United States Department of Agriculture

FY20 Biennial Monitoring and Evaluation Report for the Coronado National Forest






Forest Service

October 2021

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About our Plan Monitoring Program

Purpose

The purpose of this biennial monitoring evaluation report is to help the responsible official determine whether a change is needed in forest plan direction, such as plan components or other plan content that guide management of resources in the plan area. The biennial monitoring evaluation report represents one part of the Forest Service's overall monitoring program for this National Forest System unit.

Figure 1. Entrance to Madera Canyon. Photo courtesy of Region 3 USFS Photography.

The report is not a decision document. Instead, it evaluates monitoring questions and indicators presented in the land management plan (forest plan) in relation to management actions carried out.

Our monitoring plan covers these eight required topics, in addition to social, economic, and cultural sustainability. You'll find each of these topics addressed in this report, and information about specific monitoring questions in the summary tables.

1. The status of select watershed conditions.
2. The status of select ecological conditions including key characteristics of terrestrial and aquatic ecosystems.
3. The status of focal species to assess the ecological conditions required under § 219.9.
4. The status of a select set of the ecological conditions required under § 219.9 to contribute to the recovery of federally listed threatened and endangered species, conserve proposed and candidate species, and maintain a viable population of each species of conservation concern.
5. The status of visitor use, visitor satisfaction, and progress toward meeting recreation objectives.
6. Measurable changes on the plan area related to climate change and other stressors that may be affecting the plan area.
7. Progress toward meeting the desired conditions and objectives in the plan, including for providing multiple use opportunities.
8. The effects of each management system to determine that they do not substantially and permanently impair the productivity of the land (16 U.S.C. 1604(g)(3)(C)). (36 CFR 219.12(a).

How Our Plan Monitoring Program Works

Monitoring and evaluation requirements have been established through the National Forest Management Act (NFMA) at 36 CFR 219. Additional direction is provided by the Forest Service in Chapter 30 – Monitoring of the Land Management Handbook (FSH 1909.12). Providing timely, accurate monitoring information to the responsible official and the public is a key requirement of the plan monitoring program. This biennial monitoring evaluation report is the vehicle for disseminating monitoring information.

This is the first monitoring report for the Coronado National Forest under the revised 2018 forest plan. Monitoring questions in this report were selected to inform the management of resources and services on the plan area and not every plan component was determined necessary to track. Additionally, monitoring questions were selected based on the data available since the release of the revised forest plan. Certain monitoring questions could not be answered due to the length of time needed to complete the monitoring activity. Past monitoring recommendations won't be reported until the next biennial report in 2023.

The Coronado National Forest identified five resources or services in which management activities needed to change from those in the 1986 land management plan (forest plan) to the 2018 Coronado National Forest plan. Those included ecosystem resiliency and restoration; visitor experiences; access to national forest system lands; preservation of open space; and community, collaboration, and partnerships. The monitoring questions you'll read about in this report address these resources or services.

Monitoring Objectives

- Assess the current condition and trend of selected forest resources.
- Document implementation of the Plan Monitoring Program.
- Evaluate relevant assumptions, changed conditions, management effectiveness, and progress towards achieving the selected desired conditions, objectives, and goals described in the Forest Plan.
- Assess the status of previous recommended options for change based on previous monitoring and evaluation reports.
- Document scheduled monitoring actions that have not been completed and the reasons and rationale why.
- Present any new information not outlined in the current Plan Monitoring Program that is relevant to the evaluation of the selected monitoring questions.
- Identify the roles and responsibilities for the Supervisor's Office through Broader Scale Monitoring, including providing feedback to the Regional Office on the usefulness of monitoring results.
- Present recommended change opportunities to the responsible official.

Results Summary

Monitoring from 2020-2021 revealed that there are no areas where forest plan revision should be considered. There is one area, species recovery, where the current status is uncertain due to COVID-19 considerations.

Table 1. Summary of adaptive management recommendations for all 10 monitoring questions.

	Yes	Uncertain	No
Forest plan direction met	9	1	0
Change to forest plan warranted	0	0	10
Change to management activities warranted	0	0	10
Change to plan monitoring program warranted	0	0	10
Focused assessment needed	0	0	10

Table 2. Summary of findings for each plan monitoring item.

