HAYFORK AIRPORT

FINAL ENVIRONMENTAL ASSESSMENT HAYFORK, TRINITY COUNTY, CALIFORNIA

APPENDICES

Appendix A: Biological Assessment

Appendix B: Cultural Resources Assessment

Appendix C: Wetland Delineation

Appendix D: Agency Consultation Letters

Appendix E: Land Use Assurance Letter

Appendix F: Affidavit of Publication

Appendix G: Public Comments and Responses

Appendix H: Construction Emissions

Federal Lead Agency

U.S. Department of Transportation
Federal Aviation Administration

Environmental Consultant

WALLACE ENVIRONMENTAL CONSULTING, INC.
P.O. Box 266, Courtland, CA 95615

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APPENDIX A

Biological Assessment

Biological Assessment for the Hayfork Airport Runway Safety Area Improvements and Taxiway Extension Projects

Prepared on behalf of

Federal Aviation Administration
San Francisco ADO
831 Mitten Road, Suite 210
Burlingame, CA 94010
Contact: Barry Franklin

Prepared by

Wallace Environmental Consulting, Inc.
North Fork Associates
and
Stillwater Sciences

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Table of Contents

Tables

Figures

HAYFORK AIRPORT
FEDERAL AVIATION ADMINISTRATION
BIOLOGICAL ASSESSMENT

Hayfork Airport
Trinity County, California
Sections 11 & 12; Township 31 North, Range 12 West
USGS Hayfork, CA, 7 ½ minute Quadrangle

Responsible Parties

Trinity County (Applicant)
Department of Transportation
Ms. Jan Smith
31301 State Highway 3
P.O. Box 2490
Weaverville, CA 96093
(530) 623-1365

U.S. Department of Transportation
Federal Aviation Administration
San Francisco ADO
Mr. Barry Franklin
Environmental Protection Specialist
831 Mitten Road, Suite 210
Burlingame, CA 94010-1303
(650) 876-2778 ext 614

1.0 Introduction

1.1 Summary

The purpose of this biological assessment (BA) is to determine the potential effects of the proposed Hayfork Airport Runway Safety Area (RSA) improvements and taxiway extension project (Project) on the Southern Oregon/Northern California Coasts (SONCC) coho salmon (*Oncorhynchus kisutch*) and northern spotted owl (*Strix occidentalis caurina*), which are both listed as "threatened" under the Federal Endangered Species Act. In addition, the BA will determine the potential impacts of the Project on SONCC coho salmon designated critical habitat and Essential Fish Habitat (EFH) for coho and Chinook salmon. This biological assessment is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c), and follows the standards established in the Federal Aviation Administration's (FAA) National Environmental Policy Act (NEPA) and Endangered Species Act (ESA) guidance.

The Project Area is located in the community of Hayfork, Trinity County, California and within the property boundaries of the Hayfork Airport (Figure 1-1). Hayfork Creek, which is a tributary to the South Fork Trinity River (itself a tributary to the Trinity River and thence, the Klamath River), flows in a well-defined channel along the northern edge of the airport. The airport is located on a terrace along the south bank and mostly above the 100-year floodplain for Hayfork Creek. Kingsbury Gulch, which is an intermittent tributary to Hayfork Creek, flows from south to north through the airport and underneath the airport's only runway in a concrete culvert. The area where Kingsbury Gulch crosses the airport is within the Kingsbury Gulch 100-year floodplain (Figure 1-2). Kingsbury Gulch is designated by National Marine Fisheries Service (NMFS) as critical habitat for coho salmon and contains EFH for coho and Chinook salmon.

1.2 Species Considered

For this BA, various databases were queried, and previously-prepared biological documents were reviewed for special-status species known to occur in the region surrounding the airport. Queries included the Hayfork USGS quadrangle species list created by the U.S. Fish and Wildlife Service (USFWS), the California Natural Diversity Data Base (CNDDB), and the California Native Plant Society (CNPS) Inventory.

Species requiring habitats not occurring in or around the airport and species occurring far outside the airport are not considered in this BA. Field surveys and the best professional judgment of qualified biologists were used to refine the following list of federally-listed species considered in this document:

Federal Threatened, Endangered, Proposed Threatened and Proposed Endangered Species

Southern Oregon/ Northern California coho salmon (*Oncorhynchus kisutch):*	**Threatened**
Northern spotted owl (*Strix occidentalis caurina):*	**Threatened**

In addition, Spring-run Chinook salmon, Upper Klamath-Trinity Rivers, Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha)* are considered because of Kingsbury Gulch's EFH designation.

1.3 Project Description: Taxiway Extension and Runway Safety Area Improvements

A portion of the proposed action is located within designated SONCC coho salmon habitat within the airport property. The designated critical habitat for coho salmon on the airport requires that the action be evaluated in this BA and that it be considered during consultation between the FAA and the NMFS.

The proposed action includes the extension of the airport's primary taxiway and improvements to the runway safety area (RSA). A 30-foot wide partial parallel taxiway currently serves the eastern two-thirds of the runway, a length of approximately 2,700 feet. The proposed taxiway extension would extend the taxiway approximately 1,415 feet to the west, to match the full length of the existing runway. The taxiway extension provides a full-length northern parallel taxiway for access to the western portion of the airport.

A two-span (two passageway) hydraulic conveyance structure with an open bottom serving to carry the taxiway and provide fish passage would be constructed where the taxiway extension crosses Kingsbury Gulch, just west of the existing end of the taxiway. The conveyance structure will be 6.7 feet high and will extend 20 feet beyond the north and south edge of the taxiway pavement. The conveyance structure would be designed to match or exceed the hydraulic capacity of the existing culvert under the runway and will have a natural bottom to allow for unimpeded fish passage and erosion control. The construction of the structure beneath the proposed taxiway extension will be approximately 120 feet wide over Kingsbury Gulch. See Figures 1-3 and 1-4.

Both sides of the taxiway extension will be graded and cleared ten feet from the edges of the pavement, or 25 feet from both sides of the taxiway centerline, to meet FAA design standards for the Taxiway Safety Area. The ground will be cleared an additional 20 feet on either side of the taxiway to meet FAA design standards to create a Taxiway Object Free area of 90 feet, centered on the taxiway centerline.

In addition, the Runway Safety Area (RSA) will be graded and improved at the end of Runway 7 to meet FAA RSA design standards. Currently, the ground in the RSA is uneven and brush is present. The brush must be removed to remain clear of the approach surfaces. The area of the RSA to be graded and cleared extends 240 feet west of the end of Runway 7 and 120 feet north and south, centered on the runway centerline, or 60 feet from either edge of the runway pavement.

