01 application rate, habitat potentially impacted, but Fire is a threat to the species			
LEMMON'S STEVIA	*Stevia lemmonii*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species			
GUADALUPE JEWELFLOWER	*Streptanthus sparsiflorus*								MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
PINOS ALTOS FLAME FLOWER	*Talinum humile*					MIIH	MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
TEPIC FLAME FLOWER	*Talinum marginatum*					MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
ARAVAIPA WOODFERN	*Thelypteris puberula var. sonorensis*					MIIH						MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
SONORAN NOSEBURN	*Tragia laciniata*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
MOGOLLON CLOVER	*Trifolium longipes ssp. neurophyllum (=T. neurophyllum)*	MIIH					MIIH						Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
TUMAMOC GLOBEBERRY	*Tumamoca macdougallii*					MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
SHADE VIOLET	*Viola umbraticola*					MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, Fire is a threat to the species			

Common Name	*Scientific Name*	AS	CAR	CIB	COC	COR	GIL	KAI	LIN	PRE	SFE	TON	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	shrub, succulent life form?	Perennial or annual?

P* = species is proposed for federal listing, and will be removed from the RFSS list if/once the final rule is published implementing the Federal protections provided by the ESA.

Version: 6/27/2023

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Pink agoseris	*Agoseris lackschewitzii*			MIIH								MIIH		MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Wonderland Alice flower	*Aliciella (=Gilia) caespitosa*						MIIH	MIIH									Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Chatterley Onion	*Allium geyeri var. chatterleyi*									MIIH							Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Swamp onion	*Allium madidum*										MIIH						No	No	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Tolmie's onion	*Allium tolmiei var. persimile*		MIIH								MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Candystick	*Allotropa virgata*										MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Sweet-flowered rock jasmine	*Androsace chamaejasme ssp. carinata*			MIIH						NI				MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted M-L habitat in alpine			
Charleston angelica	*Angelica scabrida*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Wheeler's angelica	*Angelica wheeleri*															MIIH	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Meadow pussytoes	*Antennaria arcuata*								MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Charleston pussytoes	*Antennaria soliceps*														NI		Yes	No	No	NI- Talus slopes			
Link Trail columbine	*Aquilegia flavescens var. rubicunda*									MIIH							Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Graham columbine	*Aquilegia grahamii*	MIIH															Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Rosy King's sandwort	*Arenaria kingii ssp. rosea*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Petiolate wormwood	*Artemisia campestris ssp. borealis var. petiolata*	MIIH															Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Eastwood milkweed	*Asclepias eastwoodiana*								MIIH						MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Clokey milkvetch	*Astragalus aequalis*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Larger than normal fire is a threat to the species			
Lost River milkvetch	*Astragalus amnis-amissi*					MIIH											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Goose Creek milkvetch	*Astragalus anserinus*					MIIH							? MIIH				Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, No known occurrences on FS			
Lemhi milkvetch	*Astragalus aquilonius*					MIIH							? MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Bicknell milkvetch	*Astragalus consobrinus*							MIIH		?MIIH							Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Meadow milkvetch	*Astragalus diversifolius var. diversifolius*			MIIH		MIIH								MIIH			Yes	No	Yes, but	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Dana milkvetch	*Astragalus henrimontanensis*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Isely's milkvetch	*Astragalus iselyi*									MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Starvling milkvetch	*Astragalus jejunus var. jejunus*			MIIH	MIIH												No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Long Valley milkvetch	*Astragalus johannis-howellii*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Broad-pod freckled milkvetch	*Astragalus lentiginosus var. latus*								MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Navajo Lake milkvetch	*Astragalus limnocharis var. limnocharis*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Table Cliff milkvetch	*Astragalus limnocharis var. tabulaeus*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lee Canyon milkvetch	*Astragalus oophorus var. clokeyanus*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lavin's egg milkvetch	*Astragalus oophorus var. lavinii*														MIIH		Yes	No	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Payson's milkvetch	*Astragalus paysonii*			MIIH							MIIH			MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Spring Mountain milkvetch	*Astragalus remotus*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Lamoile Canyon milkvetch	*Astragalus robbinsii var. occidentalis*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Toquima milkvetch	*Astragalus toquimanus*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
currant milkvetch	*Astragalus uncialis*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
White Cloud milkvetch	*Astragalus vexilliflexus var. nubilus*					MIIH					MIIH		MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Guard milkvetch	*Astragalus zionis var. vigulus*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Bodie Hills rockcress	*Boechera (=Arabis) bodiensis*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Grouse Creek rockcress	*Boechera (=Arabis) falcatoria*								MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Spring Mountains rockcress	*Boechera (=Arabis) nevadensis*														NI		Yes	No	No	NI-cliffs,talus			
Washoe tall rockcress	*Boechera (=Arabis) rectissima var. simulans*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Galena Creek rockcress	*Boechera (=Arabis) rigidissima var. demota*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Ophir rockcress	*Boechera (=Arabis) ophira*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Tiehm rockcress	*Boechera (=Arabis) tiehmii*														NI		No	No	No	NI- Bare rock/talus/scree			
Upswept moonwort	*Botrychium ascendens*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Dainty moonwort	*Botrychium crenulatum*	MIIH												MIIH	MIIH	MIIH	No	No	Yes, but	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Slender moonwort	*Botrychium lineare*	MIIH							?MIIH		?MIIH		MIIH		MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Paradox moonwort	*Botrychium paradoxum*						MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Little grape	*Botrychium simplex*												MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate,habitat potentially impacted			
Moosewort	*Botrychium tunux*														NI		No	No	No	NI-Alpine scree			
Beautiful Bryum	*Bryum calobryoides*		MIIH										MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate,habitat potentially impacted			
Cascade reedgrass	*Calamagrostis tweedyi*										MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Cusick camas	*Camassia cusickii*										MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Seaside sedge	*Carex incurviformis*			NI		NI											No	No	No	NI-tundra			
Black and purple sedge	*Carex luzulina var. atropurpurea*			MIIH													No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Tioga Pass sedge	*Carex tiogana*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Aquarius paintbrush	*Castilleja aquariensis*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Christ's Indian paintbrush	*Castilleja christii*												MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Tushar paintbrush	*Castilleja parvula var. parvula*						NI	NI									Yes	Yes	No	NI-Alpine			
Reveal paintbrush	*Castilleja parvula var. revealii*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Centennial rabbitbrush	*Chrysothamnus parryi ssp. montanus*													MIIH			Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Flexible alpine collomia	*Collomia debilis var. camporum*											NI					Yes	No	No	NI-Scree,Talus			
Wasatch fitweed	*Corydalis caseana spp. brachycarpa*															MIIH	Yes	Yes	Yes, but	MIIH- G1/G2, Use over 0.01 application rate, habitat potentially impacted, Riparian buffers likely to provide protection			
Creutzfeldt-flower cryptanth	*Cryptantha creutzfeldtii*									MIIH							Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Yellow-white catseye	*Cryptantha ochroleuca*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Bodie Hills draba	*Cusickiella quadricostata*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Pinnate spring-parsley	*Cymopterus beckii*						MIIH			MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Davis' wavewing	*Cymopterus davisii*												MIIH				No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Douglas' biscuitroot	*Cymopterus douglassii*					MIIH						MIIH	MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Goodrich biscuitroot	*Cymopterus goodrichii*														NI		Yes	No	No	NI-Scree,Talus			
Cedar Breaks biscuitroot	*Cymopterus minimus*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Brownie ladyslipper	*Cypripedium fasciculatum*	MIIH														MIIH	No	Yes	Yes, but	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Lesser yellow lady's slipper	*Cypripedium parviflorum (Cypripedium calceolus var. parviflorum)*															MIIH	No	Yes	Yes, but	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Wyoming tansymustard	*Descurainia torulosa*			NI													Yes	No	No	NI-Scree, cliffs			
Wasatch shooting star	*Dodecatheon utahense*															MIIH	Yes	Yes	No, but	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Idaho douglasia	*Douglasia idahoensis*		MIIH								?MIIH		?MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Abajo peak draba	*Draba abajoensis*									MIIH							No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Arid draba	*Draba arida*														NI		Yes	No	No	NI-Alpine, Talus			
Star draba	*Draba asterophora var. asterophora*														NI		Yes	No	No	NI-Alpine, Talus			
Wasatch Draba	*Draba brachystylis*														MIIH	MIIH	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Burke's draba	*Draba burkei*															NI	Yes	Yes	No	NI-Alpine			
Rockcress draba	*Draba globosa (=D. densifolia var. apiculata)*	NI		NI		NI							NI			NI	No	Yes	No	NI-Alpine			
Jaeger draba	*Draba jaegeri*														MIIH		Yes	No	No, but	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Maguire draba	*Draba maguirei*															MIIH	Yes	Yes	No, but	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Serpentine draba	*Draba oreibata var. serpentina*								?NI						NI		Yes	No	No	NI-cliffs and talus			
Charleston draba	*Draba paucifructa*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Pennell draba	*Draba pennellii*								MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Mt. Belknap draba	*Draba ramulosa*							NI									Yes	No	No	NI-talus above timberline			
Santaquin draba	*Draba santaquinensis*															NI	Yes	Yes	No	NI-Cliffs and outcrops			
Creeping draba	*Draba sobolifera*						NI	NI									Yes	Yes	No	NI-Alpine tundra and talus			
Stanley's whitlow-grass	*Draba trichocarpa*					MIIH							MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Nevada willowherb	*Epilobium nevadense*							MIIH							MIIH		No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Spring Mountain goldenweed	*Ericameria compacta (=Haplopappus compactus)*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Pine Valley goldenweed	*Ericameria crispa (=Haplopappus crispus)*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Narrow-leaf goldenweed	*Ericameria discoidea var. linearis (=Haplopappus macronema var.linearis)*			MIIH													No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Abajo daisy	*Erigeron abajoensis*									NI							Yes	No	No	NI-Alpine			
Carrington daisy	*Erigeron carringtonae*									MIIH							Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Snake Mountain erigeron	*Erigeron cavernensis*								NI								Yes	No	No	NI-cliffs			
Cronquist daisy	*Erigeron cronquistii*															NI	Yes	Yes	No	NI-cliffs and talus			

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Garrett's fleabane	*Erigeron garrettii*															NI	Yes	Yes	No	NI-cliffs			
Kachina daisy	*Erigeron kachinensis*									MIIH							Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Woolly daisy	*Erigeron lanatus*			NI													No	No	No	NI-Alpine			
Maguire daisy	*Erigeron maguirei*							MIIH									No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
LaSal daisy	*Erigeron mancus*									NI							Yes	No	No	NI-Alpine			
Untermann daisy	*Erigeron untermannii*	MIIH															Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Widtsoe buckwheat	*Eriogonum aretioides*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Elsinore buckwheat	*Eriogonum batemanii var. ostlundii*							MIIH									No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Desert buckwheat	*Eriogonum brevicaule var. desertorum*												MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Welsh buckwheat	*Eriogonum capistratum var. welshii*					MIIH											Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Sunflower Flat buckwheat	*Eriogonum douglasii var. elkoense*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Toiyabe buckwheat	*Eriogonum esmeraldense var. toiyabense*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Clokey buckwheat	*Eriogonum heermannii var. clokeyi*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Lewis's buckwheat	*Eriogonum lewisii*								MIIH								No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Logan buckwheat	*Eriogonum loganum (=E. brevicaule var. loganum)*															MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Guardian buckwheat	*Eriogonum meledonum*					MIIH							MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Altered andesite buckwheat	*Eriogonum robustum*														MIIH		Yes	No	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Clokey greasebush	*Glossopetalon clokeyi*														NI		Yes	No	No	NI-cliffs			
Smooth dwarf greasebrush	*Glossopetalon pungens var. glabra (=G.pungens)*														NI		Yes	No	No	NI-cliffs			
Puzzling halimolobos	*Halimolobos perplexa var. perplexa*										MIIH						No	Yes	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Canyon sweetvetch	*Hedysarum occidentale var. canone*									MIIH							Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Jones goldenaster	*Heterotheca jonesii*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Sierra Valley ivesia	*Ivesia aperta var. aperta*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Dog Valley ivesia	*Ivesia aperta var. canina*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Charleston ivesia	*Ivesia cryptocaulis*														NI		Yes	No	No	NI-Alpine			
Jaeger ivesia	*Ivesia jaegeri*														NI		Yes	No	No	NI-cliffs,boulders, outcrops			
Plumas ivesia	*Ivesia sericoleuca*														?MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but No known occurrences on FS			
Utah ivesia	*Ivesia utahensis*															NI	Yes	Yes	No	NI-Alpine			
Wasatch jamesia	*Jamesia americana var. macrocalyx*															NI	Yes	Yes	No	NI- rock scree in alpine			
Zion jamesia	*Jamesia americana var. zionis*						NI										Yes	Yes	No	NI-cliffs and slickrock slopes			
Basin jamesia	*Jamesia tetrapetala*								NI								Yes	No	No	NI-cliffs			
Grimes lathyrus	*Lathyrus grimesii*								NI								Yes	No	No	NI- scree			
Wasatch pepperwort	*Lepidium montanum var. alpinum*															MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial, biennial - able to withstand nitrates in soil until they diminish in a couple years. However, per Region only 8 occurrences at high elevation in "damp" rocky areas therefore recommend avoidance area around known occurrences. Final determination MIIH.

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Neeses' peppergrass	*Lepedium montanum var. neeseae*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Hazel's prickly phlox	*Leptodactylon pungens ssp. hazeliae*										MIIH						No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Garrett bladderpod	*Lesquerella garrettii*															NI	Yes	Yes	No	NI-alpine talus and crevices			
Hitchcock bladderpod	*Lesquerella hitchcockii var. hitchcockii*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Payson bladderpod	*Lesquerella paysonii*			MIIH	MIIH									MIIH			No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Maguire lewisia	*Lewisia maguirei*								MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Sacajawea's bitterroot	*Lewisia sacajaweana*		WII => MIIH			MIIH					MIIH	MIIH	MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Canyonlands lomatium	*Lomatium latilobum*									MIIH							Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Three-ranked hump-moss	*Meesia triquetra*														MIIH		No	No	Yes, but	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Goodrich stickleaf	*Mentzelia goodrichii*	MIIH															Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Bank monkeyflower	*Mimulus clivicola*										MIIH						No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Fish Lake naiad	*Najas caespitosa*							MIIH									No	No	No	NI-aquatic			
Idaho pennycress	*Noccaea idahoensis var. aileeniae (=Thlaspi aileeniae)*					MIIH							MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Shevock rockmoss	*Orthotrichum shevockii*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Spjut's brittle-moss	*Orthotrichum spjutii*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Challis crazyweed	*Oxytropis besseyi var. salmonensis*					MIIH											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Beaver Mountain groundsel	*Packera (=Senecio) castoreus*							NI									Yes	No	No	NI- Alpine above timberline			
Podunk groundsel	*Packera (=Senecio) malmstenii*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Arctic poppy	*Papaver radicatum var. pygmaeum*	NI														NI	Yes	Yes	No	NI- Alpine talus and scree			
Naked-stemmed parrya	*Parrya nudicaulis*			NI													Yes	No	No	NI- Alpine talus			
Paria breadroot	*Pediomelum pariense*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Stemless beardtongue	*Penstemon acaulis var. acaulis*	MIIH															No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Dune penstemon	*Penstemon arenarius*														?MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, No known occurrences on FS			
Red Canyon beardtongue	*Penstemon bracteatus*						MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cache beardtongue	*Penstemon compactus*				MIIH											MIIH	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Elegant penstemon	*Penstemon concinnus*								?MIIH								No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. No			
Idaho penstemon	*Penstemon idahoensis*												MIIH				Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Charleston beardtongue	*Penstemon leiophyllus var. keckii*														NI		Yes	No	No	NI- Bare rock/talus/scree			
Lemhi penstemon	*Penstemon lemhiensis*											MIIH					No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Mt. Moriah penstemon	*Penstemon moriahensis*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Little penstemon	*Penstemon parvus*						MIIH	MIIH									Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Pinyon penstemon	*Penstemon pinorum*						MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Bashful penstemon	*Penstemon pudicus*								MIIH								Yes	No	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Rhizome beardtongue	*Penstemon rhizomatosus*								NI								Yes	No	No	NI- Talus, scree, outcrops			
Wassuk beardtongue	*Penstemon rubicundus*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Jaeger beardtongue	*Penstemon thompsoniae ssp. jaegeri*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Ward beardtongue	*Penstemon wardii*							MIIH									Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Inconspicuous phacelia	*Phacelia inconspicua*								?MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but No known occurrences on FS			
Small-flower phacelia	*Phacelia minutissima*		MIIH						MIIH				?MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Mono phacelia	*Phacelia monoensis*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Salmon twin bladderpod	*Physaria didymocarpa var. lyrata*											MIIH		MIIH			Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Creeping twinpod	*Physaria integrifolia v. monticola*			NI													No	No	No	NI- cliffs and barrens			
Whitebark Pine	~~*Pinus albicaulis*~~		~~X~~	~~X~~		~~X~~			~~X~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					Addressed in BA			
Altered andesite popcorn flower	*Plagiobothrys glomeratus*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Marsh's bluegrass	*Poa abbreviata ssp. marshii*					*NI*			*NI*			*NI*	*NI*		*NI*		Yes	Yes	No	NI- alpine scree and talus			
White Mountain skypilot	*Polemonium chartaceum*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Williams combleaf	*Polyctenium williamsii*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Angell cinquefoil	*Potentilla angelliae*						MIIH										Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Cottam cinquefoil	*Potentilla cottamii*												MIIH			NI	Yes	Yes	No	NI- Alpine UWC; MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Sagebrush cinquefoil	*Potentilla johnstonii*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Alkali primrose	*Primula alcalina*													MIIH			Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Ruby Mountain primrose	*Primula capillaris*								NI								Yes	No	No	NI- Alpine tundra			
Nevada primrose	*Primula cusickiana var. nevadensis (=P. nevadensis)*								NI								Yes	No	No	NI- Alpine			
Greenland primrose	*Primula egaliksensis*			MIIH													No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Bugleg goldenweed	*Pyrrocoma (=Haplopappus) insecticruris*		MIIH										MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Radiate goldenweed	*Pyrrocoma radiata (=Haplopappus radiatus)*										MIIH						No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Bartons' blackberry	*Rubus bartonianus*										MIIH						Yes	No	Yes, but	MIIH- G1/G2, No use over 0.01, habitat potentially impacted; Riparian buffers likely to provide protection			
Arizona willow	*Salix arizonica*						MIIH	MIIH		MIIH							Yes	Yes	No, but	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Weber's saussurea	*Saussurea weberi*			NI													No	No	No	NI- alpine talus			
Tobias' saxifrage	*Saxifraga bryophora var. tobiasiae*										MIIH						No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Tolmie's saxifrage	*Saxifraga tolmiei var. ledifolia*										NI						No	No	No	NI- alpine			
Musinea groundsel	*Senecio musiniensis*									NI							Yes	No	No	NI- alpine talus			
Mono ragwort	*Senecio pattersonensis*														NI		Yes	No	No	NI- alpine talus			
Clokey silene	*Silene clokeyi*														NI		Yes	No	No	NI- alpine talus			
Nachlinger silene	*Silene nachlingerae*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Maguire campion	*Silene petersonii*						MIIH	?MIIH		MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Railroad Valley globemallow	*Sphaeralcea caespitosa var. williamsiae*								MIIH								No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Rock-tansy	*Sphaeromeria capitata*						MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Low sphaeromeria	*Sphaeromeria compacta*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Masonic Mountain jewelflower	*Streptanthus oliganthus*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			

Common name	*Scientific Name*	ASH	BOI	B-T	CAR	CHA	DIX	FIS	HUM	M-L	PAY	SAL	SAW	TAR	TOI	W-C	G1/G2	Use over 0.01	Habitat potentially	Initial Determination from National Screen Process	more than 1 unit?	succulent life form?	
Soft aster	*Symphyotrichum molle (=Aster mollis)*			MIIH													No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Charleston kittentails	*Synthyris ranunculina*														MIIH		Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Caespitose greenthread	*Thelesperma caespitosum*	MIIH															Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Uinta green thread	*Thelesperma pubescens*															MIIH	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Bicknell thelesperma	*Thelesperma subnudum var. alpinum*						MIIH	MIIH									Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Wavy-leaf thelypody	*Thelypodium repandum*					MIIH											No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Alpine goldenweed	*Tonestus (=Haplopappus) alpinus*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Barneby woody aster	*Tonestus (=Aster) kingii var. barnebyana*							MIIH									Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Sevier townsendia	*Townsendia jonesii var. lutea*							MIIH									No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Charleston ground daisy	*Townsendia jonesii var. tumulosa*														MIIH		No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Short-slyle tofieldia	*Triantha occidentalis ssp. brevistyla*										MIIH						No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Currant Summit clover	*Trifolium andinum var. podocephalum*								MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Leiberg's clover	*Trifolium leibergii*								MIIH								No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Rollins clover	*Trifolium macilentum var. rollinsii*														MIIH		Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Charleston violet	*Viola charlestonensis*														MIIH		No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Smith violet	*Viola franksmithii*															NI	Yes	Yes	No	NI-Cliffs			
Lithion violet	*Viola lithion*								MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Idaho range lichen	*Xanthoparmelia idahoensis*											MIIH					Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Abies bracteata*	Santa Lucia fir								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Abronia alpina*	alpine sand verbena																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Inyo National Forest.
plant - vascular	*Abronia nana ssp. covillei*	Coville's dwarf abronia												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Abronia villosa var. aurita*	chaparral sand verbena		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Acanthoscyphus parishii var. abramsii*	Abrams' flowery puncturebract								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Acanthoscyphus parishii var. cienegensis*	Cienega Seca flowery puncturebract												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Agrostis hooveri*	Hoover's bentgrass								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	64 records in 2 counties, perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Allium hickmanii*	Hickman's onion								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Allium howellii var. clokeyi*	Mount Pinos onion	MIIH							MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Allium jepsonii*	Jepson's onion											MIIH						MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Allium marvinii*	Yucaipa onion												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Allium tribracteatum*	threebracted onion			MIIH														MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Allium yosemitense*	Yosemite onion																	NI		No	Yes	NI- Talus , outcrops	NI- Talus , outcrops			
plant - vascular	*Anisocarpus scabridus*	scabrid alpine tarplant									NI					NI		NI			No	Yes	NI- scree	NI- scree			
plant - vascular	*Antennaria marginata*	White-margined everlasting												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Antirrhinum subcordatum*	dimorphic snapdragon									MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arabis rigidissima var. demota*	Galena Creek rock cress							MIIH											MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos cruzensis*	Arroyo de la Cruz manzanita								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Arctostaphylos edmundsii*	Little Sur manzanita								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Arctostaphylos glandulosa ssp. gabrielensis*	San Gabriel manzanita	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos hooveri*	Hoover's manzanita								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos luciana*	Santa Lucia manzanita								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Arctostaphylos nissenana*	Nissenan manzanita			MIIH														MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Arctostaphylos obispoensis*	Bishop manzanita								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos parryana subsp. tumescens*	Interior manzanita	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos pilosula*	Santa Margarita manzanita								MIIH											GU - unrankable?	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arctostaphylos rainbowensis*	Rainbow manzanita		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Arctostaphylos refugioensis*	Refugio manzanita								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Arenaria lanuginosa ssp. saxosa*	rock sandwort												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus anxius*	troubled milk-vetch										MIIH									Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Astragalus bernardinus*	San Bernardina milk-vetch												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus bicristatus*	crested milkvetch	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus cimae var. sufflatus*	inflated milkvetch																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus deanei*	Deane's milkvetch		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Astragalus douglasii var. perstrictus*	Jacumba milkvetch		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus ertterae*	Walker Pass milkvetch													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Sequoia National Forest.
plant - vascular	*Astragalus johannis-howellii*	Long Valley milkvetch																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Inyo National Forest.
plant - vascular	*Astragalus lemmonii*	Lemmon's milkvetch										MIIH	MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Astragalus lentiformis*	lens-pod milkvetch											MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Astragalus lentiginosus var. antonius*	San Antonio milkvetch	MIIH											MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Astragalus lentiginosus var. kernensis*	Kern Plateau milkvetch													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Astragalus lentiginosus var. sierrae*	Big Bear Valley milkvetch												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Astragalus monoensis*	Mono milkvetch																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Inyo National Forest.
plant - vascular	*Astragalus oocarpus*	Descanso milkvetch		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Astragalus pachypus var. jaegeri*	Jaeger's milkvetch		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus pulsiferae var. coronensis*	Modoc Pateau milkvetch										MIIH	MIIH							MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus pulsiferae var. pulsiferae*	Pulsifer's milkvetch											MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Astragalus pulsiferae var. suksdorfii*	Suksdorf's milkvetch						MIIH													No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Astragalus ravenii*	Raven's milkvetch																			Yes	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Astragalus shevockii*	Little Kern River milkvetch													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Sequoia National Forest.
plant - vascular	*Astragalus tidestromii*	Tidestrom's milkvetch												MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Astragalus webberi*	Webber's milkvetch											MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Atriplex parishii*	Parish's brittlescale		MIIH										MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Baccharis plummerae ssp. glabrata*	San Simeon baccharis								WII => MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Balsamorhiza macrolepis*	big-scale balsamroot			MIIH						MIIH		MIIH						MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Bensoniella oregona*	Oregon bensoniella																MIIH			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Beochera evadens*	Hidden Rockcress													MIIH				MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Bloomeria humilis*	dwarf goldenstar								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Fire dependent species. Final determination MIIH.
plant - vascular	*Boechera bodiensis*	Bodie Hills rockcress																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Boechera constancei*	Constance's rockcress						MIIH					MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Boechera johnstonii*	Johnston's rockcress												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Boechera koehleri*	Koehler's rockcress																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Boechera parishii*	Parish's rockcress												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Boechera peirsonii*	Peirson's rockcress												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Boechera pinzliae*	Pinzl's rockcress																			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Boechera shevockii*	Shevock's rockcress													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Boechera shockleyi*	Shockley's rockcress												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Boechera tiehmii*	Tiehm's rockcress							MIIH												No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Boechera tularensis*	Tulare Rockcress							MIIH						MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Fungi	*Boletus pulcherrimus*	red-pored bolete					MIIH									MIIH		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium ascendens*	upswept moonwort			MIIH			MIIH	MIIH			MIIH	MIIH						MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium crenulatum*	scalloped moonwort	X		MIIH		MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	MIIH	MIIH			MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium lineare*	slender moonwort							MIIH										MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium lunaria*	common moonwort			MIIH		MIIH	MIIH	MIIH			MIIH	MIIH						MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium minganense*	Mingan moonwort			MIIH		MIIH	MIIH	MIIH			MIIH	MIIH		MIIH	MIIH			MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium montanum*	mountain moonwort			MIIH		MIIH	MIIH	MIIH			MIIH	MIIH		MIIH				MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium paradoxum*	Paradox moonwort			MIIH																No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium pendunculosum*	Stalked moonwort			MIIH			MIIH											MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium pinnatum*	northwestern moonwort					MIIH	MIIH				MIIH	MIIH			MIIH			MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium pumicola*	Pumice moonwort					MIIH									MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Botrychium tunux*	moosewort																	NI		No	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Botrychium yaaxudakeit*	Giant moonwort																	NI		No	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Brodiaea insignis*	Kaweah brodiea													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Only occurs on Sequoia National Forest.
plant - vascular	*Brodiaea orcuttii*	Orcutt's brodiaea		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Brodiaea rosea*	Indian Valley Brodiaea									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Brodiaea santarosae*	Santa Rosa basalt brodiaea		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - non-vascular	*Bruchia bolanderi*	Bolander's bruchia			MIIH			MIIH	MIIH			MIIH	MIIH		MIIH				MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Buxbaumia viridis*	green bug-on-a-stick					MIIH	MIIH				MIIH	MIIH			MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Calicium adspersum*																	MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus clavatus var. avius*	clubhair mariposa lily			MIIH														MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus clavatus var. clavatus*	Club-haired mariposa lily	MIIH							MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus clavatus var. gracilis*	slender mariposa lily	MIIH							MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus dunnii*	Dunn's Mariposa lily		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Calochortus excavatus*	Inyo County star-tulip																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Calochortus fimbriatus*	Weed's mariposa lily	MIIH							MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus greenei*	Greene's mariposa lily					MIIH									MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus longebarbatus var. longebarbatus*	long-haired star tulip						MIIH				MIIH				MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus obispoensis*	San Luis mariposa lily								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Calochortus palmeri var. munzii*	Munz's mariposa lily												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus palmeri var. palmeri*	Palmer's mariposa lily	MIIH							MIIH				MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus persistens*	Siskiyou mariposa lily					MIIH														Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Calochortus simulans*	San Luis Obispo mariposa lily								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Calochortus striatus*	alkali mariposa lily	MIIH											MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus weedii var. intermedius*	foothill mariposa lily		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calochortus westonii*	Shirley Meadows star tulip													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calycadenia micrantha*	small-flowered calycadenia								MIIH	MIIH							MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Calycadenia oppositifolia*	Butte County western rosinweed											MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calycadenia villosa*	dwarf western rosinweed								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Calyptridium pygmaeum*	Pygmy Pussypaws												MIIH	MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Camissonia sierrae ssp. alticola*	Mono Hot Springs evening primrose																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			Only occurs on Sierra National Forest
plant - vascular	*Camissoniopsis hardhamiae*	Hardham's evening-primrose								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Campanula shetleri*	Castle Crags harebell														MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Campanula wilkinsiana Greene*	Wilkins' bellflower					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Canbya candida*	white pygmypoppy	MIIH											MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Carex obispoensis*	San Luis Obispo sedge								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Carex tiogana*	Tioga pass sedge																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on Inyo National Forest

