United States Department of the Interior
FISH AND WILDLIFE SERVICE
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

Memorandum

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To: Regional Directors, Regions 1-7 and Manager, California Nevada Operations
To: Regional Administrators, NOAA Fisheries

From: Director, Fish and Wildlife Service
From: Dr. William T. Hogarth - Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration

Subject: Evaluating the Net Benefit of Hazardous Fuels Treatment Projects

After the damaging wildland fire season of 2000, the Secretaries of Interior and Agriculture developed a report outlining a new approach to managing wildland fires. This report, together with the accompanying budget requests, strategies, plans, and direction have become known as the National Fire Plan (NFP). The NFP provides the philosophical and policy foundation for hazardous fuels reduction as well as other Federal interagency fire management activities. The President's Healthy Forest Initiative will implement the fuels reduction and ecosystem restoration goals of the National Fire Plan's 10-year Comprehensive Strategy and Implementation Plan. As part of this initiative, the Fish and Wildlife Service and National Marine Fisheries Service (Services) have developed this guidance to assist in the section 7 consultation analysis for hazardous fuels treatment projects such that appropriate factors are considered, consultation workloads are efficiently completed, and implementation of these projects are not delayed.

The long-term strategy for the NFP is to correct problems associated with the disruption of natural fire cycles as a result of the fire suppression policy or fire-prone non-native invasive species and minimize risks to public safety and private property due to the increase in amount and complexity of the urban/wildland interface. One of the goals of the NFP is to treat hazardous fuels, using appropriate tools, to reduce risks to communities and to the environment caused by unplanned and unwanted wildland fire. Fuels treatment projects are being used to reach the goal of restoring fire-adapted ecosystems, which will ultimately benefit many listed and sensitive species and their habitat.

**Consideration of Benefits of Fuels Treatment Projects**

It is important that the Services work cooperatively with land management agencies to facilitate fuels treatment projects. The Services should adopt a long term view when consulting on fuels treatment projects under section 7 of the ESA. Some projects may have short term adverse effects on some listed species, but at the same time present opportunities for significant long term benefits to species and their habitat. Similarly, these projects can significantly reduce the risk of

catastrophic wildfires which can be devastating to wildlife. Imposing overly cautious restrictions to address short term risks, without adequately assessing the long term net benefits to species, can result in the abandonment of critical fuels treatment projects and lead to potentially devastating losses to species and habitat. Therefore, as discussed further below, the Services should evaluate and balance the long term benefits of fuels treatment projects, including the benefits of restoring natural fire regimes and native vegetation, as well as the long term risks of catastrophic wildfire, against any short or long term adverse effects. The section 7 effects analysis for fuels treatment projects should reflect this balance. Projects with expected net benefits that significantly outweigh short term adverse effects should be expedited in the interest of the conservation or restoration of native ecosystems and the species that inhabit them and to ensure that the projects are completed in a timely manner.

**Consultation Process**

Under section 7(a)(2) of the Endangered Species Act of 1973, as amended (Act), each Federal agency must, in consultation with the Services, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of designated critical habitat. As part of the section 7 analysis, for hazardous fuels treatment projects, the Services should balance any short-term and long-term adverse impacts with any expected short-term and long-term benefits to species and their habitat by reducing severe wildland fires.

It is the responsibility of the action agencies to provide the Services with the best scientific and commercial information available in the effects analysis evaluating both impacts and benefits of the proposed fuel reduction project. This includes identifying the direct, indirect and cumulative effects to the species and its habitat, likelihood of both adverse and beneficial effects occurring, and the timing, intensity, location, and magnitude of both short-term and long-term effects in the context of survival and recovery of the species.

When conducting an effects analysis under the Act, the Services determine the current condition of the listed species and its habitat within the action area (i.e., the environmental baseline) and across its range, project the species' condition anticipated after implementation of the proposed project, and then compare this condition against the condition anticipated if the project is not implemented. In the analysis, the conditions and effects that will result if no action is taken act as the control against which to measure the effects of the proposed project. This difference is the effect of the proposed action. Without comparing the proposed project to a no project alternative, it is impossible to make conclusions regarding the net effects of the treatments (Krebs, C.J. 1999. Ecological methodology, Second edition. Addison Wesley Longman Inc. Menlo Park, CA. Pages 341-347).

The jeopardy analysis for the section 7 consultation should take into account whether the short-term adverse impacts to the individuals are outweighed by the long-term conservation benefits to the species as a whole. In some parts of the western United States young stands of Douglas-fir

have become over-crowded and the threat from wildfire is high. In these areas, action agencies might propose a combination of prescribed fire and thinning to address the overcrowding. The Services should carefully evaluate the risk of future wildfire and its severity on a species without the proposed project by considering fire frequencies and past impacts from fires in the action area. These risks should then be compared against the potential positive and negative effects of the proposed prescribed fire or thinning project on listed species and designated critical habitat.

For example, an invasive grass species that is fire prone has invaded a native bunch grass meadow that supports nesting grasshopper sparrows. The invasive grass tends to burn more frequently than the native bunch grass. Because of this unnatural fire regime, the native bunch grass cannot compete with the non-native grass. Without active management, this will lead to the eventual extirpation of the native bunch grass. To help restore the system, a prescribed burn is proposed in the spring before the non-native grass sets seed. The prescribed burn will adversely affect individual nesting grasshopper sparrows. However, without the project, the population of grasshopper sparrows will most likely decline. Implementing the project will contribute to conditions more likely to allow the population to increase over time due to the restored habitat quality. In this instance, the loss of, or threat to, a few individuals is outweighed by the benefits of the proposed project to the species.