1.4 Consultation to Date

To date (January 2011) the Federal Aviation Administration (FAA) has not requested consultation with any resource agency responsible for biological resources within the airport. The wetland delineation prepared for the airport (North Fork Associates, 2010) has been submitted to the U.S. Army Corps of Engineers (Corps) and the Corps has begun its verification process to identify jurisdictional waters of the U.S.

The FAA has prepared a draft Environmental Assessment (EA) (January 2011) that includes an assessment of threatened and endangered species and biological communities. The EA is prepared in accordance with the NEPA and FAA environmental guidelines. Based on early data collection during preparation of the EA, the FAA made the decision to prepare this BA.

1.5 Best Management Practices and Measures to Minimize Impacts

Temporary adverse effects, such as construction runoff effects or water quality effects, shall be avoided by use of best management practices during construction activities. Without adequate measures to minimize construction impacts, the proposed projects could adversely affect habitat and water quality. Trinity County will implement the following measures to minimize construction-related impacts:

- Watering active construction areas to control dust generation during earthmoving activities;
- Installing erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, and sandbag dykes) to prevent silt runoff to public roadways, storm drains or waterways;
- Stockpiling and replacing topsoil at the conclusion of construction activities.
- Covering Runway Safety Area with gravel and reseeding Object Free Area with native grasses;
- Grading to eliminate flow paths that could concentrate water and result in rilling and gullying;
- No disturbed surfaces will be left without erosion control measures in place during the rainy season, which generally occurs between October 15 and April 15.

- Excavation in Kingsbury Gulch shall be limited to the period when the stream is dry (estimated June 15 to October 15).
- If dewatering of excavations is necessary, groundwater shall be pumped to an unlined sediment basin where it will percolate back into the soil without discharging to surface water bodies. Existing depressions on site may be used for this purpose.
- No contact of wet concrete with the live stream will be allowed. Groundwater that comes in contact with wet concrete during construction of the piers and footings will not be allowed to enter the creek.
- Concrete washouts of adequate size to treat anticipated concrete waste from construction, shall be installed. Treated concrete waste solids shall be transported offsite. Liquid washout waste that is free of concrete solids may be disposed of in a permeable upland sediment basin and percolated back into the soil.
- If drilling muds are used to drill holes within the ordinary high-water zone, all drilling muds and fluid within all drilled holes will be pumped through a closed system, contained on-site in tanks, removed from the project area, and disposed of off-site at an appropriate facility.
- The TCDOT contractor will remove all spoils materials from the drilled or excavated pier holes and dispose of the material in a manner that will not result in discharge of runoff of sediment into Waters of the United States.

2.0 Environmental Baseline on the Hayfork Airport

Hayfork Creek drains a basin of 234,000 acres and is the largest tributary of the South Fork Trinity River (SFTR), which flows into the Trinity River and then to the Klamath River before reaching the Pacific Ocean. The 79,574-acre Middle Fork Hayfork Creek and 36,328-acre Salt Creek watersheds drain through the Hayfork Valley, and include the Tule Creek, Big Creek, Kingsbury Gulch, Carr Creek, Philpot Creek and Barker Creek watersheds. The middle reach of Hayfork Creek is primarily contained within private lands and runs in an approximate east to west direction along the Hayfork Valley floor. The Middle Hayfork Creek and Salt Creek Watershed Analysis (WA) was completed in 2000, and describes anadromous fish species distributions, habitat requirements and life histories (USDA-FS 2000).

2.1 Surface Water Hydrology, Wetlands and Aquatic Resources

The major hydrologic feature on the property is Kingsbury Gulch, which bisects the property flowing from south to north. Kingsbury Gulch flows into Hayfork Creek, about 1600 feet to the north. Active flow in Kingsbury Gulch occurs from the beginning of the wet season, usually in November, through May or early June. The stream is dry during the summer months and most of the fall. Localized and potentially isolated wetlands occur in some of the depressions left behind by historic mining (dredge hollow wetlands). No other drainages or notable water features exist in the study area.

Kingsbury Gulch runs through the airport property and underneath Runway 7-25 through a concrete 3-box culvert. Kingsbury Gulch is an intermittent watercourse with seasonal flow and is contained within a 3,795-acre (5.9 mi^2) drainage. The stream slope varies from 1.4% between the runway and Morgan Hill Road to 1.3% inside the box culverts to 0.5% downstream of the runway. Typically, the channel is dry by early summer and remains so until winter storms saturate the soil enough to result in runoff. The bankfull channel within the airport is approximately 25 feet wide. During a field review in July 2010, Kingsbury Gulch was dry (North Fork Associates 2010).

During a field review in May 2010, a few days after a rainfall event, Kingsbury Gulch was flowing at about 2 cubic feet per second and had likely been running for several months. One 20-ft long pool was observed, which had a maximum depth of 1 foot.

Internal airport drainage is controlled by natural topography. In the western portion of the airport, most surface water runoff is directed into Kingsbury Gulch. In the eastern portion of the airport, most surface water runoff flows into Hayfork Creek which is north of the airport. Kingsbury Gulch, as it runs through the airport and under Runway 7-25, is a FEMA designated floodplain (see Figure 1-2).

The surface water features on the airport were mapped and evaluated for potential jurisdictional status as waters of the United States (Hayfork Wetland Delineation, 2010). The wetland delineation identified two categories of waters of the United States in the project area: seasonal wetlands and Kingsbury Gulch, an intermittent stream.

The airport has developed a master drainage plan that accounts for the taxiway extension, which will require surface water drainage changes. The taxiway extension includes construction of a culvert where the taxiway will cross Kingsbury Gulch. Although modifying drainage patterns in the vicinity of the project, overall internal drainage patterns are not substantially changed.

2.2 Soils and Geology

Four soil units have been mapped on the site (Natural Resources Conservation Service (NRCS) 2010): Atter-dumps, dredge tailings-xerofluvents complex, 2 to 9 percent slopes; Carrcreek gravelly loam, 0 to 2 percent slopes; Haysum gravelly loam, 0 to 2 percent slopes; Jafa gravelly loam, 0 to 2 percent slopes. According to the California List of Hydric Soils (http://soils.usda.gov/use/hydric/lists/state.html), two of the soil units are conceded hydric (Atter-dumps and Carrcreek).