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Carlquistia muirii*	Muir's raillardella								MIIH					MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Carpenteria californica*	tree anemone																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	Only occurs on Sierra National Forest
plant - vascular	*Castilleja gleasonii*	Mt. Gleason's paintbrush	MIIH																		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Castilleja lasiorhyncha*	San Bernardino Mountains owl's clover		MIIH										MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Castilleja plagiotoma*	Mojave paintbrush	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Caulanthus amplexicaulis var. barbarae*	claspingleaf wild cabbage								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Caulanthus lemmonii*	Lemmon's jewelflower								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Caulanthus simulans*	Payson's jewelflower		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Ceanothus cyaneus*	lakeside ceanothus		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Chaenactis suffrutescens*	Shasta chaenactis					MIIH									MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Chlorogalum pomeridianum var. minus*	dwarf soaproot								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Chorizanthe blakleyi*	Blakeley's spineflower								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Chorizanthe breweri Wats.*	Brewer's spineflower								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Chorizanthe parryi var. fernandina*	San Fernando Valley spineflower	MIIH							MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Chorizanthe parryi var. parryi*	Parry's spineflower	MIIH	MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Chorizanthe rectispina*	straight-awned spineflower								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Chorizanthe xanti var. leucotheca*	white-bracted spineflower												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Cinna bolanderi*	Bolander's woodreed													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	Only occurs on Sierra and Sequoia National Forests
plant - vascular	*Cladium californicum*	California sawgrass	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Clarkia australis*	Small's southern clarkia																		MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance area. Final determination MIIH.
plant - vascular	*Clarkia biloba ssp. australis*	Mariposa clarkia																		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Clarkia borealis ssp. borealis*	northern clarkia														MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Clarkia gracilis ssp. albicaulis*	white-stemmed clarkia						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Clarkia jolonensis*	Jolon clarkia								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Clarkia lingulata Lewis & Lewis*	Merced clarkia																	MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Clarkia mildrediae ssp. mildrediae*	Mildred's clarkia						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Clarkia mosquinii*	Mosquin's clarkia											MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Species responds well to fire. Final determination MIIH.
plant - vascular	*Claytonia lanceolata var. peirsonii*	Pierson's spring beauty	NI											NI							Yes	Yes	NI- scree	NI- scree			
plant - vascular	*Collomia larsenii*	talus collomia						NI				NI				NI					No	Yes	NI-Talus	NI-Talus			
plant - vascular	*Collomia rawsoniana*	Rawson's flaming trumpet																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Occurs only on Sierra Natinal Forest
plant - vascular	*Cordylanthus eremicus ssp. kernensis*	Kern Plateau bird's-beak													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Cordylanthus tenuis ssp. pallescens*	pallid bird's beak														MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Cryptantha circumscissa var. rosulata*	Rosette cushion cryptantha													NI						No	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Cryptantha crinita*	silky cryptantha						MIIH													Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Cryptantha incana*	Tulare cryptantha													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Cryptantha roosiorum*	bristlecone cryptantha																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on Inyo National Forest
Fungi	*Cudonia monticola*						MIIH									MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Cypripedium fasciculatum*	clustered lady's slipper					MIIH	MIIH			MIIH		MIIH			MIIH		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Cypripedium montanum*	mountain lady's slipper			MIIH		MIIH	MIIH			MIIH	MIIH	MIIH			MIIH		MIIH	MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Dacryophyllum falcifolium*	tear drop moss								NI											Yes	Yes	NI- cliffs	NI- cliffs			
plant - vascular	*Dedeckera eurekensis*	July gold																			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Deinandra floribunda*	Tecate tarplant		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in one county and into Baja California. Species occurs in open, disturbed areas in chaparral and is fire adapated. Final determination MIIH.
plant - vascular	*Deinandra mohavensis*	Mojave tarplant	MIIH	MIIH										MIIH	MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Delphinium hesperium ssp. cuyamacae*	Cuyamaca larkspur		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Delphinium hutchinsoniae*	Monterey larkspur								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Delphinium inopinum*	unexpected larkspur													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Delphinium parryi ssp. purpureum*	Mount Pinos larkspur								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Delphinium purpusii*	Purpus' larkspur													MIIH						No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Delphinium umbraculorum*	umbrella larkspur								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Fungi	*Dendrocollybia racemosa*	branched collybia					MIIH		MIIH				MIIH			MIIH		MIIH	MIIH	MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Dicentra nevadensis*	Tulare County bleedingheart													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Dieteria asteroides var. lagunensis*	Mount Laguna aster		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Dieteria canescens var. ziegleri*	Ziegler's aster												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Draba asterophora var. asterophora*	Lake Tahoe draba			NI				NI										NI		Yes	Yes	NI - Alpine	NI - Alpine			
plant - vascular	*Draba asterophora var. macrocarpa*	Cup Lake draba			MIIH				MIIH										MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Draba carnosula*	Mt. Eddy draba					MIIH									MIIH		MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Draba cruciata*	Mineral King draba							MIIH						MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Draba incrassata*	Sweetwater Mountains draba																			No	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Draba monoensis*	White Mountains draba																			Yes	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Draba saxosa*	rock draba												MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Draba sharsmithii*	Mount Whitney draba																			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Drymocallis cuneifolia Var. cuneifolia*	Wedgeleaf woodbeauty												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Drymocallis cuneifolia var. ewanii*	Ewan's cinquefoil	MIIH											MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Dudleya abramsii ssp. affinis*	San Bernardino Mountains dudleya												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Dudleya cymosa ssp. costafolia*	Pierpoint Springs liveforever													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Dudleya cymosa ssp. crebrifolia*	San Gabriel River dudleya	MIIH																		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Dudleya densiflora*	San Gabriel Mountains dudleya	MIIH																		Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Dudleya multicaulis*	many-stemmed dudleya	MIIH	MIIH																	Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Dudleya viscida*	sticky dudleya		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Eleocharis torticulmis*	Butterfly Valley spike rush											MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Epilobium nivium*	Snow Mountain willowherb									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Epilobium oreganum*	Grants Pass willowherb					MIIH									MIIH		MIIH			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Eremogone cliftonii*	Dlifton's eremogone						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eremogone macradenia var. arcuifolia*	Forest Camp sandwort	MIIH																		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriastrum luteum*	yellow-flowered eriastrum								MIIH											Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Eriastrum tracyi*	Brandegee's wooly-star						MIIH			MIIH				MIIH	MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Ericameria gilmanii*	Gilman's goldenbush																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Ericameria parryi var. imula*	Parry's rabbitbrush												MIIH							No	Yes	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
plant - vascular	*Erigeron aequifolius*	Hall's daisy													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Erigeron maniopotamicus*	Mad River fleabane daisy																MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Erigeron miser*	starved fleabane							MIIH											MIIH	No	Yes	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
plant - vascular	*Erigeron multiceps*	Kern River daisy													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Erigeron uncialis var. uncialis*	limestone daisy																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum alpinum*	Trinity buckwheat					MIIH									MIIH					Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Eriogonum breedlovei var. breedlovei*	Piute buckwheat													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum butterworthianum*	Butterworth's buckwheat								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Eriogonum evanidum*	vanishing wild buckwheat		MIIH										MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	yes	
plant - vascular	*Eriogonum hirtellum*	Klamath Mountain buckwheat					MIIH											MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	yes	
plant - vascular	*Eriogonum kennedyi var. alpigenum*	southern alpine buckwheat	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum luteolum var. saltuarium*	Jack's wild buckwheat							MIIH										MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum microthecum var. johnstonii*	Johnston's buckwheat	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum microthecum var. lacus-ursi*	Big Bear Lake buckwheat												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum microthecum var. schoolcraftii*	Schoolcraft's wild buckwheat											MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Eriogonum nervulosum*	Snow Mountain buckwheat									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Eriogonum nudum var. regirivum*	Kings River buckwheat													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum ovalifolium var. monarchense*	Monarch buckwheat													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum prociduum*	prostrate buckwheat						MIIH				MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum spectabile*	Barron's buckwheat						MIIH													Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Eriogonum tripodum*	tripod buckwheat			MIIH						MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum twisselmannii*	Twisselmann's buckwheat													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Eriogonum umbellatum var. ahartii*	Ahart's sulphur flower											MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum umbellatum var. glaberrimum*	green buckwheat										MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum umbellatum var. torreyanum*	Torrey buckwheat							MIIH											MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriogonum ursinum var. erubescens*	blushing wild buckwheat					NI									NI					No	Yes	NI-Talus,scree	NI-Talus,scree			
plant - vascular	*Eriogonum wrightii var. olanchense*	Olancha Peak buckwheat																			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Eriophyllum congdonii*	Congdon's woolly sunflower																	MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Eriophyllum lanatum var. hallii*	Fort Tejon woolly sunflower								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Eriophyllum nubigenum*	Yosemite woolly sunflower																	MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties across multiple federal jurisdictions. Final determination MIIH.
plant - vascular	*Erythronium hendersonii*	Henderson's fawn lily					MIIH											MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Erythronium pluriflorum*	manyflower fawnlily																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on Sierra National Forest
plant - vascular	*Erythronium pusaterii*	Kaweah Lakes Fawn Lily													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Erythronium taylori*	Pilot Ridge fawn lily																	MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Erythronium tuolumnense*	Tuolumne fawnlily																	MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Eucephalis vialis Bradshaw*	wayside aster					MIIH									MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Fissidens aphelotaxifolius*	brook pocket moss					MIIH						MIIH						MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - non-vascular	*Fissidens pauperculus*	minute pocket moss								MIIH			MIIH					MIIH			No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Frangula purshiana ssp. ultramafica*	Caribu coffee berry						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Frasera umpquaensis*	Umpqua green-gentian					MIIH									MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Fritillaria brandegeei*	Greenhorn fritillary													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Fritillaria eastwoodiae*	Butte County frittilaria						MIIH					MIIH			MIIH				MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Fritillaria falcata*	talus fritillary								NI											Yes	Yes	NI-Talus	NI-Talus			
plant - vascular	*Fritillaria liliacea*	fragrant fritillary								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Fritillaria ojaiensis*	Ojai fritillary								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Fritillaria striata*	striped adobe lily													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Fritillaria viridea*	San Benito fritillary								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Galium angustifolium ssp. jacinticum*	San Jacinto Mountains bedstraw		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Galium californicum ssp. luciense*	Cone Peak bedstraw								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Galium californicum ssp. primum*	California bedstraw												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Galium clementis*	Santa Lucia bedstraw								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Galium glabrescens ssp. modocense*	Modoc bedstraw										MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Galium grande*	San Gabriel bedstraw	MIIH																		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Galium hardhamiae*	Hardham's bedstraw								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Galium serpenticum ssp. warnerense*	Warner Mountain bedstraw										MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Gentiana fremontii*	moss gentian												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Gentiana setigera*	Mendocino gentian																MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance area. Final determination MIIH.
plant - vascular	*Gilia leptantha ssp. leptantha*	San Bernardino gila												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Gilia yorkii*	Monarch Gilia													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	Occurs only on Sierra and Sequoia National Forests
plant - vascular	*Githopsis diffusa ssp. filicaulis*	Mission Canyon bluecup		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Harmonia doris-nilesiae*	Nile's madia														MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Harmonia stebbinsii*	Stebbins' madia									MIIH					MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - non-vascular	*Helodium blandowii*	Blandow's bog moss			MIIH		MIIH	MIIH	MIIH			MIIH	MIIH		MIIH				MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Hesperidanthus jaegeri*	Jaeger's caulostramina																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on the Inyo National Forest

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Hesperocyparis forbesii*	Tecate cypress		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Hesperocyparis stephensonii*	Cuyamaca cypress		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Hesperolinon drymarioides*	drymaria-like dwarf flax									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance area. Final determination MIIH.
plant - vascular	*Heterotheca monarchensis*	monarch goldenaster													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Heterotheca shevockii*	Kern Canyon goldenaster													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Heuchera abramsii*	Abrams' alumroot	MIIH	MIIH						MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Heuchera caespitosa*	urn-flowered alumroot	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Heuchera hirsutissima*	shaggy-haired alumroot												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Heuchera parishii*	Parish's alumroot												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Horkelia cuneata ssp. Puberula*	mesa horkelia	MIIH	MIIH						MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Horkelia cuneata ssp. sericea*	Kellogg's horkelia								NI											No	Yes	NI-Dunes	NI-Dunes			
plant - vascular	*Horkelia hendersonii*	Henderson's horkelia					NI														Yes	Yes	NI- above treeline	NI- above treeline			
plant - vascular	*Horkelia hispidula*	White Mountains horkelia																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Horkelia parryi*	Parry's horkelia			WII => MIIH														MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Horkelia truncata*	Ramona horkelia		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Horkelia tularensis*	Kern Plateau horkelia													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Horkelia wilderae*	Barton Flats horkelia												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years.Map avoidance areas. Final determination MIIH.
plant - vascular	*Horkelia yadonii*	Santa Lucia horkelia								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Hulsea brevifolia*	short-leaved hulsea							MIIH						MIIH				MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Hulsea vestita ssp. gabrielensis*	San Gabriel Mountains sunflower	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Hulsea vestita ssp. pygmaea*	pygmy alpinegold	MIIH											MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Iliamna latibracteata*	California wild hollyhock														MIIH		MIIH			Yes	Yes	Yes	MIIH-Any combination, but Riparian buffers likely to provide protection			
plant - vascular	*Imperata brevifolia*	California satintail	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Iris hartwegii ssp. columbiana*	Tuolumne iris																	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Iris munzii*	Munz's iris													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Ivesia aperta var. aperta*	Sierra Valley ivesia											MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Ivesia aperta var. canina*	Dog Valley ivesia																		MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Ivesia argyrocoma var. argyrocoma*	silver-haired ivesia												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years.Map avoidance areas. Final determination MIIH.
plant - vascular	*Ivesia callida*	Tahquitz ivesia												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years.Map avoidance areas. Final determination MIIH.
plant - vascular	*Ivesia longibracteata*	Castle Crags ivesia														NI					Yes	Yes	NI-cliffs	NI-cliffs			
plant - vascular	*Ivesia paniculata*	Ash Creek ivesia										MIIH									Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Ivesia pickeringii*	Pickering's ivesia					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Ivesia sericoleuca*	Plumas ivesia							MIIH				MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Ivesia webberi*	Webber's ivesia											MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	Map avoidance areas
plant - vascular	*Juncus leiospermus var. leiospermus*	Red Bluff dwarf rush						MIIH													Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance area. Final determination MIIH.
plant - vascular	*Juncus luciensis*	Santa Lucia dwaft rush						MIIH		MIIH			MIIH							MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lathyrus biflorus*	twoflower peavine																MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years.Map avoidance areas. Final determination MIIH.
plant - vascular	*Layia heterotricha*	pale-yellow layia								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Layia jonesii*	Jones' layia								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance area. Final determination MIIH.
plant - vascular	*Lepechinia cardiophylla*	Heat-leaved pitcher sage		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lepechinia fragrans*	fragrant pitcher sage	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lepechinia rossii*	ross' pitcher sage	MIIH							MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	yes	
plant - vascular	*Leptosiphon floribundus ssp. hallii*	Santa Rosa Mountains leptosiphon												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Leptosiphon nuttallii ssp. howellii*	Mt. Tedoc linanthus									MIIH					MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Leptosiphon serrulatus*	Madera linanthus													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lessingia glandulifera var. tomentosa*	Warner Springs lessingia		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lewisia brachycalyx*	short-sepaled lewisia	MIIH	MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lewisia cantelovii*	wet cliff lewisia											MIIH			MIIH				MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lewisia congdonii*	Congdon's bitterroot													MIIH				MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Lewisia disepala*	Yosemite lewisia													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Lewisia kelloggii ssp. kelloggii*	Kellogg's lewisia			MIIH				MIIH				MIIH					MIIH	MIIH	MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Lewisia kelloggii ssp. hutchisonii*	Hutchison's lewisia			MIIH			MIIH	MIIH				MIIH			MIIH			MIIH	MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Lewisia longipetala*	long-petaled lewisia			MIIH				MIIH											MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Lewisia oppositifolia*	Lone Mountain lewisia																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lewisia serrata*	Saw-toothed lewisia			MIIH															MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Lewisia stebbinsii*	Stebbins' lewisia									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lilium parryi*	lemon lily	MIIH	MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Limnanthes alba ssp. parishii*	Parish's meadowfoam		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Limnanthes floccosa ssp. bellingeriana*	Bellinger's meadowfoam						MIIH													No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			Map avoidance areas.
plant - vascular	*Linanthus concinnus*	San Gabriel linanthus	MIIH											MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Linanthus jaegeri*	San Jacinto prickly phlox												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance areas. Final determination MIIH.
plant - vascular	*Linanthus killipii*	Baldwin Lake linanthus												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in single county. Map avoidance area. Final determination MIIH.
plant - vascular	*Linanthus orcuttii*	Orcutt's linanthus	MIIH	MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lomatium roseanum*	adobe parsley						MIIH				MIIH	MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Lomatium stebbinsii*	Stebbins' lomatium																	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lonicera subspicata var. subspicata*	Santa Barbara honeysuckle								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Lupinus antoninus*	Anthony Peak lupine									MIIH										Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lupinus citrinus var. citrinus*	orange lupine																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on Sierra National Forest
plant - vascular	*Lupinus constancei*	The Lassics lupine																MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Lupinus duranii*	Mono Lake lupine																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs only on Inyo National Forest
plant - vascular	*Lupinus latifolius var. barbatus*	bearded lupine										MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Lupinus lepidus var. ashlandensis*	Mt. Ashland lupine					MIIH														YES	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lupinus lepidus var. culbertsonii*	Hockett Meadows lupine													MIIH						No	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	
plant - vascular	*Lupinus ludovicianus*	San Luis Obispo lupine								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lupinus padre-crowleyi*	Father Crowley's lupine																			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Lupinus peirsonii*	Peirson's lupine	MIIH																		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Malacothamnus palmeri var. involucratus*	Carmel Valley bush mallow								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Malacothamnus palmeri var. lucianus*	Arroyo Seco bush mallow								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Malacothamnus palmeri var. palmeri*	Santa Lucia bush mallow								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Malacothrix saxatilis var. arachnoidea*	Carmel Valley malacothrix								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Malaxis monophyllos var. brachypoda*	white addersmouth orchid												MIIH							No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Marina orcuttii var. orcuttii*	California marina												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			map avoidance areas
plant - vascular	*Matelea parviflora*	spearleaf												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Meesia uliginosa*	broad-nerved hump-moss			MIIH		MIIH	MIIH	MIIH			MIIH	MIIH	MIIH	MIIH	MIIH			MIIH	MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Mentzelia inyoensis*	Inyo blazing star																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			Occurs only on Inyo National Forest
plant - non-vascular	*Mielichhoferia elongata*	elongate copper moss					MIIH				MIIH		MIIH		MIIH	MIIH		MIIH	MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Mielichhoferia shevockii*	Shevock's copper moss		MIIH						MIIH					MIIH				MIIH		Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Mimulus discolor*	Two-colored monkeyflower													MIIH						Yes	Yes	No, riparian	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
plant - vascular	*Mimulus evanescens*	ephemeral monkeyflower					MIIH	MIIH				MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Mimulus exiguus*	San Bernardino Mountain monkeyflower												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Mimulus filicaulis*	slender-stemmed monkeyflower																	MIIH		Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Mimulus gracilipes*	slenderstalk monkeyflower													MIIH						Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Mimulus norrisii*	Kaweah monkeyflower													MIIH						Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Mimulus pulchellus*	pansy monkeyflower																	MIIH		Yes	Yes	Yes	WII => MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Mimulus purpureus*	purple monkeyflower												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Mimulus shevockii*	Kelso Creek monkeyflower													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in single county. Map avoidance areas. Final determination MIIH.
plant - vascular	*Minuartia decumbens*	The Lassics sandwort																MIIH			Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Minuartia rosei*	peanut sandwort														MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Minuartia stolonifera*	Scott Mountain sandwort					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Monardella australis ssp. jokersti*	Jokerst's monardella	MIIH											MIIH							No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Monardella beneolens*	sweet-smelling monardella													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Monardella follettii*	Follett's monardella						MIIH					MIIH							MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Monardella hypoleuca ssp. lanata*	felt-leaved monardella		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Monardella linoides ssp. oblonga*	flax-like monardella								MIIH					MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Monardella macrantha ssp. hallii*	Hall's monardella	MIIH	MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Monardella nana ssp. leptosiphon*	San Felipe monardella		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Monardella palmeri*	Palmer's monardella								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Monardella saxicola*	rock monardella	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Monardella stebbinsii*	Stebbins' monardella											MIIH								Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Map avoidance areas. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Navarretia ojaiensis*	Ojai navarretia								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Navarretia peninsularis*	Baja pincushionplant	MIIH	MIIH						MIIH				MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Navarretia prolifera ssp. lutea*	yellow bur navarretia			MIIH																No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Navarretia setiloba*	Piute Mountains Navarretia													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH. Only occurs on Sequoia National Forest.
plant - vascular	*Nemacladus calcaratus*	Chimney Creek nemacladus													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Nemacladus secundiflorus var. robbinsii*	Robbins' nemacladus	MIIH							MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Nemacladus twisselmannii*	Twisselman's nemacladus													MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Neviusia cliftonii*	California snow-wreath														MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Nolina cismontana*	Chaparral beargrass		MIIH						MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Ophioglossum pusillum*	Northern adder's-tongue									MIIH					MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Opuntia basilaris var. brachyclada*	short-joint beavertail	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Oreonana purpurascens*	purple mountain parsley													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Oreonana vestita*	woolly mountain-parsley	MIIH											MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Oreostemma elatum*	Plumas alpine aster						MIIH					MIIH								Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Orobanche valida ssp. valida*	Rock Creek broomrape	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Orthotrichum kellmanii*	Kellman's bristle moss								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	Occurs on rock outcrop openings within chaparral. Primary habitat unlilkely to be treated with retardant. Final determination MIIH.
plant - non-vascular	*Orthotrichum praemorsum*	?							MIIH												Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH			
Fungi	*Otidea smithii*	Smith's otidea																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Oxytropis oreophila var. oreophila*	Rock-loving point vetch	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Packera bernardina*	San Bernardino ragwort												MIIH							Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Packera eurycephala var. lewisrosei*	cut-leaved ragweed						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Packera ganderi*	Gander's ragwort		MIIH																	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Packera hesperia*	western senecio																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Parnassia cirrata var. cirrata*	fringed grass-of-Parnassus	MIIH											MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Parnassia cirrata var. intermedia*	fringed grass-of-parnassus					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Pedicularis dudleyi*	Dudley's lousewort								MIIH											Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Pedicularis howellii*	Howell's lousewort					MIIH											MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - non-vascular	*Peltigera gowardii*	Goward's watefan			MIIH		MIIH	MIIH	MIIH		MIIH		MIIH		MIIH	MIIH		MIIH	MIIH	MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Penstemon californicus*	California penstemon		MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Penstemon personatus Keck*	close-throated beardtongue						MIIH					MIIH							MIIH	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Penstemon sudans*	Susanville beardtongue						MIIH					MIIH								No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Penstemon tracyi*	Tracy's beardtongue														MIIH					Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Pentachaeta exilis ssp. Aeolica*	slender pentachaeta								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Petrophyton caespitosum ssp. Acuminatum*	marble rockmat													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Phacelia cookei*	Cooke's phacelia					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Phacelia greenei*	Scott Valley phacelia					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Phacelia inundata*	playa phacelia					MIIH	MIIH				MIIH									No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Phacelia inyoensis*	Inyo phacelia																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Phacelia keckii*	Santiago Peak phacelia		MIIH																	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Phacelia monoensis*	Mono County phacelia																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Phacelia novenmillensis*	Nine-Mile Canyon phacelia													MIIH						Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	Only occurs on Inyo and Sequoia National Forests
plant - vascular	*Phacelia stebbinsii*	Stebbins' phacelia			MIIH															MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Fungi	*Phaeocollybia olivacea*						MIIH						MIIH			MIIH		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Phlox dolichantha*	Big Bear Valley phlox												MIIH							Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Pinus albicaulis*	Whitebark Pine			MIIH		MIIH	MIIH	MIIH		MIIH	MIIH	MIIH		MIIH	MIIH		MIIH	MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Plagiobothrys collinus var. ursinus*	Cooper's popcorn flower												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Plagiobothrys parishii*	Parish's popcornflower																			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Plagiobothrys uncinatus*	hooked popcornflower								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Map avoidance areas. Final determination MIIH.
plant - vascular	*Plantanthera yosemitensis*	Yosemite bog orchid																			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Poa sierrae*	Sierra blue grass			MIIH			MIIH					MIIH							MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Polemonium chartaceum*	Mason's sky pilot					MIIH									MIIH					Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Polyctenium williamsiae*	Williams's combleaf																			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Potentilla morefieldii*	Morefield's cinquefoil																			Yes	Yes	NI-Alpine	NI-Alpine			
plant - vascular	*Potentilla rimicola*	cliff cinquefoil												MIIH							Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Prosartes parvifolia*	Suskiyou bells																MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Pyrrocoma lucida*	sticky pyrrocoma						MIIH					MIIH							MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Pyrrocoma uniflora var. gossypina*	Bear Valley pyrrocoma												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Quercus dumosa*	Nuttal's scrub oak								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Raillardella pringlei*	showy raillardella					MIIH									MIIH					Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - non-vascular	*Ramalina thrausta*	angelhair																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Ribes canthariforme*	Moreno currant		MIIH																	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Rorippa columbiae*	Columbia yellow cress					MIIH	MIIH				MIIH				MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Rorippa subumbellata*	Tahoe yellow cress							MIIH												Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Rupertia hallii*	Hall's scurf-pea						MIIH													Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Saltugilia latimeri*	Latimer's woodland gilia												MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sanicula maritima*	adobe sanicle								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Sanicula tracyi*	Tracy's sanicle																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Satureja chandleri*	San Miguel savory		MIIH																	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Scheuchzeria palustris*	American scheuchzeria						MIIH													No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Schoenus nigricans*	black bog rush, black sedge												MIIH							No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Scutellaria bolanderi ssp. austromontana*	southern skullcap	MIIH	MIIH										MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sedum albomarginatum*	Feather River stonecrop						MIIH					MIIH								Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Sedum niveum*	Davidson's stonecrop												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sedum obtusatum ssp. paradisum*	Canyon Creek stonecrop														MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Senecio pattersonensis*	Mono ragwort																			Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Sibaropsis hammittii*	Hammitt's clay-press		MIIH																	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties, on three mountains and protected on other lands. Final determination MIIH.
plant - vascular	*Sidalcea hickmanii ssp. anomala*	Cuesta Pass checkerbloom								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidalcea hickmanii ssp. hickmanii*	Hickman's checkerbloom								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidalcea hickmanii ssp. parishii*	Parish's checkerbloom	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidalcea hickmanii ssp. pillsburiensis*	Pillsbury checkerbloom									MIIH										No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidalcea malviflora ssp. dolosa*	dwarf checkerbloom												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidalcea neomexicana*	salt spring checkerbloom	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidotheca caryophylloides*	chickweed starry puncturebract	MIIH							MIIH				MIIH	MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sidotheca emarginata*	white-margined starry puncturebract												MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Silene occidentalis ssp. longistipitata*	long-stiped campion						MIIH													No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			Map avoidance areas.
plant - vascular	*Silene salmonacea*	Klamath Mountain catchfly														MIIH					No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Silene serpentinicola*	Serpentine catchfly																MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Sisyrinchium longipes*	timberland blue-eyed grass												MIIH							No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
plant - vascular	*Streptanthus albidus ssp. peramoenus*	most beautiful jewelflower								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Streptanthus campestris*	southern jewelflower	MIIH	MIIH						MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Streptanthus cordatus var. piutensis*	Piute Mountains jewelflower													MIIH						Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Streptanthus fenestratus*	Tehipite Valley jewelflower													MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Streptanthus gracilis*	Alpine jewel-flower																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Streptanthus howellii*	Howell's jewelflower																MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Streptanthus oblanceolatus*	Trinity River jewelflower														WII => MIIH		MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Streptanthus oliganthus*	Masonic Mountain jewelflower																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Stylocline masonii*	Mason's neststraw	MIIH							MIIH					MIIH						Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - non-vascular	*Sulcaria badia*	none									MIIH					MIIH		MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

