

## **Migratory Bird Conservation on the Eldorado National Forest**

Under the National Forest Management Act (NFMA), the Forest Service is directed to “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives.” (P.L. 94-588, Sec 6 (g) (3) (B)). Direction for integrating migratory bird conservation into forest management and planning includes the January 2000 USDA Forest Service (FS) Landbird Conservation Strategic Plan; the Partners in Flight (PIF) Landbird Conservation Plans; the 2001 Executive Order (EO)13186; and the 2017 Department of Interior Solicitor’s Opinion M-37050. Within the National Forests, migratory bird conservation focuses on providing a diversity of bird habitats at multiple spatial and temporal scales over the long-term. Our actions also include promoting migratory bird conservation through enhanced collaboration and cooperation with the Fish and Wildlife Service as well as other federal, state, tribal and local governments.

The Eldorado National Forest is proposing to manage lands on the Amador Ranger District within the Scottiago Forest Health and Fuel Reduction (Scottiago FHFR) project area. Proposed management is intended to implement direction contained within the Eldorado National Forest Land and Resource Management Plan (LRMP, USFS 1989). Opportunities to promote conservation of migratory birds and their habitats in the project area were considered during the development, design and implementation of the project.

The Draft Avian Conservation Plan for the Sierra Nevada Bioregion identified montane meadows, riparian habitat, late successional/old growth forest and oak woodlands as priority habitats for conservation (Siegel and DeSante 1999). All of these habitat types are within or adjacent to the project area and the proposed management actions will help develop or sustain them.

Likely impacts to habitats and select migratory bird populations resulting from the Scottiago Forest Health and Fuel Reduction (Scottiago FHFR) project have been assessed in detail within the project MIS report and impacts to select TES birds and their habitats have been analyzed in the project BE. These impacts are summarized below:

The project will/will not adversely impact migratory landbird species or their associated habitats. Potential impacts to migratory species would be minimized through the adherence of LRMP Standards and Guidelines for snags/down woody debris, riparian reserve buffers, limited ground disturbance, and maintenance of canopy closure. The project is designed to improve habitat conditions through the retention of late-successional habitat characteristics, while still maintaining current functional habitat. Specific project design criteria include, canopy closure will be maintained at 50% or greater, where it currently exists, ground disturbance will be minimized where possible, vegetation species diversity and composition will be maintained, and retention of snags and downed logs would be retained where they don’t compromise the project objectives.

### **The Scottiago FHFR Project was designed to address these needs, which included protecting/retaining migratory bird habitat.**

The proposed actions will address following needs identified in the project area:

1. There is a need to reduce stand densities to increase drought tolerance and to reduce the risk of mortality from insect attack or disease.
2. There is a need to protect, and retain through time, key habitat and old forest characteristics for plant and wildlife species - notably the California spotted owl and northern goshawk.

3. There is a need to create and maintain strategically-placed fuel treatments in a manner that significantly reduces wildland fire intensity and rate of spread, thereby promoting safe fire suppression, protection of human life and property, and protecting/retaining resource and socio-economic values within and adjacent to the project area. In addition, there is a need to remove patches of dead trees that threaten the short and long term goals of managing fuel loads and reducing adverse wildfire effects.
4. There is a need to conduct vegetation treatments that are economically efficient while providing wood supply and jobs to local economies.
5. There is a need to conduct road maintenance and reconstruction in order to provide safe access for fire suppression and access for vegetation treatments. These treatments will occur only on roads used for commercial timber sales.

To accomplish these goals the following proposed activities, and pertinent features, from this project would aid in protecting and in some cases enhancing habitat for migratory birds:

### *Commercial Harvest*

- Treat approximately (up to) 3,000 acres of natural stands and commercial sized plantations by cutting and removing trees between 10 inches and 30 inches diameter breast height (dbh) using ground-based commercial logging methods including whole tree yarding (2950 acres) and skyline logging systems (38 acres). Where feasible, tree tops would be removed to landings as part of skyline logging. Recently killed trees (snags) within commercial harvest units would be cut and removed concurrently with logging operations without restriction on dbh. Feller bunchers or equivalent type of ground based equipment may be used for cutting and pre-bunching of logs that would be removed using a skyline logging system. Use of equipment in skyline units would generally be limited to 45% slope the exception of using a winch assist system. Winch assisted logging equipment would not be slope limited.
- Snags would be retained consistent with forest LRMP standards. The 4 largest snags will be retained per acre, averaged over the entire project area. Snags will not be evenly spaced across the landscape, but would vary by land allocation and landscape position, such as near roads, ridgetops and streams. Snag positions may be based on desired future conditions. Any snag posing a hazard to life, injury, or property may be removed.
- Remove small trees (4 inches to 10 inches dbh) to landings, or other designated disposal sites, on the mechanically thinned acres.
- Pile tree tops and small trees (biomass) at landings to be made available for either biomass power generation or public fire wood cutting. Material remaining at landings (if not removed by previous methods) would be burned.
- Conduct post-harvest treatments, including grapple or tractor piling of existing and activity fuels, followed by prescribed fire, including both broadcast burning and lighting of piles.

