

**A Biological Assessment of Impacts to
Aquatic Threatened Species
from Prairie Creek Bridge (8480-007S) Rehabilitation in
Redwood National and State Parks (RNSP)**

July 10, 2014

I. INTRODUCTION

The purpose of this biological assessment (BA) is to review the proposed National Park Service (NPS) action in Redwood National and State Parks (RNSP or “parks”), Prairie Creek Bridge (8480-007S) Rehabilitation, in sufficient detail to determine if the proposed action may affect any threatened or endangered species and/or their critical habitats. This BA is prepared in accordance with legal requirements set forth under section 7 of the Endangered Species Act (19 U.S.C. 1536 (c), 50 CFR 402), and meets the criteria for informal consultation with the National Marine Fisheries Service (NMFS).

II. CONSULTATION TO DATE

Redwood National and State Parks’ list of endangered, threatened, proposed and candidate species that may be present or may be affected by park activities includes 24 species currently listed as threatened or endangered, 1 species proposed for listing, and 3 species that are candidates for listing in Humboldt and Del Norte Counties, California. Of the 24 species, 17 are marine or anadromous:

Endangered

Black Abalone (*Haliotis cracherdii*)
Leatherback Turtle (*Dermochelys coriacea*)
Sei Whale (*Balaenoptera borealis*)
Blue Whale (*Balaenoptera musculus*)
Fin Whale (*Balaenoptera physalius*)
Humpback Whale (*Megaptera novaengliae*)
Killer Whale, S. resident (*Orcinus orca*)
Sperm Whale (*Physeter macrocephalus*)

Threatened

Green Sturgeon (*Acipenser medirostris*)
California Coastal Chinook Salmon (*Oncorhynchus tshawytscha*)
Northern California Steelhead (*Oncorhynchus mykiss*)
Southern Oregon/ Northern California Coho Salmon (*Oncorhynchus kisutch*)
Southern Eulachon DPS (*Thaleichthys pacificus*)
Green Turtle (*Chelonia mydas*)
Olive Ridley Sea Turtle (*Lepidochelys olivacea*)
Loggerhead Turtle (*Caretta caretta*)
Steller Sea Lion (*Eumetopias jubatus*)

Critical habitat has been designated for 8 species on the list above. Critical habitat for coho and Chinook salmon, steelhead, and eulachon occurs within the parks. The 0.25 mi of offshore ocean included within the parks’ boundary falls within designated critical habitat for the green

sturgeon. Critical habitats for killer whale, leatherback turtle, and Steller sea lion are not designated within the parks.

The Prairie Creek Bridge Rehabilitation project was discussed during an Interagency Consultation Team meeting on February 11, 2014. The project also was discussed during a March 28, 2014 telephone conversation between Leslie Wolff (NMFS) and Kristin Schmidt (NPS). An interagency field review of the project was conducted on April 22, 2014 with staff from the Federal Highway Administration Central Federal Lands Highway Division (FHWA CFLHD), the NPS Pacific West Region Bridge Preservation Program, Redwood National Park, and NMFS.

III. CURRENT MANAGEMENT DIRECTION

Please refer to *Threatened, Endangered, Proposed, and Candidate Species in Redwood National and State Parks, Biological Assessment Reference Document* (RNSP 2013) for a detailed summary of laws and policies that influence management direction in RNSP.

Roads

The RNSP General Management Plan/General Plan (USDI and CDPR 1999) requires the parks to “....work with federal, state, and county agencies to ensure that environmentally sensitive maintenance operations were used on portions of the...roads that pass through the parks” (p. 43), and “...maintain RNSP roads that provide access...to RNSP facilities so that they are sustainable, [and] provide safe access for visitors and employees....” (p. 70).

IV. DESCRIPTION OF THE PROPOSED ACTION

The Prairie Creek Bridge 8480-007S is on the Wolf Creek Road off the Newton B. Drury Scenic Parkway. Wolf Creek Road accesses park facilities including the Wolf Creek Education Center, the Redwood National Park (RNP) fire cache, and NPS employee and volunteer housing. The bridge, constructed at least in part in the 1970s, is in need of rehabilitation and maintenance to repair deficiencies identified by FHWA and to bring it up to current safety standards. Because the road must remain open during fire season, and while the education center is operating, work will begin in late November 2014, or 2015, and be completed by February 1 of 2015 (or 2016 if work begins in 2015). There will be no in-stream work or ground disturbance (e.g., riparian vegetation removed or soil disturbance) associated with this project. Limbing of at least one red alder, that would impede operation of a crane, may be required. The one or more alders that may require limbing are set back from the edge of the creek.

