

Avian Resources Report
for the
Scott River Streambank Bioengineering Project
Lead Agency: Siskiyou Resource Conservation District

Prepared by: _____ *David Johnson* _____ Date: _____ 6/25/2018 _____

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I. Introduction

The purpose of this Avian Resources Report is to review the potential impacts of the proposed Scott River Bioengineering Project (Project) on avian species as required by the California Environmental Quality Act. The resources considered in this report include Federal or State (California) listed Threatened, Endangered, or Candidate species and their critical habitats. The Siskiyou Resource Conservation District is the lead partner on this project.

II. Description of the Project Area, Goals and Objectives

The purpose of the *Scott River Stream Restoration and Sediment Reduction Program* is to continue the implementation, coordination and planning of stream and riparian restoration activities to reduce sediment and thermal inputs to the Scott River and tributaries. Specifically, the Project is designed to reduce bank erosion and involves the installation of four engineered log-jams (ELJs 1 – 4) on the river left (west) and one (ELJ 5) on river right (east) banks, the construction of an apex log-jam, and the grading of high flow water channels and the floodplain terrace. Installation of the ELJs will require excavation along approximately 175 linear feet of streambank and the grading of the floodplain terrace will occur along approximately 145 linear feet of the floodplain terrace. Spoils will be deposited in an upland location approximately 600 feet from the log-jams. Heavy equipment will access the Project site on existing roads.

To de-water the site, the Siskiyou Resource Conservation District will phase the diversion of water in order to isolate both the river left and river right banks. River diversion will involve the excavation of alternative channels and the construction of cofferdams with turbidity protection.

Revegetation efforts will occur across the entire treated length of the Project and are integral to the stability of bank treatments and riparian function. Revegetation efforts will focus on the excavated and graded areas, along the constructed toe and within the ELJs, and selected areas along the bank. Any willows impacted during Project construction will be salvaged and replanted within the Project area.

The Project will be implemented within the low-flow period and is planned to occur between September 15st and October 15th. In addition, surveys will be completed to assess potential impacts to sensitive plant and animal species and will assist in the development of any mitigation efforts. All activities will follow Project Best Management Practices.

III. Species and Critical Habitat Addressed

To determine which Federal or State (California) listed Threatened, Endangered, or Candidate species and their critical habitat that may occur within or adjacent to the Project area, an updated list of the federally listed Threatened or Endangered species (Candidates included) and their Critical Habitats that may be present in Siskiyou County, was obtained from the U.S. Fish and Wildlife Service's Information for Planning and Conservation (IPAC) database on June 25,

2018. The California Department of Fish and Wildlife’s California Natural Diversity Database (CNDDDB) was also consulted on June 11, 2018, to obtain a list of State listed Threatened, Endangered, or Candidate species potentially occurring in the Project area. Specifically, the State list was generated by querying for listed species in the CNDDDB for the nine USGS 7.5’ topographic quads centered on and surrounding the quad containing the Project. See Table 1 for the complete list of species.

Table 1. Federal and State (California) Threatened, Endangered, Proposed, or Candidate species and their Critical Habitats that may occur within or adjacent to the Project area.

Common Name	Scientific Name	State Status¹	Federal Status¹	Critical Habitat Designated	Habitat Present
Northern spotted owl	<i>Strix occidentalis caurina</i>	T	T	Yes	No
Great gray owl	<i>Strix nebulosa</i>	E	N	No	No
Bank swallow	<i>Riparia riparia</i>	T	N	No	Yes
Greater sandhill crane	<i>Grus Canadensis tabida</i>	T	N	No	No
Western yellow-billed cuckoo	<i>Coccyzus americanus</i>	E	T	Yes	No
Willow flycatcher ²	<i>Empidonax trailii</i>	T	N	No	Yes

¹ T = threatened, E= endangered, N = no status.

² Willow flycatcher did not appear on the CNDDDB query for species potentially occurring within or adjacent to the Project area. However, field reviews determined that suitable nesting habitat is present within or adjacent to the Project area. Therefore, willow flycatchers were added to the list of species that may occur within or adjacent to the Project area.