2.3 Vegetation

There are four primary vegetation communities in the study area; Ruderal, Chaparral/Scrub- Shrub, Riparian, and Seasonal Wetland (dredge hollow wetlands) (Figure 2-1). The Ruderal vegetation community are the herbaceous weedy areas that are continually cleared or do not support woody vegetation because of cobbles on the surface. This habitat occurs adjacent to all paved areas and in the infield between the runway and taxiway. Other areas that are not characterized by woody vegetation are also considered ruderal. Many of these areas are cobbly or rocky and support only a sparse vegetation layer. Common species in the ruderal areas include yellow starthistle, prickly lettuce, hedge mustard, rose clover, nude buckwheat, moth mullein, cheat grass squirreltail, and ripgut grass.

The Chaparral/Shrub-scrub community support several woody species among the ruderal herbaceous species. These shrubby areas are intermixed with the ruderal areas. In areas where cobbles are not at the surface, shrubs colonize the herbaceous community and the habitat converts from ruderal to chaparral/shrub-scrub if enough years go by without scraping or disturbance. The south side of the airport, away from the runway, has not been scraped in several years and a young chaparral community is forming. Common shrubs in this community include sourberry (skunkbrush), greenleaf manzanita, buckbrush, birch-leaf mountain mahogany, and Himalayan blackberry.

The Riparian vegetation community occurs among the mined areas on the north side of the study area, associated with the undulating landscape and the “dredge hollows.” Riparian hydrophytic vegetation mixes with upland non hydrophytic vegetation higher on the slopes. Riparian vegetation includes black cottonwood, pacific and arroyo willow, Himalayan blackberry, blackcap raspberry, California rose, gooseberry, and brown dogwood.

2.4 Fish Habitat Conditions and Salmonid Utilization

Fish habitat in Kingsbury Gulch is non-existent during the summer and fall due to no flow in the channel. Fish habitat is present during runoff periods when the channel is flowing. However, even under flow conditions, the planebed channel is nearly devoid of pools and is primarily run and riffle habitat. Spawning habitats for steelhead is present during winter and spring flow periods, but in sub-optimal condition due to the angular substrate (Figure 2-2a). Winter and spring rearing habitat conditions for coho or Chinook salmon within Kingsbury Gulch are poor with limited access to high flow off-channel habitat and lack of pools and woody debris.

Salmonid utilization of Kingsbury Gulch is limited to those months when there is surface flow. However, a twin culvert barrier downstream at Riverview Road prevents access by fish to the airport during at least some flow conditions. The Riverview Road culverts have been identified as failing to meet fish passage criteria for all species of adults and all age classes of juvenile salmonids (Taylor et al. 2002). In addition, the box culverts under the airport’s runway are also considered by Trinity County Department of Transportation to be barriers to fish passage (Figure 2-2b), presumably due to their length, lack of resting areas, and smooth box construction, which likely results in high water velocities during storm runoff events. The Morgan Hill Road crossing upstream of the Project area is also considered to be a barrier to salmonid passage even though some baffles were installed to aid fish migration (Figure 2-2c). Taylor et al. (2002) determined that the Morgan Hill Road crossing failed to meet passage criteria for all species of adult salmonids and all age classes of juveniles. Taylor et al. (2002) also reported that there was approximately 7.4 miles of potential fishbearing habitat upstream of the Morgan Hill Road culvert.

It appears that the road and airport culverts are not the complete barriers for salmonids as previously assumed. Stillwater Sciences biologists observed 5 steelhead fry upstream of the Morgan Hill Road culvert; 4 fry between the runway and Morgan Hill Road; and 1 fry and 1 age 2+ steelhead/resident rainbow trout between the runway and downstream fence line (Dennis Halligan and Lauren Dusek, Stillwater Sciences, personal observations 2010). These observations would indicate that steelhead adults are able to pass the three culverts during some flow conditions and spawn farther upstream in Kingsbury Gulch.

A USDA Forest Service memorandum for a 1991 Kingsbury Gulch timber sale noted that Kingsbury Gulch is utilized by steelhead, resident rainbow trout, and speckled dace (cited in Taylor et al. 2002). Although Kingsbury Gulch is designated critical habitat for coho salmon, the lack of pools and suitable habitat make it very poor quality habitat. In addition, since coho salmon do not inhabit Hayfork Valley streams, the existing critical habitat in Kingsbury Gulch would not even be utilized.

2.5 Other Wildlife Resources

During a wildlife assessment in May 2010 (Stillwater Sciences), butterflies, fish, amphibians, reptiles, birds, and mammals were observed. The Primary Assessment Area includes Kingsbury Gulch, which provides habitat for fry and 2+ Klamath Mountain Province steelhead (CDFG species of special concern), foothill yellow-legged frog (CDFG species of special concern), and western toad (*Bufo boreas*) (typical snout-to-vent length of 30 mm [1.2 in]). Stream temperatures within Kingsbury Gulch were 8^{o}C (46^{o}F). Only one reptile was observed, the northwestern fence lizard (*Sceloporus occidentalis occidentalis*), within the taxiway extension area. Gaps in the fence line that surround the airport allow access for mammals including western pocket gopher (*Thomomys mazama*), brush rabbit (*Sylvilagus bachmani*), and other medium-sized mammals (e.g., otter, skunk, raccoon, grey fox). Three buildings within the Project Area were externally inspected for bat use; however, no evidence indicated presence. A total of 8 bird species were identified in the taxiway extension area and an additional 10 species were observed on other lands in the Project Area (Table 2-1). Bird calls and songs were heard and a few bird species were observed carrying nesting material; however, no nests were observed. Potential bird nesting habitat includes the riparian zone along Kingsbury Gulch and brushy habitat within the taxiway extension area.

Table 2-1. Bird species observed within the Hayfork Airport Runway Safety Project Area, May 2010.

Common name	Scientific name	Taxiway Extension (Primary Assessment Area)	Surrounding Project Area (Secondary Assessment Area)
Turkey vulture[1]	*Cathartes aura*	X	
Red-shouldered hawk[1]	*Buteo lineatus*		X
California quail	*Callipepla californica*		X
Northern flicker[1]	*Colaptes auratus*	X	X
Flycatcher spp.[1]	*Empidonax* spp.	X	X
Pacific-slope flycatcher[1]	*Empidonax difficilis*	X	X
Western kingbird[1]	*Tyrannus verticalis*		X
American crow[1]	*Corvus brachyrhynchos*		X
Western scrub jay[1]	*Aphelocoma californica*		X
Bushtit[1]	*Psaltriparus minimus*		X

Common name	Scientific name	Taxiway Extension (Primary Assessment Area)	Surrounding Project Area (Secondary Assessment Area)
Varied thrush[1]	*Ixoreus naevius*	X	
Orange-crowned warbler[1]	*Vermivora celata*		X
Yellow-rumped warbler[1]	*Dendroica coronata*		X
Wilson's warbler[1]	*Wilsonia pusilla*		X
Black-headed grosbeak[1]	*Pheucticus melanocephalus*	X	X
Song sparrow[1]	*Melospiza melodia*	X	X
White-crowned sparrow[1]	*Zonotrichia leucophrys*	X	
Golden-crowned sparrow[1]	*Zonotrichia atricapilla*		X

[1] Birds protected by the Migratory Bird Treaty Act (USFWS 2009).