The Project Scope would include:

- Removal of existing timber deck, timber curbs, and steel girders;
- Placement of a new super structure consisting of pre-cast, pre-stressed, concrete decked bulb tee girders;
- Placement of new steel railings on the new deck;

- Roadway approach work.

The project is being designed by the FHWA under the Bridge Preservation Program. All work would be conducted to the standards in Special Contract Requirements that amend and supplement the *Standard Specifications for Construction of Roads and Bridges, on Federal Highway Projects (FP-03) U.S. Customary Version*, U.S. Department of Transportation, Federal Highway Administration, and including applicable federal regulations.

Removal of Existing Deck and Girders

The existing girders were built using “self-weathering steel”, were never painted, and are rusting. The existing deck ponds water that leaks onto the girders below. Using a crane, the girders would be removed along with the existing timber deck. The existing deck would be removed by cutting it into sections with a saw, and dismantling small sections with small mechanical equipment. No jackhammers would be used in association with deck and girder removal, or any other project activities, and the crane would remain on the paved portion of the road. The existing concrete abutments will remain.

Debris associated with removal of the existing deck, curbs, and girders would be contained by suspending a woven mesh or a plastic tarp from bank to bank across the entire area underneath the bridge. The tarp would remain in place for the duration of the project.

Placement of New Superstructure

The steel girders would be replaced with pre-stressed concrete decked bulb tee girders, pre-cast off site, then transported to the bridge site and assembled. No painting would be needed. The new deck would be part of the decked bulb tee girder pre-cast off site, and each girder would be welded and grouted together on site. Ultimately the surface of the concrete deck would be sealed with asphalt.

Placement of New Steel Railings

The existing timber curbs, which do not have railings, would be replaced with steel railings that meet FHWA design standards. Prior to installation, railing components would be painted with 2 coats of zinc rich paint. After railing installation, exposed rail bolt threads would be painted with 2 coats of zinc rich paint. The tarp suspended beneath the bridge would ensure no paint enters the creek.

The new steel railings would be placed on top of new 6-inch concrete curbs, poured on site after the new girders are placed. Concrete for the new curbs would be poured from a concrete ready mix truck staged on the road. Any concrete wash water during concrete pouring would be contained using Best Management Practices (BMPs [see below]) in place to ensure that wash water does not enter the creek. A tarp suspended beneath the bridge would also help ensure no concrete or wash enters the creek.

Roadway Approach Work

Asphalt at the approaches to the bridge would be destroyed during construction and new approaches would be constructed to match the grades of the new bridge deck. A milling machine may be brought to the site and the asphalt millings hauled away in a dump truck and

disposed of at a lawfully permitted or authorized disposal site outside of the park. Alternatively, existing pavement may be cut into chunks, removed by hand, and disposed of off-site. BMPs for the handling and disposal of asphalt would be in place. The tarp suspended beneath the bridge during asphalt removal would prevent this material from entering the creek.

The contractor may use the gravel pullout north of the bridge and roadway for a staging area/storage of materials.

Measures to Minimize Impacts to Listed Species

Containment

With the new bridge design, i.e., decked bulb tee girders, there would be no air-borne contaminants associated with placement of the new super-structure. There would be no sand-blasting or painting, with the minor exception of painting exposed bolts with a zinc coating. The stream would be protected from falling debris during removal of the existing bridge by a large tarp suspended under the bridge between the existing abutments and spanning the width of the creek. This containment device would be in place for the duration of the project to keep debris out of the creek during deck and girder dismantling and when attaching the new deck and constructing the associated approaches. This device also would serve the purpose of concealing activity immediately above the stream where fish could be spawning. Designing containment for specific flow levels would not be necessary; regardless of flow the contractor would be required to keep the containment device out of the water.