IV. Field Review Results

On June 6 and 20, 2018, David Johnson (U.S. Fish and Wildlife Service Fish and Wildlife Biologist) reviewed the proposed Project area to assess the presence or suitability of habitat for the species identified in section III of this document. Based on these reviews, suitable habitat is not present within or adjacent to the Project area for the following species and they will not be addressed further in this report: northern spotted owl (mature coniferous habitats); great gray owl (coniferous forests or bogs); western yellow-billed cuckoo (large, contiguous blocks of riparian woodlands, typically cottonwood, with dense cover and water nearby); and greater sandhill crane

(shallow wetland habitats for breeding). These reviews did confirm that suitable nesting habitat is present and that a Bank Swallow colony is occupying habitat within the Project reach. Willow Flycatchers were not observed during these reviews but suitable nesting habitat for Willow Flycatchers was observed within the Project reach.

For the purpose of this report suitable nesting habitat for Bank Swallows is defined as vertical banks ≥ 1 meter in height, with little or no accumulation of aggregate material at the bank toe, friable soils, and minimal or no vegetation (Photos 1 and 2). Unsuitable nesting habitat is defined as areas lacking vertical banks, vertical banks < 1 meter in height with aggregate material at the bank toe, heavily vegetated banks, or banks with unstable soils (Photos 3 and 4). Suitable nesting habitat for Willow Flycatchers is defined as dense willow thickets of ≥ 0.5 acres in size.

V. Breeding Ecology and Habitat

Bank swallow

Bank Swallows are migratory birds that predominantly winter in South America (Ehrlich et al. 1988). They return to their breeding grounds in California beginning in late March and early April. They vacate their breeding grounds as soon as the juveniles begin to disperse from the colonies around late June or early July and breeding areas are typically devoid of bank swallows by early August (Garrison 1998).

Bank Swallows nest in colonies and the size of the colonies are dependent upon the amount of suitable nesting habitat (Garrison 1998). Bank Swallow nests consist of a burrow with a nest cavity at the terminal end of the borrow. Nests are typically built in vertical banks with friable soils along streams, rivers, and ocean coasts. In California, the height of the vertical banks at nesting colonies range from 1.3 m to 7.3 m with an average of 3.3 m (Humphrey and Garrison 1987) and most nest burrows are excavated in the top third of the bank (Garrison 1998). Preferred soil types for nesting include sandy loam, loamy sand, silty sand, loam, and sand (Garrison 1999) while coarse gravelly soils are avoided (Peterson 1955). Bank Swallows also tend to avoid slopes for nesting that have vegetation or root mass that inhibit burrow excavation (Garrison 1998; Siver and Griffin 2009) and unstable slopes that have slumping faces with aggregate material (John 1991; Ghent 2001; Ontario Ministry of Natural Resources 2017) which increase susceptibility to predators.

Willow Flycatcher

The Willow Flycatcher winters south from Mexico to Panama and returns to their breeding grounds in California from mid-May to mid-June (Ehrlich et al. 1988). Fledging varies but is completed by the end of August and fall migration peaks from mid-August to mid-September (Sedgwick 2000).

In California, this species most often occurs in broad, open river valleys or large mountain meadows with lush, high-foliage volume willows (Harris et al. 1987). Willow Flycatchers typically select willow for nesting (Ehrlich 1988; Craig and Williams 1998) but may use other species of shrubs (Sedgwick 2000). In riverine habitats, nest sites most commonly occur in wider riparian zones with large patches of high-density willow (Harris 1991; Sedgwick and Knopf 1992; Craig and Williams 1998).

VI. Effects of the Proposed Action

Bank Swallow

Direct effects:

The construction of the ELJs will require excavation which will directly impact approximately 175 linear feet of stream bank. Of these 175 feet, approximately 50 feet contain suitable nesting habitat. The remaining 125 feet does not contain suitable nesting habitat. Suitable nesting habitat occurs at ELJ sites one, three, and four. At ELJ sites one and three, six nesting burrows were observed but did not appear to be occupied. At ELJ site four, eight burrows were observed and at least two appeared to be occupied. Engineered log-jam site two is characterized by gradually sloping banks and dense vegetation and ELJ site five is characterized by large rock and dense vegetation. As such, these two sites do not contain suitable nesting habitat.