3.0 Critical Habitat

3.1 Coho Salmon

On 5 May 1999, NMFS designated critical habitat for SONCC coho salmon in reaches of all rivers (including estuarine areas and tributaries) between the Mattole River in California and the Elk River in Oregon, inclusive (64 FR 24049).

In the 5 May 1999 Federal Register (64 FR 24049-24062), NMFS announced designation of critical habitat for the SONCC coho salmon. The notice defined critical habitat as follows:

> "Critical habitat is designated to include all river reaches accessible to listed coho salmon between Cape Blanco, Oregon, and Punta Gorda, California. Critical habitat consists of the water, substrate, and adjacent riparian zone of estuarine and riverine reaches (including off-channel habitats) in hydrologic units and counties identified in Table 6 of this part [includes the South Fork Trinity River (SFTR) in Trinity County]. Accessible reaches are those within the historical range of the ESU that can still be occupied by any life stage of coho salmon. Inaccessible reaches are those above specific dams identified in Table 6 of this part or above longstanding, naturally impassable barriers (i.e. natural waterfalls in existence for at least several hundred years)." No dams or barriers were identified on the SFTR (64 FR 24061).

The "adjacent riparian zone" was defined in the preamble to the Critical Habitat Designation as follows:

> "…Specifically, the adjacent riparian area is defined as the area adjacent to a stream that provides the following functions: shade, sediment, nutrient or chemical regulation, streambank stability, and input of large woody debris or organic matter." (64 FR 24055).

SONCC coho salmon designated critical habitat is present in Kingsbury Gulch upstream, within, and downstream of the airport.

3.2 Northern Spotted Owl

Critical habitat for northern spotted owl was originally designated in 1992 (USFWS 1992), and expanded in 2008 based on the Recovery Plan for the Spotted Owl (USFWS 2008a). Critical habitat units are designated solely on federal lands. The Project Area is not within designated northern spotted owl critical habitat. Northern spotted owl critical habitat is located 7.3 km (4.5 mi) from the Project within the Shasta-Trinity National Forest, which surrounds Hayfork Valley.

3.3 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires all Federal agencies to consult with NMFS on all actions or proposed actions (permitted, funded, or undertaken by the agency) that may adversely affect EFH. EFH is defined as those waters and substrate necessary to commercially important fish, including various Pacific salmon species, for spawning, breeding, feeding, and growth to maturity. Freshwater EFH for Pacific salmonids includes all those streams, lakes, ponds, wetlands, and other water bodies currently, or historically, accessible to salmon in Washington, Oregon, Idaho, and California, except areas upstream of certain impassable man-made barriers, and long-standing impassable natural barriers. NMFS interprets EFH to include aquatic areas and their associated physical, chemical, and biological properties used by fish that are necessary to support a sustainable fishery and the contribution of the managed species to a healthy ecosystem.

The project area contains EFH for SONCC coho salmon. Similarly, EFH consultation is required for Upper Klamath and Trinity rivers Chinook salmon (Oncorhynchus tshawytscha) ESU habitat, even though this species is not listed under ESA.

The BA's analysis of effects on SONCC coho salmon critical habitat includes, by definition, an analysis of effects on EFH.

4.0 Species Accounts and Status of the Species on the Hayfork Airport

The proposed project is located within the property of the Hayfork Airport, an active general aviation airport. The aspects of biology that relate the proposed action to federally listed species are listed below:

4.1 Coho Salmon

Coho salmon were historically distributed throughout the North Pacific Ocean from central California to Point Hope, Alaska, through the Aleutian Islands, and from the Anadyr River, Russia, south to Hokkaido, Japan (NMFS 1997). This species probably inhabited most coastal streams in Washington, Oregon, and northern and central California (NMFS 1997). After a coast-wide status review of coho salmon, NMFS proposed the SONCC ESU as threatened on July 25, 1995 (60 FR 38011). On 6 May 1997, the final rule listing SONCC coho salmon as threatened was published (62 FR 24588).

Nearly all coho salmon adults destined to spawn in the Klamath/Trinity River system enter the estuary in late-September through October as three year old fish after two growing seasons in the ocean (NMFS 1997). However, some precocious males, called "jacks," return to spawn after only six months at sea (NMFS 1997). In the Trinity River, adults spawn November through January (Hampton 1988). Coho salmon are known to spawn mostly in pool-tails and riffles with a range of water depths of 10–30 cm, substrate sizes 3.9– 8 cm in diameter, in water velocities of 0.3–0.75 m/sec., and the eggs are typically buried 18–40 cm deep (Sandercock 1991). Eggs hatch in four to 12 weeks, depending on the water temperature, and alevins (larval salmonids) remain in the nests (redds) until mid-May (Leidy and Leidy 1984). Juveniles rear in freshwater for up to 15 months before migrating to the ocean as smolts (NMFS 1997). It is assumed that the timing and habitat utilization by SONCC coho salmon in the Trinity River are similar to SONCC coho salmon in the South Fork Trinity River (SFTR).

Important habitat components for coho salmon fry are instream habitat complexity, including a mixture of pools and riffles, large woody debris, and well oxygenated cool water, with preferred temperatures ranges of 50–59°F (10–15°C) (Reiser and Bjornn 1979). Coho salmon fry initially congregate in quiet backwaters, side channels, and small creeks, especially in shady areas with overhanging branches. As they grow, they move to more open waters (Sandercock 1991). Since juvenile coho salmon prefer the slower moving sections of streams, the most productive coho nursery habitats tend to be small streams, which have a larger portion of slack water to midstream area.