Spill Prevention

A Spill Prevention, Control, and Countermeasure Plan for oil, oil products, concrete, concrete wash, and asphalt would be developed by the contractor after assessing the project site. The spill plan would be to standard specifications and incorporate all preventative measures. Mechanized equipment would not be operated or any material discharged within the wetted perimeter of the creek. Work areas and material sources would be separated by suitable barriers that prevent sediment, petroleum products, chemicals, concrete, or other liquid or solid material from entering the creek. Barriers would be carefully constructed and removed to avoid any discharge of material into water.

Prior to daily operations, the contractor would inspect all machinery to identify potential sources for spills. All vehicles and equipment entering the project area would be free of oil leaks. Any oil leaks occurring after equipment entry at the site would be repaired immediately upon discovery and no leaking equipment would be used. Approved absorbent materials would be kept on site in the event of a spill.

Equipment would be cleaned and repaired (other than emergency repairs) at an established maintenance facility. All contaminated water, sludge, or other hazardous compounds would be disposed of at a lawfully permitted or authorized location. All fuel and lubricating material containers would be located in stable, secure locations.

Best Management Practices (BMPs)

Regardless of the method chosen for control of hazardous materials, BMPs would include

locating machinery servicing and refueling away from the stream to reduce the possibility, and minimize the impacts, of accidental spills or discharges. Where the contractor's working area may encroach on the running stream, adequate barriers would be constructed and maintained to prevent the discharge of any contaminants into the stream. Barriers that may be used by the contractor to contain materials include a silt fence, waddles, or a sandbag cofferdam lined with an impermeable material, although this may not be necessary since no work would be done near the edge of the water. Cutting the deck with saws, versus a jackhammer, would prevent the likelihood of concrete falling into the creek. All vehicles and equipment entering the project area would be free of noxious weeds.

With any heavy equipment use there is always the slight possibility of hazardous material entering the environment should a spill occur. Spill plans and best management practices for managing petroleum products should minimize the probability of runoff of hazardous materials in the unlikely event of a spill. A spill contingency plan and best management practices for managing hazardous products should minimize the probability of runoff of hazardous materials associated with project activities.

V. EXISTING ENVIRONMENT

The bridge site is on the Wolf Creek access road over Prairie Creek, an anadromous fish-bearing stream. All three species of listed salmon and steelhead are present in the creek year round in one life stage or another. The creek in the vicinity of the bridge is clear with clean, with well-sorted gravels suitable for fish rearing and spawning. The adjacent forest is a mixture of hardwoods (mostly red alder and big leaf maple) and second-growth conifers including redwood and Douglas-fir.

VI. STATUS AND DISTRIBUTION OF LISTED SPECIES

Suitable habitat for coho and Chinook salmon and steelhead occurs within the action area. These species are considered in this document. Please refer to *Threatened, Endangered, Proposed, and Candidate Species in Redwood National and State Parks, Biological Assessment Reference Document* (RNSP 2013) for in-depth species accounts, habitat status backgrounds, and literature summaries.

All life stages of these three species may be present in the creek during the winter months when the project will take place, including adult spawners, juveniles, and redds.

1. Southern Oregon/ Northern California Coast Coho Salmon (*Oncorhynchus kisutch*)

A. Species Account

The vast majority of coho juveniles within Redwood Creek are produced in the Prairie Creek subwatershed. In Prairie Creek, Duffy (2011) estimated escapement of adult coho ranged from a high of 680 in 2002 to 28 in 2010, during the years of survey between 1998/1999 and 2010/2011. In Redwood Creek, within the last decade no juvenile coho have been observed in the main

channel above river km 20 (mi 12.4) and juvenile coho were restricted to 9 side-pocket cold pool locations in the lower 20 km (12.4 mi) of the channel (Ozaki and Anderson 2005). Madej *et al.* (2006) stated that < 20% of the main Redwood Creek channel currently supports young coho during summer. In 2009, no 0+ or 1+ juvenile salmon were captured in the upper Redwood Creek down migration trap and both of these age classes' capture rates have showed steady declines between 2003 and 2009, with the 0+ age class exhibiting a particularly severe decline (Sparkman 2010). In 2010, at the lower Redwood Creek trap, only six 0+ and thirteen 1+ coho juveniles were captured (Sparkman 2011).