The grading of the floodplain terrace will directly impact the top two feet of the streambank along approximately 145 linear feet. Approximately 30 linear feet of vertical bank at the upstream end of the terrace contains suitable nesting habitat. Along this section of stream bank, 18 burrows were observed and at least three appeared to be occupied. Downstream of the bank containing suitable habitat, the top two feet of the terrace is composed of a depositional layer of coarse gravel and sand that is very unstable (Photo 5). This layer is also contains a dense root mass from vegetation growing on the terrace (Photo 6). Additionally, despite comprising the top third of the bank, no burrows were observed in this layer suggesting it does not contain suitable nesting habitat. While the lower bank below the depositional layer does contain suitable nesting habitat, the grading of the depositional layer will not directly impact the lower bank. Also, it is expected that some erosion will continue to occur on the lower banks after Project implementation, continuing to enhance the existing nesting habitat.

Construction of the apex log-jam, dewatering actions, deposition of spoils, and heavy equipment access will have no impact on suitable nesting habitat. All Project activities that create noise above ambient levels and have the potential to disturb nesting birds, will occur outside of the breeding season and will have no direct effect on nesting behaviors.

While the proposed Project may directly impact 80 feet of streambank containing suitable nesting habitat, suitable nesting habitat is locally abundant along the valley reach of the Scott River. Therefore, the direct impacts from this project are expected to have a negligible effect on

available nesting habitat within the valley.

Indirect effects:

It is anticipated that the ELJs will capture and store sediment, which overtime will promote the establishment of riparian vegetation. This process, along with the proposed plantings at the ELJs, could have an indirect impact on approximately 75 feet of suitable nesting habitat upstream of the ELJs as riparian habitat may prevent or reduce future erosion at these locations. However, uncertainties including the frequency and magnitude of high water events, and how natural fluvial processes will affect the Project reach over time, make quantifying these effects problematic.

Willow flycatcher

Direct effects:

The construction of the ELJs and the grading of the floodplain terrace will remove individual isolated trees but will not remove larger patches of willow. All willows impacted during Project implementation will be salvaged and replanted within the Project reach. Additionally, all Project activities that create noise above ambient levels and have the potential to disturb nesting birds will occur outside of the breeding season. Therefore, this project will have no direct effects on nesting habitat or nesting birds.

Indirect effects:

There are no adverse indirect effects anticipated with this project. Overtime, the stabilizing of the banks may allow for the development of riparian habitat which may increase suitable habitat within the Project reach.

VII. Best Management Practices

The following best management practices will be incorporated into the Project to minimize impacts to bank swallows and willow flycatchers.

- 1) Before implementing the proposed Project, surveys to determine the presence of Bank Swallow and Willow Flycatcher habitat will be conducted and suitable nesting habitat will be avoided to the extent possible.
- 2) All Project activities will occur outside of the breeding season.
- 3) All disturbed willows will be salvaged and replanted within the Project reach.

VIII. Potential Mitigation Measures

The following is a list of potential mitigation measures for Bank Swallows if required. Because no direct effects to Willow Flycatcher are anticipated, no potential mitigation measures are listed for this species.

- 1) Create suitable habitat by building or reconstructing earthen embankments so they have vertical banks.
- 2) Enhance natural banks by removing vegetation or other impediments to colonization.
- 3) Enter into conservation easements to protect existing habitat.

Literature Cited

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Photos 1 and 2. Examples of suitable nesting habitat within the Scott River Streambank Bioengineering Project reach. Sites are characterized by vertical slopes of ≥ 2 meters, friable soils, and little or no accumulation of aggregate materials at the base of the bank.

Photo 1.



Photo 2.



Photos 3 and 4. Examples of unsuitable nesting habitat within the Scott River Streambank Bioengineering Project reach. Sites are characterized by lack of vertical slopes, vertical slopes of < 1 meter, significant accumulation of aggregate materials at the base of the bank, and/or dense vegetation.

Photo 3.



Photo 4.



Photos 5. Example of the depositional layer on the floodplain terrace within the Scott River Streambank Bioengineering Project reach. The top layer consists of coarse gravel and sand that is unstable and not suitable nesting habitat for bank swallows.



Photo 6. Example of the depositional layer on the floodplain terrace within the Scott River Streambank Bioengineering Project reach. Much of the depositional layer is characterized by dense roots from the vegetation growing on top of the terrace.