category	Scientific Name	Common Name	Angeles	Cleveland	Eldorado	Inyo	Klamath	Lassen	LTBMU	Los Padres	Mendocino	Modoc	Plumas	San Bernardino	Sequoia National Monument	Shasta-Trinity	Sierra	Six Rivers	Stanislaus	Tahoe	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occures on more than 1 unit?	tree, shrub, succulent life form?	
plant - vascular	*Symphyotrichum defoliatum*	San Bernardino aster	MIIH	MIIH						MIIH				MIIH	MIIH						Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Tauschia howellii*	Howell's tauschia					MIIH											MIIH		MIIH	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Tetracoccus dioicus*	Parry's tetracoccus		MIIH																	Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Thelypodium howellii ssp. howellii*	Howell's thelypody						MIIH				MIIH									Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Thelypteris puberula var. sonorensis*	Sonoran maiden fern	MIIH							MIIH				MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Thermopsis californica var. semota*	velvety false lupine		MIIH																	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Thermopsis macrophylla*	Santa Ynez false lupine								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Species requires disturbance. Final determination MIIH.
plant - vascular	*Thermopsis robusta*	false lupine					MIIH											MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Thysanocarpus rigidus*	rigid fringepod	MIIH	MIIH										MIIH							Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Tracyina rostrata*	beaked tracyina									MIIH							MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Fungi	*Tricholomopsis fulvescens*	none					MIIH				MIIH							MIIH			Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - vascular	*Trifolium bolanderi*	Bolander's clover																			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Trifolium dedeckerae*	Dedecker's clover													MIIH						Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
plant - non-vascular	*Triquetrella californica*	Coastal triquetrella								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
plant - vascular	*Tritelia ixioides ssp. cookii*	Cook's tritelia								MIIH											No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
plant - vascular	*Tropidocarpum capparideum*	caper-fruited tropidocarpum								MIIH											Yes	Yes	Yes	WII or MIIH: G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual. Many occurrences in multiple counties. Final determination MIIH.
plant - vascular	*Viola primulifolia L. ssp. Occidentalis*	western bog violet																MIIH			No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