Silvicultural prescriptions will incorporate recommendations from PSW-GTR-220, and meet Forest Plan direction (LRMP 1988, SNFPA 2004). Prescriptions will be designed to meet the following goals:

- Improve forest resiliency by reducing stand densities by thinning. In general, lowest residual stand densities would occur on upper slopes, ridges and southern and western aspects. Targeted residual density would range from 100-140 square feet/acre basal area or

approximately 25-30 feet tree spacing (50-70 trees per acre). Although canopy cover would average 50% over treatment units, lower canopy cover would exist in these less dense areas. On lower slopes and transitioning into Riparian Conservation Areas (RCA), as well as on north facing aspects, residual stand densities may be higher with a corresponding increase in canopy cover. Targeted residual density would range from 140-180 square feet/acre basal area or 20-25 feet tree spacing (70-110 trees per acre). Canopy cover in RCAs of perennial and intermittent streams would see the least overall reduction and would likely average closer to 60%.

- Reduce shading and competition around oaks to improve growing conditions.
- Increase the percentage of shade intolerant pine and hardwoods. Maintain a mix of species in pine dominated areas to reduce impacts from western bark beetle.
- Retain clumps of large trees. Clumps may vary in shape and size and range from a group of 4-5 trees up to an acre in size. In general, clumps would be located in the mid to lower slope positions. Preference will be given to clumps comprised of mixed species. Clumps would focus on trees exhibiting characteristics such as multi-top especially in firs and cedars, trees provide nesting structure, large snag inclusions, cavities, and other signs of use by wildlife.
- Within CSO Home Range Core Areas (HRCAs), and in areas identified as high quality habitat and having potential as future nesting sites for CSO, the management focus will be on retaining areas with highest density of tall trees and denser canopy cover. These areas generally will occur in forest patches >2 acres in size dominated by large trees (generally greater than 150 ft. tall) and having >55% canopy cover. Within the project area these areas are generally located on north facing slopes and in riparian conservation areas. Commercial harvest in these areas will be limited to removing trees acting as ladder fuels. Retention areas will focus on clumps of large trees and key features used by CSO as stated in above bullet.
- Manage the intermediate size class (20 to 30 inch DBH), thinning this class primarily by species (shade tolerant) and growth form (those acting as ladder fuels).
- Increase stand variability. Target stand structure would consist of a mixture of clumps, gaps and a matrix of variably spaced trees. Small (.25 acre or less) gaps will be created or enlarged in low productivity sites and where natural openings in the canopy exist. These small gaps will not be evaluated for regeneration.

### ***Fuel Reductions and Management Strategy***

- Create and maintain a fuel treatment network to reduce extent and severity of wildfires based on the below listed locations:
  - Barney Ridge/Omo Ranch Road and Roads 8N61 and 8N62
  - Goldnote Ridge/ Roads 8N55 and 8N48
  - Big Mountain Ridge/ Road 8N49
  - North-South Road
- Using these locations, create evacuation routes for public egress and emergency responder safety by thinning trees less than 30" dbh within 35' of the centerline of roads. Trees would be selectively removed that are currently impeding the ability for safe access as well as fire suppression activities. (107 acres)
- Beyond the 35' and extending out to 200' from above listed strategic locations, trees up to 18" will be thinned and surface and ladder fuels will be removed. (749 acres) Post-treatment,

these stands will retain their larger trees with minimal modification to overstory canopy. Plantations contained within and adjacent to the above-described fuel break would be treated as part of the fuel break design.