Monitoring Item	Consistency with Plan Intent[1]	Recommendation[2]	Type of Change needed
Watershed 1. What projects have been implemented to improve watershed conditions?	Yes	No	N/A
Watershed 2. How many stream or spring restoration projects have been completed for the benefit of forest planning species?[3]	Yes	No	N/A
Ecological Conditions 1. At the mid-scale, is the percent of uplands in open canopy states appropriate for the potential natural vegetation types present?	Yes	No	N/A
Species Recovery 1. What has been the change in distribution and relative abundance of American bullfrogs?	Uncertain[4]	No	N/A
Recreation 1. Is the Coronado National Forest providing high quality and sustainable recreation opportunities?	Yes	No	N/A
Recreation 2. Is the Coronado National Forest meeting public recreation demand according to indicators and visitor satisfaction surveys?	Yes	No	N/A
Public Access 1. How many permanent access roads and trails have been established through resolution of legal status deficiencies?	Yes	No	N/A

Monitoring Item	Consistency with Plan Intent[1]	Recommendation[2]	Type of Change needed
Productivity 1. What number of livestock are being authorized to graze on the Coronado each year to be in balance with forage supplies?	Yes	No	N/A
Social, Economic, Cultural Sustainability 1. How many special use permits are being issued or renewed each year for events and activities on the Coronado?	Yes	No	N/A
Social, Economic, Cultural Sustainability 2. Are cultural resources being protected?	Yes	No	N/A

[1] Do results demonstrate intended progress of the plan components associated with this monitoring item?

[2] Based on the evaluation of monitoring results, might changes be warranted? See body of the report for more details regarding any specific recommendations for change.

[3] The monitoring question "How many stream or spring restoration projects have been completed for the benefit of *species of conservation concern*" in the Land Management Plan has been modified to "How many stream or spring restoration projects have been completed for the benefit of *forest planning species*" for this year's Biennial Monitoring and Evaluation Report as the Coronado National Forest works towards completing the transition to species of conservation concern.

[4] More time/data are needed to understand status or progress.

The "Last Year Updated" column originally included in the table above has been excluded for this year's monitoring report given that this is the first report associated with the revised forest plan. The column will be added to the next iteration of the Biennial Monitoring and Evaluation Report. A table providing a past monitoring recommendation status summary will also be included in the next report with this year's recommendations and agency direction.

Forest Supervisor's Certification

This report documents the results of monitoring activities that occurred from fiscal year 2018 through 2021 on the Coronado National Forest. Monitoring on some topics is long-term and evaluation of those data will occur later.

I have evaluated the monitoring and evaluation results presented in this report, and I endorse them. I have found that there are no recommended changes to the 2018 Land Management Plan, as amended. I therefore consider the current forest plan sufficient to continue to guide land management of the Coronado National Forest for the near future, and I plan to accomplish a deeper examination of the recommended changes, through engagement with resource specialists and the public.

Information about public engagement sessions will be posted at:
https://www.fs.usda.gov/main/coronado/landmanagement/planning.

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KURT DAVIS Date
Acting Forest Supervisor

Status of Select Watershed Conditions

Summary

Streams recharge groundwater aquifers, provide habitat for aquatic and riparian dependent species, and supply water for a variety of human uses. In southeast Arizona, the sources of many streams are on the Coronado National Forest. We know that projects and activities on forest lands can impact soil, water quantity and quality, and air resources, so we monitor them to help us determine the types and level of the impacts to watershed resources.

On the forest, we are managing for habitat connectivity, vegetation conditions that enhance water quality and quantity, water quality that meets state standards, floodplains that are functioning properly, habitat and ecological conditions capable of supporting native riparian-dependent plant and animal species, and streambanks that are stable and protected from erosion by vegetation and rock content. We are working to help us accomplish our goals by implementing projects that will improve and maintain natural waters on the landscape as well as connect habitat that's associated with water.