VERSION
7/6/2023

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Abronia umbellata ssp. breviflora	Pink sand-verbena															NI					No	No	No	NI- Beach habitat			
Achnatherum hendersonii	Henderson's ricegrass											MIIH		MIIH			MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Achnatherum nevadense	Nevada needlegrass											MIIH					MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Achnatherum richardsonii	Richardson's ricegrass					MIIH		MIIH									MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Achnatherum wallowaense	Wallowa ricegrass											MIIH		MIIH			MIIH		MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Adiantum jordanii	California maiden-hair										MIIH				MIIH			MIIH			No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Agoseris aurantiaca var. carnea	Pink agoseris					MIIH															No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Agoseris elata	Tall agoseris									MIIH			MIIH							MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Agrostis howellii	Howell's bentgrass								MIIH												Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Agrostis mertensii	Northern bentgrass					NI															No	Yes	No	NI-Alpine			
Albatrellus avellaneus	Fungus											MIIH	MIIH		MIIH	NI	MIIH		MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Allium campanulatum	Sierra onion					MIIH		MIIH													No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Allium dictuon	Blue mountain onion							MIIH									MIIH				Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Allium geyeri var. geyeri	Geyer's onion																		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Allium peninsulare	Peninsular onion														MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Ammannia robusta	Ammannia	NI						NI													No	No	No	NI- Shoreline and islands along the Columbia River, in riparian mudflats, lakeshores			
Anastrophyllum minutum	Liverwort									MIIH	MIIH	MIIH	MIIH		MIIH		MIIH	MIIH	MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Andreaea schofieldiana	Moss								MIIH				MIIH		MIIH	NI		MIIH		MIIH	Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Anemone patens var. multifida	Pasqueflower					MIIH															No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Antennaria corymbosa	Meadow pussy-toes		MIIH					MIIH													No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, riparian buffers likely to provide protection			
Arabis crucisetosa	Cross-haired rockcress							MIIH													No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Arabis modesta	Rogue canyon rockcress														MIIH						No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Arabis olympica	Olympic nuttall's rockcress						NI														Yes	No use on Forest	NI-Scree	NI-Scree, No use on forest			
Arctoparmelia incurva	Lichen			MIIH																	No	No	Yes, wildfire is a threat	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but fire is a threat to the species			
Arctostaphylos hispidula	Gasquet manzanita														MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Arnica viscosa	Shasta arnica									NI	NI				NI			NI		NI	No	Yes	No	NI-Scree			
Artemisia campestris ssp. borealis var. wormskioldii	Northern wormwood	NI																			No	No	NI-Sandy, open areas, riparian	NI-Sandy, open areas, riparian			
Artemisia pycnocephala	Coastal sagewort															NI					No	No use on Forest	No	NI- No use on forest, coastal beach plant			
Asplenium septentrionale	Grass-fern										MIIH				MIIH			MIIH		MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Asplenium viride	Green spleenwort																		MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Astragalus arrectus	Palouse milk-vetch					MIIH		MIIH													Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Astragalus arthurii	Arthur's milk-vetch							MIIH													No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Astragalus australis var. cottonii	Cotton's milk-vetch						NI														No	No use on Forest	NI- Alpine,	NI- Alpine, No use on Forest			
Astragalus cusickii var. cusickii	Cusick's milk-vetch							MIIH													No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Astragalus diaphanus var. diurnus	South fork john day milk-vetch											MIIH		MIIH			MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Astragalus lemmonii	Lemmon's milk-vetch										MIIH										Yes	No	Yes, but riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Astragalus microcystis	Least bladdery milk-vetch		MIIH			MIIH	NI														No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Astragalus misellus var. misellus	Pauper milk-vetch											MIIH					MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Astragalus peckii	Peck's milk-vetch									MIIH	MIIH			MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Astragalus tegetarioides	Bastard kentrophyta											MIIH		MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Astragalus tyghensis	Tygh Valley milk-vetch												MIIH								Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Barbilophozia lycopodioides	Liverwort								MIIH		MIIH	MIIH	MIIH				MIIH		MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Bartramiopsis lescurii	Moss				MIIH		NI														No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Bensoniella oregana	Bensonia														MIIH						No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.Riparian buffers likely to provide protection			
Blepharostoma arachnoideum	Liverwort									MIIH			MIIH			NI		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Boechera atrorubens	Sickle-pod rockcress								MIIH				MIIH				MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Boechera hastatula	Hells canyon rockcress																		NI	NI	Yes	Yes	NI- Cliffs	NI-Cliffs			
Boechera paddoensis	Mt. Adams rockcress																		MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Bolandra oregana	Oregon bolandra	MIIH		MIIH				MIIH													No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Botrychium ascendens	Upward-lobed moonwort		MIIH		MIIH	MIIH	NI	MIIH				MIIH		MIIH					MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium campestre	Prairie moonwort											MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium crenulatum	Crenulate moonwort		MIIH			MIIH		MIIH			S	MIIH		MIIH			MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium hesperium	Western moonwort		MIIH			MIIH		MIIH				MIIH					MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium lineare	Slender moonwort		MIIH			MIIH		MIIH				MIIH					MIIH		MIIH		Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Botrychium lunaria	Moonwort											MIIH	MIIH	MIIH			MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium montanum	Mountain grape-fern											MIIH	MIIH	MIIH			MIIH		MIIH	MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium paradoxum	Twin-spiked moonwart		MIIH			MIIH		MIIH				MIIH		MIIH			MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium pedunculosum	Stalked moonwort		MIIH		MIIH	MIIH		MIIH				MIIH					MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Botrychium pumicola	Pumice grape-fern									MIIH	MIIH				MIIH			MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Brachydontium olympicum	Moss									MIIH			MIIH								Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Only Suspected on a forest over 0.01			
Brodiaea terrestris	Dwarf brodiaea															NI					No	No Use on Forest	Yes	NI- No use on forest			
Bryoglossum gracile	Fungus																			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Bryoria bicolor	Lichen															NI					No	No Use on Forest	Yes	NI- No use on forest			
Bryum calobryoides	Moss											MIIH	MIIH		MIIH	NI		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Bupleurum americanum	Bupleurum																		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calamagrostis breweri	Brewer's reedgrass									MIIH			MIIH					MIIH		MIIH	No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but Riparian buffers likely to provide protection			
Calicium adspersum	Lichen																			MIIH	No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Calliergon richardsonii	Moss											MIIH		MIIH			MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calochortus greenei	Greene's mariposa-lily										MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Calochortus howellii	Howell's mariposa-lily														MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calochortus longebarbatus var. peckii	Peck's mariposa-lily											MIIH		MIIH							No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calochortus macrocarpus var. maculosus	Green-band mariposa-lily							MIIH									MIIH		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calochortus umpquaensis	Umpqua mariposa-lily																	MIIH			No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Calypogeia sphagnicola	Liverwort												MIIH		MIIH	MIIH		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Calyptridium roseum	Rosy pussypaws					MIIH		MIIH				MIIH					MIIH				No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Camassia howellii	Howell's camas														MIIH						Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Camissonia pusilla	Washoe suncup										MIIH										No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Campanula lasiocarpa	Alaska harebell				MIIH																No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Campylium stellatum	Moss									MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		MIIH	MIIH	MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cardamine pattersonii	Saddle Mountain bittercress															NI					No	No Use on Forest	Yes	NI- No use on forest			
Carex anthoxanthea	Yellow-flowered sedge						NI														No	No Use on Forest	Yes	NI- No use on forest			
Carex atrosquama	Blackened sedge											MIIH							MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex brevicaulis	Short stemmed sedge															NI					No	No Use on Forest	Yes	NI- No use on forest			
Carex capillaris	Hairlike sedge		MIIH			MIIH													MIIH		No	Yes	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex capitata	Capitate sedge									MIIH	MIIH		MIIH		MIIH				MIIH	MIIH	No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Carex chordorrhiza	Cordroot sedge					MIIH															No	Yes	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex circinata	Coiled sedge						NI														No	No Use on Forest	Yes	NI- No use on forest			
Carex comosa	Bristly sedge										MIIH		MIIH		MIIH						No	Yes	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex concinna	Low northern sedge																		MIIH		No	Yes	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex cordillerana	Cordilleran sedge		MIIH								MIIH	MIIH					MIIH		MIIH		No	Yes	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Carex densa	Dense sedge	MIIH		MIIH																	No	No	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex diandra	Lesser panicled sedge								MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	No	Yes	Yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Carex eburnea	Bristleleaf sedge		MIIH																		No	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex gynocrates	Yellow bog sedge		MIIH			MIIH													MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications, riparian buffers likely to provide protection			
Carex heteroneura var. epapillosa	Different nerve sedge					MIIH															No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Carex idahoa	Idaho sedge											MIIH		MIIH			MIIH		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Carex klamathensis	A sedge														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	annual - species ocurs in wetlands which are within avoidance areas. Final determination MIIH
Carex lasiocarpa	Slender sedge									MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Carex livida	Pale sedge									MIIH			MIIH		MIIH	NI				MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex macrocephala	Bighead sedge															NI					No	No	NI-Beaches	NI-Beaches			
Carex macrochaeta	Large-awn sedge	MIIH		MIIH	MIIH	MIIH			MIIH							NI					No	Yes	yes,riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex media	Intermediate sedge					MIIH						MIIH							MIIH		No	Yes	yes,riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex micropoda	Pyrenaean sedge											MIIH					MIIH		MIIH		No	Yes	yes,riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex nardina	Spikenard sedge											MIIH	MIIH					MIIH	MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Carex nervina	Sierra nerved sedge														MIIH						No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex obtusata	Blunt sedge						NI														No	No use on forest	Yes	NI- No use on forest			
Carex pauciflora	Few-flowered sedge				MIIH	MIIH	NI														No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex pelocarpa	New sedge											MIIH							MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Carex proposita	Smokey Mtn. sedge	MIIH	MIIH	MIIH	MIIH	MIIH															No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Carex retrorsa	Retrorse sedge								MIIH	MIIH		MIIH	MIIH	MIIH			MIIH		MIIH		No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Carex rostrata	Beaked sedge		MIIH		MIIH	MIIH															No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex saxatilis	Russet sedge										MIIH	MIIH					MIIH		MIIH		No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex scirpoidea ssp. scirpoidea	Canadian single-spike sedge				NI	NI	NI														No	Yes	NI-Alpine	NI-Alpine			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Carex scirpoidea ssp. stenochlaena	Alaskan single-spiked sedge											NI								NI	No	Yes	NI- Cliffs	NI- Cliffs			
Carex stylosa	Long-styled sedge				MIIH	MIIH	NI														No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex subnigricans	Dark alpine sedge											MIIH							MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Carex sychnocephala	Many-headed sedge		MIIH			MIIH															No	Yes	No, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Carex tahoensis	Tahoe sedge											MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex tenera var. tenera	Quill sedge		MIIH																		No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex tenuiflora	Sparseflower sedge		MIIH			MIIH															No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Carex vallicola	Valley sedge					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Carex vernacula	Native sedge									MIIH	MIIH	MIIH	MIIH				MIIH	MIIH	MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Castilleja chlorotica	Green-tinged paintbrush									MIIH	MIIH										No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Castilleja collegiorum	Collegial paintbrush										MIIH										Yes	No	Yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Castilleja cryptantha	Obscure indian-paintbrush				MIIH	MIIH															Yes	Yes	Yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Castilleja flava var. rustica	Rural paintbrush																MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Castilleja fraterna	Fraternal paintbrush																		MIIH		Yes	Yes	No, riparian	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Castilleja rubida	Purple alpine paintbrush																		MIIH		Yes	Yes	No, riparian	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Castilleja schizotricha	Split-hair paintbrush														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Castilleja thompsonii	Thompson's paintbrush												MIIH								No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Castilleja viscidula	Sticky paintbrush											MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cephaloziella spinigera	Liverwort								MIIH	MIIH	MIIH		MIIH		MIIH	NI		MIIH		MIIH	No	Yes	Yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Chaenactis suffrutescens	Shasta pincushion														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Chaenactis thompsonii	Thompson's chaenactis				MIIH	MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Chaenactis xantiana	Desert chaenactis											MIIH									No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Chamonixia caespitosa	Fungus														MIIH	NI					No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cheilanthes covillei	Coville's lip-fern														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Cheilanthes feei	Fee's lip-fern									NI	NI	NI		NI					NI		No	Yes	NI-cliffs	NI-cliffs			
Cheilanthes intertexta	Coastal lipfern										MIIH				MIIH						No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Chlorogalum angustifolium	Narrow-leaved amole														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Chloropyron maritimum ssp. palustre	Pt. Reyes bird's-beak															NI					No	No use on forest	NI-coastal salt marshes	NI- No use on forest			
Choiromyces venosus	Fungus												MIIH							MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Chrysolepis chrysophylla var. chrysophylla	Golden chinquapin	MIIH		MIIH			NI														No	No	Yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Chrysosplenium tetrandrum	Northern golden-carpet		MIIH			MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Cicendia quadrangularis	Timwort														MIIH	NI				MIIH	No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Cicuta bulbifera	Bulb-bearing water-hemlock		MIIH	MIIH	MIIH	MIIH															No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Cirsium remotifolium var. remotifolium	Weak thistle	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Cladidium bolanderi	Lichen															NI					No	No use on forest	NI- bluffs along seashore	NI-Bluffs along seashore, No use on forest			
Claytonia multiscapa ssp. pacifica	Pacific lance-leaved springbeauty					MIIH	NI														No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Coeloglossum viride	Long-bract frog orchid		MIIH			MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Collinsia sparsiflora var. bruceae	Few-flowered collinsia	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Collomia mazama	Mt. Mazama collomia									MIIH	MIIH				MIIH			MIIH			No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Comastoma tenellum	Slender gentian					MIIH		MIIH				MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Conostomum tetragonum	Moss									MIIH			MIIH							MIIH	No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Coptis aspleniifolia	Spleenwort-leaved goldthread			MIIH	MIIH	MIIH	NI														No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Coptis trifolia	Three-leaf goldthread			MIIH	MIIH	MIIH	NI						MIIH							MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cortinarius barlowensis	Fungus												MIIH			NI		MIIH		MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Cortinarius pavelekii	Fungus															NI					Yes	No use on forest	yes	NI- No use on forest			
Corydalis aquae-gelidae	Cold-water corydalis	MIIH		MIIH					MIIH				MIIH		MIIH					MIIH	No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Cryptantha grandiflora	Clearwater cryptantha																MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cryptantha milo-bakeri	Milo baker's cryptantha														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cryptantha rostellata	Beaked cryptantha	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Cryptantha simulans	Pine woods cryptantha										MIIH				MIIH		MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cryptogramma stelleri	Steller's rockbrake		MIIH			MIIH						MIIH							MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cryptomitrium tenerum	Liverwort														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cusickiella douglasii	Douglas' draba	MIIH																			No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Cymopterus nivalis	Snowline spring-parsley											MIIH									No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Cyperus acuminatus	Short-pointed cyperus									MIIH					MIIH						No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Cyperus lupulinus ssp. lupulinus	A cyperus									MIIH				MIIH			MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cypripedium fasciculatum	Clustered lady's-slipper								MIIH			MIIH			MIIH		MIIH	MIIH	MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Cypripedium parviflorum	Yellow lady's-slipper		MIIH			MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Dactylina arctica	Lichen			NI		NI															No	Yes	NI-Alpine	NI-Alpine			
Damasonium californicum	Fringed waterplantain	MIIH		MIIH		MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Delphinium nudicaule	Red larkspur														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Delphinium nuttallii	Nutall's larkspur								MIIH				MIIH								No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Delphinium viridescens	Wenatchee larkspur					MIIH															Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Dermatocarpon meiophyllizum	Lichen	MIIH	MIIH	MIIH	MIIH	MIIH	NI	MIIH													No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Dicentra pauciflora	Few-flowered bleedingheart														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Didymodon norrisii	Moss														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Diphasiastrum complanatum	Ground cedar									MIIH		MIIH	MIIH				MIIH		MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Diplacus bolanderi	Bolander's monkeyflower														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Diplacus congdonii	Congdon's monkeyflower														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Diplacus cusickii	Cusick's monkeyflower	MIIH		MIIH				MIIH													No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Diplacus tricolor	Three-colored monkeyflower										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Dodecatheon austrofrigidum	Frigid shootingstar						NI									NI					Yes	No use on forest	no, riparian	NI- No use on forest			
Draba aurea	Golden draba					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Draba cana	Lance-leaved draba					MIIH	NI														No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Draba howellii	Howell's whitlow-grass														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Draba taylori	Taylor's draba					MIIH															Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Dracocephalum parviflorum	American dragonhead											MIIH					MIIH		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Dryas drummondii var. drummondii	Drummond's mountain-avens		MIIH		MIIH	MIIH	NI														No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Dryopteris cristata	Crested shield-fern		MIIH			MIIH															No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Elatine brachysperma	Short seeded waterwort								MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		Ni	MIIH	MIIH	MIIH	MIIH	No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Eleocharis bolanderi	Bolander's spikerush										MIIH	MIIH		MIIH			MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Encalypta brevicollis	Moss								MIIH				MIIH		MIIH	NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Encalypta brevipes	Moss								NI	NI		NI	NI		NI	NI	NI	NI	NI	NI	No	Yes	NI-cliffs	NI-cliffs			
Entoloma occidentale	Fungus														MIIH	NI					Yes	Yes	Yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Entosthodon fascicularis	Moss								MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes, Added this line for consistency	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Entosthodon fascicularis	Liverwort								MIIH	MIIH			MIIH			NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Epilobium oreganum	Oregon willow-herb														MIIH						Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Epilobium siskiyouense	Siskiyou willow-herb														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Eremothera pygmaea	Dwarf evening-primrose							MIIH				MIIH		MIIH			MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Ericameria arborescens	Golden fleece														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erigeron aliceae	Alice's fleabane						NI														No	No use on forest	yes	NI- No use on forest			
Erigeron cervinus	Siskiyou daisy														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erigeron davisii	Engelmann's daisy							MIIH									MIIH		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Erigeron disparipilus	White cushion erigeron																MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erigeron howellii	Howell's daisy	MIIH		MIIH					MIIH				MIIH								Yes	No	no	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Erigeron oreganus	Oregon daisy	MIIH		MIIH					NI												No	No	NI-cliffs	NI-cliffs			
Erigeron peregrinus var. thompsonii	Thompson's wandering daisy						NI														No	No use on forest	yes	NI- No use on forest			
Erigeron petrophilus	Cliff daisy														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Erigeron salishii	Salish fleabane				NI	NI															No	Yes	NI-Alpine	NI-Alpine			
Erigeron stanselliae	Stansell's daisy														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Erioderma sorediatum	Lichen				MIIH		NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Eriogonum cusickii	Cusick's buckwheat											MIIH		MIIH							Yes	Yes	yes	MIIH-G1/G2, Use over 0.01 application rate, habitat potentially impacted, , but No known occurrences on FS			
Eriogonum lobbii	Lobb's buckwheat														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Eriogonum prociduum	Prostrate buckwheat										MIIH										Yes	No	no	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Eriogonum salicornioides	Playa buckwheat											MIIH									No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Eriogonum umbellatum var. glaberrimum	Green buckwheat										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Eriogonum villosissimum	Acker Rock wild buckwheat																	NI			Yes	No	NI-cliffs	NI-cliffs			
Eriophorum chamissonis	Russet cotton-grass															NI					No	No use on forest	yes, riparian	NI- No use on forest			
Eriophorum viridicarinatum	Green keeled cotton-grass		MIIH	MIIH		MIIH															No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Eritrichium nanum var. elongatum	Pale alpine forget-me-not					MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Eryngium petiolatum	Oregon coyote-thistle	MIIH		MIIH																	No	No	no, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Erythranthe hymenophylla	Membrane-leaved monkeyflower																		NI		Yes	Yes	NI-cliffs	NI-cliffs			
Erythranthe inflatula	Disappearing monkeyflower										MIIH	MIIH		MIIH							No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Erythranthe patula	Stalk-leaved monkeyflower					MIIH		MIIH													No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erythranthe pulsiferae	Pulsifer's monkey-flower			MIIH		MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erythranthe suksdorfii	Suksdorf's monkey-flower			MIIH		MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erythronium elegans	Coast range fawn-lily															NI					Yes	No use on forest	yes	NI- No use on forest			
Erythronium howellii	Howell's adder's-tongue														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Erythronium quinaultense	Quinault fawnlily						NI														Yes	NI- No use on forest	yes	NI- No use on forest			
Eschscholzia caespitosa	Gold poppy														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Eucephalus gormanii	Gorman's aster									MIIH			MIIH							MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Eucephalus vialis	Wayside aster																	MIIH		MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Eurybia merita	Arctic aster		MIIH		MIIH	MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Frasera umpquaensis	Umpqua swertia														MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Fritillaria camschatcensis	Black lily			MIIH	MIIH								MIIH			NI					No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Galium serpenticum ssp. warnerense	Warner mt. bedstraw										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Gastroboletus vividus	Fungus									MIIH	MIIH				MIIH			MIIH		MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Gaultheria hispidula	Creeping snowberry		MIIH		MIIH																No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Gentiana douglasiana	Swamp gentian				MIIH	MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Gentiana glauca	Glaucous gentian				MIIH	MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Gentiana newberryi var. newberryi	Newberry's gentian									MIIH	MIIH				MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Gentiana plurisetosa	Elegant gentian														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Gentiana prostrata	Moss gentian																		MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Gentiana setigera	Waldo gentian														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Geum rivale	Water avens		MIIH			MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Geum rossii var. depressum	Ross' avens					NI															No	Yes	NI-cliffs and talus	NI-cliffs and talus			
Geum rossii var. turbinatum	Slender-stemmed avens																		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Gilia millefoliata	Seaside gilia															NI					Yes	No use on forest	NI-dunes	NI- Dunes, No use on forest			
Githopsis specularioides	Common blue-cup			MIIH				MIIH													No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Gratiola heterosepala	Boggs lake hedge-hyssop										MIIH										Yes	No	no, riparian	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Gymnomitrion concinnatum	Liverwort								MIIH	MIIH			MIIH			NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Gymnomyces fragrans	Fungus														MIIH			MIIH		MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Gymnomyces nondistincta	Fungus												MIIH								Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Hackelia bella	Beautiful stickseed														MIIH						No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Hackelia cinerea	Gray stickseed					MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Hackelia diffusa var. diffusa	Diffuse stickseed	MIIH						MIIH													No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Hackelia hispida var. disjuncta	Sagebrush stickseed					MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Hackelia hispida var. hispida	Rough stickseed					NI															No	Yes	NI-cliffs, talus	NI-cliffs, talus			
Hackelia taylorii	Taylor's stickseed					MIIH															Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Haplomitrium hookeri	Liverwort								MIIH	MIIH			MIIH			NI				MIIH	No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Harpanthus flotovianus	Liverwort									MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		MIIH	MIIH	MIIH	MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Hastingsia bracteosa var. atropurpurea	Purple-flowered rush-lily														MIIH						Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Hastingsia bracteosa var. bracteosa	Large-flowered rush-lily														MIIH						Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Hedysarum occidentale	Western hedysarum	MIIH		MIIH			NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Heliotropium curassavicum	Salt heliotrope									MIIH	MIIH	MIIH		MIIH			MIIH		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Helvella crassitunicata	Fungus									MIIH			MIIH							MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Herbertus aduncus ssp. aduncus	Liverwort								NI				NI			NI				NI	No	Yes	NI-cliffs	NI-cliffs			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Hesperocyparis bakeri	Baker's cypress														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Heterotheca oregona	Oregon goldenaster	MIIH		MIIH		MIIH	NI														No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Hieracium horridum	Shaggy hawkweed														MIIH					MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Horkelia hendersonii	Henderson's horkelia														NI						Yes	Yes	NI-Alpine	NI-Alpine			
Horkelia tridentata ssp. tridentata	Three-toothed horkelia														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Hydrocotyle verticillata	Whorled marsh-pennywort															NI					No	No use on forest	yes, riparian	NI- No use on forest			
Hypogymnia pulverata	Lichen															NI					No	No use on forest	NI-sand dunes	NI- No use on forest			
Hypotrachyna riparia	Lichen								MIIH				MIIH							MIIH	Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Iliamna latibracteata	California globe-mallow														MIIH			MIIH		MIIH	Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Impatiens noli-tangere	Western jewel-weed				MIIH																No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Ipomopsis tenuituba	Rydberg's gilia											MIIH		MIIH			MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Isoetes minima	Midget quillwort							MIIH													Yes	No	yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Isoetes nuttallii	Nuttall's quillwort	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Ivesia shockleyi	Shockley's ivesia										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Iwatsukiella leucotricha	Moss						NI														No	No use on forest	yes	NI- No use on forest			
Jamesoniella autumnalis var. heterostipa	Liverwort																	NI		NI	No	No	NI- aquatic; Dropped from 2019 Rare, Threatened and Endangered Non-vascular Plants, Algae, Lichen, and Fungi Species of Oregon (ORBIC 2019) due to being synonymous with Jamesoniella autumnalis, a common species.	NI- aquatic			
Juncus hemiendytus var. abjectus	Least rush													MIIH							No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Juncus howellii	Howell's rush	MIIH		MIIH		MIIH		MIIH													No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Juncus kelloggii	Kellogg's rush	MIIH		MIIH					MIIH												No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Juncus tiehmii	Tiehm's rush										MIIH										No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Juncus triglumis var. albescens	Three-flowered rush																		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Jungermannia polaris	Liverwort									MIIH		MIIH					MIIH		MIIH	MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Kalmia procumbens	Alpine azalea				NI	NI															No	Yes	NI-Alpine	NI-Alpine			
Kalmiopsis fragrans	Fragrant kalmiopsis																	MIIH			No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Keckiella lemmonii	Bush beardtongue														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Kobresia myosuroides	Bellard's kobresia											MIIH							MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Kobresia simpliciuscula	Simple kobresia																		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Kurzia makinoana	Liverwort														MIIH	NI					Yes	Yes	No	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lactarius silviae	Fungus														MIIH	NI				MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Lasthenia glaberrima	Smooth goldfields	MIIH		MIIH																	No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Lathrocasis tenerrima	Delicate gilia					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lathyrus holochlorus	Thin-leaved peavine																			MIIH	Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Leioderma sorediatum	Lichen				MIIH		NI									NI					No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Leptogium burnetiae	Lichen	MIIH																			No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Leptogium cyanescens	Lichen			MIIH	MIIH		NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Leptosiphon bolanderi	Baker's linanthus	MIIH		MIIH																	No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Lewisia columbiana var. columbiana	Columbia lewisia								MIIH				MIIH					MIIH		MIIH	No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lewisia leeana	Lee's lewisia														MIIH			MIIH			No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Limbella fryei	Moss															NI					Yes	No use on forest	no	NI- No use on forest			
Limnanthes alba ssp. gracilis	Slender meadow-foam														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Limnanthes floccosa ssp. bellingeriana	Bellinger's meadow-foam														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Limonium californicum	Western marsh-rosemary															NI					No	No use on forest	no	NI- No use on forest			
Lipocarpha aristulata	Aristulate lipocarpha	MIIH		MIIH				MIIH	MIIH	MIIH	MIIH	MIIH		MIIH			MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Listera borealis	Northern twayblade											MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lobaria linita	Lichen								MIIH				MIIH		MIIH	NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lobelia dortmanna	Water lobelia									NI											No	Yes	NI-aquatic	NI-aquatic			
Lomatium engelmannii	Englemann's desert-parsley														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lomatium erythrocarpum	Red-fruited lomatium																		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Lomatium greenmanii	Greenman's desert-parsley																		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Lomatium knokei	Desert-parsley					MIIH															Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Lomatium laevigatum	Smooth desert-parsley	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Lomatium ochocense	Ochoco lomatium													MIIH							Yes	No	no	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lomatium pastorale	Meadow lomatium																MIIH		MIIH		Yes	Yes	no	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lomatium rollinsii	Rollins' lomatium							MIIH													No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Lomatium suksdorfii	Suksdorf's desert parsley	MIIH		MIIH					MIIH												No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Lomatium tamanitchii	Ribseed biscuitroot	MIIH																			No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lomatium tarantuloides	Spider biscuitroot											MIIH					MIIH		MIIH		Yes	Yes	no	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Lomatium watsonii	Watson's desert parsley								MIIH				MIIH								No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Lophozia gillmanii	Liverwort									MIIH	MIIH	MIIH	MIIH		MIIH		MIIH	MIIH	MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Lophozia laxa	Liverwort								MIIH				MIIH			NI				MIIH	No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Lotus stipularis	Stipuled trefoil														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Luina serpentina	Colonial luina											MIIH									No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lupinus aridus ssp. ashlandensis	Mt. Ashland lupine														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lupinus lepidus var. cusickii	Cusick's lupine											MIIH									Yes	Yes	yes	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, , but No known occurrences on FS			
Lupinus tracyi	Tracy's lupine														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Luzula arcuata ssp. unalaschcensis	Alaska curved woodrush			MIIH	MIIH	MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Lycopodiella inundata	Bog club-moss	MIIH	MIIH	MIIH	MIIH		NI		MIIH	MIIH	MIIH		MIIH			NI				MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Lycopodium dendroideum	Treelike clubmoss		MIIH		MIIH	MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Macowanites mollis	Fungus								MIIH				MIIH								Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Malaxis monophyllos var. brachypoda	White adder's-mouth orchid				MIIH																No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Marsupella condensata	Liverwort								NI				NI							NI	No	No	NI-Alpine	NI-Alpine			
Marsupella emarginata var. aquatica	Liverwort												NI					NI		NI	No	No	NI-aquatic	NI-aquatic			
Marsupella sparsifolia	Liverwort								MIIH	MIIH			MIIH							MIIH	No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Meconella oregana	White fairypoppy	MIIH		MIIH					MIIH						MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	annual
Micranthes tischii	Tisch's saxifrage						NI														Yes	No use on forest	no	NI- No use on forest			
Microcalicium arenarium	Lichen								MIIH											MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Micromonolepis pusilla	Red poverty weed	MIIH																			No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Microseris borealis	Northern microseris			MIIH	MIIH																No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Monardella purpurea	Siskiyou monardella														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Monolepis spathulata	Prostrate poverty-weed					MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Montia diffusa	Branching montia	MIIH		MIIH	MIIH	MIIH	NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Muhlenbergia glomerata	Marsh muhly		MIIH																		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Muhlenbergia minutissima	Annual dropseed									MIIH	MIIH	MIIH		MIIH			MIIH		MIIH		No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Mythicomyces corneipes	Fungus								MIIH				MIIH							MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Nardia japonica	Liverwort									MIIH			MIIH							MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Navarretia tagetina	Marigold navarretia	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Nemacladus capillaris	Slender nemacladus														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Nicotiana attenuata	Coyote tobacco					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Niebla cephalota	Lichen				MIIH		NI									NI					No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Oenothera caespitosa ssp. marginata	Tufted evening primrose	MIIH																			No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Ophioglossum pusillum	Adder's-tongue	MIIH	MIIH	MIIH	MIIH		NI			MIIH		MIIH	MIIH	MIIH	MIIH	NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Orthocarpus bracteosus	Rosy owl-clover	MIIH		MIIH																	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Orthodontium gracile	Moss														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Orthodontium pellucens	Moss														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Orthotrichum hallii	Moss														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Otidea smithii	Fungus														MIIH	NI					No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Oxytropis campestris var. gracilis	Yellowflower locoweed				MIIH	MIIH	NI														No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Packera bolanderi var. harfordii	Harford's ragwort	MIIH		MIIH	MIIH	MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Packera porteri	Porter's butterweed				MIIH	MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Pannaria rubiginella	Lichen												MIIH			NI				MIIH	No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Pannaria rubiginosa	Lichen												MIIH			NI					No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Parnassia kotzebuei	Kotzebue's grass-of-parnassus					MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Parnassia palustris var. tenuis	Northern grass-of-parnassus						NI														No	No use on forest	yes, riparian	NI- No use on forest			
Pedicularis pulchella	Mountain lousewort					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pedicularis rainierensis	Mt. Rainier lousewort			MIIH	MIIH	MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pellaea andromedifolia	Coffee fern														MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pellaea brachyptera	Sierra cliffbrake					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pellaea breweri	Brewer's cliff-brake				MIIH	MIIH	NI														No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Pellaea bridgesii	Bridges' cliff-brake											MIIH					MIIH		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Pellaea mucronata ssp. californica	California birds-foot cliff-brake														MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Peltolepis quadrata	Liverwort											MIIH					MIIH		MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Penstemon barrettiae	Barrett's penstemon	MIIH		MIIH					MIIH												Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Penstemon deustus var. variabilis	Variable hot-rock penstemon	MIIH		MIIH					MIIH			MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Penstemon eriantherus var. whitedii	Whited's penstemon					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Penstemon glaucinus	Blue-leaved penstemon										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Penstemon peckii	Peck's penstemon									MIIH				MIIH							No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Penstemon pennellianus	Blue Mountain penstemon							MIIH									MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Penstemon wilcoxii	Wilcox's penstemon	MIIH		MIIH		MIIH		MIIH													No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Perideridia erythrorhiza	Red-rooted yampah										MIIH				MIIH			MIIH			Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Petrophytum cinerascens	Chelan rockmat					MIIH															Yes	Yes	no	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Phacelia argentea	Silvery phacelia															NI					Yes	No use on forest	NI-dunes	NI- No use on forest			
Phacelia leonis	Siskiyou phacelia														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Phacelia minutissima	Dwarf phacelia					MIIH		MIIH				MIIH					MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Phacelia tetramera	Dwarf phacelia							MIIH									MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Phaeoclavulina abietina	Fungus								MIIH				MIIH		MIIH		MIIH	MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Phaeocollybia gregaria	Fungus															NI					Yes	No use on forest	yes	NI-No use on forest			
Phaeocollybia oregonensis	Fungus								MIIH				MIIH			NI					Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Phemeranthus spinescens	Spinescent fameflower													MIIH							No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Phlox hendersonii	Henderson's phlox											MIIH	MIIH				MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Phlox multiflora	Many-flowered phlox											MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Phlox solivagus	Lonely phlox							MIIH													Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Phymatoceros phymatodes	Liverwort														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	This bryophyte is active from November to May, then becomes dormant. All but invisible during the dry season. Dormancy during the fire season limits the potential for impacts to this species. Final Determination MIIH.
Pilophorus nigricaulis	Lichen								MIIH				MIIH							MIIH	Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Pilularia americana	American pillwort					MIIH				MIIH	MIIH	MIIH		MIIH	MIIH						No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Pinus albicaulis	Whitebark pine		MIIH	MIIH	MIIH	MIIH	NI			MIIH	MIIH	MIIH	MIIH		MIIH		MIIH	MIIH	MIIH	MIIH	No	Yes	yes	Covered in BA			
Pinus flexilis	Limber pine																		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Piptatheropsis exigua	Little ricegrass											MIIH					MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Plagiobothrys figuratus ssp. corallicarpus	Coral seeded allocarya														MIIH						No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Plagiobothrys greenei	Greene's popcorn flower														MIIH						No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Plagiobothrys salsus	Desert allocarya										MIIH										No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Platanthera chorisiana	Choris' bog-orchid				MIIH	MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Platanthera obtusata	Small northern bog-orchid																		MIIH		No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pleuropogon oregonus	Oregon semaphoregrass										MIIH	MIIH							MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Poa rhizomata	Timber bluegrass														MIIH			MIIH			No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pogogyne floribunda	Profuse-flowereed mesa mint										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Polemonium carneum	Great polemonium	MIIH		MIIH			NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Polemonium viscosum	Skunk polemonium					NI															No	Yes	NI-Alpine, talus	NI-Alpine, talus			
Polystichum californicum	California sword-fern	MIIH		MIIH											MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Polytrichastrum sexangulare var. vulcanicum	Moss									MIIH	MIIH		MIIH					MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Polytrichum strictum	Moss											MIIH	MIIH			NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Porella bolanderi	Liverwort														MIIH			MIIH			No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Potamogeton diversifolius	Rafinesque's pondweed									NI	NI	NI		NI			NI		NI		No	Yes	NI-aquatic	NI-aquatic			
Potentilla breweri	Brewer's cinquefoil			MIIH		MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Potentilla glaucophylla var. perdissecta	Diverse-leaved cinquefoil					MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Potentilla nivea	Snow cinquefoil					MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Potentilla versicolor var. darrachii	Darrach's cinquefoil											MIIH					MIIH				Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Potentilla villosa	Villous cinquefoil												MIIH							MIIH	No	No	No	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Preissia quadrata	Liverwort								MIIH	MIIH		MIIH	MIIH				MIIH		MIIH		No	Yes	No	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn			
Prosartes parvifolia	Siskiyou fairy bells														MIIH						Yes	Yes	no	MIIH-G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Pseudocalliergon trifarium	Moss									MIIH	MIIH	MIIH			MIIH		MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Pseudocyphellaria perpetua	Lichen						NI														No	No use on forest	yes	NI-No use on forest			
Pseudorhizina californica	Fungus									MIIH	MIIH	MIIH	MIIH		MIIH	NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Ptilidium pulcherrimum	Liverwort											MIIH					MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pyrrocoma hirta var. sonchifolia	Sticky goldenweed					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Pyrrocoma racemosa var. paniculata	Panicled goldenweed										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Pyrrocoma scaberula	Rough pyrrocoma							MIIH									MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Racomitrium depressum	Moss										MIIH				MIIH			MIIH			No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Rafinesquia californica	California chicory														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Ramalina pollinaria	Lichen												MIIH		MIIH	NI		MIIH		MIIH	No	Yes	Yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Ramalina thrausta	Lichen		MIIH	MIIH	MIIH		NI														No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Ranunculus cooleyae	Cooley's buttercup				MIIH		NI														No	No	no, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Ranunculus populago	Mountain buttercup	MIIH		MIIH				MIIH													No	No	no, riparian	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Ranunculus triternatus	Dalles mt. buttercup	MIIH		MIIH					MIIH				MIIH								Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Rhamnus ilicifolia	Redberry														MIIH						No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Rhizopogon alexsmithii	Fungus									MIIH			MIIH							MIIH	Yes	Yes	yes	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but no known occurrences on FS over 0.01			
Rhizopogon brunneifibrillosus	Fungus												MIIH								Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Rhizopogon chamaleontinus	Fungus														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	truffle species that occurs subterranean within fairly dense forested areas. Retardant use in habitat is unllikely, and retardant unlikely to impact species. Final determination MIIH
Rhizopogon clavitisporus	Fungus												MIIH		MIIH	NI				MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Rhizopogon ellipsosporus	Fungus												MIIH		MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Rhizopogon exiguus	Fungus								MIIH				MIIH		MIIH	NI		MIIH		MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Rhizopogon inquinatus	Fungus												MIIH					MIIH		MIIH	Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Rhizopogon masoniae	Fungus												MIIH		MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	
Rhynchospora alba	White beakrush												MIIH		MIIH	NI				MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Ribes cereum var. colubrinum	Wax currant							MIIH													No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Ribes oxyacanthoides ssp. irriguum	Idaho gooseberry		MIIH			MIIH		MIIH													No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Ribes wolfii	Wolf's currant							MIIH													No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Rivulariella gemmipara	Liverwort								NI	NI	NI		NI		NI			NI		NI	Yes	Yes	NI-aquatic	NI-aquatic			
Romanzoffia thompsonii	Thompson's mistmaiden												MIIH		MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Rorippa columbiae	Columbia cress	MIIH		MIIH					MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	MIIH				MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Rotala ramosior	Lowland toothcup	MIIH	MIIH	MIIH		MIIH		MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Rubus arcticus ssp. acaulis	Nagoonberry					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Rubus bartonianus	Bartonberry																		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Russula idahoense	Fungus												MIIH			NI				MIIH	Yes	No	yes	MIIH- G1/G2, No use over 0.01, habitat potentially impacted			
Salix candida	Hoary willow		MIIH			MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix farriae	Farr's willow											MIIH					MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix glauca ssp. glauca var. villosa	Glaucus willow					MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix maccalliana	Maccall's willow		MIIH			MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix nivalis	Snow willow											MIIH							MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix pseudomonticola	False mountain willow		MIIH			MIIH															No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix sessilifolia	Soft-leafed willow	MIIH																			No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Salix wolfii	Wolf's willow											MIIH		MIIH			MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Sarcodon fuscoindicus	Fungus												MIIH		MIIH	NI		MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Saxifraga adscendens ssp. oregonensis	Wedge-leaf saxifrage											MIIH							MIIH		No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Saxifraga cernua	Nodding saxifrage					MIIH															No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Saxifragopsis fragarioides	Joint-leaved saxifrage					MIIH									MIIH						No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Scapania obscura	Liverwort												MIIH					MIIH		MIIH	No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Scheuchzeria palustris ssp. americana	Scheuchzeria								MIIH	MIIH	MIIH		MIIH		MIIH			MIIH		MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Schistidium cinclidodonteum	Moss								MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	MIIH		MIIH		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.		
Schoenoplectus subterminalis	Water clubrush									MIIH	MIIH		MIIH		MIIH	NI		MIIH		MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Schofieldia monticola	Liverwort									MIIH			MIIH					MIIH		MIIH	No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Scirpus pendulus	Drooping bulrush										MIIH				MIIH						No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Scoliopus bigelovii	California fetid adderstongue														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Scouleria marginata	Moss	MIIH	MIIH	MIIH		MIIH		MIIH													No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Scribneria bolanderi	Scribner's grass	MIIH		MIIH	MIIH																No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Sedum moranii	Rogue River stonecrop														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes - succculent	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Sericocarpus oregonensis var. oregonensis	Oregon white-top aster	MIIH																			No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Sericocarpus rigidus	White-topped aster	MIIH		MIIH					MIIH												No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Sesuvium verrucosum	Verrucose sea-purslane										MIIH										No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Sidalcea hendersonii	Henderson's sidalcea															NI					No	No use on forest	no	NI-No use on forest			
Sidalcea hirtipes	Bristly-stemmed sidalcea	MIIH		MIIH					MIIH				MIIH			NI					Yes	No	yes, riparian	MIIH- G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Sidalcea malviflora ssp. patula	Coast checker bloom														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Silene hookeri ssp. bolanderi	Bolander's catchfly														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Silene scouleri ssp. scouleri	Scouler's catchfly		MIIH					MIIH													No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Silene seelyi	seely's silene					MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Sisyrinchium montanum var. montanum	Strict blue eyed-grass		MIIH																		No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Sisyrinchium sarmentosum	Pale blue-eyed grass	MIIH		MIIH		MIIH			MIIH				MIIH							MIIH	Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial
Solanum parishii	Parish's horse-nettle														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Solorina saccata	Lichen		NI		NI		NI														No	Yes	NI-Alpine	NI-Alpine			
Sophora leachiana	Western sophora														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	yes - tree	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Spartina pectinata	prairie cordgrass		MIIH					MIIH													No	No	yes, riparian	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted, but riparian buffers likely to provide protection			
Spiranthes porrifolia	Western ladies-tresses	MIIH				MIIH		MIIH													No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Splachnum sphaericum	Moss									MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Stagnicola perplexa	Fungus												MIIH		MIIH			MIIH		MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Stanleya confertiflora	Biennial stanleya											MIIH									Yes	Yes	yes	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, , but No known occurrences on FS			
Stereocaulon spathuliferum	Lichen												NI							NI	No	No	NI-Talus	NI-Talus			
Streptanthus glandulosus ssp. josephinensis	Common jewel flower														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Streptanthus howellii	Howell's streptanthus														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Streptopus streptopoides	Kruhsea								MIIH				MIIH								No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Suksdorfia violacea	Violet suksdorfia								MIIH				MIIH				MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Sullivantia oregana	Oregon sullivantia	MIIH		MIIH					MIIH				MIIH								Yes	No	No	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Swertia perennis	Swertia				MIIH	MIIH		MIIH				MIIH					MIIH		MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Synthyris pinnatifida var. lanuginosa	featherleaf kittenstails						NI														No	No use on forest	yes	NI-No use on forest			
Tauschia howellii	Howell's tauschia														MIIH						Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	no	no	perennial - able to withstand nitrates in soil until they diminish in a couple years. Final determination MIIH.
Tauschia stricklandii	Strickland's tauschia												MIIH								No	No	yes	MIIH- Not G1/G2, No use over 0.01, habitat potentially impacted			
Teloschistes flavicans	Lichen															NI					No	No use on forest	NI-dunes	NI-Dunes, No use on forest			
Tetraphis geniculata	Moss								MIIH				MIIH			NI	MIIH		MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Tetrapteron graciliflorum	Slender-flowered evening-primrose														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Texosporium sancti-jacobi	Lichen							MIIH		MIIH	MIIH	MIIH	MIIH	MIIH			MIIH				No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Thalictrum alpinum	Alpine meadowrue																		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Thelypodium eucosmum	Arrow-leaf thelypody											MIIH		MIIH			MIIH		MIIH		Yes	Yes	yes	WII or MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, Exclusion mapping recommended on forests over 0.01 to reduce determination to MIIH	Yes - Impacts not expected across entire population in one year. Final determination MIIH.	no	perennial, biennial
Tholurna dissimilis	Lichen		MIIH	MIIH	MIIH	MIIH	NI			MIIH			MIIH			NI				MIIH	No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Tortula mucronifolia	Moss											MIIH		MIIH	MIIH		MIIH		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Townsendia montana	Mountain townsendia																		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Townsendia parryi	Parry's townsendia																		MIIH		No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Toxicoscordion exaltatum	Giant death camas														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Trematodon asanoi	Moss									MIIH	MIIH		MIIH					MIIH		MIIH	Yes	Yes	yes	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, , but no known occurrences on FS units over 0.01			
Trifolium douglasii	Douglas' clover							MIIH				MIIH					MIIH		MIIH		Yes	Yes	yes, riparian	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Trifolium thompsonii	Thompson's clover					MIIH															No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Triglochin palustris	Slender bog arrowgrass		MIIH									MIIH							MIIH		No	Yes	yes, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted, but riparian buffers likely to provide protection			
Trillium kurabayashii	Siskiyou trillium														MIIH						No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			

Scientific Name	Common Name	CRG-WA	COL	GIP	MBS	OKW	OLY	UMA-WA	CRG-OR	DES	FWI	MAL	MTH	OCH	RRS	SIU	UMA-OR	UMP	WAW	WIL	G1/G2	Use over 0.01	Habitat potentially impacted	Initial Determination from National Screen Process	Species occurs on more than 1 unit?	tree, shrub, succulent life form?	Perrennial or Annual?
Trillium parviflorum	Small-flowered trillium	MIIH		MIIH																	Yes	Yes	yes	MIIH G1/G2, Use over 0.01 application rate, habitat potentially impacted, but no known occurrences on FS over 0.01			
Tritomaria exsecta	Liverwort									MIIH	MIIH	MIIH	MIIH	MIIH	MIIH	NI	MIIH	MIIH	MIIH	MIIH	No	Yes	yes	MIIH- Not G1/G2, One or more forests over 0.01 application rate, habitat potentially impacted			
Trollius albiflorus	American globeflower											MIIH							MIIH		No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Umbilicaria lambii	Lichen			MIIH			NI														Yes	No	no	MIIH-G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Umbilicaria rigida	Lichen				NI	NI	NI														No	Yes	NI- Alpine	NI- Alpine			
Usnea lambii	Lichen			MIIH	MIIH																No	No	no	MIIH- Not G1/G2, No use over 0.01, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Usnea nidulans	Lichen															NI					No	No use on forest	yes	NI- No use on forest			
Utricularia gibba	Humped bladderwort															NI					No	No use on forest	NI- aquatic	NI- Aquatic, No use on forest			
Utricularia intermedia	Flat-leaved bladderwort	NI	NI	NI	NI		NI														No	Yes	NI- aquatic	NI- aquatic			
Utricularia minor	Lesser bladderwort								NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	No	Yes	NI- aquatic	NI- aquatic			
Utricularia ochroleuca	Northern bladderwort										NI		NI			NI	NI	NI		NI	No	Yes	NI- aquatic	NI- aquatic			
Vaccinium myrtilloides	Velvet-leaf blueberry		MIIH			MIIH															No	Yes	no	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications.			
Viola primulifolia ssp. occidentalis	Western bog violet														MIIH						No	Yes	no, riparian	MIIH- Not G1/G2, One or more forests over 0.01 application rate, Plant occurs in a habitat unlikely to burn and/or unlikely to have retardant applications. Riparian buffers likely to provide protection			
Wolffia borealis	Dotted water-meal								NI				NI			NI		NI		NI	No	No	NI- aquatic	NI- aquatic			
Wolffia columbiana	Columbia water-meal								NI				NI		NI	NI		NI		NI	No	Yes	NI- aquatic	NI- aquatic			

Version 7/3/2023

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	Fraser fir	*Abies fraseri*				MIIH				NI			MIIH						
plant - vascular	trailing white monkshood	*Aconitum reclinatum*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Acrobolbus ciliatus*				MIIH							MIIH						
plant - vascular	Appalachian bugbane	*Actaea rubifolia*								NI						NI			
plant - vascular	earleaf false foxglove	*Agalinis auriculata*										NI							
plant - vascular	Jackson false foxglove	*Agalinis filicaulis*					MIIH	NI	NI										
plant - vascular	Skinner's false foxglove	*Agalinis skinneriana*						NI											
plant - vascular	Lucy Braun's snakeroot	*Ageratina luciae-brauniae*		NI															
plant - vascular	incised agrimony	*Agrimonia incisa*	NI				MIIH		NI						NI				
fungi	witch's-hair lichen	*Alectoria fallacina*								NI			MIIH						
plant - vascular	lillydale onion	*Allium oxyphilum*								NI									
plant - vascular	Ouachita false indigo	*Amorpha ouachitensis*									NI	NI							
plant - vascular	panicled false indigo	*Amorpha paniculata*						NI							NI				
plant - vascular	Louisiana blustar	*Amsonia ludoviciana*						NI											
plant - non-vascular	a liverwort	*Anastrophyllum saxicola*				MIIH							MIIH						
plant - vascular	spreading rockcress	*Arabis patens*								NI			MIIH						
plant - vascular	southern threeawn	*Aristida simpliciflora*	NI						NI										
fungi	hot dots	*Arthonia kermesina*				MIIH							MIIH						
fungi	old birch spots	*Arthopyrenia betulicola*											MIIH						
fungi	shell lichen	*Arthopyrenia degelii*				MIIH							MIIH						
plant - vascular	southern milkweed	*Asclepias viridula*					MIIH												
plant - vascular	spleenwort	*Asplenium x heteroresilens*											MIIH						
plant - vascular	Soxman's milkvetch	*Astragalus soxmaniorum*						NI							NI				
plant - vascular	blue wild indigo	*Baptisia australis var. aberrans*											MIIH						
plant - vascular	Apalachicola wild indigo	*Baptisia megacarpa*	NI																
plant - vascular	Texas screwstem	*Bartonia texana*													NI				
plant - non-vascular	a liverwort	*Bazzania nudicaulis*				MIIH				NI			MIIH						
plant - vascular	Amerucan barberry	*Berberis canadensis*		NI	MIIH					NI			MIIH						
plant - vascular	mountain doll's daisy	*Boltonia montana*								NI									
plant - vascular	dixie grapefern	*Botrychium jenmanii*	NI			MIIH			NI	NI			MIIH						
plant - vascular	piratebush	*Buckleya distichophylla*				MIIH				NI			MIIH						
plant - vascular	Cumberland sandreed	*Calamovilfa arcuata*		NI							NI								
plant - vascular	Bush's poppymallow	*Callirhoe bushii*									NI	NI							
plant - vascular	manyflower grasspink	*Calopogon multiflorus*					MIIH						MIIH						
plant - vascular	Oklahoma grasspink	*Calopogon oklahomensis*						NI	NI										
plant - non-vascular	Carolina campylopus moss	*Campylopus carolinae*											MIIH						