The historical upper limit of SONCC coho salmon in the SFTR and Hayfork Creek is unknown. Olsen and Corral creeks (lower Hayfork Creek tributaries) represent the current known upstream extent of SONCC coho salmon distribution in Hayfork Creek (USDA-FS 2005), which is approximately 18 miles downstream of the project area. Observations of juvenile SONCC coho salmon in these locations were made in the summer/fall months of 2002 by the CDFG during presence/absence surveys (CDFG 2003 as cited in USDA-FS 2005). This observation may have resulted from the 2001 adult escapement and was considered the widest spawning distribution in the Trinity River Basin in recent memory (USDA-FS 2005). Since SONCC coho salmon have not been observed in Hayfork Creek within 18 miles of the airport, they are not expected to be present in Kingsbury Gulch (Figure 4-1).

4.2 Chinook Salmon

Chinook salmon historically ranged as far south as the Ventura River, California, and their northern extent reaches the Russian Far East. Life history strategies for Chinook salmon in coastal North American streams are predominately "ocean-type" (NMFS 1998). Ocean-type Chinook salmon migrate from the freshwater environment to the ocean environment within their first year. Ocean-type Chinook salmon tend to use estuaries within the first several weeks after emergence and prior to immigrating to the ocean. Residence in the Pacific Ocean is variable and complex, with most fish returning to natal streams to spawn as adults between their third and fifth year and possibly up to six years (Meyers et al. 1998). Chinook salmon die soon after spawning.

Chinook salmon in the Klamath River Basin upstream of the Trinity River confluence comprise the Upper Klamath and Trinity Rivers ESU. Salmon in this ESU are designated river-type "spring-run" Chinook salmon. Adult spring Chinook salmon have a unique life history that involves migrating to the upper reaches of the natal stream during spring and summer. Much of the summer is spent holding in pools where they mature sexually. The spawning period usually begins during the latter part of September and continues through October. No feeding occurs while in the river; instead adult spring Chinook salmon rely on stored body fat for maintenance and gonadal maturation. This life history pattern differs from the fall-run, which enter freshwater with almost mature gametes and spawn soon after during the fall period, usually lower in the watershed than spring-run Chinook salmon (Hillemeier 1993, as cited in USDA-FS 2005).

Chinook salmon spawn in clean gravels in streams and in the mainstem of some rivers. Depending on temperature, eggs incubate in redds for 1.5 to 4 months before hatching as alevins. Following yolk-sac absorption, alevins emerge from the gravel as fry and begin feeding. They require cold water, deep pools, and cover. Fall-run Chinook salmon fry grow quickly and will emigrate from freshwater between 60 and 120 days after emergence. In contrast, spring-run Chinook salmon will rear in river for approximately one year before immigrating to the ocean in early spring. For a complete life history description and status review see Meyers et al. (1998). For additional information regarding the freshwater habitat requirements for Chinook salmon see Bjornn and Reiser (1991).

According to local residents, in the 1950s, spring Chinook salmon spawned during the fall in the main stem of Hayfork Creek and in the lower end of tributaries such as Salt Creek, Tule Creek, Big Creek, and the East Fork of Hayfork Creek (PWA 1994). Studies conducted before the 1964 flood found that spring-run Chinook salmon spawning began around mid-September (La Faunce 1967). The peak of spawning activity occurred by mid-October. The lower extent of spawning activity on the SFTR was at Hyampom, but also extended from approximately 2 to 7 miles up Hayfork Creek (PWA 1994). During the summer of 1964, La Faunce (1967, as cited in PWA 1994) estimated the spring-run Chinook salmon population to be 11,600 fish.

The current distribution due to poor numbers of returning adults is approximately the boundary between the Middle and Lower Hayfork Creek 5th field watersheds (USDA-FS 2005). In the 10 years between 1991 and 2001, SFTR counts of adult spring-run Chinook salmon averaged 386 fish annually, ranging from 1,097 fish in 1996, to 66 fish in 1991 (CDFG 2001, 2002, as cited in USDA-FS 2005). Spring-run Chinook salmon have since been observed spawning in Hayfork Creek as far upstream as river mile (RM) 13 (USDA-FS 2004, as cited in USDA-FS 2005).

Thirty-two spring-run Chinook salmon and 29 spring-run Chinook salmon redds were observed on Hayfork Creek between RM 12 and RM 17 in surveys conducted in 2003. However, only a few fish and zero redds were observed in the same reach during 2001 and 2002 surveys (USDA-FS 2005). Between 2001 and 2003 only a single Chinook salmon redd was observed between the Highway 3 Bridge (RM 22) and Miners Creek (RM 17) reach, which is downstream of Kingsbury Gulch (USDA-FS 2005). PWA (1994) reported that juvenile Chinook salmon were observed upstream of the East Fork Hayfork Creek in 1990. Since no fall-run Chinook were ever known to spawn in upper Hayfork Creek, it was assumed that the juveniles were of spring-run Chinook salmon stock.

Kingsbury Gulch does not contain the habitat elements necessary for spring-run Chinook salmon. This species requires deep pools in which to hold during the summer months prior to spawning in the late summer and early fall. Kingsbury Gulch does not contain water, much less deep holding pools, during the summer and fall. Therefore, even though Kingsbury Gulch is considered Chinook salmon EFH it does not contain the habitat necessary to support the species.

4.3 Northern Spotted Owl

Spotted owl pairs typically occupy the same territories each year as long as suitable habitat is present. However, nesting may not occur every year, and survival of offspring varies annually and geographically. Nest trees are often used more than one year, but occasionally a pair will switch to a new nest tree within its home range. Spotted owls begin their annual breeding cycle in late winter (late February to early March) when pairs begin to roost together (Thomas 1990). One to three eggs (usually two) are laid in March or April. Incubation lasts for approximately 30 days, and juvenile owls leave the nest three to five weeks after hatching. Many leave the nest site well before they are able to fly. Both parents feed the young until August or September. The young become independent in September or October, at which time they disperse from the parental nest areas.

Spotted owls are mainly found in old-growth forests characterized by high canopy closure (> 70 percent), multi-layered canopy structure, large-diameter trees, downed logs, and snags (Thomas 1990, Buchanan 1991). The multi-layered canopy provides various microclimates, which helps spotted owls regulate their body temperature and provides foraging, roosting, and nesting habitat. While nests are found mainly in mature stands, they have also been observed in younger stands where the forest has been managed for uneven-aged stand composition, or in areas managed for rapid tree growth, facilitating habitat development in a relatively short period. Nests are found in tree or snag cavities, on platforms (abandoned raptor or raven nests, squirrel nests, mistletoe brooms, debris accumulations), or on top of broken-off snags. In more mature forests, spotted owls tend to use broken-top trees and cavities more frequently than platforms (LaHaye 1988, Buchanan 1991, Gutièrrez et al. 1995). Dispersal habitat includes stands that have at least an 11-inch average tree diameter and at least 40% canopy closure (Thomas 1990).