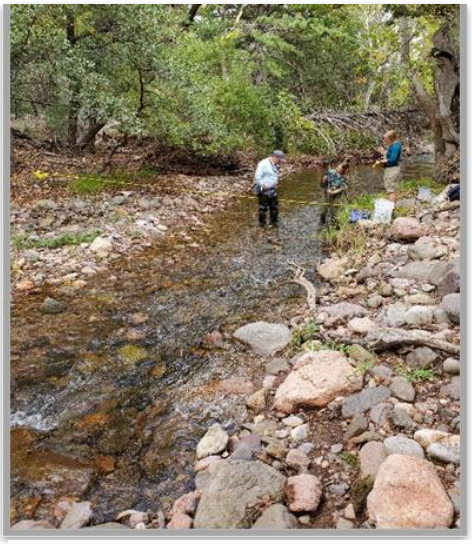


Figure 2. USFS Hydrologists perform in-stream flow monitoring. Photo courtesy of Jennifer Varin, USFS Watershed Program Manager.

Monitoring questions and indicators

1. What projects have been implemented to improve watershed conditions?
2. How many stream or spring restoration projects have been completed for the benefit of forest planning species?

Key Results

Monitoring Question 1: What projects have been implemented to improve watershed conditions?

- Projects with the potential to improve watershed conditions include thinning woody vegetation to reduce fuel loads so wildfires burn with less severity and less soil resource damage, placing erosion control structures in small drainages of damaged watersheds to reduce erosive flows and sediment runoff, and controlling invasive plant communities.

- In FY 2018, eight projects were implemented or partially implemented to improve watershed conditions. In FY 2019, 15 projects were implemented or partially implemented. The total acres for 2019 were largely influenced by a 10,906-acre prescribed burn in the Galiuro Mountains (the Four Mile Prescribed Burn). In FY 2020, 11 projects were implemented or partially implemented; the reduction from FY 2019 was likely due to difficulties with field staff implementing projects during the COVID-19 pandemic, dry weather conditions, and an active fire season.

Table 3. Number of Watershed Projects, Acres, and Miles Completed or Partially Completed 2018-2020.

Year	Number of Projects Completed or Partially Completed	Total acres treated	Total miles of stream habitat enhanced
2018[1]	8	1,295	6.4
2019	15	14,914	12.7
2020	11	1,470	2.5

[1]Projects implemented after April 2018 adoption of forest plan

Monitoring Question 2: How many stream or spring restoration projects have been completed for the benefit of forest planning species?

- Projects that enhance streams or springs for forest planning species include invasive plant removal, native vegetation planting, structures to reduce erosion issues, livestock exclusion fencing, bullfrog removal, and native species restoration.

- On the Coronado National Forest, 12 projects were completed between April 2018 and the end of the 2020 fiscal year. Project numbers were lower in FY 2020 than FY 2019, likely due to the COVID-19 pandemic and the Bighorn Fire.

Recommended Changes

No changes are needed at this time. With only 2.5 years of data, along with challenges from the COVID-19 pandemic and other factors, long-term trends are difficult to ascertain for the two watershed monitoring questions.

Status of Select Ecological Conditions

Summary

The invasive American bullfrog has been identified as one of the principal threats to Chiricahua leopard frog (CLF), an endangered ranid species with substantial habitat on the Coronado National Forest. Bullfrog removal remains one of the most successful tools in CLF management by allowing reintroduction and translocation of CLF populations into previously occupied sites (Arizona Game and Fish Department).

We are managing natural water sources so that native fish and amphibian populations are free from or minimally affected by nonnative predators and diseases. Similarly, we manage constructed waters with the goal of keeping numbers of aquatic invasive species such as American bullfrog low and easily controlled.

Figure 3. Seining for bullfrog tadpoles and surveying for bullfrogs at a stock tank. Photo courtesy of Arizona Game and Fish Department.

Monitoring question

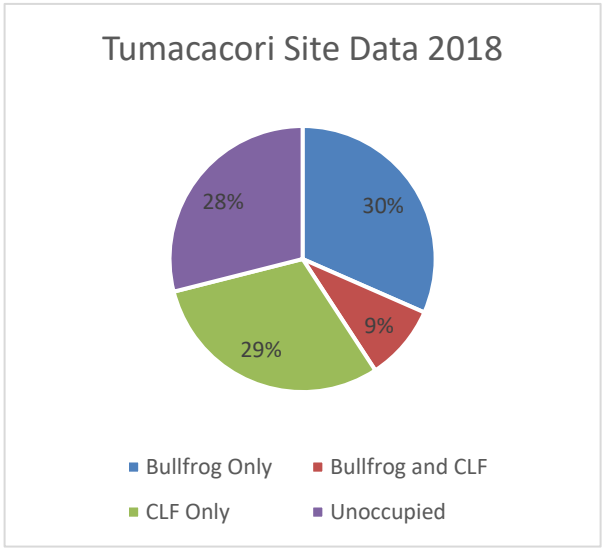
What has been the change in distribution and relative abundance of American bullfrogs?