- Conduct additional treatments in 200' roadside areas, including grapple or tractor piling of existing and activity fuels, prescribed fire, including both broadcast burning and lighting of piles.
- On an additional approximately 2,132 acres, low intensity prescribed fire will be implemented at any time of year when conditions allow for consumption of surface fuels and low (<15% averaged across the unit; 5-10% averaged in PACs) overstory tree mortality. Reduction or rearrangement of fuel concentrations using hand cutting, piling, chipping and/or other mechanical treatment may also occur on these acres to supplement or complement prescribed burning.
- Install hand or dozer line to limit the extent of prescribed burns
- Use hand and aerial ignition techniques for pile and understory burning
- Reduce fuels and fire hazard 300 feet from key OHV staging areas (Barney, Five Corners, Goldnote, Goldnote East, 36 Tie). Trees up to 18" will be thinned and surface and ladder fuels will be removed to increase utility of these areas for fire suppression and staging of equipment.
- Reoccurring maintenance of treatments listed above using fire, hand or mechanical methods.
- Following harvest or fuel reduction activities, the desired surface fuel loading would be less than 20 tons per acre.
- Thinning of stands near Armstrong Hill lookout tower to enable detection and management of wild and prescribed fires in the Cosumnes and North Fork Mokelumne River watersheds. Thinning will be focused on providing a clear view and will include removal of tall trees. Some trees may exceed 30" dbh. Install a fire detection camera in the existing fire detection lookout tower. Reoccurring maintenance of trees and vegetation (promoting oaks for example) to allow continued effective fire detection.

### ***Treatments for Protection of California Spotted Owl Habitat***

Fuels treatments listed in the "Fuels Reduction and Management Strategy" section (above) would occur in portions of spotted owl and goshawk PACs. These areas are designated Wildland Urban Intermix (WUI) Defense and Threat Zones. Treatments would be designed to facilitate prescribed burning, reduce stand mortality effects from both prescribed and wildland fire, and would be expected to improve efficiency of suppression of wildfires. Effective management of prescribed fire and wildfire may help reduce loss of or damage to key CSO and northern goshawk habitat. PACs were selected for treatment based on necessity to ensure the overall effectiveness of the landscape fire and fuel strategy. Design features to protect habitat and nesting status are listed below.

*The project design features will help mitigate, and maintain habitat to the greatest extent possible, while meeting the purpose and need of the project, and safety needs of project implementation (hazard tree removal, fuel reduction along major roads and ridges), or mitigate potential disturbance impacts to migratory birds which could occur during project implementation. The following project design features are those directed during activities to enhance or minimize impacts to landbirds:*

Mechanical and fuels prescriptions are designed to be consistent with Forest-wide management standards and guidelines (SNFPA ROD 2004, pages A-49 to A-59), as well as land allocation standards and guidelines for California spotted owl and northern goshawk Protected Activity Centers (SNFPA ROD 2004, pages A-59 to A-61), and Riparian Conservation Areas and Critical Aquatic Refuges (SNFPA ROD 2004, pages A-62 to A-66).

### ***All Activities***

Standard LOPs would be adhered to, for all activities, for both the California spotted owl and northern goshawk, unless surveys conclusively ascertain that nesting/reproduction would not be affected in that particular breeding season by the treatments. The LOP periods are March 1 through August 15<sup>th</sup> for the California spotted owl, and February 15<sup>th</sup> through September 15<sup>th</sup> for the northern goshawk.

Where surveys and biological assessment determine that impacts would not affect reproduction for these species, the LOP may be lifted, or the area affected by the LOP reduced. Based on nesting status, additional mitigation measures, such as (but not limited to): exclusion of portions of the proposed treatment areas until after the breeding season, additional fire lines, and different treatment techniques (lighting techniques, postponing slash work), may be implemented to reduce potential effects to nesting spotted owls and goshawks.

Snags ( $\geq 15''$  dbh) would be retained, except where they pose a threat to human health and safety, or perimeter control risk for containment of the fire, and will not be actively lit during burning operations.

### ***Fuel Reductions Treatments***

Where possible, mechanical treatments (including commercial and non-commercial as described in the "Fuels Reduction and Management Strategy" section, above) would occur in lower quality habitat inclusions in the PAC (ridge tops, lava caps, small diameter dominated treed stands, plantations).

The district wildlife biologist would be involved in the burn planning, and notified prior to implementation of the prescribed burning and fuel reduction treatments in PACs. When possible, the biologist and/or staff would be onsite to take part in, and/or monitor burning and associated effects.

Prescribed burning would be undertaken in relatively small proportion of the PACs within the project area. No more than two PACs within the Scottiago project area would be burned in a 12 month period. Burning would avoid direct impacts to known nest stands by either not burning through them, or clearing material from around known nest and roost trees and other trees/snags  $> 30''$  dbh in the nest stands.