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	small mountain bittercress	*Cardamine clematitis*			MIIH	MIIH				NI			MIIH						
plant - vascular	Bryson's sedge	*Carex brysonii*	NI							NI									
plant - vascular	Chapman's sedge	*Carex chapmanii*					MIIH						MIIH						
plant - vascular	dixie sedge	*Carex communis var. amplisquama*												NI					
plant - vascular	cypressknee sedge	*Carex decomposita*	NI				MIIH	NI	NI		NI								
plant - vascular	ravine sedge	*Carex impressinervia*	NI						NI				MIIH						
plant - vascular	juniper sedge	*Carex juniperorum*		NI															
plant - vascular	waterfall's sedge	*Carex latebracteata*									NI								
plant - vascular	variable sedge	*Carex polymorpha*								NI									
plant - vascular	Radford's sedge	*Carex radfordii*			MIIH								MIIH	NI					
plant - vascular	Schweinitz's sedge	*Carex schweinitzii*								NI									
plant - vascular	a sedge	*Carex timida*									NI								
plant - vascular	Ozark chinquapin	*Castanea pumila var. ozarkensis*						NI			NI	NI							
plant - vascular	pineland butterfly pea	*Centrosema arenicola*					MIIH												
plant - non-vascular	a liverwort	*Cephalozia pleniceps var. carolinana*											MIIH						
plant - non-vascular	a liverwort	*Cephaloziella spinicaulis*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Cheilolejeunea evansii*	NI		MIIH	MIIH							MIIH	NI					
plant - vascular	Cuthbert's turtlehead	*Chelone cuthbertii*			MIIH					NI			MIIH						
plant - vascular	Erwin's red turtlehead	*Chelone obliqua var erwiniae*											MIIH						
plant - vascular	Le Conte's thistle	*Cirsium lecontei*											MIIH						
plant - vascular	small spreading pogonia	*Cleistesiopsis bifaria*	NI	NI	MIIH	MIIH	MIIH		NI	NI			MIIH						
plant - vascular	Addison's leather flower	*Clematis addisonii*								NI									
plant - vascular	Virginia whitehair leather flower	*Clematis coactilis*								NI									
plant - vascular	millboro leather flower	*Clematis viticaulis*								NI									
plant - vascular	Florida calamint	*Clinopodium dentatum*					MIIH												
plant - vascular	bumpy jointtail grass	*Coelorachis tuberculosa*	NI				MIIH												
plant - vascular	deepwoods horsebalm	*Collinsonia tuberosa*											MIIH						
plant - vascular	stoneroot	*Collinsonia verticillata*		NI	MIIH	MIIH								NI					
plant - vascular	Bentley's coralroot	*Corallorhiza bentleyi*								NI									
plant - vascular	broadleaf tickseed	*Coreopsis latifolia*				MIIH							MIIH						
plant - vascular	Harbison's hawthorn	*Crataegus ashei*							NI										
plant - vascular	threeflower hawthorn	*Crataegus triflora*	NI						NI										
plant - vascular	Warner's hawthorn	*Crataegus warneri*													NI				
plant - vascular	Florida orangegrass	*Ctenium floridanum*					MIIH												
plant - vascular	tapertip dodder	*Cuscuta attenuata*									NI								
plant - vascular	Illinois flatsedge	*Cyperus grayoides*						NI							NI				

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	Kentucky lady's slipper	*Cypripedium kentuckiense*	NI	NI				NI			NI	NI			NI				
plant - vascular	Hall's prairie clover	*Dalea hallii*													NI				
plant - vascular	Alabama larkspur	*Delphinium alabamicum*	NI																
plant - vascular	tall larkspur	*Delphinium exaltatum*								NI			MIIH						
plant - vascular	Newton's larkspur	*Delphinium newtonianum*									NI	NI							
plant - vascular	glade larkspur	*Delphinium treleasei*										NI							
plant - vascular	cream ticktrefoil	*Desmodium ochroleucum*							NI										
plant - vascular	mountain bush honeysuckle	*Diervilla rivularis*	NI			MIIH							MIIH						
plant - vascular	venus flytrap	*Dionaea muscipula*											MIIH						
plant - non-vascular	a liverwort	*Diplophyllum obtusatum*											MIIH						
plant - non-vascular	a liverwort	*Diplophyllum taxifolium var. mucronatum*											MIIH						
plant - vascular	French's shootingstar	*Dodecatheon frenchii*		NI															
plant - vascular	openground draba	*Draba aprica*									NI	NI							
plant - non-vascular	a liverwort	*Drepanolejeunea appalachiana*				MIIH							MIIH						
plant - vascular	Topeka purple coneflower	*Echinacea atrorubens*													NI				
plant - vascular	mudbabies	*Echinodorus tenellus*	NI				MIIH			NI									
plant - vascular	Church's wildrye	*Elymus churchii*									NI	NI							
plant - vascular	Mackenzie's blue wildrye	*Elymus glaucus ssp. mackenziei*									NI								
plant - vascular	gulf pipewort	*Eriocaulon koernickianum*									NI	NI							
plant - vascular	Florida thoroughwort	*Eupatorium anomalum*					MIIH												
plant - vascular	Darlington's glade spurge	*Euphorbia purpurea*								NI			MIIH						
plant - vascular	thistleleaf aster	*Eurybia eryngiifolia*	NI				MIIH												
plant - vascular	rockcastle aster	*Eurybia saxicastellii*		NI															
plant - vascular	Texas fescue	*Festuca versuta*									NI								
plant - non-vascular	Appalachian fissidens moss	*Fissidens appalachensis*				MIIH							MIIH						
plant - non-vascular	Hall's fissidens moss	*Fissidens hallii*											MIIH						
plant - vascular	Godfrey's swampprivet	*Forestiera godfreyi*					MIIH												
plant - vascular	mountain witchalder	*Fothergilla major*	NI		MIIH	MIIH							MIIH	NI					
plant - non-vascular	a liverwort	*Frullania appalachiana*			MIIH	MIIH							MIIH						
plant - non-vascular	a liverwort	*Frullania donnellii*					MIIH						MIIH						

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	box huckleberry	*Gaylussacia brachycera*								NI									
plant - vascular	harvestbells	*Gentiana latidens*											MIIH						
plant - vascular	wiregrass gentian	*Gentiana pennelliana*					MIIH												
plant - vascular	bent avens	*Geum geniculatum*				MIIH							MIIH						
plant - vascular	Great Smoky Mountain mannagrass	*Glyceria nubigena*											MIIH						
plant - vascular	West Indian dwarf polypody	*Grammitis nimbata*											MIIH						
fungi	sterling lips	*Graphis sterlingiana*											MIIH						
fungi	a lichen	*Gyalectidium appendiculatum*											MIIH						
plant - vascular	Appalachian oakfern	*Gymnocarpium appalachianum*								NI									
fungi	Rock Gnome Lichen	*Gymnoderma lineare*			MIIH	MIIH				NI			MIIH						Addressed in BA
plant - vascular	Leonard's witch hazel	*Hamamelis ovalis*							NI						NI				
plant - vascular	Florida hartwrightia	*Hartwrightia floridana*					MIIH												
plant - vascular	hammockherb	*Hasteola robertiorum*					MIIH												
plant - vascular	mock pennyroyal	*Hedeoma graveolens*					MIIH												
plant - vascular	fewleal sunflower	*Helianthus occidentalis var. plantagineus*						NI			NI								
plant - vascular	Smith's sunflower	*Helianthus smithii*	NI		MIIH														
fungi	Appalachian shield lichen	*Heterodermia appalachensis*				MIIH				NI			MIIH						
fungi	a lichen	*Heterodermia erecta*			MIIH					NI			MIIH						
plant - vascular	white alumroot	*Heuchera alba*								NI									
plant - vascular	Arkansas alumroot	*Heuchera villosa var. arkansana*									NI								
plant - vascular	mountain heartleaf	*Hexastylis contracta*		NI									MIIH						
plant - vascular	North Fork heartleaf	*Hexastylis rhombiformis*											MIIH						
plant - vascular	Harper's heartleaf	*Hexastylis speciosa*	NI																
plant - non-vascular	Sharp's homaliadelphus moss	*Homaliadelphus sharpii*											MIIH						
plant - vascular	Brown's waterleaf	*Hydrophyllum brownei*									NI								
plant - non-vascular	hygrohypnum moss	*Hygrohypnum closteri*		NI		MIIH							MIIH						
plant - vascular	shoals spiderlily	*Hymenocallis coronaria*												NI					
plant - vascular	Henry's spiderlily	*Hymenocallis henryae*					MIIH												
plant - vascular	Taylor's filmy fern	*Hymenophyllum tayloriae*	NI		MIIH								MIIH						
plant - vascular	creeping St. Johnswort	*Hypericum adpressum*									NI	NI							
fungi	Oosting's hypotrachyna lichen	*Hypotrachyna oostingii*								NI			MIIH						
fungi	Virginia hypotrachyna lichen	*Hypotrachyna virginica*				MIIH				NI			MIIH						
plant - vascular	longstalk holly	*Ilex collina*								NI									

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	yellow anisetree	*Illicium parviflorum*					MIIH												
plant - vascular	narrowleaf morning-glory	*Ipomoea shumardiana*													NI				
plant - vascular	thin-wall quillwort	*Isoetes microvela*											MIIH						
plant - vascular	Tennessee quillwort	*Isoetes tennesseensis*				MIIH													
plant - vascular	butternut	*Juglans cinerea*	NI	NI	MIIH	MIIH			NI	NI		NI	MIIH	NI		NI			
plant - vascular	thickleaf water-willow	*Justicia crassifolia*					MIIH												
plant - vascular	pineland bogbutton	*Lachnocaulon digynum*	NI				MIIH	NI	NI						NI				
plant - vascular	golden gladecress	*Leavenworthia aurea*									NI								
fungi	a lichen	*Lecanora masana*								NI			MIIH						
plant - non-vascular	a liverwort	*Lejeunea blomquistii*			MIIH	MIIH							MIIH						
plant - non-vascular	a liverwort	*Lejeunea dimorphophylla*											MIIH						
fungi	Appalachian dust bunnies	*Lepraria lanata*											MIIH						
plant - non-vascular	leptodontium moss	*Leptodontium excelsum*				MIIH							MIIH						
plant - non-vascular	Sharp's leptohymenium moss	*Leptohymenium sharpii*											MIIH						
plant - non-vascular	a liverwort	*Leptoscyphus cuneifolius*								NI									
plant - vascular	threadleaf bladderpod	*Lesquerella angustifolia*									NI								
plant - vascular	Gulf blazing star	*Liatris tenuis*						NI							NI				
plant - vascular	turgid blazing star	*Liatris turgida*								NI			MIIH						
plant - vascular	Gray's lily	*Lilium grayi*				MIIH				NI			MIIH						
plant - vascular	panhandle lily	*Lilium iridollae*	NI																
plant - vascular	bog spicebush	*Lindera subcoriacea*	NI						NI				MIIH						
plant - vascular	Spring Hill flax	*Linum macrocarpum*	NI						NI										
plant - vascular	West's flax	*Linum westii*					MIIH												
plant - vascular	pondspice	*Litsea aestivalis*					MIIH						MIIH						
plant - non-vascular	a liverwort	*Lophocolea appalachiana*				MIIH							MIIH						
plant - vascular	Heller's bird's-foot trefoil	*Lotus unifoliolatus var. helleri*			MIIH								MIIH						
plant - vascular	Fraser's yellow loosestrife	*Lysimachia fraseri*	NI		MIIH	MIIH							MIIH	NI		NI			
plant - vascular	Curtiss' loosestrife	*Lythrum curtissii*					MIIH												
plant - vascular	flameflower	*Macranthera flammea*	NI				MIIH		NI										
plant - vascular	Ashe's magnolia	*Magnolia ashei*					MIIH												
plant - vascular	broadleaf Barabara's buttons	*Marshallia trinervia*	NI					NI	NI										
fungi	Culberson's black-parmelia	*Melanelia culbersonii*								NI									

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - non-vascular	a liverwort	*Metzgeria furcata var. setigera*											MIIH						
plant - vascular	Godfrey's stitchwort	*Minuartia godfreyi*	NI																
plant - vascular	pygmypipes	*Monotropsis odorata*	NI	NI	MIIH	MIIH				NI			MIIH	NI					
plant - vascular	Florida pygmypipes	*Monotropsis reynoldsiae*					MIIH												
fungi	a lichen	*Mycoporum biseptalum*											MIIH						
plant - vascular	loose watermilfoil	*Myriophyllum laxum*	NI				MIIH		NI				MIIH						
plant - vascular	needleleaf waternymph	*Najas filifolia*					MIIH												
plant - non-vascular	a liverwort	*Nardia lescurii*		NI	MIIH	MIIH				NI			MIIH						
plant - vascular	fallflowering plantleaf	*Nemastylis floridana*					MIIH												
plant - vascular	Alabama snow-wreath	*Neviusia alabamensis*	NI									NI							
plant - vascular	Florida beargrass	*Nolina atopocarpa*					MIIH												
plant - non-vascular	oncophorus moss	*Oncophorus raui*		NI															
plant - vascular	piedmont ragwort	*Packera millefolium*			MIIH					NI			MIIH						
plant - vascular	serpentine ragwort	*Packera serpenticola*											MIIH						
plant - vascular	Carolina grass of Parnassus	*Parnassia caroliniana*					MIIH												
plant - vascular	largeleaf grass of Parnassus	*Parnassia grandifolia*			MIIH	MIIH	MIIH	NI	NI	NI		NI	MIIH						
plant - vascular	Canby's mountain lover	*Paxistima canbyi*		NI						NI									
plant - vascular	oceanblue phacelia	*Phacelia ranunculacea*														NI			
plant - vascular	swordleaf phlox	*Phlox buckleyi*								NI									
plant - vascular	pineland false sunflower	*Phoebanthus tenuifolius*	NI				MIIH												
fungi	rosette lichen	*Physcia pseuodspeciosa*											MIIH						
plant - vascular	Godfrey's false dragonhead	*Physostegia godfreyi*					MIIH												
fungi	Appalachian matchsticks	*Pilophorus fibula*											MIIH						
plant - vascular	fevertree	*Pinckneya bracteata*					MIIH												
plant - vascular	Chapman's butterwort	*Pinguicula planifolia*	NI				MIIH		NI										
plant - vascular	southern butterwort	*Pinguicula primuliflora*	NI						NI										
plant - vascular	zigzag silkgrass	*Pityopsis flexuosa*					MIIH												
plant - non-vascular	a liverwort	*Plagiochila austinii*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Plagiochila caduciloba*			MIIH	MIIH							MIIH	NI					
plant - non-vascular	a liverwort	*Plagiochila corniculata*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Plagiochila eurphyllon ssp. echinata*				MIIH							MIIH						
plant - non-vascular	a liverwort	*Plagiochila sharpii*											MIIH						
plant - non-vascular	a liverwort	*Plagiochila sullivantii*		NI		MIIH				NI			MIIH						

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - non-vascular	a liverwort	*Plagiochila virginica*				MIIH				NI			MIIH						
plant - non-vascular	Carolina plagiomnium moss	*Plagiomnium carolinianum*				MIIH							MIIH						
plant - vascular	yellow fringeless orchid	*Platanthera integra*	NI				MIIH	NI	NI				MIIH		NI				
plant - non-vascular	Pringle's platyhypnidium moss	*Platyhypnidium pringlei*											MIIH						
plant - vascular	bog bluegrass	*Poa paludigena*								NI									
plant - non-vascular	Rabun bald feathermoss	*Pohlia rabunbaldensis*			MIIH								MIIH						
plant - vascular	Hooker's milkwort	*Polygala hookeri*	NI				MIIH		NI				MIIH						
plant - vascular	Georgia milkwort	*Polygala leptostachys*					MIIH		NI										
plant - vascular	Cossatot Mountain leafcup	*Polymnia cossatotensis*									NI								
plant - non-vascular	Appalachian polytrichum moss	*Polytrichum appalachianum*											MIIH						
plant - non-vascular	a liverwort	*Porella japonica ssp. appalachiana*				MIIH							MIIH						
plant - vascular	Hill's pondweed	*Potamogeton hillii*								NI									
plant - vascular	Tennessee pondweed	*Potamogeton tennesseensis*				MIIH				NI									
plant - vascular	barbed rattlesnakeroot	*Prenanthes barbata*						NI							NI	NI			
plant - vascular	nodding rattlesnakeroot	*Prenanthes crepidinea*		NI												NI			
plant - vascular	giant orchid	*Pteroglossaspis ecristata*					MIIH	NI	NI										
plant - vascular	stone mountainmint	*Pycnanthemum curvipes*			MIIH	MIIH													
plant - vascular	Florida mountainmint	*Pycnanthemum floridanum*					MIIH												
plant - vascular	Torrey's mountainmint	*Pycnanthemum torrei*								NI			MIIH						
plant - vascular	mapleleaf oak	*Quercus acerifolia*									NI	NI							
plant - vascular	Arkansas oak	*Quercus arkansana*	NI					NI											
plant - vascular	Oglethorpe oak	*Quercus oglethorpensis*			MIIH				NI					NI					
plant - non-vascular	a liverwort	*Radula sullivantii*	NI			MIIH							MIIH	NI					
plant - non-vascular	a liverwort	*Radula tenax*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Radula voluta*				MIIH							MIIH						
plant - vascular	white meadowbeauty	*Rhexia parviflora*	NI				MIIH												
plant - vascular	panhandle meadowbeauty	*Rhexia salicifolia*	NI				MIIH												
plant - vascular	orange azalea	*Rhododendron austrinum*	NI				MIIH												
plant - vascular	Santee azalea	*Rhododendron eastmanii*												NI					
plant - vascular	pinkshell azalea	*Rhododendron vaseyi*											MIIH						
plant - vascular	mosquito beaksedge	*Rhynchospora crinipes*	NI				MIIH		NI										

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	shortbristle beaksedge	*Rhynchospora galeana*					MIIH						MIIH						
plant - vascular	large beaksedge	*Rhynchospora macra*					MIIH	NI	NI				MIIH		NI				
plant - vascular	coastal beaksedge	*Rhynchospora pleiantha*	NI				MIIH						MIIH						
plant - non-vascular	a liverwort	*Riccardia jugata*				MIIH							MIIH						
fungi	a lichen	*Rinodina chrysomeleana*			MIIH	MIIH													
plant - vascular	Hartweg's locust	*Robinia hartwegii*											MIIH						
plant - vascular	earned coneflower	*Rudbeckia auriculata*	NI																
plant - vascular	sunfacing coneflower	*Rudbeckia heliopsidis*	NI											NI					
plant - vascular	roughleaf coneflower	*Rudbeckia scabrifolia*						NI							NI				
plant - vascular	browneyed Susan	*Rudbeckia triloba var. pinnatiloba*				MIIH							MIIH						
plant - vascular	nightflowering wild petunia	*Ruellia noctiflora*	NI				MIIH		NI										
plant - vascular	Florida willow	*Salix floridana*					MIIH												
plant - vascular	mountain purple pitcherplant	*Sarracenia purpurea var. montana*											MIIH						
plant - vascular	Carolina saxifrage	*Saxifraga caroliniana*				MIIH							MIIH						
plant - vascular	bay starvine	*Schisandra glabra*	NI	NI	MIIH			NI	NI			NI							
plant - non-vascular	lanceleaf schlotheimia moss	*Schlotheimia lancifolia*											MIIH						
plant - vascular	Texas sunnybell	*Schoenolirion wrightii*						NI							NI				
plant - vascular	Hall's bulrush	*Schoenoplectus hallii*													NI				
plant - non-vascular	cataract scopelophila moss	*Scopelophila cataractae*		NI									MIIH						
plant - vascular	Blue Ridge skullcap	*Scutellaria arguta*		NI		MIIH							MIIH						
plant - vascular	smooth rock skullcap	*Scutellaria saxatilis*		NI		MIIH				NI			MIIH						
plant - vascular	Nevius' stonecrop	*Sedum nevii*	NI			MIIH													
plant - vascular	Oconee bells	*Shortia galacifolia*			MIIH	MIIH							MIIH	NI					
plant - vascular	Blue Ridge catchfly	*Silene ovata*		NI	MIIH	MIIH				NI		NI	MIIH						
plant - vascular	royal catchfly	*Silene regia*	NI									NI							
plant - vascular	Louisiana catchfly	*Silene subciliata*						NI							NI				
plant - vascular	tansy rosinweed	*Silphium pinnatifidum*														NI			
plant - vascular	Appalachian rosinweed	*Silphium wasiotense*		NI															
plant - vascular	whitehair goldenrod	*Solidago albopilosa*		NI															
plant - vascular	Quachita Mountain goldenrod	*Solidago ouachitensis*									NI	NI							
plant - vascular	plumed goldenrod	*Solidago plumosa*											MIIH						
plant - vascular	fall goldenrod	*Solidago simulans*			MIIH								MIIH						
plant - vascular	springflowering goldenrod	*Solidago verna*											MIIH						
plant - non-vascular	sphagnum	*Sphagnum flavicomans*				MIIH				NI			MIIH						
plant - non-vascular	a liverwort	*Sphenolobopsis pearsonii*				MIIH				NI			MIIH						

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	Texas lady's tresses	*Spiranthes brevilabris*													NI				
plant - vascular	Eaton's lady's tresses	*Spiranthes eatonii*											MIIH						
plant - vascular	giantspiral lady's tresses	*Spiranthes longilabris*					MIIH		NI				MIIH						
plant - vascular	Curtis' dropseed	*Sporobolus curtissii*	NI				MIIH												
plant - vascular	Clingman's hedgenettle	*Stachys clingmanii*				MIIH							MIIH						
fungi	Tennessee snow lichen	*Stereocaulon tennesseense*			MIIH	MIIH							MIIH						
fungi	spotted felt lichen	*Sticta limbata*											MIIH						
plant - vascular	pineoak jewelflower	*Streptanthus squamiformis*									NI								
plant - vascular	showy dawnflower	*Stylisma abdita*					MIIH												
plant - vascular	Georgia aster	*Symphyotrichum georgianum*	NI		MIIH								MIIH	NI					
plant - vascular	Rhiannon aster	*Symphyotrichum rhiannon*											MIIH						
plant - vascular	quill fameflower	*Talinum teretifolium*		NI	MIIH					NI			MIIH						
plant - non-vascular	Sharp's pouncewort	*Taxilejeunea sharpii*				MIIH													
plant - non-vascular	taxiphyllum moss	*Taxiphyllum alternans*											MIIH						
plant - vascular	Arkansas meadow-rue	*Thalictrum arkansanum*									NI								
plant - vascular	cutleaf meadowparsnip	*Thaspium pinnatifidum*	NI	NI		MIIH							MIIH						
plant - vascular	ashleaf goldenbanner	*Thermopsis fraxinifolia*			MIIH	MIIH							MIIH						
plant - vascular	Allegheny Mountain goldenbanner	*Thermopsis mollis*		NI		MIIH				NI			MIIH	NI					
plant - vascular	Aaron's rod	*Thermopsis villosa*			MIIH								MIIH						
plant - vascular	Ozark spiderwort	*Tradescantia ozarkana*									NI	NI							
plant - vascular	Kates Mountain clover	*Trifolium virginicum*								NI									
plant - vascular	trailing wakerobin	*Trillium decumbens*	NI			MIIH													
plant - vascular	delicate trillium	*Trillium delicatum*			MIIH														
plant - vascular	mottled wakerobin	*Trillium discolor*			MIIH								MIIH	NI					
plant - vascular	lanceleaf wakerobin	*Trillium lancifolium*			MIIH									NI					
plant - vascular	Ozark wakerobin	*Trillium pusillum var. ozarkanum*									NI	NI							
plant - vascular	jeweled wakerobin	*Trillium simile*			MIIH	MIIH							MIIH	NI					
plant - vascular	Texas wakerobin	*Trillium texanum*													NI				
plant - vascular	threebirds	*Triphora trianthophora var. texensis*													NI				
plant - vascular	Carolina hemlock	*Tsuga caroliniana*				MIIH				NI			MIIH						
fungi	beard lichen	*Usnea angulata*											MIIH						
plant - vascular	Florida bellwort	*Uvularia floridana*	NI				MIIH		NI										
plant - vascular	Nutall's cornsalad	*Valerianella nuttallii*									NI	NI							
plant - vascular	Benjamin Franklin bush	*Valerianella ozarkana*										NI							
plant - vascular	Palmer's cornsalad	*Valerianella palmeri*									NI								
plant - vascular	diverseleaf crownbeard	*Verbesina heterophylla*					MIIH												

category	Common name	Scientific name	NFs of Alabama	Daniel Boone	Chattahoochee-Oconee	Cherokee	NFs of Florida	Kisatchie	NFs of Mississppi	George Washington and Jefferson	Ouachita	Ozark	NFs of North Carolina	Sumter	NF&G of Texas	Land Between the Lakes	El Junque	Savannah River	Comments
plant - vascular	narrowleaf ironweed	*Vernonia lettermannii*									NI								
plant - vascular	Ocala vetch	*Vicia ocalensis*					MIIH												
plant - vascular	sand grape	*Vitis rupestris*		NI						NI	NI								
plant - vascular	piedmont barren strawberry	*Waldsteinia lobata*			MIIH								MIIH	NI					
fungi	xanthoparmelia lichen	*Xanthoparmelia monticola*											MIIH						
plant - vascular	Drummond's yelloweyed grass	*Xyris drummondii*	NI				MIIH	NI	NI						NI				
plant - vascular	quillwort yelloweyed grass	*Xyris isoetifolia*	NI				MIIH												
plant - vascular	Kral's yelloweyed grass	*Xyris longisepala*	NI				MIIH												
plant - vascular	Louisiana yelloweyed grass	*Xyris louisianica*					MIIH	NI											
plant - vascular	Harper's yelloweyed grass	*Xyris scabrifolia*	NI				MIIH	NI	NI						NI				