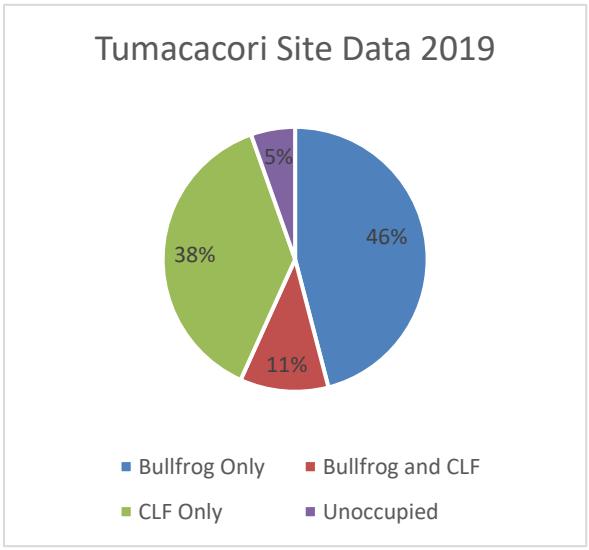
Key results

- On the Coronado National Forest, American bullfrog populations are most concentrated within the Tumacacori Ecosystem Management Area (EMA) on the Nogales Ranger District. Here, the distribution of American bullfrogs increased in proportion to Chiricahua leopard frogs from 2018 to 2019.

- Bullfrog populations have been increasing proportionally to CLF. However, the number of sites surveyed from 2018 to 2019 decreased. The distribution of bullfrogs did not increase dramatically from 2018 to 2019. Their range has not expanded into many new sites; rather, bullfrogs appear to be dominating sites where Chiricahua leopard frogs were previously known to cohabitate. AZ Game and Fish has not yet released the data for 2020.

- American bullfrogs can also be found within the Huachuca Mountains: within the data from AZ Game and Fish, the Sierra Vista Ranger District has one bullfrog site as does the Santa Catalina Ranger District. Surrounding areas adjacent to Coronado National Forest lands, especially east of the Chiricahua Mountains near Portal, have known bullfrog occupancy, so the Forest should continue cooperation between partners and other private landowners to prevent the spread of bullfrogs into CNF boundaries.





Recommended changes

The Coronado is not considering any changes. The distribution and abundance of American bullfrogs on the Coronado National Forest should continue to be closely monitored in partnership with the Arizona Game and Fish Department.

Visitor Use, Satisfaction, and Progress on Recreation Objectives

Summary

The Coronado National Forest offers a rich variety of year-round recreational opportunities in landscapes that range from saguaro-studded desert canyons to high conifer forests. Higher elevations on the Coronado are most popular during the summer, offering temperatures 20 or more degrees cooler than the surrounding communities including Tucson, Sierra Vista, Douglas, Safford, and Nogales. Many of the Coronado's low elevation recreation areas are in scenic canyons or foothills below 5,000' elevation. These sites are most popular during the fall, winter, and spring when the region hosts multitudes of out-of-town visitors. Visitation to the Coronado has ranged from 1.4 million to 2.9 million over the past 20 years based on National Visitor Use Monitoring results.

Figure 5. Entrance to the accessible Proctor Trail in Modera Canyon. Photo courtesy of Adam Milnor, Recreation Staff Officer.

Monitoring questions and indicators

1. Is the Coronado National Forest providing high quality and sustainable recreation opportunities?
2. Is the Coronado National Forest meeting public recreation demand according to indicators and visitor satisfaction surveys?

Key results

- Available data indicates that the Coronado National Forest is generally performing well when it comes to providing high quality and sustainable recreation experiences, but that more work remains to be done.

- One key element driving several of the deficiencies is the low total visitation figure from the 2017 NVUM survey, which showed visitation to the Forest dropped by nearly one million in 2017. Active fire incidents and incomplete survey design combined to make the 2017 figure possibly inaccurate.