B. Habitat Status

Currently occupied suitable coho habitat occurs in the lower 20 km (12.4 mi) of the mainstem of Redwood Creek and its low gradient tributaries, including the first 21 km (13 mi) of Prairie Creek. Non-natal coho habitat below Prairie Creek is restricted to Sand Cache Creek and Strawberry Creek, the only two tributaries entering the estuary. Both Sand Cache Creek and Strawberry Creek are low gradient but degraded due to land use activities and effects of the flood control levee configuration. Sand Cache Creek is generally isolated from the estuary embayment, but coho have been found in the lower reaches of Strawberry Creek, outside of the RNP boundary.

C. Critical Habitat

Critical habitat is defined in Section 3(5)A of the Endangered Species Act as "...the specific areas within the geographical area occupied by the species... on which are found those physical or biological features (a) essential to the conservation of the species and (b) which may require special management considerations or protection". Essential features may include, but are not limited to, spawning sites, food resources, water quality and quantity, and riparian vegetation. Structurally complex streams containing boulders, logs, brush, and aquatic macrophytes support larger numbers of rearing coho juveniles (Scrivener and Andersen 1982) than do streams that lack these structural features.

Prairie Creek provides high quality critical habitat for coho salmon.

2. Northern California Steelhead (*Oncorhynchus mykiss*), Threatened

A. Species Account

The majority of juvenile steelhead in Redwood Creek spend their second year of life in the estuary and mainstem Redwood Creek (Anderson 1988). Steelhead are found in most small order, high and low gradient tributaries to Redwood Creek, including Prairie Creek.

Redwood Creek summer steelhead snorkel surveys began in 1981 between Lacks Creek and Tom McDonald Creek, a 25.7 km (16 mi) index reach, and were expanded to 38.6 km (24 mi) in 1992. Survey data indicate a steady decline in summer steelhead numbers since that time, although numbers were low to begin with when the surveys began. In recent years the numbers have leveled off at approximately 10-20 adult fish observed annually (D. Anderson pers. comm.). No park tributaries in the Redwood Creek basin have been snorkel surveyed for summer steelhead; the smaller streams do not have large enough pools to support fish during the warm summer months. In addition, adult summer steelhead have not been encountered in these streams

during other survey and monitoring activities.

In Redwood Creek, winter-run steelhead numbers are higher than summer steelhead numbers. Juvenile winter-run steelhead are the most common and widely distributed fish in the Redwood Creek basin. Sparkman (2010) hypothesized that over-summer conditions (e.g., lethally high water temperatures) could be limiting the production of older (2+) age classes in upper Redwood Creek.

Duffy (2011) estimated escapement in Prairie Creek between 1999 and 2010 to be 4-142 adult steelhead; the wide range was influenced by uncertainty in run timing in the earlier years and precipitation in all years.

B. Habitat Status

The Redwood Creek watershed is listed by the EPA as impaired due to high water temperatures and sediment under Section 303(d) of the Clean Water Act. Tributaries to Redwood Creek have lower water temperatures than the mainstem. Water temperatures of 63 east and westside tributaries entering Redwood Creek measured during a late July/early August summer steelhead survey in 2005 ranged from 12° C (53.6° F) to 17° C (62.6° F) (Anderson 2005). Water temperatures of all tributaries were cooler than the corresponding temperature of mainstem Redwood Creek measured at the same time.

C. Critical Habitat

Designated critical habitat for NC steelhead was defined by NMFS (Federal Register 2005a) to include the stream channels within the stream reaches and a lateral extent as defined by the ordinary high-water line. In areas where the ordinary high-water line has not been defined pursuant to the lateral extent, it is defined by the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence level of 1 to 2 years on the annual flood series. Critical habitat in estuaries is defined by the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of extreme high water, whichever is greater.

In designating critical habitat, NMFS focuses on the known primary constituent elements (PCEs) essential for the conservation of the species. These PCEs are those sites and habitat components that support one or more life stages, including: (1) freshwater spawning, (2) freshwater rearing, (3) freshwater migration, (4) estuarine areas, (5) nearshore marine areas, and (6) offshore marine areas. Within the PCEs, essential elements of NC steelhead critical habitat include adequate (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, (10) safe passage conditions, and (11) salinity conditions.