Version 7/3/2023

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Deam's copperleaf	*Acalypha deamii*														NI	
plant - vascular	Blue Monkshood	*Aconitum uncinatum*						NI									
plant - vascular	Appalachian Bugbane	*Actaea rubifolia (=Cimicifuga rubifolia)*												NI			
plant - vascular	red baneberry	*Actaea rubra*	NI														
plant - vascular	Climbing Fumitory	*Adlumia fungosa*					NI										NI
plant - vascular	small-flower false foxglove	*Agalinia pauperculs var. paupercula*				NI											
plant - vascular	Earleaf False Foxglove	*Agalinis auriculata*									NI						
plant - vascular	Skinner's False Foxglove	*Agalinis skinneriana*								MIIH							
plant - vascular	yellow giant-hyssop	*Agastache nepetoides*				NI											
plant - vascular	Pale False-dandelion	*Agoseris glauca*							NI								
plant - vascular	woodland agrimony	*Agrimonia rostellata*				NI											
plant - vascular	northern bentgrass	*Agrostis mertensii*										NI					
plant - vascular	Allegheny Onion	*Allium allegheniense*										NI					
plant - vascular	Nodding Onion	*Allium cernuum*				NI											
plant - vascular	Lillydale Onion	*Allium oxyphilum*										NI					
fungi	yellow ribbon lichen	*Allocetraria oakesiana*													MIIH		
plant - vascular	Bartram Shadbush	*Amelanchier bartramiana*	NI									NI					
plant - vascular	Roundleaf Orchid	*Amerorchis rotundifolia*		NI			NI										
plant - vascular	Smooth False Indigo	*Amorpha nitens*												NI			
fungi	powdery almond lichen	*Amygdalaria panaeola*													MIIH		
plant - vascular	Wood Anemone	*Anemone quinquefolia*								MIIH							
plant - vascular	second rock-cress	*Arabis holboellii var. retrofracta*													MIIH		

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	smooth rock-cress	*Arabis laevigata*															NI
plant - vascular	green rock-cress	*Arabis missouriensis*															NI
plant - vascular	Missouri rock-cress	*Arabis missouriensis v. deamii*		NI					NI								
plant - vascular	Spreading Rockcress	*Arabis patens*										NI					
plant - vascular	Eastern Dwarf-mistletoe	*Arceuthobium pusillum*				NI											
plant - vascular	Alpine Manzanita	*Arctostaphylos alpina*															NI
plant - vascular	Dragon's Mouth	*Arethusa bulbosa*															NI
plant - vascular	Arnica	*Arnica lanceolata*															NI
plant - vascular	Northern Arnica	*Arnica lonchophylla*													MIIH		
plant - vascular	black chokeberry	*Aronia melanocarpa*												NI			
plant - vascular	Poke Milkweed	*Asclepias exaltata*				NI											
plant - vascular	green milkweed	*Asclepias hirtella*							NI								
plant - vascular	dwarf milkweed	*Asclepias ovalifolia*							NI								
plant - vascular	Purple Milkweed	*Asclepias purpurascens*							NI								
plant - vascular	butterfly milkweed	*Asclepias tuberosa*				NI											
plant - vascular	Bradley's Spleenwort	*Asplenium bradleyi*												NI			
plant - vascular	Black-stem Spleenwort	*Asplenium resiliens*												NI			
plant - vascular	Walking-fern Spleenwort	*Asplenium rhizophyllum*					NI										
plant - vascular	Maidenhair Spleenwort	*Asplenium trichomanes*													MIIH		
plant - vascular	Green Spleenwort	*Asplenium trichomanes-ramosum*		NI													
plant - vascular	Alpine Milkvetch	*Astragalus alpinus*		NI											MIIH		
plant - vascular	Canadian Milkvetch	*Astragalus canadensis*					NI		NI				NI			NI	

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Cooper's Milkvetch	*Astragalus neglectus*					NI					NI	NI				
plant - vascular	Robbins' Milkvetch	*Astragalus robbinsii var. minor*															NI
plant - vascular	Ozark milkvetch	*Astragalus distortus var. distortus*										NI					
plant - vascular	smooth yellow false foxglove	*Aureolaria flava*				NI											
plant - vascular	Fernleaf Yellow False Foxglove	*Aureolaria pedicularia*				NI										NI	
fungi	Pink Dot Lichen	*Baeomyces (=Dibaeis) absoluta*						NI									
plant - vascular	Blue Wild Indigo	*Baptisia australis var. australis*	NI									NI					
plant - vascular	Yellow Wild Indigo	*Baptisia tinctoria*				NI											
plant - vascular	Twining Screwstem	*Bartonia paniculata*								MIIH				NI			
plant - vascular	American Sloughgrass	*Beckmannia syzigachne*					NI										
plant - vascular	supplejack	*Berchimia scandens*												NI			
plant - vascular	Wild Parsnip	*Berula erecta*							NI								
plant - vascular	Dwarf White Birch	*Betula minor*															NI
plant - vascular	Hairy Woodmint	*Blephilia hirsuta*				NI											
plant - vascular	Drummond's rockcress	*Boechera stricta*				NI											
plant - vascular	Trianglelobe Moonwort	*Botrychium ascendens*			MIIH												
plant - vascular	Sparse-lobe Grapefern	*Botrychium biternatum*												NI		NI	
plant - vascular	Prairie Dunewort	*Botrychium campestre*			MIIH		NI										
plant - vascular	Scalloped Moonwort	*Botrychium crenulatum*			MIIH												
plant - vascular	western moonwort	*Botrychium hesperium*					NI						NI		MIIH		
plant - vascular	Lanceleaf Grapefern	*Botrychium lanceolatum var. angustisegmentum*	NI		MIIH							NI			MIIH		

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Common Moonwort	*Botrychium lunaria*			MIIH										MIIH		
plant - vascular	Mingan Moonwort	*Botrychium minganense*		NI	MIIH								NI				
plant - vascular	Little Goblin Moonwort	*Botrychium mormo*		NI	MIIH		NI		NI				NI		MIIH		
plant - vascular	leathery grapefern	*Botrychium multifidum*				NI											
plant - vascular	Bluntlobe Grapefern	*Botrychium oneidense*	NI	NI	MIIH	NI	NI		NI				NI				
plant - vascular	Pale Moonwort	*Botrychium pallidum*		NI	MIIH		NI										
plant - vascular	Ternate Grapefern	*Botrychium rugulosum*		NI			NI		NI				NI				
plant - vascular	Least Grapefern	*Botrychium simplex*											NI				
plant - vascular	little grapefern	*Botrychium simplex var. tenebrosum*	NI														
plant - vascular	Spoon-leaf Moonwort	*Botrychium spathulatum*					NI										
plant - vascular	Sideoats Grama	*Bouteloua curtipendula*							NI								
plant - vascular	Nottoway Brome Grass	*Bromus nottowayanus*												NI			
fungi	pale-footed horsehair lichen	*Bryoria fuscescens*			MIIH												
plant - non-vascular	Norway Bryoxiphium Moss	*Bryoxiphium norvegicum*						NI									
plant - vascular	Bluehearts	*Buchnera americana*						NI						NI			
plant - vascular	blue-joint reedgrass	*Calamagrostis canadensis var. langsdorffii*															NI
plant - vascular	Ofer Hollow Reedgrass	*Calamagrostis porteri ssp. insperata*								MIIH				NI			
plant - vascular	Porter's Reedgrass	*Calamagrostis porteri ssp. porteri*						NI									
plant - vascular	purple reedgrass	*Calamagrostis purpurascens*													MIIH		
plant - vascular	New England Northern Reed Grass	*Calamagrostis stricta ssp. inexpansa*				NI							NI				
plant - vascular	Bush's Poppy-mallow	*Callirhoe bushii*								MIIH							

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Autumnal Water-starwort	*Callitriche hermaphroditica*		NI			NI						NI				
plant - vascular	Twoheaded Water-starwort	*Callitriche heterophylla*		NI		NI									MIIH		
fungi	firedot lichen species	*Caloplaca parvula*		NI			NI						NI		MIIH		
plant - vascular	Floating Marsh-marigold	*Caltha natans*													MIIH		
plant - vascular	Fairy Slipper	*Calypso bulbosa*		NI	MIIH		NI						NI				
plant - vascular	Marsh Bellflower	*Campanula aparinoides*								MIIH							
plant - non-vascular	rock-loving swan-necked moss	*Campylostelium saxicola*														NI	
plant - vascular	Alpine Bittercress	*Cardamine bellidifolia*															NI
plant - vascular	Cutleaf Toothwort	*Cardamine concatenata*															NI
plant - vascular	Large Toothwort	*Cardamine maxima*				NI							NI				
plant - vascular	Sand Bittercress	*Cardamine parviflora var. arenicola*				NI											
plant - vascular	Cuckoo-flower	*Cardamine pratensis*													MIIH		
plant - vascular	Cuckoo-flower	*Cardamine pratensis var. pratensis*			MIIH												
plant - vascular	Summer Sedge	*Carex aestivalis*				NI											
plant - vascular	Winged Sedge	*Carex alata*												NI			
plant - vascular	Water Sedge	*Carex aquatilis var. aquatilis*				NI				MIIH							
plant - vascular	Hay Sedge	*Carex argyrantha*				NI											
plant - vascular	Awned Sedge	*Carex atherodes*	NI														
plant - vascular	Star Sedge	*Carex atlantica*								MIIH				NI			
plant - vascular	Atlantic sedge	*Carex atlantica spp. Atlantica*								MIIH							
plant - vascular	black sedge	*Carex atratiformis*															NI
plant - vascular	Rocky Mountain Sedge	*Carex backii*		NI		NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Bailey's Sedge	*Carex baileyi*															NI
plant - vascular	Bigelow's Sedge	*Carex bigelowii*				NI											
plant - vascular	Bromelike Sedge	*Carex bromoides*												NI			
plant - vascular	Buxbaum's Sedge	*Carex buxbaumii*								MIIH							
plant - vascular	hairlike sedge	*Carex capillaris*															NI
plant - vascular	Capitate Sedge	*Carex capitata ssp. arctogena*															NI
plant - vascular	Cherokee Sedge	*Carex cherokeensis*												NI			
plant - vascular	Beautiful Sedge	*Carex concinna*					NI										
plant - vascular	northern sedge	*Carex cryptolepis*				NI											
plant - vascular	Clustered Sedge	*Carex cumulata*															NI
plant - vascular	Cypressknee Sedge	*Carex decomposita*												NI			
plant - vascular	Hammock Sedge	*Carex fissa var. fissa*								MIIH							
plant - vascular	Dryspike Sedge	*Carex foenea*				NI											
plant - vascular	Frank's sedge	*Carex frankii*				NI											
plant - vascular	Giant Sedge	*Carex gigantea*								MIIH				NI		NI	
plant - vascular	Graceful Sedge	*Carex gracillima*								MIIH							
plant - vascular	Hudson Bay Sedge	*Carex heleonastes*					NI										
plant - vascular	pubescent sedge	*Carex hirtifolia*															NI
plant - vascular	greater bladder sedge	*Carex intumescens*												NI			
plant - vascular	Juniper Sedge	*Carex juniperorum*														NI	
plant - vascular	Broad Looseflower sedge	*Carex laxiflora var. laxiflora*								MIIH							
plant - vascular	Shore Sedge	*Carex lenticularis*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Livid Sedge	*Carex livida var. radicaulis*		NI													
plant - vascular	Louisiana Sedge	*Carex louisianica*														NI	
plant - vascular	blue sedge	*Carex lucorum var. austrolucorum*										NI					
plant - vascular	False Hop Sedge	*Carex lupuliformis*							NI					NI			
plant - vascular	Boreal Bog Sedge	*Carex magellanica ssp.irrigua*	NI														
plant - vascular	Michaux's Sedge	*Carex michauxiana*		NI		NI											
plant - vascular	Black-edge Sedge	*Carex nigromarginata*												NI			
plant - vascular	New England Sedge	*Carex novae-angliae*					NI								MIIH		
plant - vascular	Fewseed Sedge	*Carex oligosperma*				NI											
plant - vascular	Sharp-scale Sedge	*Carex oxylepis var. pubescens*								MIIH				NI			
plant - vascular	Drooping Sedge	*Carex prasina*												NI			
plant - vascular	northern meadow sedge	*Carex praticola*													MIIH		
plant - vascular	Richardson's Sedge	*Carex richardsonii*					NI										
plant - vascular	Roan Mountain Sedge	*Carex roanensis*										NI					
plant - vascular	Short Sedge	*Carex rossii*													MIIH		
plant - vascular	Schweinitz's Sedge	*Carex schweinitzii*				NI			NI								
plant - vascular	Bulrush Sedge	*Carex scirpoidea*				NI	NI										NI
plant - vascular	Dioecious Sedge	*Carex sterilis*								MIIH							
plant - vascular	Straw Sedge	*Carex straminea*								MIIH							
plant - vascular	weak arctic sedge	*Carex supina var spaniocarpa*													MIIH		
plant - vascular	Many-headed Sedge	*Carex sychnocephala*		NI													
plant - vascular	Rigid Sedge	*Carex tetanica*								MIIH							

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Hairy-fruit Sedge	*Carex trichocarpa*								MIIH							
plant - vascular	Wiegand's Sedge	*Carex wiegandii*				NI											NI
plant - vascular	Willdenow's Sedge	*Carex willdenowii*								MIIH							
plant - vascular	Pretty Sedge	*Carex woodii*								MIIH							
plant - vascular	white-scaled sedge	*Carex xerantica*													MIIH		
plant - vascular	sweet pignut hickory	*Carya glabra*				NI											
plant - vascular	sand hickory	*Carya pallida*												NI			
plant - vascular	Ozark Chinquapin	*Castanea pumila var. ozarkensis*								MIIH							
plant - vascular	pale painted cup	*Castilleja septentrionalis*															NI
plant - vascular	Prickly Hornwort	*Ceratophyllum echinatum*				NI											
fungi	eastern candlewax lichen	*Cetraria (=Ahtiana) aurescens*		NI			NI										
plant - vascular	Blazing Star	*Chamaelirium luteum*	NI											NI			
plant - vascular	Rose Turtlehead	*Chelone obliqua var. speciosa*												NI			
plant - vascular	Fogg's Goosefoot	*Chenopodium foggii*															NI
plant - vascular	spotted wintergreen	*Chimaphila maculata*												NI			
plant - vascular	fringetree	*Chionanthus virginicus*														NI	
plant - vascular	Carolina Thistle	*Cirsium carolinianum*												NI		NI	
plant - vascular	Hill's Thistle	*Cirsium hillii*							NI		NI						
fungi	Wain's Cup Lichen	*Cladonia wainioi*													MIIH		
plant - vascular	Yellow-wood	*Cladrastis kentukea*												NI			
plant - vascular	western blue virginsbower (PKA: Purple Clematis)	*Clematis occidentalis var. occidentalis*				NI						NI					
plant - vascular	Canada Horse-balm	*Collinsonia canadensis*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Squaw-root	*Conopholis americana*				NI											
plant - vascular	Bentley's Coralroot	*Corallorhiza bentleyi*										NI					
plant - vascular	Autumn Coralroot	*Corallorhiza odontorhiza*	NI														NI
plant - vascular	Roundleaf Dogwood	*Cornus rugosa*										NI					
plant - vascular	Douglas' Hawthorn	*Crataegus douglasii*					NI										
plant - vascular	A Hawthorn	*Crataegus intricata (syn = C. boyntonii)*				NI											
plant - vascular	Fragile Rockbrake	*Cryptogramma stelleri*				NI	NI										
plant - vascular	Northern Wild Comfrey	*Cynoglossum virginianum var. boreale*							NI								
plant - vascular	Finger Dog-shade	*Cynosciadium digitatum*												NI			
plant - vascular	manyflower flatsedge	*Cyperus lancastriensis*												NI			
plant - vascular	Ram's-head Lady's-slipper	*Cypripedium arietinum*		NI	MIIH		NI		NI				NI		MIIH		
plant - vascular	Small White Lady's-slipper	*Cypripedium candidum*									NI						
plant - vascular	smaller yellow lady's slipper	*Cypripedium parviflorum var. makasin*											NI				
plant - vascular	Greater Yellow Lady's-slipper	*Cypripedium parviflorum var. pubescens*				NI		NI					NI	NI			NI
plant - vascular	Showy Lady's-slipper	*Cypripedium reginae*				NI						NI	NI				
plant - vascular	St. Lawrence Bladderfern	*Cystopteris laurentiana*					NI								MIIH		
plant - vascular	long-bracted green orchid	*Dactylorhiza viridis*				NI											
plant - vascular	Robin Runaway	*Dalibarda repens*							NI								
plant - vascular	Tall Larkspur	*Delphinium exaltatum*										NI					
plant - vascular	Eastern Hay-scented Fern	*Dennstaedtia punctilobula*												NI			

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
fungi	shag-belly stippleback lichen	*Dermatocarpon moulinsii*													MIIH		
plant - vascular	Tufted Hairgrass	*Deschampsia cespitosa*	NI														
plant - vascular	wavy hairgrass	*Deschampsia flexuosa*													MIIH		
plant - vascular	Eastern Trailing Ticktrefoil	*Desmodium humifusum*						NI									
plant - vascular	Panicledleaf Ticktrefoil	*Desmodium paniculatum*				NI											
plant - vascular	Perplexed Ticktrefoil	*Desmodium perplexum*				NI											
plant - vascular	American Beakgrain	*Diarrhena americana*								MIIH							
plant - vascular	Cypress Panicgrass	*Dichanthelium dichotomum var. dichotomum*						NI									
plant - vascular	a rosette grass	*Dichanthelium joorii*												NI			
plant - vascular	Ravenel's Witchgrass	*Dichanthelium ravenelii*												NI			
plant - vascular	Yadkin's panicgrass	*Dichanthelium yadkinense*												NI			
plant - non-vascular	Dichelyma Moss	*Dichelyma capillaceum*								MIIH						NI	
plant - vascular	Glade Fern	*Diplazium pycnocarpon*		NI		NI											
plant - vascular	eastern leatherwood	*Dirca palustris*												NI			
plant - vascular	French's Shootingstar	*Dodecatheon frenchii*						NI						NI			
plant - vascular	Open-ground Whitlow-grass	*Draba aprica*								MIIH							
plant - vascular	Rock Whitlow-grass	*Draba arabisans*				NI											
plant - vascular	hoary draba	*Draba breweri var. cana*													MIIH		
plant - vascular	English Sundew	*Drosera anglica*					NI										
plant - vascular	Slenderleaf Sundew	*Drosera linearis*													MIIH		
plant - vascular	Mountain Woodfern	*Dryopteris campyloptera*	NI														

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Log Fern	*Dryopteris celsa*								MIIH							
plant - vascular	Spreading Woodfern	*Dryopteris expansa*		NI			NI										
plant - vascular	Male Fern	*Dryopteris filix-mas*		NI		NI	NI										
plant - vascular	Fragrant Fern	*Dryopteris fragrans var. remotiuscula*															NI
plant - vascular	Goldie's Woodfern	*Dryopteris goldiana*			MIIH				NI	MIIH				NI			NI
plant - vascular	Purple Spikerush	*Eleocharis atropurpurea*							NI								
plant - vascular	Flat-stem Spikerush	*Eleocharis compressa*					NI										
plant - vascular	Engelmann's Spikerush	*Eleocharis engelmannii*							NI								
plant - vascular	Matted Spikerush	*Eleocharis intermedia*				NI											
plant - vascular	Daggerleaf Spikerush	*Eleocharis lanceolata*								MIIH							
plant - vascular	small-fruited spikerush	*Eleocharis microcarpa*							NI								
plant - vascular	Bright Green Spikerush	*Eleocharis olivacea*		NI	MIIH	NI									MIIH		
plant - vascular	Ovate pikerush	*Eleocharis ovata*				NI											
plant - vascular	Few-flowered Spikerush	*Eleocharis quinqueflora*		NI	MIIH												
plant - vascular	Three-angle Spikerush	*Eleocharis tricostata*							NI								
plant - vascular	Wolf's Spikerush	*Eleocharis wolfii*												NI			
plant - vascular	Smooth Wild Rye	*Elymus glaucus*					NI										
plant - vascular	Black Crowberry	*Empetrum nigrum*					NI										
plant - vascular	Trailing Arbutus	*Epigaea repens*						NI									
plant - vascular	Marsh Willowherb	*Epilobium palustre*				NI											
plant - vascular	Marsh Horsetail	*Equisetum palustre*		NI													
plant - vascular	Meadow Horsetail	*Equisetum pratense*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	bitter fleabane	*Erigeron acris*													MIIH		
plant - vascular	Daisy Fleabane	*Erigeron hyssopifolius*					NI										
plant - vascular	Shale barren Buckwheat	*Eriogonum allenii*										NI					
plant - vascular	Russet Cotton-grass	*Eriophorum chamissonis*		NI													
plant - vascular	Rough Cotton-grass	*Eriophorum tenellum*	NI			NI											
plant - vascular	creeping eryngo	*Eryngium prostratum*												NI			
plant - vascular	sanddune wallflower	*Erysimum capitatum var. capitatum*										NI					
plant - vascular	White Fawnlily	*Erythronium albidum*	NI		MIIH								NI				
plant - vascular	American Strawberry-bush	*Euonymus americanus*								MIIH							
plant - vascular	White Thoroughwort	*Eupatorium album*						NI									
plant - vascular	Hyssopleaf Thoroughwort	*Eupatorium hyssopifolium var. hyssopifolium*												NI			
plant - vascular	Sweet Joe-pyeweed	*Eupatorium purpureum (=Eutrochium purpureum)*				NI											
plant - vascular	Small-flower Thoroughwort	*Eupatorium semiserratum*								MIIH							
plant - vascular	Upland Boneset	*Eupatorium sessilifolium*							NI								
plant - vascular	Darlington's glade spurge	*Euphorbia purpurea*										NI					
plant - vascular	Oakes' Eyebright	*Euphrasia oakesii*															NI
plant - vascular	rough wood-aster	*Eurybia radula*				NI											
plant - vascular	Rough Fescue	*Festuca altaica*							NI								
plant - vascular	Cluster Fescue	*Festuca paradoxa*						NI			NI						
plant - vascular	alpine red fescue	*Festuca prolifera*															NI
plant - vascular	Queen-of-the-prairie	*Filipendula rubra*	NI														

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - non-vascular	liverwort species	*Frullania selwyniana*											NI				
plant - vascular	Hairy Umbrella-sedge	*Fuirena squarrosa*							NI								
plant - vascular	Showy Orchid	*Galearis spectabilis*	NI						NI				NI				
plant - vascular	Boreal Bedstraw	*Galium kamtschaticum*				NI	NI										NI
plant - vascular	Creeping Snowberry	*Gaultheria hispidula*	NI														
plant - vascular	Box Huckleberry	*Gaylussacia brachycera*										NI					
plant - vascular	Yellow Gentian	*Gentiana alba*						NI						NI		NI	
plant - vascular	closed gentian	*Gentiana andrewsii var. andrewsii*								MIIH							
plant - vascular	Bottle Gentian	*Gentiana clausa*				NI											
plant - vascular	narrowleaf gentian	*Gentiana linearis*											NI				
plant - vascular	Striped Gentian	*Gentiana villosa*														NI	
plant - vascular	Northern Comandra	*Geocaulon lividum*															NI
plant - vascular	Mountain Avens	*Geum peckii*															NI
plant - vascular	Prairie-smoke	*Geum triflorum*							NI								
plant - vascular	Pale Avens	*Geum virginianum*								MIIH							
plant - vascular	Arkansas Manna-grass	*Glyceria arkansana*												NI			
plant - vascular	Floating Mannagrass	*Glyceria septentrionalis*				NI											
plant - vascular	lesser-rattlesnake plantain	*Goodyera repens*	NI														
plant - vascular	Checkered Rattlesnake-plantain	*Goodyera tesselata*	NI														
plant - vascular	Quarterman's Hedge-hyssop	*Gratiola quartermaniae*									NI						
plant - vascular	Appalachian Oak Fern	*Gymnocarpium appalachianum*										NI					
plant - vascular	Limestone Oak Fern	*Gymnocarpium robertianum*			MIIH		NI										

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Northern Stickseed	*Hackelia deflexa var. americana*				NI											
plant - non-vascular	spruce stipular flapwort	*Harpanthus scutatus*				NI											
plant - vascular	Mossplant	*Harrimanella hypnoides*															NI
plant - vascular	false indian plantain (PKA: Sweet-scented Indian-plantain)	*Hasteola suaveolens*	NI									NI					
plant - vascular	Swamp Sunflower	*Helianthus angustifolius*								MIIH				NI			
plant - vascular	Ashy Sunflower	*Helianthus mollis*					NI										
plant - vascular	Harsh Sunflower	*Helianthus strumosus*				NI											
plant - vascular	Kidneyleaf Mud-plantain	*Heteranthera reniformis*												NI			
fungi	orange-tinted fringe lichen	*Heterodermia obscurata*			MIIH												
plant - vascular	White Alumroot	*Heuchera alba*										NI					
plant - vascular	little-flowered alumroot	*Heuchera parviflora*														NI	
plant - vascular	Crested Coralroot	*Hexalectris spicata*										NI		NI			
plant - vascular	veiny hawkweed (PKA: Rattlesnakeweed)	*Hieracium venosum*				NI											
plant - vascular	Featherfoil	*Hottonia inflata*								MIIH				NI			
plant - vascular	Appalachian Clubmoss	*Huperzia appalachiana*				NI									MIIH		
plant - vascular	Rock Clubmoss	*Huperzia porophila*												NI	MIIH		
plant - vascular	Fir Clubmoss	*Huperzia selago*		NI			NI		NI				NI				
plant - vascular	Goldenseal	*Hydrastis canadensis*									NI			NI			
plant - vascular	Whorled Marsh-pennywort	*Hydrocotyle verticillata var. verticillata*								MIIH							
plant - vascular	Oneflower False Fiddleleaf	*Hydrolea uniflora*												NI			
plant - vascular	Allegheny Stonecrop	*Hylotelephium telephioides*												NI			

