

# Bird Conservation and Timber Stand Management in the Klamath Mountains Ecoregion

## Timber Harvest Planning Opportunities

### Retention

- Retain trees that may be too big for processing mills
- Retain trees in patches of 15 or more
- Avoid placing skid trails over large downed wood when possible
- Where feasible, retain existing large snags



- Leave trees as future snag recruits
- Retain trees with wildlife characteristics (e.g., cavities, nest platforms, granary trees)

*Acorn Woodpeckers granaries are often in large trees or snags with many holes for storing acorns*

### Hardwoods

- Retain existing deciduous trees and deciduous vegetation along perennial and intermittent streams
- Retain and manage for mature pine and oak canopy trees when present
- Remove encroaching Douglas firs to protect retained oak trees



*Black-throated Gray Warbler*

### Shrubs

- Retain berry-producing shrubs in areas where productivity and conifer seedling regeneration are naturally lower
- Leave shrubs in large patches when possible
- During harvest, move operations around a shrub patch instead of clearing it

### Desired habitat conditions for birds

- Large green trees provide foraging and habitat for birds such as Olive-sided Flycatcher, Brown Creeper, and Pileated Woodpecker
- Snags are important nesting and foraging habitat for bark-foraging and cavity nesting species, such as Northern Flicker and Purple Martin
- Large downed wood creates forest floor complexity for species such as Pacific Wren



*Brown Creeper*

### Desired habitat conditions for birds

- >20% deciduous tree cover provides habitat for Black-throated Gray Warbler, Nashville Warbler, Purple Finch, and Wilson's Warbler
- Oak trees provide acorns, an abundant food source for wildlife, and habitat for cavity nesting birds such as Northern Flicker
- Mature oaks require sunlight, so harvesting conifers can help to protect important oak trees

### Desired habitat conditions for birds

- Shrub patches provide cover and food sources for species like Fox Sparrow, Hermit Thrush, Lazuli Bunting, and Orange-crowned Warbler
- Nectar-producing plants and shrubs are important food sources for Rufous Hummingbird



*Rufous Hummingbird*

### Site-level Project Opportunities

- Wildfire can create post-disturbance habitats that provide snags and cavities for many bird species. Leave patches of burned areas with snags, and retain and encourage growth of native flowering shrubs.
- Allow post-fire patches to regenerate naturally following fire, especially in areas more suitable for hardwoods and oaks.



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## Post-harvest Treatment Opportunities

### Vegetation control

- Leave deciduous trees and shrubs in areas where productivity and conifer seedling regeneration are naturally lower
- Leave snags and/or recruit snags from medium to large trees
- Leave shrub patches
- Minimize herbicide use to encourage shrub growth

### Replanting

- Plant lower density of conifers to allow for shrubs and deciduous trees to develop
- Plant and foster development of deciduous trees
- Plant a mixture of tree and shrub species; if hardwoods are prevalent cut some to encourage sprouting
- Use natural site variation to create gaps; consider leaving open spaces for shrub growth

### Thinning

- Thin conifers to maintain their growth rates while promoting native shrub growth
- Thin from below to encourage development of hardwoods and tree species diversity in the understory
- Favor large oak trees; reduce encroaching Douglas firs within two times the dripline of big oaks

### Desired habitat conditions for birds



Wildlife Snag

- Snags are important habitat for cavity nesting birds such as Northern Flicker
- Shrubs provide berries and insects for breeding birds including Nashville-Warbler and Lazuli Bunting

### Desired habitat conditions for birds

- >20% deciduous tree cover provides benefits for Black-throated Gray Warbler, Nashville Warbler, Purple Finch, and Wilson's Warbler
- Shrub patches provide cover and food sources for species like Fox Sparrow, Hermit Thrush, Lazuli Bunting, and Orange-crowned Warbler



Black-throated Gray Warbler

### Desired habitat conditions for birds

- Fewer trees per acre can provide high-quality habitat and reduce moisture competition for young trees
- Oaks and other deciduous trees are important for Black-throated Gray Warbler, Nashville Warbler, Purple Finch, and Wilson's Warbler



Rufous Hummingbird

### Site-level Project Opportunities



Purple Martin

- Retain and encourage growth of native nectar producing plants for hummingbirds.
- Consider seeding some areas with bird-friendly seed mixes of native grasses and forbs and other nectar producing plants.
- SPECIAL PROJECT: In stands where snag recruitment potential is high, put up Purple Martin boxes. Nest boxes should follow specifications with small openings that discourage European Starlings.