In some very rare situations, the long term benefits of a project may not be sufficient to offset short term adverse effects to a species. For example, if a species has become so restricted in distribution that a fuels reduction project would likely jeopardize the continued existence of the species, the value of restoring long-term ecosystem function is negated by the short term risk to the species. The Services envision that these situations are rare. If this situation occurs, the Services should utilize the expertise of the action agency to identify any reasonable and prudent alternatives (RPAs) that would meet the purpose and need of the proposed fuels reduction project, and at the same time not violate section 7(a)(2) of the Act. The RPAs may involve modifications in the scope, timing, or duration of the project, and in some limited instances simply foregoing the project in favor of another fuels treatment strategy.

While many fuels reduction projects may have long-term benefits to the species and their habitat, any short-term adverse effects to individuals of the species will require that formal consultation be conducted between the Services and the action agencies. In many instances, adverse effects of the fuels reduction project can be minimized prior to the start of formal consultation by incorporating minimization measures into the project description, for example, timing a prescribed burn outside of the nesting season or conducting smaller burns to minimize disturbance to the entire population. By working cooperatively with the action agency during early coordination, conservation measures can be developed that are reasonable, commensurate with the impact, and not overly burdensome for the action agencies to implement.

The action agencies are responsible for discussing the feasibility of different project alternatives with the Services. For projects that will have an overarching beneficial effect to listed species, such as restoring a natural fire regime, enhancing habitat, or reducing the risk of a stand-

replacing fire, the Services and action agencies should keep in mind those long term benefits when considering appropriate conservation measures to minimize any short-term adverse impacts. The Services should coordinate closely with the action agencies to avoid proposing conservation measures that are overly restrictive from a fire management perspective. The beneficial effects will not be realized if the project is halted due to infeasibility.

For many of these activities, formal consultation can be handled in an expedited fashion. The Services have provided guidance on streamlining techniques (Alternative Approaches for Streamlining Section 7 Consultation on Hazardous Fuels Treatment Projects, dated October 11, 2002) detailing a process in which the consulting agencies can jointly develop standards and guidelines for addressing projects that may require balancing of short-term adverse impacts against long-term benefits. Developing an overall fire management/ restoration strategy for a geographic area, as suggested in the guidance, can help the Services determine whether the short-term effects are outweighed by the long-term benefits. When the long-term strategy will most likely benefit the species, the risks to the species from projects with short-term adverse effects will likely be minor. A management strategy developed by the action agency can help the Services identify and focus on the long-term benefits, rather than developing excessive measures to avoid and minimize incidental take for the short term adverse effects. Management strategies can also play an important role in identifying high risk spatial locations or circumstances, and modifying project proposals to avoid adversely affecting listed species in these areas. An additional benefit of this approach is the ability to provide important, relevant information upon which to base fire suppression actions and strategies.

The dispute resolution process, outlined in the programmatic guidance, should be used if disagreements occur at the field level regarding analysis of impacts to the species or its critical habitat and/or possible minimization measures that might be included up front in the proposed action or in the biological opinion.

**Other Examples**

In chaparral of northern and southern California, crown fires are a natural part of the ecosystem and, based on recent research, are not due to an unnatural accumulation of fuels. However, these intense wildland fires have occurred more frequently in recent years than would occur from natural lightening strikes due to increased accidental human fire starts. Fuels reduction projects in this system will most likely focus on containing wildland fires with the use of fuel breaks and smaller prescribed burns in strategic locations. In this instance, the short-term adverse effect to a listed species might be reducing the amount of habitat by mechanical clearing, or a strategically placed prescribed burn. The long-term benefit is the reduction in the frequency of severe wildland fires. Since research indicates that the shorter fire interval causes a decrease in the overall wildlife diversity, fuels reduction projects that contain wildland fire would likely have long-term benefits. Without the projects, the fire interval would remain short and ultimately could contribute to a decline of some listed species utilizing this habitat. In this situation, the decrease in the fire frequency should be evaluated in the context of both the effects analysis and

discussions on any appropriate conservation measures for the short-term habitat loss.

The Mexican spotted owl occupies the fire adapted mixed-pine forests of the Southwest. Fire is a natural part of the ecological process that created and sustains this ecosystem. Historically, the natural fire regime was frequent low intensity underburns. The result of these short fire recurrence intervals was the limited occurrence of stand replacing fires. The pre-settlement character of western forests was a complex mosaic of habitat conditions ranging from open park-like stands to patches of younger age classes associated with dense multi-layered canopies on canyon slopes and cooler, moister northern aspects. Due to land use and fire exclusion policies, vast acreage of western forests are now overstocked with dense stands of small diameter trees (ladder fuels), and considerably increased fuel loading. When combined with drought, this fuel loading generates large high-intensity crown fires. The occurrence of these un-natural large scale severe fire events has increased in some of these forested habitats, causing uncharacteristic widespread stand replacement. These severe fires can adversely affect structural diversity and destroy roosting and nesting habitat of the owl. To reduce fuel loading and spatial arrangement of fuels, proposed fuels reduction projects may focus on mechanical thinning prior to introducing successive low-intensity fires. The Mexican spotted owl evolved with low-intensity fires in the system. These types of proposed projects may have short-term adverse effects to the Mexican spotted owl. Project design, size, location, and timing of implementation can minimize the near term adverse effects. Ultimately, preventing severe fires and restoring the natural fire regime will have long-term benefits for the owl and is necessary for the conservation of the species. Given the long-term benefits to the species from preventing severe wildland fire under these circumstances, the short-term adverse affects should be reasonably minimized or offset and the consultation expedited.

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