Barred owls (*Strix varia*), which have expanded their distribution into the western United States, occupy a similar ecological niche as that of spotted owls. They forage in similar habitats and have overlapping diets, although barred owls appear to be more tolerant of disturbance and habitat fragmentation (Dark et al. 1998). Barred owls exhibit a behavioral dominance, which can lead to either displacement of spotted owls (Hamer 1988) or hybridization with spotted owls (Hamer et al. 1994). Competition by barred owls for foraging, roosting, and nesting resources results in reduced site occupancy, reproduction, and survival (USFWS 2008a). There is also some indication that barred owls may actually prey on spotted owls (Leskiw and Gutièrrez 1998).

Past habitat loss, current habitat loss, and competition with barred owls are the most pressing current threats to the northern spotted owl (USFWS 2008a). The result of climate change on vegetation and disease (e.g., sudden oak death, West Nile virus) may also threaten northern spotted owl survival; however, at this time, these threats are uncertain (USFWS 2008a).

The USFS and CDFG provided best available data on current northern spotted owl territories and activity centers near Hayfork Airport (Figure 4-2) (P. Krueger and C. Trillo, USFS, unpublished data, December 2009 and CDFG 1998). A total of 13 northern spotted owl territories were located within a 8-km (5-mi) buffer of Hayfork Airport and were last verified between 1982 and 2002 however, none were located within a 3.2-km (2-mi) buffer of the airport. The closest northern spotted owl activity center and territory were 4.9 km (3 mi) and 4.1 km (2.5 mi), respectively, from the project area.

5.0 Effects of the Action

5.1 Direct Effects

5.1.1 Fish

Direct effects are those that may be caused by or result immediately from the proposed action. Due to the lack of water and absence of coho or Chinook salmon within the project area during the anticipated construction period (June 15–October 15), there is no potential for direct effects on fish.

5.1.2 Northern Spotted Owl

Direct effects on northern spotted owls could occur from those activities that (1) result in noise that either disturbs or disrupts a pair of nesting owls causing the nest to be abandoned, or (2) remove suitable nesting, roosting, and foraging habitat.

Noise effects

The proposed project may include the use of chainsaws, trucking/hauling, and heavy equipment for clearing and grubbing, grading, crossing construction, and paving. The noise generated by these activities has the potential to disturb or disrupt normal breeding and/or nesting activity of northern spotted owls. Noise effects diminish as the distance between the activity and receptor increases. Disturbance and disruption distances (Table 5-1) are defined as follows (USFWS 2008b):

- **Disturbance distance**: The distance from the source of disturbance outward to the nearest breeding area within which the action is likely to cause a northern spotted owl, if present, to be distracted from its normal activity. Except as stated in Table 5-1, the disturbance distance is 0.40 km (0.25 mi) from nesting spotted owls. The USFWS unit wildlife biologist may increase these disturbance distances according to the best available scientific information and site-specific conditions.

- **Disruption distance:** The distance from the source of disruption outward to the nearest breeding area within which the action is likely to cause a northern spotted owl, if present, to be distracted to such an extent as to disrupt its normal behavior and create the likelihood of harm or loss of reproduction. The disruption distance is a subset of the disturbance distance (Table 5-1). Proposed activities that would occur within the distances shown in Table 5-1 of northern spotted owls might disrupt the normal behavior patterns of individual owls or breeding northern spotted owls. The USFWS unit wildlife biologist may increase these distances according to the best available scientific information and site-specific conditions.

The potential effects of above-ambient noise levels generated from construction activities were assessed to identify their likelihood of disturbing or disrupting northern spotted owls. Effects were first evaluated by estimating the distance from the Project Area to the nearest northern spotted owl activity center. If an owl activity center was located within the disturbance or disruption distance of the Project Area, additional habitat analysis and assessment of activity timing would be conducted.

Table 5-1. Disturbance and disruption distances[a] for northern spotted owl during the breeding period

Source of disturbance	**Disturbance distance**	**Disruption distance**	
	Entire breeding period (1 February–31 August)	**Critical breeding period (February –July 9)**	**Late breeding period (July 10–August 31)**
Hauling	0 yd	0 yd	NA
Chainsaw use	440 yd (0.4 km [0.25 mi])	65 yd (0.06 km [0.04 mi])	NA
Heavy equipment use	440 yd (0.4 km [0.25 mi])	35 yd (0.03 km [0.02 mi])	NA

[a] Disturbance distances are based on an informal consultation of a vegetation management project in the Willamette Province, OR (USFWS 2008b). Noise distances were developed from a threshold of 92 dB (Livezey 2003).

Based on the largest noise disturbance or disruption distance buffer that may result from these types of activities, the Analysis Area was defined as 440 yd (0.4 km [0.25 mi]) from the Project (Table 5-1). The closest northern spotted owl activity center and territory is farther away than the noise disturbance or disruption distance created from the Project; therefore, no direct noise effects on northern spotted owls are anticipated to occur.

Habitat removal

The Project Area does not include northern spotted owl nesting or roosting habitat. The area is dominated by herbaceous/meadow and interspersed chaparral/scrub-shrub and riparian forest communities. The proposed project will not remove multi-layered forest canopy structure, large-diameter trees, or snags. The nearest known northern spotted owl activity center and territory are 4.9 km (3 mi) and 4.1 km (2.5 mi), respectively, from the Project Area.

Because there will be no loss of large nesting or roosting trees, there will be no modification to northern spotted owl nesting or roosting habitat. Although a small number of northern spotted owls may occasionally forage within Hayfork Airport property, it is expected that the species would avoid construction activities and forage in nearby meadow and forest habitat. Therefore, temporary construction activities during the installation of the taxiway would not adversely affect nesting, roosting, or dispersal habitat for the species.

5.2 Indirect Effects

5.2.1 Fish

Indirect effects are those that are caused by, or will result from, the proposed action and are later in time, but are still reasonably certain to occur (50 CFR § 402.02). Potential indirect effects of this project on fish include decreases in riparian vegetation, intrusion of fine sediment into spawning gravel, changes to fish passage, and hydrocarbon contamination. Each of these effects and protection measures are discussed in more detail in the following sections.