Prairie Creek provides high quality critical habitat for steelhead.

3. California Coastal Chinook Salmon (*Oncorhynchus tshawytscha*), Threatened

A. Species Account

Winter-run Chinook constitute the main Chinook run in RNSP streams. Adult fish return to spawn after 3 to 6 or more years in the ocean, although 2-year-old male spawners (“jacks”) are commonly observed (Myers *et al.* 1998). These fish begin their upstream migration into the park around November, if access through the Redwood Creek estuary is possible. Entry into Redwood Creek is dependent on the mouth being open to the ocean.

Salmonid surveys in Redwood Creek and its tributaries (e.g., Prairie Creek) show juvenile Chinook do not spend time rearing in upstream areas (Anderson and Brown 1982), but instead, utilize the Redwood Creek estuary. In spring, Chinook fry migrate downstream to rear in the estuary before and after the mouth of Redwood Creek closes. After the mouth closes, Chinook entry into the ocean is in the fall when the mouth opens. Thus, the Redwood Creek estuary is important as the sole rearing habitat for these “ocean-type” juveniles.

In Prairie Creek, the escapement of adult Chinook ranged from a high of 710 in 2002 to a low of 38 in 2008 from 1999 through 2011. Escapement of Chinook has been relatively low in this tributary since 2005. Juvenile fish abundance in the downstream migrant trap varied considerably among years. Chinook fry were very abundant during 1999-2004 but decreased after that (Duffy 2011).

The low numbers of returning adult Chinook are probably related in part to the conditions in the Redwood Creek estuary (D. Anderson pers. comm.). Chinook spawning in the RNSP tributaries may be impeded by stream barriers, but they may be able to surmount some barriers depending on flow conditions when the fish are present.

B. Habitat Status

Chinook estuary rearing habitat was degraded when flood control levees that bisected and altered the historical configuration of the Redwood Creek estuary were constructed in 1968. The levees altered the physical and biological functions of the estuary and adjacent wetlands and confined the lower 3.4 mi (5.5 km) of Redwood Creek stream channel to a width of 300 ft (91 m). The flood control project reduced the amount of riparian vegetation and tree cover, reduced adjacent wetlands, altered valley drainage patterns, decreased the amount of instream woody debris, and caused decreased pool depths along lower Redwood Creek. The levees bypassed and isolated the last downstream meander of Redwood Creek (now called the South Slough), reduced circulation into the North and South Sloughs, and contributed to 50% of the lower estuary between 0 and 4 ft Mean Sea Level filling with sediment or becoming isolated from the embayment (Ricks 1983). Adjacent land uses, e.g., cattle grazing on the flood plain and uncontrolled breaching of the sand berm (which forms a seasonal barrier to the ocean across the mouth), also have contributed to habitat degradation of the estuary. The Redwood Creek watershed is listed by the EPA as impaired due to high water temperatures and sediment under Section 303(d) of the Clean Water Act.

C. Critical Habitat

Critical habitat for California Coastal Chinook salmon was designated in 2005 (Fed. Reg 2005b). Designated critical habitat for California Coastal Chinook salmon includes the stream channels within the stream reaches and includes a lateral extent as defined by the ordinary high-water line. In areas where the ordinary high-water line has not been defined, the lateral extent is defined by

the bankfull elevation. Bankfull elevation is the level at which water begins to leave the channel and move into the floodplain and is reached at a discharge which generally has a recurrence level of 1 to 2 years on the annual flood series. Critical habitat in estuaries is defined by the perimeter of the water body as displayed on standard 1:24,000 scale topographic maps or the elevation of extreme high water, whichever is greater.

In designating critical habitat, NMFS focuses on the known primary constituent elements (PCEs) essential for the conservation of the species. These PCEs are those sites and habitat components that support one or more life stages, including: (1) freshwater spawning, (2) freshwater rearing, (3) freshwater migration, (4) estuarine areas, (5) nearshore marine areas, and (6) offshore marine areas. Within the PCEs, essential elements of CC Chinook salmon critical habitat include adequate (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, (10) safe passage conditions, and (11) salinity conditions.

Prairie Creek provides high quality critical habitat for Chinook salmon.