Fuel reduction treatments would be designed to ensure retention of highly suitable habitat (less than 5-10% change in canopy closure within treated area inclusive of all treatments) by reducing ladder fuels 12" dbh and smaller.

Mechanical rearranging of existing fuels in the PACs (mastication, chipping, and piling) would only occur within relatively short distances from roads and property lines (200 feet or less).

Additional hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted within a 1 to 2 acre area surrounding known nest trees, to the extent necessary, to protect nest trees and trees in their immediate vicinity.

*In Summary, CSO and northern goshawk PAC Treatments would:*

- Maintain canopy closure at or above 90% of starting canopy closure (pre-treatment of any kind),
- Outside of 35' treatment on roads listed above in the "Fuel Reductions and Management Strategy", retain large trees ( $\geq 24$ " dbh) near current levels (less than 5% reduction numerically across treatment area),
- Retain snags ( $\geq 15$ " dbh) during burn preparation, except where they pose a threat to human health and safety, or perimeter control risk for containment of the fire, and will not be actively lit during burning operations,
- Retain downed logs greater than 30" diameter (large end) by not be actively lighting during implementation of the burn, and
- Result in small openings (generally  $\leq 1/4$ - $1/2$  acre in size), with the total area of openings created less than 5% of treated area. There may be instances where larger openings are created, but these should be limited in both number and size (openings over an acre in size are not desirable in PACs).

*Where these design criteria standards cannot be met, no prescribed burning would occur within these PACs, or these portions of PACs.*

*Potential Effects of Project Implementation:*

Likely impacts to habitats, and select migratory bird populations resulting from this project have been assessed in more detail within the project Management Indicator Species report (Loffland 2019), and impacts to select Federally Threatened, Endangered and USFS Region 5 sensitive species birds and their habitats have been analyzed in the project terrestrial BE/BA (Loffland 2019). These impacts are summarized below:

**Mechanical Thinning/Harvest (Commercial Harvest)**-There will be reductions in the small to large sized tree component (0-30" dbh) within the proposed mechanical thinning/harvest units, most of the reductions would take place in the intermediate and codominant trees as these units have previously been thinned. Snag numbers will be reduced along roadways and near landing, where they pose a threat to human safety. Where recent mortality, has occurred some of these trees may be removed as part of the project, where they either pose a safety threat to operations, and/or have commercial value. Openings/gaps may be created or enhanced, where recent tree mortality has occurred and trees are removed, and where natural openings currently exist and are enlarged by

harvest, these gaps are expected to be .25 acre or less in size. Canopy closure as a general rule will be reduced by 5-15%, but will be maintained on average across a unit at or above 50% canopy closure, across proposed thinning stands.

These treatments would reduce potential for future tree mortality from insect and disease, improve stand health, release and retain oaks, and trees with high wildlife/bird habitat increase small scale habitat diversity, for landbirds. Due to the variety of habitats contained in the project, and diversity of proposed actions, implementation of the design features, the project would not adversely impact migratory land bird species or their associated habitats.

**Fuel Reduction Treatments (Fuel Reduction Management Strategy and Treatments for Protection of California Spotted Owl Habitat)** - Little change in canopy closure would be expected from the fuel break treatments, especially within spotted owl and goshawk PACs where it is expected to be maintain at 90% of existing level, post treatment. There would be short term reductions in available shrub habitats, immediately following both initial treatments, and follow up treatments, which would be repeated as necessary to maintain the fuel breaks over the next 10-15 years. How much area is treated, and how often the maintenance treatments occur would vary depend on the maintenance tool used (prescribed fire, hand thinning, etc.), and the speed with which fuel conditions change.

Snag numbers would be greatly reduced within road corridor treatment units, with highest levels (all or most) of reduction along the ridge tops and roads in the fuelbreaks, especially within the 35 feet of centerline more intensive treatments, and decreasing reductions the further from the roads and ridges, outside of the 200 foot hazard centerline and fuel treatment areas. Away from the road corridor, total numbers of snags may not change greatly, but average snag size (diameter) would likely be reduced, primarily as a result of prescribed burning. Snags would not be actively lit during burn operations, but are susceptible to catching fire. The burning would generate new snags, but these tend to be in the lower diameter classes, as burn prescriptions are designed to retain most of the older, larger diameter trees and canopy closure.

These treatments would allow for faster, safer, more effective wildfire suppression. Improve forest health, and allow for easier prescribed burning and future maintenance treatments. Protect existing late seral habitats, used by birds such as spotted owl and goshawk.

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