- Even accounting for the 2017 NVUM results, the Coronado has performed at an acceptable but not exemplary level. Out of 16 scored measures, the Coronado has met or exceeded our aspirational target for 7 measures, improved our performance on 2 measures, and fell short on 6 measures.

- The years since the Forest Plan was completed have brought some notable changes. The 2020 Bighorn Fire in the Santa Catalina Mountains not only caused ecological change, but also modified the way the public accesses and uses this important and popular area. Over 150 miles of popular trails accessed from Tucson and the Catalina Highway were impacted.

Recommended changes

No changes have been identified for the Forest Plan. The Coronado recently completed and approved the 2021 to 2025 Coronado National Forest Sustainable Recreation Action Plan. It identifies 23 specific, measurable, and impactful actions to improve outdoor recreation across four themes: Developed Recreation, Trails and Wilderness, Tourism and Community, and Access and Dispersed Recreation. A full copy of the Action Plan is available on the Coronado National Forest website or available upon request.

Figure 6. Madera Canyon Recreation Area. Photo courtesy of Region 3 Photography.

Progress Toward Meeting Desired Conditions and Objectives

Monitoring questions and indicators

1. How many permanent access roads and trails have been established through resolution of legal status deficiencies?
2. How many acres are predicted to support active crown fire as modeled under typical peak fire danger conditions at the midscale?
3. At the mid-scale, is the percent of uplands in open canopy states appropriate for the potential natural vegetation types present?

Figure 7. Parker Canyon property on Duquesne Road, San Rafael Valley in the Sierra Vista Ranger District. Photo courtesy of Adam Milnor, Recreation Staff Officer.

Key results

Monitoring question 1: How many permanent access roads and trails have been established through resolution of legal status deficiencies?

- We are managing toward a more contiguous landscape within Forest boundaries. Acquiring non-Federal inholdings often has far-reaching benefits for multiple resources including wildlife habitat, public access, recreation, and clean water. Inholding acquisition often prevents incompatible development.

- Access remains one of the major challenges and threats to providing continued recreation benefits on the Coronado National Forest (CNF). The CNF may have the most significant set of public access issues in the nation regarding National Forest System (NFS) lands. Public access to NFS lands is becoming increasingly restricted as traditional routes through interior and adjacent private lands are gated and locked. While the Forest has worked diligently to try and obtain written title authorizing vehicular travel, the situation continues to deteriorate. The severity of the situation led to the inclusion of this topic as one of the five "Needs for Change" driving the Forest Plan revision.

- The “Sky Islands” nature of this Forest contributes greatly to public access issues. Public roads and highways (County, State, and Federal) pass between mountain ranges (12 units in 6 counties and 2 states) with private or State Trust lands between those public roads and highways and the National Forest, often leaving the public without legal access. Rapid population growth in Southeastern Arizona has led to a greater demand for access to public lands and, at the same time, increased development of adjacent private lands, which results in even greater restrictions to public access.

- Approximately two-thirds of the CNF does not have adequate permanent legal access. It is estimated that out of the 300 public and administrative vehicular access points, only one third have legal access beyond the national forest boundary. Over the past five to ten years, there has been a change in an estimated 15% of the access points, with most of the changes going from Physically Open but Unsecured to Closed.

Figure 10. Wood Canyon on the Nogales Ranger District, accessible due to an access agreement with Arizona Game and Fish Department. Photo courtesy of Adam Milnor, Recreation Staff Officer.

- Resolution of these access deficiencies can take several forms including fee title acquisition, easement or right of way acquisition, or construction of an alternative route across NFS lands to the desired road or trail. The Coronado works closely with a coalition of partners including the Arizona Game and Fish Department, Bureau of Land Management, The Nature Conservancy, Trust for Public Land, Arizona Land and Water Trust, local counties, and recreation users to work on potential solutions. Efforts have been successful in several locations including Jhus Canyon in the Chiricahua Ecosystem Management Area.

Monitoring question 2: How many acres are predicted to support active crown fire as modeled under typical peak fire danger conditions at the midscale?

- We are managing **Ponderosa Pine-Evergreen Shrub** forest types toward a goal of low- to mixed-severity fires burning on the forest floor as well as in the overstory. Crown fires occur in small patches. There are no stand-replacement fires in the wildland-urban interface. Using fire behavior models, we tested the potential for crown fire,

and found that the potential for close to equal amounts of surface fire and passive crown fire with a smaller overall percentage of active crown fire. For this vegetation community, models showed that the amounts of surface and passive crown fire meet our stated goals. The potential for active crown fire occurs across 15% of this vegetation community.