VII. IMPACTS TO THREATENED AND ENDANGERED SPECIES

A. Direct Effects

Disturbance

Adult coho and Chinook salmon and steelhead may be disturbed if they attempt to spawn beneath, or close to, the bridge during construction activity. Spawners have been observed downstream and upstream of the bridge at the head of riffles, including one approximately 300 feet downstream of the bridge. There is good spawning habitat approximately 50 feet upstream of the bridge, where gravels are well-sorted near the east bank of the creek (D. Anderson pers. comm.).

The effect of construction activity, including noise and visual impacts, on spawning behavior at the bridge site is unknown. The best spawning habitat nearest the bridge is upstream of the bridge, rather than immediately beneath the bridge (D. Anderson pers. comm.). Thus, spawning fish would be facing upstream, opposite the construction activities. Downstream impacts are expected to be less due to the increased distance to the nearest suitable spawning stream reach. Due to a containment device in place beneath the bridge from bank to bank, visual disturbance directly below the restoration activities would be lessened.

B. Indirect Effects

Loss and Modification of Suitable Habitat

There is a possibility that debris from bridge removal and restoration may enter the creek. Should this happen, suitable habitat may be degraded beneath and downstream of the bridge. However, containment specifications should ensure that this does not happen. Regulatory and contractual

obligations would be in place to prevent bridge materials from falling into the creek.

With any heavy equipment use there is always the slight possibility of petroleum, or other hazardous materials, entering the environment should a spill occur. Spill plans and best management practices for managing petroleum products should minimize the probability of runoff of hazardous materials in the unlikely event of a spill associated with power tool or heavy equipment use.

The potential for a hazardous material spill would be minimized through use of containment barriers and BMPs implemented under this project. A spill, in the unlikely event of an occurrence, is expected to be low in volume, readily contained, and unlikely to have an adverse impact on Chinook and/or coho salmon and/or steelhead.

Critical Habitat and Essential Fish Habitat

No impacts to critical habitat or essential fish habitat are anticipated, other than those considered above, in association with this project. Best Management Practices will be in place to control debris and hazardous materials handling adjacent to the creek. No riparian vegetation would be disturbed, nor sediment mobilized.

C. Cumulative Effects

Cumulative effects are those state and private actions in the action area that may occur in the future that have the potential to impact listed species in the park. There are no cumulative effects anticipated.

VIII. DETERMINATION

Based on the nature and timing of the proposed action, it is the determination of the NPS that Prairie Creek Bridge Rehabilitation in Redwood National Park may affect, but is not likely to adversely affect, coho and Chinook salmon, and steelhead or their critical habitat.

IX. MANAGEMENT RECOMMENDATIONS

There are no management recommendations.

X. CONTRIBUTORS

Jeff Bellen, DOT, Federal Highway Administration, Central Federal Land Highway Division
Tim Marshall, DOT, Federal Highway Administration, Central Federal Land Highway Division
Samir Sidhom, DOT, Federal Highway Administration, Central Federal Land Highway Division

Prepared By: Kristin Schmidt, Redwood National Park

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PERSONAL COMMUNICATIONS

David Anderson, Fishery Biologist, Redwood National Park



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
1655 Heindon Road
Arcata, California 95521-4573

Refer to NMFS No: WCR-2014-1135

JUL 23 2014

Mr. Stephen Prokop
Superintendent, Redwood National Park
Redwood National and State Parks
1111 Second Street
Crescent City, California 95531

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens
Fishery Conservation and Management Act Essential Fish Habitat Response for
Redwood National Park's Prairie Creek Bridge Rehabilitation

Dear Mr. Prokop:

On July 17, 2014, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that Redwood National and State Parks' (RNSP) Prairie Creek Bridge Rehabilitation Project (project) is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence. Your request concerns the effects of the project on threatened salmonid species, and their habitats, within RNSP lands, specifically within lower Prairie Creek.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001, Public Law 106-554). This concurrence letter will be available through NMFS' Public Consultation Tracking System (<https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts>). A complete record of this consultation is on file at the Arcata, California NMFS office.