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Creeping St. John's-wort	*Hypericum adpressum*							NI								
plant - vascular	Orange-grass St. John's-wort	*Hypericum gentianoides*							NI								
plant - vascular	Blue Ridge St. John's-wort	*Hypericum mitchellianum*										NI					
plant - vascular	Long-stalk Holly	*Ilex collina*										NI					
plant - vascular	Butler's Quillwort	*Isoetes butleri*									NI						
plant - vascular	Appalachian quillwort	*Isoetes engelmannii*														NI	
plant - vascular	Western Lake quillwort	*Isoetes lacustris*				NI											
plant - vascular	a quillwort	*Isoetes viridimontana*				NI											
plant - vascular	Large Whorled Pogonia	*Isotria verticillata*				NI			NI	MIIH				NI			
plant - vascular	Butternut	*Juglans cinerea*	NI	NI	MIIH	NI	NI	NI	NI	MIIH		NI	NI	NI		NI	NI
plant - vascular	Short-fruit Rush	*Juncus brachycarpus*							NI								
plant - vascular	Thread Rush	*Juncus filiformis*	NI									NI					
plant - vascular	Moor Rush	*Juncus stygius*		NI			NI								MIIH		
plant - vascular	Creeping Rush	*Juncus subtilis*													MIIH		
plant - vascular	Highland Rush	*Juncus trifidus*				NI						NI					
plant - vascular	Vasey's Rush	*Juncus vaseyi*					NI		NI								
plant - vascular	creeping juniper	*Juniperus horizontalis*															NI
plant - vascular	Wild Pea	*Lathyrus venosus*														NI	
fungi	a lichen	*Lecanora epanora*													MIIH		
plant - vascular	Leggett's Pinweed	*Lechea pulchella*							NI								
plant - vascular	Hairy Lespedeza	*Lespedeza hirta*				NI											
plant - vascular	Violet Lespedeza	*Lespedeza violacea*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Large-flowered Ground-cherry	*Leucophysalis grandiflora*		NI													
plant - vascular	American Dunegrass	*Leymus mollis*					NI										
plant - vascular	Nieuwland's Blazing Star	*Liatris scariosa var. nieuwlandii*								MIIH							
plant - vascular	Turgid Blazing Star	*Liatris turgida*										NI					
plant - vascular	Canada Lily	*Lilium canadense*				NI		NI									
plant - vascular	Turk's-cap Lily	*Lilium superbum*								MIIH				NI			
plant - vascular	twinflower	*Linnaea borealis spp. Americana*										NI					
plant - vascular	Grooved Yellow Flax	*Linum sulcatum*							NI			NI					
plant - vascular	Large Twayblade	*Liparis liliifolia*							NI								
plant - vascular	Yellow Widelip Orchid	*Liparis loeselii*								MIIH							
plant - vascular	Dwarf Bulrush	*Lipocarpha micrantha*							NI								
plant - vascular	Auricled Twayblade	*Listera auriculata*					NI								MIIH		NI
plant - vascular	Twayblade	*Listera convallarioides*															NI
plant - vascular	Heartleaf Twayblade	*Listera cordata*										NI					NI
plant - vascular	American Shoregrass	*Littorella uniflora (=L. americana)*		NI	MIIH	NI	NI						NI				
fungi	a lichen	*Lobaria scobiculata*													MIIH		
plant - vascular	Great Blue Lobelia	*Lobelia siphilitica*				NI											
plant - vascular	moutain honeysuckle	*Lonicera dioica var. glaucescens*												NI			
plant - vascular	Yellow Honeysuckle	*Lonicera flava*												NI			
plant - vascular	hairy honeysuckle	*Lonicera hirsuta*				NI											
plant - vascular	Small-fruit Seedbox	*Ludwigia microcarpa*								MIIH							
plant - vascular	Small-flower Woodrush	*Luzula parviflora*					NI								MIIH		

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Northern Prostrate Clubmoss	*Lycopodiella margueritiae*					NI										
plant - vascular	Northern Bog Clubmoss	*Lycopodiella subappressa*							NI								
plant - vascular	Sitka clubmoss	*Lycopodium sitchense*															NI
plant - vascular	Umbrella Magnolia	*Magnolia tripetala*						NI									
plant - vascular	White Adder's-mouth Orchid	*Malaxis brachypoda*			MIIH		NI		NI								
plant - vascular	Bog Adder's-mouth Orchid	*Malaxis paludosa*			MIIH												
plant - vascular	southrn crab apple	*Malus angustifolia*												NI			
plant - vascular	Hispid False Mallow	*Malvastrum hispidum*									NI						
plant - vascular	Monongahela Barbara's-buttons (previously Large-flowered)	*Marshallia grandiflora*										NI					
plant - vascular	Baldwin's Milkvine	*Matelea baldwyniana*								MIIH							
plant - vascular	Smith's Melicgrass	*Melica smithii*		NI													
plant - vascular	creeping cucumber	*Melothria pendula*												NI			
plant - vascular	Bog Buckbean	*Menyanthes trifoliata*										NI					
plant - vascular	Virginia Bluebells	*Mertensia virginica*							NI								
plant - non-vascular	a liverwort	*Metzgeria crassipilis*				NI											
plant - non-vascular	forked veilwort	*Metzgeria furcata*								MIIH							
plant - vascular	Common Large Monkeyflower	*Mimulus guttatus*											NI				
plant - vascular	Pitcher's Stitchwort	*Minuartia patula*									NI						
plant - vascular	Largeleaf Sandwort	*Moehringia macrophylla*		NI									NI		MIIH		
plant - vascular	Smoke Hole Bergamot	*Monarda fistulosa ssp. brevis*										NI					
plant - vascular	Red Mulberry	*Morus rubra*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Soft-leaf Muhly	*Muhlenbergia richardsonis*					NI										
plant - vascular	Bog Muhly	*Muhlenbergia uniflora*											NI				
plant - vascular	low water-milfoil	*Myriophullum humile*				NI											
plant - vascular	Farwell's Water-milfoil	*Myriophyllum farwellii*				NI											
plant - vascular	Slender Waternymph	*Najas gracillima*			MIIH												
plant - vascular	Southern Waternymph	*Najas guadalupensis ssp. olivacea*			MIIH												
plant - vascular	Lakecress	*Neobeckia aquatica (=Armoracia lacustris)*					NI										
plant - vascular	Yellow Pond-lily	*Nuphar lutea ssp. pumila*											NI				
plant - vascular	Dwarf Water-lily	*Nymphaea leibergii*													MIIH		
plant - vascular	Blackgum	*Nyssa sylvatica*				NI											
plant - vascular	Narrowleaf Evening Primrose	*Oenothera fruticosa*								MIIH							
plant - vascular	Stemless Evening Primrose	*Oenothera triloba*								MIIH							
plant - vascular	Prairie Goldenrod	*Oligoneuron album*															NI
plant - vascular	Alpine Arctic Cudweed	*Omalotheca supina*															NI
plant - vascular	Limestone Adder's-tongue	*Ophioglossum engelmannii*						NI				NI					
plant - vascular	Northern Adder's-tongue	*Ophioglossum pusillum*															NI
plant - vascular	Clustered Broomrape	*Orobanche fasciculata*							NI								
plant - vascular	One-flowered Broomrape	*Orobanche uniflora*			MIIH												
plant - non-vascular	Ohio Orthotrichum Moss	*Orthotrichum ohioense*											NI				
plant - vascular	Chilean Sweet-cicely	*Osmorhiza berteroi*													MIIH		NI
plant - vascular	Illinois Woodsorrel	*Oxalis illinoensis*						NI						NI			

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	mountain sorrel	*Oxyria digyna*															NI
plant - vascular	Viscid Locoweed	*Oxytropis borealis var. viscida*													MIIH		
plant - vascular	Allegheny-spurge	*Pachysandra procumbens*						NI									
plant - vascular	Elegant Groundsel	*Packera indecora*													MIIH		
plant - vascular	balsam squaw-weed	*Packera paupercula*														NI	
plant - vascular	American Ginseng	*Panax quinquefolius*	NI	NI		NI		NI	NI	MIIH	NI		NI	NI			NI
plant - vascular	Philadelphia Panicgrass	*Panicum philadelphicum*	NI														
fungi	brown-gray moss-shingle lichen	*Pannaria pezizoides*													MIIH		
plant - vascular	bog fern	*Parathelypteris simulata*				NI											
plant - vascular	Marsh Grass-of-Parnassus	*Parnassia palustris*		NI													
plant - vascular	Silvery Nailwort	*Paronychia argyrocoma*										NI					NI
plant - vascular	Yellow Nailwort	*Paronychia virginica*										NI					
plant - vascular	Wild Quinine	*Parthenium integrifolium*	NI														
plant - vascular	Canby's Mountain-lover	*Paxistima canbyi*										NI					
plant - vascular	Swamp Lousewort	*Pedicularis lanceolata*										NI					
plant - vascular	Green Arrow-arum	*Peltandra virginica*				NI											
plant - vascular	pale beardtongue	*Penstemon pallidus*														NI	
plant - vascular	white-wand beardtongue	*Penstemon tubaeflorus*												NI			
plant - vascular	Sweet Colt's-foot	*Petasites frigidus var. palmatus*															NI
plant - vascular	Arrowleaf Sweet Colt's-foot	*Petasites frigidus var. sagittatus*					NI						NI				
plant - vascular	buttercup scorpionweed	*Phacelia covillei*														NI	
plant - vascular	Franklin's phacelia	*Phacelia franklinii*													MIIH		

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
fungi	Wreath Lichen	*Phaeophyscia leana*												NI			
plant - vascular	Broad Beechfern	*Phegopteris hexagonoptera*				NI							NI				
plant - vascular	Sunbright	*Phemeranthus parviflorus*												NI			
plant - vascular	Largeleaf Phlox	*Phlox amplifolia*						NI									
plant - vascular	Swordleaf Phlox	*Phlox buckleyi*										NI					
plant - vascular	Spotted Phlox	*Phlox maculata ssp. pyramidalis*								MIIH							
plant - vascular	Knotweed Leaf-flower	*Phyllanthus polygonoides*								MIIH							
fungi	pale-bellied frost lichen	*Physconia subpallida*			MIIH												
plant - vascular	Common Butterwort	*Pinguicula vulgaris*					NI										
plant - vascular	Pitch Pine	*Pinus rigida*				NI											
plant - vascular	Canadian (PKA: Canada Mountain) Ricegrass	*Piptatherum (=Oryzopsis) canadense*		NI			NI					NI			MIIH		NI
plant - vascular	Black-fruit Mountain-ricegrass	*Piptatherum racemosum*				NI											
plant - vascular	blackseed speargrass	*Piptochaetium avenaceum*														NI	
plant - vascular	Heartleaf Plantain	*Plantago cordata*												NI			
plant - vascular	Yellow-fringe Orchid	*Platanthera ciliaris*								MIIH						NI	
plant - vascular	Small Green Woodland Orchid	*Platanthera clavellata*			MIIH			NI		MIIH				NI			
plant - vascular	Southern Rein Orchid	*Platanthera flava var. flava*								MIIH				NI			
plant - vascular	Pale-green Orchid	*Platanthera flava var. herbiola*								MIIH							
plant - vascular	Hooker's Orchid	*Platanthera hookeri*	NI						NI								
plant - vascular	fragrant green orchid	*Platanthera hyperborea var. huronensis*				NI											
plant - vascular	Lesser Roundleaved Orchid	*Platanthera orbiculata*				NI											
plant - vascular	Large Roundleaved Orchid	*Platanthera orbiculata var. macrophylla*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Shriver's purple fringed (PKA: Frilly) Orchid	*Platanthera shriveri*										NI					
plant - vascular	Alaska rein orchid	*Platanthera unalascensis*					NI										
plant - vascular	Grove Meadow Grass	*Poa alsodes*												NI			
plant - vascular	Alpine Meadow Grass	*Poa horsesis ssp. Alpigena (PKA: Poa pratensis ssp. Alpigena)*															NI
plant - vascular	Wavy Bluegrass	*Poa laxa ssp. fernaldiana*															NI
plant - vascular	Bog Bluegrass	*Poa paludigena*		NI					NI			NI					
plant - non-vascular	Lescur's Pohlia Moss	*Pohlia lescuriana*					NI										
plant - vascular	Western Jacob's-ladder	*Polemonium occidentale ssp. lacustre*		NI											MIIH		
plant - vascular	Bog Jacob's-ladder	*Polemonium vanbruntiae*				NI						NI					
plant - vascular	Crossleaf Milkwort	*Polygala cruciata*							NI								
plant - vascular	Pink Milkwort	*Polygala incarnata*												NI		NI	
plant - vascular	whorled milkwort	*Polygala verticillata*				NI											
plant - vascular	Halberd-leaf Tearthumb	*Polygonum arifolium*								MIIH							
plant - vascular	Douglas' Knotweed	*Polygonum douglasii*															NI
plant - vascular	Viviparous Knotweed	*Polygonum viviparum*													MIIH		NI
plant - vascular	Braun's Holly Fern	*Polystichum braunii*		NI											MIIH		
plant - vascular	Prairie Parsley	*Polytaenia nuttallii*						NI						NI			
plant - vascular	Snail-seed Pondweed	*Potamogeton bicupulatus*			MIIH	NI			NI								
plant - vascular	Algae-like Pondweed	*Potamogeton confervoides*		NI		NI	NI								MIIH		
plant - vascular	Hill's Pondweed	*Potamogeton hillii*		NI		NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Oakes' Pondweed	*Potamogeton oakesianus*													MIIH		
plant - vascular	spotted pondweed	*Potamogeton pulcher*							NI								
plant - vascular	Tennessee Pondweed	*Potamogeton tennesseensis*										NI					
plant - vascular	Vasey's pondweed	*Potamogeton vaseyi*											NI				
plant - vascular	tall cinquefoil	*Potentilla arguta*				NI											
plant - vascular	Robbins' Cinquefoil	*Potentilla robbinsiana*															NI
plant - vascular	Boott's Rattlesnake-root	*Prenanthes boottii*															NI
plant - vascular	bird's-eye primrose	*Primula mistassinica*											NI				
plant - vascular	fairy bells (PKA: Drops-of-gold)	*Prosartes hookeri var hookeri*											NI				
plant - vascular	Roughfruit Fairybells	*Prosartes trachycarpa (syn=Disporum trachycarpum)*													MIIH		
plant - non-vascular	yellow specklebelly	*Pseudocyphellaria crocata*			MIIH										MIIH		
plant - vascular	Giant Pinedrops	*Pterospora andromedea*							NI				NI				
plant - vascular	Beadle's Mountainmint	*Pycnanthemum beadlei*										NI					
plant - vascular	Whorled Mountainmint	*Pycnanthemum verticillatum*							NI								
plant - non-vascular	Pylaisiadelpha Moss	*Pylaisiadelpha tenuirostris*											NI				
plant - vascular	Pink Wintergreen	*Pyrola asarifolia*															NI
plant - vascular	Snowline Wintergreen	*Pyrola minor*		NI		NI									MIIH		
plant - vascular	Chinquapin Oak	*Quercus muehlenbergii*				NI											
plant - vascular	chestnut oak	*Quercus prinus*												NI			
plant - vascular	Nuttall's Oak	*Quercus texana*								MIIH							
plant - vascular	Gmelin's Buttercup	*Ranunculus gmelinii*		NI									NI				

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Lapland Buttercup	*Ranunculus lapponicus*					NI										
plant - vascular	Pennsylvania Buttercup	*Ranunculus pensylvanicus*				NI						NI					
plant - vascular	Prairie Buttercup	*Ranunculus rhomboideus*											NI				
plant - vascular	Lanceleaf Buckthorn	*Rhamnus lanceolata ssp. lanceolata*										NI					
plant - vascular	Maryland Meadowbeauty	*Rhexia mariana*												NI			
plant - vascular	Handsome Harry	*Rhexia virginica*							NI								
plant - vascular	little yellow-rattle	*Rhinanthus monir ssp. Groenlandicus*															NI
plant - vascular	Roseroot Stonecrop	*Rhodiola rosea*				NI											
plant - vascular	Pink Azalea	*Rhododendron periclymenoides*														NI	
plant - vascular	Brown Beakrush	*Rhynchospora fusca*		NI													
plant - vascular	Clustered Beakrush	*Rhynchospora glomerata*												NI			
plant - vascular	Harvey's Beakrush	*Rhynchospora harveyi*								MIIH							
plant - vascular	Bald Rush	*Rhynchospora scirpoides*							NI								
plant - vascular	Bristly Black Currant	*Ribes lacustre*	NI									NI					
plant - vascular	Swamp Red Currant	*Ribes triste*	NI														
plant - vascular	smooth rose	*Rosa blanda var. blanda*										NI					
plant - vascular	Dwarf Raspberry	*Rubus arcticus ssp. acaulis*					NI										
plant - vascular	Cloudberry	*Rubus chamaemorus*													MIIH		
plant - vascular	dwarf red blackberry	*Rubus pubescens var, pubescens*										NI					
plant - vascular	swamp blackberry	*Rubus semisetosus*													MIIH		
plant - vascular	Sullivant Coneflower	*Rudbeckia fulgida var. speciosa (syn = R. fulgida var. sullivanti)*												NI			

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Narrowleaf Pink	*Sabatia brachiata*								MIIH							
plant - vascular	Longbeak Arrowhead	*Sagittaria australis*												NI			
plant - vascular	Northern Willow	*Salix argyrocarpa*															NI
plant - vascular	hoary willow	*Salix candida*				NI											
plant - vascular	sand dune willow	*Salix cordata*					NI										
plant - vascular	New England Dwarf Willow	*Salix herbacea*															NI
plant - vascular	bog willow	*Salix pedicellaris*				NI											
plant - vascular	Satiny Willow	*Salix pellita*					NI								MIIH		
plant - vascular	Canada burnet	*Sanguisorba canadensis*									NI						
plant - vascular	Canadian Blacksnakeroot	*Sanicula canadensis*				NI											
plant - vascular	Small's Sanicle	*Sanicula smallii*						NI						NI			
plant - vascular	Largefruit Blacksnakeroot	*Sanicula trifoliata*															NI
plant - vascular	Nodding Saxifrage	*Saxifraga cernua*													MIIH		
plant - vascular	Michaux's saxifrage	*Saxifraga michauxii*										NI					
plant - vascular	White Mountain Saxifrage	*Saxifraga paniculata*				NI									MIIH		NI
plant - vascular	Alpine Brook Saxifrage	*Saxifraga rivularis*															NI
plant - vascular	Early Saxifrage	*Saxifraga virginiensis*												NI			
plant - vascular	American Scheuchzeria	*Scheuchzeria palustris ssp. americana*				NI											
plant - non-vascular	Schistostega Moss	*Schistostega pennata*					NI								MIIH		
plant - vascular	Canby's Bulrush	*Schoenoplectus etuberculatus*								MIIH							
plant - vascular	Hall's Bulrush	*Schoenoplectus hallii*							NI								
plant - vascular	Torrey's Bulrush	*Schoenoplectus torreyi*				NI			NI								

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Stalked Bulrush	*Scirpus pedicellatus*	NI														
plant - vascular	Leafy Bulrush	*Scirpus polyphyllus*												NI			
plant - vascular	Little-head Nutrush	*Scleria oligantha*												NI			
plant - vascular	Few-flower Nutrush	*Scleria pauciflora*							NI					NI			
plant - vascular	Whip Nutrush	*Scleria triglomerata*							NI								
plant - vascular	Bush's Skullcap	*Scutellaria bushii*								MIIH							
plant - vascular	Rock Skullcap	*Scutellaria saxatilis*						NI				NI				NI	
plant - vascular	Meadow Spike-moss	*Selaginella apoda*				NI											
plant - vascular	Ledge Spike-moss	*Selaginella rupestris*				NI											
plant - vascular	Russet Buffaloberry	*Shepherdia canadensis*				NI											
plant - vascular	Arizona Cinquefoil	*Sibbaldia procumbens*															NI
plant - vascular	Moss Campion	*Silene acaulis var. exscapa*															NI
plant - vascular	Snowy Campion	*Silene nivea*											NI				
plant - vascular	Ovate Catchfly	*Silene ovata*												NI			
plant - vascular	Royal Catchfly	*Silene regia*									NI						
plant - vascular	Fire Pink	*Silene virginica var. robusta*										NI					
plant - vascular	Whorled Rosinweed	*Silphium trifoliatum*												NI			
plant - vascular	Pointed Blue-eyed-grass	*Sisyrinchium angustifolium*				NI											
plant - vascular	Eastern Blue-eyed-grass	*Sisyrinchium atlanticum*				NI		NI	NI								
plant - vascular	Strict Blue-eyed Grass	*Sisyrinchium montanum var. crebrum*	NI														
plant - vascular	Strict Blue-eyed Grass	*Sisyrinchium montanum var. montanum*											NI				
plant - vascular	Michaux's Blue-eyed-grass	*Sisyrinchium mucronatum*				NI											

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Blue-eyed-grass	*Sisyrinchium strictum*							NI								
plant - vascular	Roundleaf Goldenrod	*Solidago patula*				NI											
plant - vascular	Rand's Goldenrod	*Solidago simplex ssp. randii*				NI											
plant - vascular	Squarrose Goldenrod	*Solidago squarrosa*				NI											
plant - vascular	Elmleaf Goldenrod	*Solidago ulmifolia*				NI											
plant - vascular	Northern Bur-reed	*Sparganium glomeratum*		NI													
plant - vascular	small bur-reed	*Sparganium natans*				NI											
plant - non-vascular	Anderson's Sphagnum	*Sphagnum andersonianum*															NI
plant - non-vascular	Angerman's Sphagnum	*Sphagnum angermanicum*															NI
plant - non-vascular	Sphagnum	*Sphagnum flavicomans*															NI
plant - non-vascular	beautiful peatmoss	*Sphagnum pulchrum*				NI											
plant - vascular	Yellow Nodding Ladies'-tresses	*Spiranthes ochroleuca*						NI	NI								
plant - vascular	Twisted Ladies'-tresses	*Spiranthes vernalis*												NI			
plant - non-vascular	brilliant red dung moss	*Splachnum rubrum*													MIIH		
plant - vascular	Northern Dropseed	*Sporobolus heterolepis*					NI		NI								
plant - vascular	hyssopleaf hedgenettle	*Stachys aspera*										NI					
plant - vascular	bog stitchwort (PKA; bog chickweed)	*Stellaria alsine*				NI											
plant - vascular	Boreal Starwort	*Stellaria borealis ssp. borealis*	NI									NI					
plant - vascular	Long-stalked Stitchwort	*Stellaria longipes*					NI										
plant - vascular	Star Chickweed	*Stellaria pubera*												NI			
plant - vascular	Eastern Featherbells	*Stenanthium gramineum*						NI						NI			
fungi	Snow Lichen	*Stereocaulon pileatum*											NI				

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
fungi	Beauvois' Spotted Felt Lichen	*Sticta beauvoisii*			MIIH												
fungi	Spotted Felt Lichen	*Sticta fuliginosa*			MIIH										MIIH		
plant - vascular	Clasping Twisted-stalk	*Streptopus amplexifolius*		NI													
plant - vascular	Sheathed Pondweed	*Stuckenia vaginata*			MIIH												
plant - vascular	American Snowbell	*Styrax americanus*												NI			
plant - vascular	Bigleaf Snowbell	*Styrax grandifolius*												NI			
plant - vascular	Awlwort	*Subularia aquatica*			MIIH										MIIH		
plant - vascular	snowberry	*Symphoricarpos albus*				NI											
plant - vascular	Tradescant Aster	*Symphyotrichum dumosum var. strictior*								MIIH							
plant - vascular	Crooked-stem Aster	*Symphyotrichum prenanthoides*				NI											
plant - vascular	Western Silvery Aster	*Symphyotrichum sericeum*							NI								
plant - vascular	Guyandotte Beauty	*Synandra hispidula*												NI			
plant - vascular	Mountain Pimpernel	*Taenidia montana*										NI					
plant - vascular	Canada Yew	*Taxus canadensis*	NI		MIIH				NI			NI					
plant - non-vascular	Brown's Tetrodontium Moss	*Tetrodontium brownianum*					NI										
plant - vascular	Veined Meadowrue	*Thalictrum venulosum*					NI										
plant - vascular	New York Fern	*Thelypteris noveboracensis*											NI	NI			
plant - vascular	heart-leaved foam-flower	*Tiarella cordifolia*		NI									NI				
plant - vascular	Crippled Cranefly	*Tipularia discolor*	NI							MIIH							
plant - vascular	sticky tofieldia	*Tofieldia glutinosa*										NI					
plant - vascular	Scotch False Asphodel	*Tofieldia pusilla*													MIIH		
plant - vascular	Pale False Mannagrass	*Torreyochloa pallida*								MIIH				NI			

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - non-vascular	Ammons' Tortula Moss	*Tortula ammonsiana*										NI					
plant - vascular	Ozark Spiderwort	*Tradescantia ozarkana*								MIIH							
plant - vascular	heartleaf noseburn	*Tragia cordata*												NI			
plant - vascular	Lesser Marsh St. John's-wort	*Triadenum tubulosum*								MIIH							
plant - non-vascular	wollywort	*Trichocolea tomentella*													MIIH		
plant - vascular	Bristle Fern	*Trichomanes boschianum*						NI				NI		NI			
plant - vascular	Weft Fern	*Trichomanes intricatum*						NI									
plant - vascular	Clinton's Bulrush	*Trichophorum clintonii*							NI								
plant - vascular	False Pennyroyal	*Trichostema brachiatum*							NI								
plant - vascular	Forked Bluecurls	*Trichostema dichotomum*							NI								
plant - vascular	Narrowleaf Bluecurls	*Trichostema setaceum*										NI					
plant - vascular	Buffalo Clover	*Trifolium reflexum*						NI						NI			
plant - vascular	Kate's Mountain Clover	*Trifolium virginicum*										NI					
plant - vascular	Whip-poor-will Flower	*Trillium cernuum*				NI											
plant - vascular	Ozark Trillium	*Trillium pusillum var. ozarkanum*								MIIH							
plant - vascular	green trillium	*Trillium viride*												NI			
plant - vascular	Threebirds (PKA: Nodding Pogonia)	*Triphora trianthophora*										NI		NI			NI
plant - vascular	Purple Sandgrass	*Triplasis purpurea*							NI								
fungi	granulating rocktripe lichen	*Umbilicaria hirsuta*													MIIH		
fungi	Beard Lichen	*Usnea angulata*			MIIH												
fungi	Beard Lichen	*Usnea longissima*		NI									NI				
fungi	red beard lichen	*Usnea rubicunda*			MIIH												
plant - vascular	Hidden-fruit Bladderwort	*Utricularia geminiscapa*			MIIH										MIIH		

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	Northeastern Bladderwort	*Utricularia resupinata*				NI									MIIH		
plant - vascular	perfoliate bellwort	*Uvularia perfoliata*				NI											
plant - vascular	Northern Blueberry	*Vaccinium boreale*															NI
plant - vascular	Dwarf Huckleberry	*Vaccinium cespitosum*		NI			NI						NI				
plant - vascular	Deerberry	*Vaccinium stamineum*												NI			
plant - vascular	Alpine Blueberry	*Vaccinium uliginosum*				NI											
plant - vascular	Mountain Hairgrass	*Vahlodea atropurpurea*															NI
plant - vascular	Hairy Valerian	*Valeriana edulis var. ciliata*									NI						
plant - vascular	Marsh Valerian	*Valeriana uliginosa*		NI													
plant - vascular	Ozark Cornsalad	*Valerianella ozarkana*								MIIH							
plant - vascular	American alpine speedwell	*Veronica wormskjoldii*															NI
plant - vascular	Culver's-root	*Veronicastrum virginicum*				NI											
fungi	wart lichen	*Verrucaria marmorea*									NI						
plant - vascular	Softleaf Arrowwood	*Viburnum molle (syn = V. ozarkense)*								MIIH							
plant - vascular	American cranberrybush	*Viburnum opullus L. var. americanum*										NI					
plant - vascular	downy arrow-wood	*Viburnum rafinesqueanum*				NI											
plant - vascular	Northern Arrow-wood	*Viburnum recognitum*								MIIH							
plant - vascular	Appalachian Violet	*Viola appalachiensis*										NI					
plant - vascular	Southern Woodland Violet	*Viola hirsutula*						NI									
plant - vascular	Bog White Violet	*Viola lanceolata*													MIIH		
plant - vascular	New England Violet subspecies	*Viola novae angliae ssp. grisea*											NI				
plant - vascular	New England blue violet	*Viola novae-angliae*							NI								

Category	Common name	scientific name	Allegheny	Chequamagon-Nicolet	Chippewa	Green Mountain and Finger Lakes	Hiawatha	Hoosier	Huron-Manistee	Mark Twain	Midewin	Monongahela	Ottawa	Shawnee	Superior	Wayne	White Mountain
plant - vascular	New England Violet subspecies	*Viola novae-angliae ssp. novae-angliae*											NI				
plant - vascular	Great-spurred Violet	*Viola selkirkii*	NI														
plant - vascular	Sand Grape	*Vitis rupestris*										NI					
plant - vascular	Appalachian Vittaria	*Vittaria appalachiana*						NI									
plant - vascular	Barren Strawberry	*Waldsteinia fragarioides*						NI									
plant - vascular	northern woodsia	*Woodsia alpina*													MIIH		
plant - vascular	Smooth Woodsia	*Woodsia glabella*				NI									MIIH		
plant - vascular	Rocky Mountain woodsia	*Woodsia scopulina*													MIIH		
plant - vascular	Netted Chainfern	*Woodwardia areolata*						NI		MIIH		NI					
plant - vascular	Slender Yelloweyed Grass	*Xyris torta*								MIIH							
plant - vascular	Indian wild rice	*Zizania aquatica var. aquatica*							NI								
plant - vascular	Meadow Zizia	*Zizia aptera*											NI				