- Our goal for **Dry Mixed-Conifer Forest** is fires that burn primarily on the forest floor and do not spread between tree groups as crown fire. Forests in the wildland-urban interface are dominated by early-seral, fire-adapted species growing in an overall more open condition than the remainder of the national forest. These conditions result in fires that burn primarily on the forest floor and rarely spread as crown fire. Fire behavior models show that Dry Mixed-Conifer forests will have a higher likelihood of mixed-severity fire due to the tree species characteristics as well as vertical and horizontal arrangement. Most species in this vegetation community are not "self-pruning" like Ponderosa Pine. The branches of the predominant species will be low-hanging and closer to the ground, resulting in "ladder fuels" that improve the chances of a surface fire transitioning into the crowns. A higher percentage of passive vs surface fire is likely. Active crown fire activity would have a higher likelihood in this vegetation community.

Figure 11. Passive Crown Fire - A fire in the crowns of trees in which trees or groups of trees torch, ignited by the passing front of the fire. The torching trees reinforce the spread rate, but these fires are not basically different from surface fires.

- For **Wet Mixed-Conifer** forests, the desired condition is to have mixed-severity and high-severity fires and other disturbances maintain desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. High-severity fires generally do not exceed 1,000-acre patches of mortality. Forests in the wildland-urban interface are dominated by early-seral, fire-adapted species growing in an overall more open condition than the remainder of the national forest. These conditions result in fires that burn primarily on the forest floor and rarely spread as crown fire.

  Our fire modeling showed a higher potential for surface fire with smaller proportions of passive and active crown fire. This is normal for this fire regime. Factors that may be influencing these results are recent fires in these areas that have opened the canopies and reduced ladder fuels resulting in lower severity effects.

- The **Spruce-Fir** forest type is the smallest in acres, and is the highest-elevation vegetation type. We manage it so that mixed-severity fires and other disturbances maintain desired overall tree density, structure, species composition, and coarse woody debris, while less frequent high-severity fires reset this forest type to an early-seral stage. The wildland-urban interface is comprised primarily of grass, forb, and shrub vegetation. Structures in the wildland-urban interface are surrounded by grassy openings with very few or no trees. These conditions typically result in surface fires.

Figure 12. Surface Fire – Fire that burns loose debris on the surface, which includes dead branches, leaves, and low vegetation.

Areas within this vegetation community have already experienced high-severity fires that result in future fire disturbances having the highest potential for surface fire with a small portion of passive crown fire and an absence of potential active crown fire. Model results indicate a low-severity fire regime with minimal potential mixed-severity effects. This may not be indicative of the natural fire regime for this vegetation community. However, with the small size of this forest type and its proximity to values at risk, these conditions are not out of the range of our goal.

Figure 13. Active Crown Fire - A fire in which a solid flame develops in the crowns of trees, but the surface and crown phases advance as a linked unit dependent on each other.

Monitoring question 3: At the mid-scale, is the percent of uplands in open canopy states appropriate for the potential natural vegetation types present?

- Woody vegetation, in the form of shrub encroachment or small trees, has increased in many vegetation communities on the Coronado. This correlates to a corresponding increase in the probability of uncharacteristic wildfire in these areas. The Coronado contains uncharacteristically dense forests with many more young and mid-aged trees than were historically present. Forested types are deficient in grasses, forbs, and shrubs due to tree competition and shading from the denser canopy; these areas are at high risk for uncharacteristic wildfires because of an accumulation of live and dead woody material, increased crown bulk density, and increased canopy continuity.

- We monitor the condition of different plant communities to determine where management action is needed to attain desired conditions, especially for landscapes at risk from uncharacteristic wildfire. Treatments including wildland fire (planned and unplanned ignitions), prescribed cutting, and mechanical treatments are proposed to meet vegetation objectives.