Decrease in riparian vegetation

Riparian vegetation along low-order streams provides a number of benefits for fish. Riparian vegetation along streams provides shading and can help moderate or cool water temperatures. Overhanging vegetation provides cover elements for fish, can help in pool formation, and provides a source of terrestrial insects to feed fish. During the winter high-flow period, riparian vegetation can provide high-flow habitat for adult and juvenile fish.

Riparian vegetation within the airport is composed primarily of a few scattered patches of willows and alders. Kingsbury Gulch is generally dry during the summer and fall and therefore riparian vegetation would have no effect on water temperatures. Riparian vegetation in the project area has little influence on pool formation as evidenced by the plane bed morphology of the Kingsbury Gulch channel (Figure 5-1). The ability of the few scattered patches of riparian vegetation to supply insect fall for fish is moot due to the lack of water and, subsequently, fish during the summer and fall.

The extension of the taxiway will result in the removal of a few willow and alder patches. However, the bulk of the native riparian vegetation coverage is located downstream of the airport property line. The loss of the minor amount of vegetation within the project reach would likely have minimal effect on fish or their habitat.

Intrusion of fine sediment

Grading associated with construction activities may result in the new ground surface having a higher proportion of exposed fine-grained materials than undisturbed ground. The graded surface would then be exposed to rainfall impact and runoff that could result in sheet and rill erosion that would entrain fine sediment. Some of this entrained fine material could be delivered to Kingsbury Gulch and eventually intrude into spawning gravel. However, the amount of fine sediment transport and delivery is dependent on the area of disturbance and the erosion control measures employed at the construction site. In addition, the significance of project area fine sediment delivery to potential spawning gravel is dependent on location of spawning sites and the suspended and fine sediment load already entrained in the receiving waters.

In order to ensure that sediment-related impacts are minimal, the project will implement a variety of best management practices (BMPs). These BMPs include:

- Watering active construction areas to control dust generation during earthmoving activities; Installing erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, and sandbag dykes) to prevent silt runoff to public roadways, storm drains or waterways;

- Covering the Runway Safety Area with gravel and reseeding Object Free Area with native grasses and/or mulching with straw or wood chips;
- Grading to eliminate flow paths that could concentrate water and result in rilling and gullying;
- Excavation within Kingsbury Gulch shall only occur when the channel is dry (estimated June 15-October 15).

No disturbed surfaces will be left without erosion control measures in place during the rainy season, which generally occurs between October 15 and April 15. Project operations for the taxiway extension will include grading and placement of base rock that will be topped with asphalt. These activities will likely result in a short-term increase in sediment delivery and instream turbidity. However, impacts associated with sediment delivery will likely be relatively short-lived and quickly return to normal background patterns.

Upgrading the RSA will include grading to eliminate the uneven topography and brush. The RSA will be graded and cleared 120 feet centered on the runway centerline and 240 feet west of the end of Runway 7. Following the initial grading and clearing of brush, continuing operations in later years will consist of periodic mowing. The initial grading could result in a short-term increase in sediment delivery and instream turbidity. However, implementation of erosion control measures should result in any increases in fine sediment delivery being short-lived and occurring only during the first year of operations.

Spring-run Chinook salmon currently exist in low numbers within Hayfork Valley streams. Spring Chinook salmon habitat (deep and cool pools) is not present in Kingsbury Gulch and spawning activity of this species tends to peak prior to Kingsbury Gulch having flow. Therefore, the implementation of the erosion control measures coupled with the lack of suitable habitat should result in little or no impact on occupied spring-run Chinook salmon spawning habitat.

Kingsbury Gulch through the airport is designated critical habitat for coho salmon and EFH for both coho and Chinook salmon, even though these species do not occupy Kingsbury Gulch. The project may result in a short-term increase in sediment intrusion into spawning gravel that is considered a component of critical habitat and EFH. Therefore, there will likely be a short-term adverse impact to the spawning component of coho salmon critical habitat and EFH.

In summary, the proposed Project sediment-related impacts would be mitigated in large part by implementation of standard erosion control measures. In addition, the lack of functional habitat for coho and Chinook salmon within Kingsbury Gulch would render even the short-lived construction-related sediment effects insignificant.

Fish Passage

Migration passage for anadromous salmonids in Kingsbury Gulch is currently restricted by three culvert barriers (Riverview Road, Hayfork Airport runway, and Morgan Hill Road). However, the presence of steelhead fry and an age 2+ juvenile steelhead/resident rainbow trout indicate that adult and larger juvenile salmonids can pass these culverts during some flow conditions.

The taxiway extension will pass over Kingsbury Gulch. An approximately 120-foot wide hydraulic conveyance structure, with an open bottom span, would be constructed where the taxiway extension crosses Kingsbury Gulch. The structure would be approximately 6.7 ft high and would extend 20 ft beyond the north and south edge of the taxiway pavement. The structure would be designed to match or exceed the hydraulic capacity of the existing culvert under the runway and would have a natural bottom to allow for unimpeded fish passage and erosion control. Therefore, the proposed project will not result in additional impediments to fish passage than already exists in Kingsbury Gulch.

Hydrocarbon Contamination
Hydrocarbon contamination of aquatic habitats could potentially occur during construction operations. Contamination could result from leaking fuel or hydraulic lines on heavy equipment, improper fuel handling practices, or spills during refueling or lubrication operations. The operators will ensure that all fuel and hydraulic lines on heavy equipment are in good working order and not leaking. The operators will also conduct all fueling and lubrication operations at the construction staging area, which will be located at the pilot's parking lot, and comply with all applicable standard Best Management Practices (see above, Section 1.5). All equipment will be serviced on an as-needed basis with the necessary fueling and lubrication conducted at the construction staging area. Accidents, such as a breaking of a hydraulic line, require immediate clean-up of the area well before the onset of high-flow conditions. Therefore, unless an accident occurs, aquatic habitat would not be affected by hydrocarbon contamination.

5.2.2 Northern Spotted Owl
Indirect effects on northern spotted owls could occur from habitat- or site-specific effects that may result in reduced availability of prey. Northern spotted owls eat small mammals (e.g., mice). Small mammal burrows are present in the Project Area. Therefore, construction activities associated with the proposed project could disturb or eliminate small mammal habitat. This could have an indirect effect on foraging juvenile and adult northern spotted owls. However, given that the Project is surrounded by similar habitat (chaparral/scrub-shrub and herbaceous/meadow) and a substantial amount of nesting, roosting, dispersal, and foraging habitat is present within the surrounding Shasta-Trinity National Forest, it is unlikely that the small footprint of the Project would have any significant effect on prey availability.