Proposed Action

The purpose of the project is to rehabilitate the Prairie Creek Bridge, which is located on the Wolf Creek Road, off of the Newton B. Drury Scenic Parkway, near Orick, California. Wolf Creek Road provides access to Redwood National Park (RNP) facilities including the Wolf Creek Education Center, the RNP fire cache, and National Park Service (NPS) employee and volunteer housing. The Prairie Creek Bridge, constructed at least in part in the 1970s, is in need of rehabilitation and maintenance to repair deficiencies identified by the Federal Highway Administration (FHWA), and to bring it up to current safety standards. Because Wolf Creek Road must remain open during fire season to access the fire cache, and while the education center is operating during the summer and fall, rehabilitation work on the bridge will begin in late November 2014 (or late November 2015), and will be completed by February 1 of 2015 (or February 1, 2016, if work begins in November 2015). There will be no in-stream work or ground disturbing activities (e.g., riparian vegetation removed or soil disturbance) associated with this project. Limbing of approximately one red alder, that would impede operation of a crane, may be required. The one red alder that may require limbing is set back approximately 50 feet from the edge of the creek. Specifically, the project would include:

- Removal of existing timber deck, timber curbs, and steel girders;
- Placement of a new super structure consisting of pre-cast, pre-stressed, concrete decked bulb tee girders;
- Placement of new steel railings on the new deck;
- Roadway approach work.

The project has been designed by the FHWA under the Bridge Preservation Program. All work would be conducted to the standards in Special Contract Requirements that amend and supplement the *Standard Specifications for Construction of Roads and Bridges, on Federal Highway Projects (FP-03) U.S. Customary Version*, U.S. Department of Transportation, Federal Highway Administration.

Removal of Existing Deck and Girders

Using a crane, the existing rusted steel girders would be removed, along with the existing timber deck and curbs. The existing deck and curbs would be removed by cutting them into sections with a saw, and dismantling small sections with small mechanical equipment. No jackhammers would be used in association with deck and girder removal, or any other project activities, and the crane would remain on the paved portion of the road, set back approximately 150 feet from the stream channel. The existing concrete bridge abutments will remain in place, and no in-stream work will occur.

Debris associated with removal of the existing deck, curbs, and girders would be contained by suspending a woven mesh or a plastic tarp from bank to bank across the entire area underneath the bridge. The containment device would remain in place for the duration of the project.

Placement of New Superstructure

The existing steel girders would be replaced with pre-stressed, concrete decked, bulb tee girders, pre-cast off site, then transported to the bridge site and assembled. No painting would be needed. The new deck would be part of the decked bulb tee girder that is pre-cast off site (*i.e.* superstructure). Each girder would be welded and grouted together on site. Then, the surface of the concrete deck would be sealed with asphalt.

Placement of New Steel Railings

New steel railings that meet current FHWA design standards are proposed for installation. Prior to installation, railing components would be painted with 2 coats of zinc rich paint. After railing installation, exposed rail bolt threads would be painted with 2 coats of zinc rich paint. The containment device suspended beneath the bridge would ensure that no paint enters the creek.

The new steel railings would be placed on top of new 6-inch concrete curbs, which will be poured on site after the new girders are placed. Concrete for the new curbs would be poured from a concrete ready mix truck staged on the road, approximately 150 feet away from Prairie Creek. Any concrete wash water used during concrete pouring would be contained using Best Management Practices (BMPs [see below]) to ensure that wash water does not enter the creek. The containment device suspended beneath the bridge would also help ensure that no concrete enters the creek.

Roadway Approach Work

Asphalt at the roadway approaches to the bridge would be removed during bridge rehabilitation, and new approaches would be constructed to match the grades of the new bridge deck. A milling machine may be brought to the site and the asphalt millings hauled away in a dump truck and disposed of at an authorized disposal site outside of the park. Alternatively, existing pavement may be cut into chunks, removed by hand, and disposed of off-site. BMPs for the handling and disposal of asphalt would be in place. The containment device suspended beneath the bridge during asphalt removal would prevent any asphalt from entering the creek.