- Many of our plant communities are departed from the desired state:
  - Our goal for **grasslands** is generally less than 5 percent canopy cover from shrubs and trees. But current canopy cover represents 60 percent, or high-moderate departure, from desired conditions. An abundance of closed canopy tree/shrub states is causing the departure, indicating a need for further treatments to remove encroaching woody vegetation in grasslands.
  - For **interior chaparral**, there is a surplus of both open and recently burned structure, with a higher proportion being open canopy. Open canopy states are the result of fires occurring more frequently than they did historically.
  - **Madrean Encinal Woodland** is 28 percent departed from our goal, owing to an over-abundance of open canopy state and grass/shrub dominated areas. The abundance of early-seral states is likely due to uncharacteristic large fires on the landscape. This type represents 43 percent of the vegetation on the Forest. Achieving additional closed canopy states could require adjusting treatment prescriptions to keep most of the treated stand above 30 percent canopy while removing ladder fuel.
  - **Madrean Pine-Oak Woodland** is 30 percent departed from desired conditions due to an over-abundance of both tree closed and grass/shrub mix states. Treatments consisting of mechanical thinning to remove smaller trees and shrubs are an effective way to achieve tree open desired state without creating an over-abundance of grass/shrub states that can occur after high-severity wildfire.

Figure 14. Madrean Pine-Oak Woodland open canopy state from Scotia Thinning project. Photo courtesy of USDA Forest Service.

  - **Ponderosa Pine-Evergreen Shrub** is 48 percent departed from desired conditions due to an over-abundance of grass/shrub and tree closed states with over 30 percent canopy cover. The abundance of grass/shrub states is due to high-intensity wildfires. There is a need to increase the amount of tree open states with less than 30 percent canopy cover through vegetation treatments. Climate change and local seed source availability after large wildfires could turn these grass/shrub mix areas into permanent type conversions.

Recommended changes

- Regarding access, these is no need for revisions to the objectives, standards, or guidelines. However, it is unlikely that the current target of resolving 40 to 50 access issues per decade (or four to five per year) is realistic given available resources. While the Coronado is pursuing a collaborative, partnership-based strategy with state, local and federal agencies to secure written title to vehicular routes, the available staff and resources and the pace of success since the completion of the Forest Plan indicate this will be a tall task. The Forest has successfully reestablished two vehicular access points since approval of the Forest Plan in April 2018. As of September 2021, an additional nine access projects are currently being pursued.

- No management or Forest Plan changes are recommended at this time regarding crown fire potential. A recommendation to include spatial representation of the crown fire activity within the monitoring question for these resource areas will improve the value of the results and help guide future management. Future monitoring of potential crown fire activity will help us understand how our management is progressing these areas within the range of the desired conditions and objectives of the Forest Plan. There are areas of potential active crown fire that will need to be assessed to determine what further management is needed to move these areas towards a low- to mixed-severity fire regime to fully achieve the desired conditions for these vegetation communities and protection of the resources.

- We are not considering any changes regarding upland plant communities. Interior Chaparral and Ponderosa Pine-Evergreen Shrub vegetation community conditions are highly departed from our goals and should be monitored closely.

Social, Economic, and Cultural Sustainability

Monitoring questions and indicators

1. How many special use permits are being issued or renewed each year for events and activities on the Coronado?
2. Are cultural resources being protected?
3. What number of livestock are being authorized to graze on the Coronado each year to be in balance with forage supplies?

Key results

Monitoring question 1: How many special use permits are being issued or renewed each year for events and activities on the Coronado?

- The overall number of permits is increasing on the Coronado. We currently administer over 820 permits in some status; that figure was 620 at the time of the Draft Environmental Impact Statement. All permits support local and regional social, economic, and cultural sustainability in some way. The numerous outfitting and guiding permits provide a source of sustainable, tourism-based revenue for small businesses and families operating in Southern Arizona.

- In late 2019, the Special Uses program centralized into the Supervisor's Office in Tucson and began a variety of efforts to increase efficiencies and customer service standards. This modification resulted in positive outcomes; we were the top Forest for special use permits administered in the Southwestern Region of the Forest Service. In Fiscal Year (FY) 2020, we issued 90 recreation permits and 41 lands permits, including a mix of reissuances and new permits.

- We are currently in the process of phasing out permits for isolated cabins that are not part of the recreation residence program. We are phasing out three isolated cabins through legislated sales that are projected to close in 2021; at the conclusion of the sales, the special use permit for the three cabins will be terminated. We will begin work to phase out the remaining isolated cabins.