Version:
7/6/2023

Category	Common name	*scientific name*	Chugach	Tongass
plant - vascular	Eschscholtz's little nightmare	*Aphragmus eschscholtzianus*		NI
plant - vascular	Spatulate moonwort fern	*Botrychium spathulatum*		NI
plant - vascular	Moosewort fern	*Botrychium tunux*		NI
plant - vascular	Moonwort, no common name	*Botrychium yaaxudakeit*		NI
plant - vascular	Edible thistle	*Cirsium edule var. macounii*		NI
plant - vascular	Sessileleaf scurvygrass	*Cochlearia sessilifolia*		
plant - vascular	Spotted lady's slipper	*Cypripedium guttatum*		
plant - vascular	Mountain lady's slipper	*Cypripedium montanum*		NI
plant - vascular	Large yellow lady's slipper	*Cypripedium parviflorum var. pubescens*		NI
plant - vascular	Calder's loveage	*Ligusticum calderi*		NI
fungi	Lichen, no common name	*Lobaria amplissima*		NI
plant - vascular	Pale poppy	*Papaver alboroseum*		NI
plant - vascular	Alaska rein orchid	*Piperia unalascensis*		NI
plant - vascular	Lesser round-leaved orchid	*Platanthera orbiculata*		NI
plant - vascular	Kruckeberg's swordfern	*Polystichum kruckebergii*		NI
plant - vascular	Unalaska mist-maid	*Romanzoffia unalaschcensis*		NI
plant - vascular	Henderson's checkermallow	*Sidalcea hendersonii*		NI
plant - vascular	Dune tansy	*Tanacetum bipinnatum subsp. huronense*		NI

Version 7/6/2023

Appendix B: Intrusion Data (2012 – 2019)

Table B-1. Aerial fire retardant intrusion events into terrestrial avoidance areas, waterways and waterway buffers on National Forest System Lands

Year	Number of fires with intrusions	Number of intrusion reports on FS lands[1]	Number of intrusions that entered water	number of intrusions that entered the buffer only	number of intrusions that entered terrestrial TES avoidance areas	Number of accidental intrusions	Number of intrusions due to exception	Total number of fires	Total retardant used (gallons) in year	Estimated number of drops delivered by aircraft (gallons/1800)	percent of fires with intrusions (%)	Total intrusions divided by estimated drops (%)
2012	39	72	15	55	2	52	20	7725	8,540,914	4745	0.50%	1.52%
2013	31	54	18	34	2	42	12	7588	12,218,348	6788	0.41%	0.80%
2014	31	37	16	20	1	33	4	6910	8,896,234	4942	0.45%	0.75%
2015	27	50	33	16	1	40	10	6835	11,594,937	6442	0.40%	0.78%
2016	31	60	26	27	7	46	14	5772	19,021,716	10568	0.54%	0.57%
2017	35	75	48	24	3	65	10	6869	18,943,573	10524	0.51%	0.71%
2018	35	88	45	38	5	76	12	5739	16,376,813	9098	0.61%	0.97%
2019	15	21	12	3	6	15	6	5412	6,769,496	3761	0.28%	0.56%
TOTAL	244	457	213	217	27	369	88	52850	102,362,031	56868	0.46%	0.80%

Appendix C: Noxious Weed Risk Assessment

Affected Environment

The Forest Service Manual (FSM) 2900 (USDA Forest Service 2011) defines the term "Noxious Weed" based on the same meaning as found in the Plant Protection Act of 2000. The term "noxious weed" means any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment. The term typically describes species of plants that have been determined to be undesirable or injurious in some capacity. Federal noxious weeds are regulated by USDA-Animal and Plant Health Inspection Service under the Plant Protection Act of 2000, which superseded the Federal Noxious Weed Act of 1974. State statues for noxious weeds vary widely, with some States lacking any laws defining or regulating noxious weeds. Depending on the individual State law, some plants listed by a State statute as "noxious" may be native plants which that State has determined to be undesirable. When the species are native, they are not considered invasive species by the Federal Government. However, in most cases, State noxious weed lists include only exotic (nonnative) species.

Nonnative invasive species are species that are not native (are alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112). For the purposes of this discussion both definitions will be combined into the term nonnative invasive species (NNIS).

NNIS are currently damaging biological diversity and ecosystem integrity of lands within and outside National Forests nationwide. Invasive plant species reduce the quality of native habitat by displacing native species, altering nutrient and fire cycles, degrading soil structure, and decreasing the quality and availability of forage for wildlife (Mack et al 2000). Invasive plants spread between National Forest System lands and neighboring areas, affecting all land ownerships.

In the United States, invasive species are the second leading cause of native species endangerment and extinction, and their costs to society have been estimated at $120 billion annually (Crowl et al. 2008; Pimentel et al. 2000, 2005).

Current data for known infestations at the regional level are shown in table 7, although this data is an underestimate due to varying levels of data entry into the National Resource Manager system. The data presented does not account for synonyms and typos in species names or overlapping polygons of multiple nonnative invasive species. As indicated in table 7, there are currently 1,100 species and 4,473, 367 infested acres catalogued in the national Forest Service GIS database.

Table C-1. Number of species and infested acres in Forest Service Regions.

Region	Number of species	Infested acres
1	135	1,393,106
2	118	1,170,418
3	158	265,532

Region	Number of species	Infested acres
4	178	702,634
5	298	119,012
6	310	368,949
8	253	228,852
9	357	205,111
10	263	19,748
Nationwide	1,100	4,473,367

Table 8 shows the twenty species with the largest number of infested acres in the NRM database. Species with the largest infested acres may not be high priority for treatment on individual units, because their widespread nature does not allow for the opportunity to control or eradicate them. However, these species are treated when they threaten specific resources, and impact vegetation diversity. Poland and others (2021) provide examples of problem invasive species by broad geographic regions that do not correspond directly to Forest Service Regions. These are:

Northwest region- Himalayan blackberry, Japanese knotweed, giant hogweed, Dalmatian toadflax, cheatgrass, knapweeds, medusahead and ventata.

Southwest region- buffelgrass, musk thistle, saltcedar, Russian olive, yellow starthistle, spotted knapweed, diffuse knapweed, meadow knapweed, broadleaved pepperweed, bull thistle, Scotch thistle, musk thistle, Canada thistle, Scotch broom and French broom.

Great Plains region- smoothbrome, crested wheatgrass, Kentucky bluegrass, Johnsongrass, buffelgrass, absinth wormwood, whitetop, Russian olive, field brome and tumble mustard.

Midwest region- garlic mustard, Japanese barberry, common buckthorn, exotic honeysuckles, tree of heaven, reed canary grass, phragmites, purple loosestrife and Eurasian watermilfoil.

Northeast region- mentions most of the species in the Midwest region along with Norway maple, Oriental bittersweet, black swallow-wort, pale swallow-wort, autumn olive, Japanese knotweed, kudzu and multiflora rose

Southeast and Caribbean region- cogongrass, Chinese privet, common water hyacinth, Old World climbing fern, Japanese climbing fern and Chinese tallow

Table C-2. Species in NRM database with the highest amount of infested acres on Forest Service Units.

Common name	Scientific name	Infested acres
Canada thistle	*Cirsium arvense*	665,919
spotted knapweed	*Centaurea stoebe* ssp. *micranthos*	639,023
nodding plumeless thistle	*Carduus nutans*	295,259
gypsyflower	*Cynoglossum officinale*	199,415
cheatgrass	*Bromus tectorum*	198,817
leafy spurge	*Euphorbia esula*	148,613

Common name	Scientific name	Infested acres
yellow star-thistle	*Centaurea solstitialis*	129,269
Dalmatian toadflax	*Linaria dalmatica*	122,667
rush skeletonweed	*Chondrilla juncea*	112,230
bull thistle	*Cirsium vulgare*	110,796
meadow hawkweed	*Hieracium caespitosum*	110,011
oxeye daisy	*Leucanthemum vulgare*	100,573
common mullein	*Verbascum thapsus*	97,287
butter and eggs	*Linaria vulgaris*	95,805
sericea lespedeza	*Lespedeza cuneata*	74,740
broadleaved pepperweed	*Lepidium latifolium*	67,084
diffuse knapweed	*Centaurea diffusa*	63,136
Scotch cottonthistle	*Onopordum acanthium*	61,373
common St. Johnswort	*Hypericum perforatum*	60,577
hardheads	*Acroptilon repens*	47,215

NNIS and Retardant

Disturbance from wildfire, regardless of retardant application or not, modifies ecosystem processes and favors early successional plant species (Vitousek et al. 1996). Due to their aggressive nature, many nonnative invasive plants exploit the initial decreases in competition (Harrod and Reichard 2001) and the flush of nutrients after fire (Certini 2005), essentially out-competing many native early seral plants. The effects of retardant, fire, and associated fire suppression actions tend to overlap and may not always be distinguishable since all three activities may result in conditions that favor the establishment or spread of NNIS. Despite these confounding effects, this analysis focuses on those areas where fire retardant would be applied.

Fire retardants could be applied wherever a wildfire occurs, and no one ecosystem can represent the variety of site conditions that are found in all areas where wildland fire is possible. Retardant application can occur in various types of vegetation communities including annual and perennial grasslands, conifer forests, summer and fall hardwood forests, sagebrush with grass, intermediate brush, southern rough vegetation, and mixed chaparral areas.

Fire is a process integral to the function of most temperate wildland ecosystems. Lightning-caused and anthropogenic fires have influenced the vegetation of North America profoundly for millennia (Brown and Smith 2000, Pyne 1982). In some cases, fire has been used to manipulate the species composition and structure of ecosystems to meet management objectives, including control of nonnative invasive plant species (DiTomaso et al. 2006, Grace et al. 2001, Keeley 2001), yet under some conditions, fire can increase abundance of nonnative invasive plants (Goodwin et al. 2002). In those cases, the abundance of nonnative invasive plants may subsequently alter fire behavior and fire regimes, sometimes creating new, self sustaining invasive plant/fire cycles (Brooks et al. 2004). These altered fire regimes can reduce native species diversity and alter ecosystem functions. Therefore, in some instances, differentiating the impacts from retardant application and fire itself can be difficult.

Analysis Area

The affected environment area associated with this project includes all NFS lands, which comprise approximately 193 million acres.

Effects Analysis

Because of the national scope of this document, this section presents a qualitative analysis. The following information is used to provide a baseline to analyze effects: 1) phytotoxic effects to individual plants and impacts to vegetation diversity, 2) historical fire and retardant application over the past 10 years. The spatial extent of this analysis includes all National Forest System lands (193 million acres) and the temporal extent is the next 5 to 20 years, which allows time for nonnative invasive species controls to be effective at a forest scale. It is expected that fire retardant application and product constituents will remain similar to those analyzed in this document during this timeframe. Retardant use is expected to increase in the future, but not at a scale that would make future impacts be inconsistent with those described in the current analysis.

Cumulative Effects Analysis

We use the following assumptions in the cumulative effects analysis: all other fire suppression tools will continue to be used; all other policies and direction associated with control and treatment of invasive species nationally and locally will continue; and Forest Service fire preparedness and suppression budgets will not increase which implies no changes in the way the Forest Service would fight fires.

Overview of Issues Addressed

Application of retardants may result in impacts to vegetation; the following are issue indicators measuring these potential impacts:

- Average annual retardant use
- Potential increases in nonnative invasive species from aerially applied fire retardant
- Potential impacts to vegetation diversity from fertilizer effects

Methodology

Each National Forest maintains a list of noxious weeds and nonnative, invasive pest plants. This analysis assumes that all forests will continue to implement NNIS treatment strategies at local levels; treatments may include: early detection, rapid response and treatment of new invasive plant sites, increased emphasis on protecting and restoring healthy native plant communities, long-term site goals providing mechanisms to link treatment to prevention, revegetation/restoration and monitoring in an integrated and adaptive process. Because we cannot know when and where retardant may be used in the future or whether NNIS species would be present or what impacts may result, our analysis is necessarily broad scale and qualitative.

Nonnative invasive plant management that would be implemented in and near areas where fire retardant may be applied due to proximity to fires include: Burned Area Emergency Rehabilitation Program, Forest Service Handbook 2509.13 and USDA Guide to Noxious Weed Prevention Practices (USDA 2001b, Fire Management Section). These programs provide specialized guidance and instruction to prevent invasive weed establishment and spread.

Environmental Consequences

Potential Direct and Indirect Effects Common to All Sensitive Species

Increased nitrogen and phosphorus from fire retardants may increase the distribution or density of NNIS and indirectly reduce native plant diversity where retardant is applied. Most NNIS species are good competitors and opportunistic. Increases in densities of NNIS may also attract more herbivores to these areas as a result of increased forage, thus providing additional potential for spread of NNIS from redistribution of propagules into other non-infested areas. Strips of retardant application may additionally provide a pathway for NNIS to establish into non-infested areas given favorable climatic and site-specific conditions.

Most studies conducted on retardant effects to plant communities were short term (1–3 years); they show minor short-term effects and note that longer-term studies may be necessary to fully understand or evaluate effects. One longer term study, evaluating effects of phorphorus fertilizer treatment on nutrient deficient sandy soils in Australia, reported potential for changes in plant community diversity after 22 years. These results may indicate that changes to plant diversity within the application zone of retardant may occur under certain circumstances and specific environmental or climatic conditions. Sufficient data do not exist to definitively predict a short- or long-term effect at this programmatic level of analysis. It is important to note, however, that national, regional and forest level NNIS programs, as well as those associated with fire, to control and eradicate NNIS would continue to be implemented at the local level. Changes in nitrogen and phosphorus inputs into bogs, grasslands, and freshwater wetlands have been shown to promote the invasion of nonnative plants (Tomassen et al. 2004, Green and Galatowitsch 2002). The 300-foot buffer (no retardant application) for all waterways would reduce potential for retardant (nitrogen and phosphorus) entering water bodies. In most cases, except for the use of retardant in an exception or an intrusion, the 300 foot waterway avoidance buffer would eliminate impacts on aquatic and riparian plant diversity in these areas from invasions of NNIS species resulting from retardant use.

As described in the botanical biological evaluation, studies of magnesium chloride have focused on the application of formulations used for dust abatement. While the studies found magnesium chloride to affect the health of tree species and other vegetation, the difference in application rates and methods do not make these studies a good predictor of the impacts to NNIS. Some NNIS species may thrive after the application of magnesium chloride based aerial retardant, but the current studies do not focus enough on vegetation diversity to draw any conclusions. Additionally, the one time application may not have as much impact on vegetation as repeated roadside applications for dust abatement. While Goodrich and others (2008) found that more severely damaged vegetation on treated vs. untreated roads, the majority of vegetation in the study was determined to be healthy. Vegetation health was also influenced by slope position along roads.

The spatial extent of potential impacts from increases in NNIS resulting from the fertilizing effects of aerially applied retardant depends on the presence or proximity of nonnative invasive species to the retardant application site, the area (size) of application, and the post-application nonnative invasive treatment. Aerially applied retardant is typically applied in swaths across the landscape (50–100 feet wide by up to 800 feet long per drop). At the scale of this analysis (193 million acres) and the unknown future application sites of aerially applied retardant, it is only reasonable to conclude that there may be the potential for an increase of NNIS under certain site-specific conditions. It could, however, be hypothesized that the potential effect may be increased

in areas where NNIS are more prevalent such as urban interface areas, near roads, or other disturbed areas where NNIS occur compared to more remote areas of NFS lands.

As a result of other NNIS treatment strategies that are ongoing at the local level and the fact that retardant is applied annually to only 0.0044 -0.0117 percent of the total National Forest System land base (8,586-22, 552 acres annually), the estimated impacted areas are quite small in comparison to other activities that occur across NFS lands (such as recreation, fuel treatments, logging, grazing, and fire). The scale of impact is still small in relation to the total amount of infested acres catalogued in the national database. If the retardant was only applied on acres infested with NNIS only 0.001- 0.005 percent of all infested acres would be impacted. The overall impact of retardant is expected to be small in the national context, but impacts to certain resources like Threatened, Endangered and Sensitive species could potentially be high at the local level of the application site.

Cumulative Effects

Multiple activities occur on NFS lands (recreation, timber projects, grazing, roads, fires, etc) that have the potential to impact the establishment and spread of NNIS species. The relevant actions to cumulative effects are focused on aerially applied retardant only and actions similar to retardant effects. Assumptions and actions that may contribute to cumulative effects of aerially applied fire retardant at the national scale are listed below.

Assumptions

- Policy, direction, and local treatment and eradication of NNIS for Forest Service projects will continue.

- All other Federal and State fire fighting agencies will continue to use retardant under current guidelines and assumed they would be applying retardant at about the same percentages of land base annually as the Forest Service.

- All other Federal and State fire suppression tools will continue to be used.

Actions that may contribute to cumulative effects

- Use of fertilizers on private timberland and agricultural lands,

- Other State and Federal agencies applying aerial fire retardant, and

- Results of fire providing nutrient availability to NNIS

Cumulative effects are likely to be negligible because of the small amount of area affected by retardant each year, spread widely across the United States. Cumulative effects are unlikely but possible under certain scenarios.

Fertilization is uncommon on National Forest System land, and unlikely to add to nutrients in areas where fire retardant has been used. However, the private forest industry can and often does use fertilizers within inholdings on some forests. In addition, fire and fire retardant can be used on other ownerships in the same vicinity and at the same time as retardant is used on National Forest System land. Cumulative effects resulting in increases in NNIS or changes in vegetation diversity as a result of aerially applied retardant are unlikely but possible where retardant is applied under

these scenarios. As discussed earlier, the Forest Service will continue to implement NNIS and weed control measures as directed by national, regional and local level programs.

Wildfire releases soil nutrients and may add to local nutrient levels in soils thereby providing a similar fertilizing input as retardant. There has been little research on the combined effects of wildfire and retardant use on soil nutrient levels and it is probable that one effect would mask the other. Since this analysis focuses on retardant use, the effects of wildfire are not considered in detail.

NNIS may increase in abundance or extent in some areas where retardant is applied, but NNIS may also increase in the absence of aerial retardant use through ground disturbance from the use of ground suppression resources. The overall impact of aerial retardant on NNIS is expected to be minimal at the national level because the amount of area that will be treated is small. Existing NNIS treatment strategies would be implemented based on local site specific conditions and national, regional, or forest approved plans.

References

Brooks, Matthew L., Carla M. D'Antonio, David M. Richardson, James B. Grace, Jon E. Keeley, Joseph M. DiTomaso, Richard J. Hobbs, Mike Pellant, and David Pyke. 2004, Effects of Invasive Alien Plants on Fire Regimes, BioScience 54(7): 677-688

Brown, J. and J. Smith, eds, 2000. Wildland fire in ecosystems: Effect of fire on flora. Gen. Tech. Rep. RMRS-GRT-42-vol. 2. Ogden, UT. USDA, Forest Service, Rocky Mountain Research Station. 257 p.

Certini, Giacomo. 2005. Effect of fire on properties of forest soils. Oecologia 143: 1-10

Crowl T.A., T.O. Cris, and R.R. Parmenter. 2008. The spread of invasive species and infectious disease as drivers of ecosystem change. Front Ecol Environ 6:238–246

DiTomaso, J., M. Brooks, E. Allen, R. Minnich, P. Rice, G. Kyser. 2006. Control of invasive weeds with prescribed burning. Weed Technology 20: 535-548

Goodrich, B. A., R. D. Koski and W.R. Jacobi. 2008. Roadside vegetation health condition and magnesium chloride (MgCl2) dust suppressant use in two Colorado, U.S. counties. Arboriculture and Urban Forestry, 34, 252–259.

Goodwin, K., R. Sheley, and J. Clark. 2002. Integrated noxious weed management after wildfires. ED-160. Bozeman, MT: Montana State University, Extension Service. 46 p.

Grace, J.B., M.D. Smith, S.L. Grace, S.L. Collins and T.J. Stohlgren. 2001. Interactions between fire and invasive plants in temperate grasslands of North America. Pgs 40-65, In K. Galley and T. Wilson (Eds.), Fire Conference 2000: The First National Congress On Fire, Ecology, Prevention And Management. Invasive Species Workshop: The Role of Fire In The Control And Spread Of Invasive Species. Tallahassee: Tall Timbers Research Station

Green, Emily K. and Susan M. Galatowitsch. 2002. Effects of Phalaris arundinacea and nitrate – N addition on the establishment of wetland plant communities. Journal of Applied Ecology 39: 134-144

Harrod, Richy J. and Sarah Reichard. 2001. Fire and invasive species within the temperate and boreal coniferous forests of western North America. In Galley, Krista E.M: Wildon, Tyrone P. eds Proceedings of the invasive species workshop: The role of fire in the control and spread of invasive species; Fire conference 2000; the first national congress on fire ecology, prevention and management 2000, November 27-Dec1; San Diego , CA Misc Publication No. 11. Tallahassee, Fl. Tall Timbers Research Station: 95-101

Keeley, Jon E. 2001. Fire and invasive species in Mediterranean-climate ecosystems of California. Pages 81-94 in K.E.M. Galley and T.P. Wilson (eds.). Proceedings of the Invasive Species Workshop: the Role of Fire in the Control and Spread of Invasive Species. Fire Conference 2000: the First National Congress on Fire Ecology, Prevention, and Management. Misc Publication No. 11, Tall Timbers Research Station, Tallahassee, FL

Mack RN, Simberloff D, Lonsdale WM,Evans H, Clout M, Bazzaz FA. 2000. Biotic invasions: Causes, epidemiology, global consequences and control. Ecological Applications 10: 689–710.

Pimentel D, Lach L, Zuniga R, Morrison D (2000) Environmental and economic costs of nonindigenous species in the United States. Bioscience 50:53–65

Pimentel D, Zuniga R, Morrison D (2005) Update on the environmental and economic costs associated with alien-invasive species in the United States. Ecol Econ 52:273–288

Pyne, S. 1982. Fire in America. Princeton University Press, Princeton, N.J.

Poland TM, Patel-Weynand T, Finch D, Miniat CF, Hayes DC, and Lopez VM. Invasive Species in Forests and Rangelands of the United States. New York, NY: Springer (2021). doi: 10.1007/978-3-030-45367-1

Tomassen, H., A. Smolders, J. Limpens, L. Lamers, J. Roelofs. 2004. Expansion of invasive species on ombrotrophic bogs: desiccation or high N deposition? Journal of Applied Ecology 41: 139-150

Vitousek, P, M D'Antonio, C. Loope, L Lloyd and R. Westbrooks. 1996. Biological invasions as global environmental change. American Scientist 84: 468-478

Appendix D: Retardant Application Potential

Retardant application potential for each forest and identification of those forests where retardant is used on more than 0.01 percent of the land base annually, based upon 2012 to 2019 retardant use data.

Region	Forest	Retardant Application Potential	Is retardant used on more than 0.01 percent of land base annually?
1	Beaverhead-Deerlodge	moderate	No
1	Bitterroot	moderate	No
1	Custer Gallatin	low	No
1	Dakota Prairie grasslands	very low	No
1	Flathead	very low	No
1	Helena-Lewis and Clark	moderate	Yes
1	Idaho-Panhandle	moderate	No
1	Kootenai	moderate	No
1	Lolo	high	Yes
1	Nez Perce - Clearwater	high	No
2	Arapaho & Roosevelt	low	No
2	Bighorn	very low	No
2	Black Hills	very low	No
2	Grand Mesa Uncompahgre and Gunnison	very low	No
2	Medicine Bow-Routt	moderate	No
2	Nebraska	very low	No
2	Pike and San Isabel	moderate	No
2	Rio Grande	very low	No
2	San Juan	moderate	No
2	Shoshone	moderate	No
2	White River	moderate	No

Region	Forest	Retardant Application Potential	Is retardant used on more than 0.01 percent of land base annually?
3	Apache-Sitgreaves	low	No
3	Carson	very low	No
3	Cibola	moderate	Yes
3	Coconino	moderate	No
3	Coronado	high	Yes
3	Gila	moderate	No
3	Kaibab	very low	No
3	Lincoln	moderate	Yes
3	Prescott	high	Yes
3	Santa Fe	moderate	No
3	Tonto	high	Yes
4	Ashley	very low	No
4	Boise	high	Yes
4	Bridger-Teton	high	No
4	Caribou-Targhee	very low	No
4	Dixie	high	Yes
4	Fishlake	low	No
4	Humboldt-Toiyabe	high	No
4	Manti-La Sal	low	No
4	Payette	high	Yes
4	Salmon-Challis	moderate	No
4	Sawtooth	moderate	No
4	Uinta-Wasatch-Cache	high	Yes
5	Angeles	high	Yes
5	Cleveland	high	Yes

Region	Forest	Retardant Application Potential	Is retardant used on more than 0.01 percent of land base annually?
5	Eldorado	high	Yes
5	Inyo	high	Yes
5	Klamath	high	Yes
5	LTBMU	very low	No
5	Lassen	moderate	Yes
5	Los Padres	high	Yes
5	Mendocino	mod	Yes
5	Modoc	high	Yes
5	Plumas	high	Yes
5	San Bernardino	high	Yes
5	Sequoia	high	Yes
5	Shasta-Trinity	high	Yes
5	Sierra	high	Yes
5	Six Rivers	high	Yes
5	Stanislaus	high	Yes
5	Tahoe	high	Yes
6	Columbia River Gorge	very low	No
6	Colville	low	No
6	Deschutes and Ochoco	high	Yes
6	Fremont-Winema	moderate	No
6	Gifford Pinchot	low	No
6	Malheur	high	Yes
6	Mt. Baker-Snoqualmie	none	No
6	Mt Hood	very low	No
6	Okanogan-Wenatchee	high	Yes

Region	Forest	Retardant Application Potential	Is retardant used on more than 0.01 percent of land base annually?
6	Olympic	none	No
6	Rogue River-Siskiyou	high	Yes
6	Siuslaw	none	No
6	Umatilla	moderate	Yes
6	Umpqua	moderate	No
6	Wallowa-Whitman	high	Yes
6	Willamette	low	No
8	Chattahoochee-Oconee	very low	No
8	Cherokee	very low	No
8	Daniel Boone	none	No
8	El Yunque	none	No
8	Francis Marion & Sumter	none	No
8	George Washington and Jefferson	none	No
8	Kisatchie	none	No
8	Land Between the Lakes NRA	none	No
8	National Forests in Alabama	none	No
8	National Forests in Florida	very low	No
8	National Forests in Mississippi	none	No
8	National Forests and Grasslands in Texas	very low	No
8	National Forests in North Carolina	very low	No
8	Ouachita	none	No
8	Ozark-St. Francis	none	No
9	Allegheny	none	No
9	Chequamegon-Nicolet	none	No
9	Chippewa	very low	No
9	Green Mountain and Finger Lakes	none	No
9	Hiawatha	none	No

Region	Forest	Retardant Application Potential	Is retardant used on more than 0.01 percent of land base annually?
9	Hoosier	none	No
9	Huron-Manistee	none	No
9	Mark Twain	very low	No
9	Midewin	none	No
9	Monongahela	none	No
9	Ottawa	none	No
9	Shawnee	none	No
9	Superior	very low	No
9	Wayne	none	No
9	White Mountain	none	No
10	Chugach	none	No
10	Tongass	none	No