5.3 Cumulative Effects

Cumulative effects as described by the ESA differ from cumulative impacts as described by the Council on Environmental Quality (CEQ). The ESA defines cumulative effects as those effects of future state or private activities not involving federal activities that are reasonably certain to occur within the action area of the federal action.

Conversely "cumulative impact" is defined in CEQ's NEPA regulations as the "impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . ." 40 CFR 1508.7. CEQ interprets this regulation as referring only to the cumulative impact of the direct and indirect effects of the proposed action when added to the aggregate effects of past, present, and reasonably foreseeable future actions.

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the vicinity of the action area considered in this BA. Future Federal actions that are unrelated to the proposed action are not considered in this section because they will be subject to separate consultation pursuant to Section 7 of the Endangered Species Act. Future state, local, or private actions that are reasonably certain to occur within, adjacent to, or downstream of the Kingsbury Gulch watershed include:

1. Trinity County and the Federal Highway Administration are currently conducting the Hyampom Road rehabilitation project. The total project started construction two years ago, and will span the next five years, and is located along 10.3 miles of County Road 301, approximately 3.7 miles west of Hayfork. The project consists of widening Hyampom Road to two lanes with paved shoulders, realigning portions of the roadway, raising the profile of the existing road for approximately 0.6 miles, constructing a single-span bridge to replace a culvert at James Creek, widening a bridge deck, replacing culverts, and stabilizing new and existing embankment slopes with retaining wall systems. NMFS determined, through an informal consultation dated October 4, 2004, that this project was not likely to adversely affect threatened SONCC coho salmon or their designated critical habitat. US Fish and Wildlife Service (USFWS) issued a Biological Opinion containing conditions to minimize the likely adverse affects to northern spotted owl.
2. Trinity County is rehabilitating a suspension pedestrian bridge across Hayfork Creek. There will be no work in the bed, banks or channel of Hayfork Creek, and no effect on SONCC coho salmon or their designated critical habitat.
3. Trinity County replaced a single-span bridge over Hayfork Creek near the east end of the Airport in 2006. The bridge was replaced with a two-span structure to improve hydraulic conditions, allow for conveyance of flood flows, and protect against drift accumulations during high flood flows. The project included work within the active, but not wetted, channel of the creek, pile driving, bank grading, and installation of rock slope protection. NMFS determined, through an informal consultation dated September 17, 2002, that this project was not likely to adversely affect threatened SONCC coho salmon or their designated critical habitat. NMFS also determined that the project would not likely adversely affect EFH for coho and Chinook salmon.
4. Trinity County is planning to rehabilitate and reconstruct 6.6 miles of Wildwood Road, County Road 302, along Hayfork Creek approximately 13 to 20 river miles upstream of the Project Area. The project consists of widening Wildwood Road to two standard lanes with shoulders, realigning portions of the roadway, stabilizing the new and existing embankment slopes through placement of rock slope protection and retaining wall systems, reconstructing the structural section and underlying drainage systems. The project is in its environmental phase now. Construction will be done in three segments over six years, starting in 2014. The project has no federal funds, but goes through Forest Service lands. The STNF is expected to consult with NMFS and USFWS as necessary, prior to their issuance of a Special Use Permit or revised roadway easement. Biological studies are not yet completed, but preliminary indications are that the project will not be likely to adversely affect threatened SONCC coho salmon, but may adversely affect northern spotted owl nesting and roosting habitat.
5. Trinity County received a project application for development of a golf course that would be constructed between Tule Creek Road and Salt Creek. This development would be to the west of the Hayfork Airport. The project application states that the golf course would be irrigated with treated wastewater.

6. Trinity County received an application to subdivide a 9.5-acre property into 13 separate parcels. This project is located southeast of the airport and is not adjacent to Kingsbury Gulch.

The Hyampom Road, Hayfork Bridge and pedestrian bridge projects are Federal projects, subject to consultation pursuant to section 7 of the ESA. The Wildwood Road project is not expected to result in any cumulative impacts on coho salmon, designated critical habitat or EFH when combined with the airport project, because the effects of the airport project are short-term and temporary in nature, and will have diminished before construction begins on Wildwood Road. Similarly, the golf course and subdivision are in the early planning stages and no construction is likely to occur simultaneously with the short-term effects of the airport project. The golf course project and tentative subdivision, if implemented, could result in changed floodplain hydrology, increased nutrient loading into local watercourses, and short-term increases in sediment delivery to Hayfork Creek. However, projects of this nature would require a number of permits and County-imposed mitigation measures that are designed to protect water quality, aquatic habitat, and other beneficial uses of water. These projects, in combination with the proposed Project, are not expected to result in significant impacts on coho salmon, their designated critical habitat, or EFH. These two projects are outside of the critical habitat for northern spotted owl, in a relatively urban setting within Hayfork, and are not expected to directly affect northern spotted owl.

5.4 Fragmentation

Fragmentation can occur when lands, habitat and species become isolated through landscape modification. Isolation at a landscape level can cause a variety of changes to the existing ecosystem that can result in isolation of local populations. The proposed project does not modify the landscape to a point that species will be isolated or their habitats fragmented. The taxiway extension and culvert are designed to allow fish passage.

5.0 Federal Aviation Administration: Conclusion and Determination

Based on the analysis of effects of the proposed action, it is determined that this Project:

- **May affect, but is not likely to adversely affect,** SONCC Coho salmon or its designated critical habitat, and
- **Will not adversely affect** Essential Fish Habitat for Coho or Chinook salmon

It is also determined that this Project:

- Will have **no effect** on the northern spotted owl, and
- Will have **no effect** on northern spotted owl critical habitat.

6.0 Federal Aviation Administration: Request for Consultation

The Federal Aviation Administration (FAA) proposes to authorize construction of a taxiway extension and RSA improvement project on the Hayfork Airport, Trinity County, California. This Biological Assessment (BA) is to initiate informal consultation under Section 7 of the Endangered Species Act (ESA).

As described in the revised BA, the proposed action will have no effect on the primary constituent elements of the designated critical habitat for coho salmon. The proposed Federal action is not likely to adversely affect species or PCE's within the designated critical habitat. The FAA requests the National Marine Fisheries Service concurrence with our 'not likely to adversely affect' determinations, and hereby request informal consultation under Section 7 of the ESA.

Please contact Barry Franklin, FAA Environmental Specialist, FAA, San Francisco Airports District Office, 650-876-2778, ext. 614 regarding this consultation request.

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