Monitoring question 2: Are cultural resources being protected?

- Our goals for cultural resources include completing 200 acres of non-project inventory each year, nominating sites to the National Register of Historic Places, regularly conducting inspections as well as stabilization and preservation activities at important cultural resource sites, participating in or hosting interpretive events, providing volunteer opportunities, and increasing our participation in the "Rooms with a View" cabin rental program.

Figure 15. Coronado National Forest Heritage team and volunteers collaborating to stabilize the remains of historic Romero Ranch house. Photo courtesy of Maxwell Forton, USDA Forest Service.

- Our Heritage Program has continued sustained engagement with various volunteers throughout the monitoring period, completing stewardship projects, stabilization, and resource studies at significant sites.

- One notable accomplishment during FY 2020 was the stabilization we undertook at the Romero Ranch house (figure 15). Additional stabilization activities have been ongoing during the monitoring period at other interpretive sites, including Kentucky Camp on Nogales Ranger District and Brown Canyon Ranch on Sierra Vista Ranger District. We will prioritize more extensive projects, such as repairs to Webb Peak Lookout on Safford Ranger District (figure 16), as funding become available.

Figure 16. Webb Peak Lookout on Safford Ranger District was damaged by wildfire; a structural assessment has been completed and the Forest is exploring options to stabilize and repair the lookout, listed on the National Register of Historic Places. Photo courtesy of Maxwell Forton, USDA Forest Service.

- We are actively pursuing expansion of the "Rooms with a View" cabin rental program. Sollers Cabin on Santa Catalina Ranger District opened to the public in summer 2021, and we are applying for funds to complete deferred maintenance at the historic Canelo Ranger Station on Sierra

Vista Ranger District to enter it in the rental program in the coming years.

- Our Heritage Program Plan is only partially complete. Although inspections of Priority Heritage Assets have lagged, the monitoring rate is trending upward, and all current year surveys are now up to date. We have consistently met the required thresholds for stabilization, interpretive, and volunteer opportunities, although increasing public engagement and active stabilization are desirable.

Monitoring question 3: What number of livestock are being authorized to graze on the Coronado each year to be in balance with forage supplies?

- Given the importance of the beef industry to Arizona and the economies surrounding the Forest, the Forest must manage livestock stocking rates in accordance with forage supplies and desired resource conditions.

- Our yearly stocking rate dating back to 2017 correlates well with trends in precipitation. The last time the Forest received near average rainfall was in 2017. Inconsistent rainfall since that time has led to a gradual decrease in stocking forest-wide. The large reduction in authorized cattle in 2021 (approximately 43 percent below capacity) was due to extreme drought conditions that the southwestern portion of the U.S. experienced in 2020 and into 2021.

- Greater reductions took place as permit holders further responded to the reduction in forage. Rainfall during the 2021 monsoon season was favorable for most of the Forest, so an increase in stocking is expected for the 2022 season and beyond as natural resources and livestock operations recover from the drought.

Recommended changes

- We are not considering any changes to Forest Plan direction for special use permits.

- We are not considering any possible changes for cultural resources. The Heritage Program Plan should be completed, and public outreach and stabilization and study of significant culture resource sites should continue.

- No changes are recommended for livestock grazing based on our monitoring results in comparison to actual livestock use records and rangeland monitoring reports.

Public Engagement Opportunities

For further information about monitoring efforts, results, and adaptive management responses, see the following:

Information on the Coronado National Forest's monitoring program, previous reports, and our Land and Resource Management Plan can be found here:
https://www.fs.usda.gov/main/coronado/landmanagement/planning

For a list of current projects in development on the Coronado National Forest, see the link below. Subscription to the Coronado National Forest's project status updates can be found at the link as well:
https://www.fs.usda.gov/projects/coronado/landmanagement/projects

Arizona Project Archaeology - Romero Ruins in Catalina State Park, hosted by Coronado National Forest's Archaeologist David Mehalic:
https://www.youtube.com/watch?v=NIXPCxgvKKs

Bighorn Fire and Status of Impacted Trails on Santa Catalina Ranger District Storymap, created by Coronado National Forest's GIS Coordinator Steve Mantani:
https://storymaps.arcgis.com/stories/1b549d4f734d4e9fadb189f8a3f725d9