Minimization Measures

Containment

With the bridge rehabilitation design, that is, pre-fabricated decked bulb tee girders, there would be no air-borne contaminants associated with placement of the new superstructure (*i.e.*, deck and girders). In addition, there would be no sand-blasting or painting, with the minor exception of painting exposed bolts with a zinc coating. Prairie Creek would be protected from falling debris during removal of the existing bridge by a large tarp, or other containment device, suspended under the bridge between the existing abutments and spanning the width of the creek. This containment device would be in place for the duration of the project to keep debris out of the creek during deck and girder dismantling and when attaching the new girders and deck, and constructing the associated approaches. Designing containment for specific water surface elevations will not be necessary; regardless of water surface elevation the contractor would be required to keep the containment device above the water surface elevation.

Spill Prevention

A Spill Prevention, Control, and Countermeasure Plan (spill plan) for oil, oil products, concrete, concrete wash water, and asphalt would be developed by the contractor after assessing the project site. The spill plan would be to standard specifications and incorporate all preventative measures typically found in spill plans. Mechanized equipment would not be operated, or any material discharged, within the creek. Work areas and material sources would be separated by suitable barriers that prevent sediment, petroleum products, chemicals, concrete, or other liquid or solid material from entering the creek. Barriers would be carefully constructed and removed to avoid any discharge of material into water.

Prior to daily operations, the contractor would inspect all machinery to identify potential sources for spills. All vehicles and equipment entering the project area would be free of oil leaks. Any oil leaks occurring after equipment entry at the site would be repaired immediately upon discovery and no leaking equipment would be used. Approved absorbent materials would be kept on site in the event of a spill.

Equipment would be cleaned and repaired (other than emergency repairs) at an established maintenance facility, located off-site. All contaminated water or other hazardous compounds would be disposed of off-site at a lawfully permitted and authorized location. All fuel and lubricating material containers would be located in stable, secure locations away from Prairie Creek and its riparian area.

Best Management Practices (BMPs)

BMPs would include locating machinery servicing and refueling away from the stream to reduce the possibility, and minimize the impacts, of accidental spills or discharges. Adequate barriers would be constructed and maintained to prevent the discharge of any contaminants into the stream. Cutting the deck with saws, versus a jackhammer, would prevent the likelihood of concrete falling into the creek. In addition, all vehicles and equipment entering the project area would be washed, to be free of noxious weeds. The spill plan and associated BMPs will minimize the probability of runoff of hazardous materials in the unlikely event of a spill. The spill plan and BMPs will also minimize the probability of runoff of hazardous materials (e.g., concrete wash water) associated with project activities.

Action Area

The bridge site is on the Wolf Creek Road over Prairie Creek, about 5 miles upstream from the mouth of Prairie Creek. The action area includes Prairie Creek at the project site, and immediately upstream of the bridge (approximately 50 feet), and downstream of the bridge site (approximately 1500 feet), due to the possibility of construction activities disturbing spawning adults near the project site, and due to the possibility of hazardous materials entering the creek and being transported downstream.

Action Agency's Effects Determination

Based on the methods proposed to rehabilitate the bridge, the proposed minimization measures, the species distribution and life history requirements, and their analysis of potential effects, RNP has determined that the proposed project is not likely to adversely affect the following threatened

species and their critical habitats: (1) Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*) Evolutionarily Significant Unit (ESU) (70 FR 37160, June 28, 2005), (2) California Coastal (CC) Chinook salmon (*O. tshawytscha*) ESU (70 FR 37160, June 28, 2005), (3) Northern California (NC) steelhead (*O. mykiss*) Distinct Population Segment (DPS) (71 FR 834, January 5, 2006), (4) SONCC coho salmon ESU critical habitat (64 FR 24049, May 5, 1999), (5) CC Chinook salmon ESU critical habitat (70 FR 52488, September 2, 2005), and (7) NC steelhead DPS critical habitat (70 FR 52488, September 2, 2005).

Consultation History

The project was discussed during an Interagency Consultation Team meeting between RNSP and NMFS on February 11, 2014. The project was also discussed during a March 28, 2014, telephone conversation between Leslie Wolff (NMFS) and Kristin Schmidt (RNSP). An interagency field review of the project was conducted on April 22, 2014, with staff from the FHWA Central Federal Lands Highway Division, the NPS Pacific West Region Bridge Preservation Program, RNSP, and NMFS.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, “effects of the action” means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

SONCC ESU coho salmon are currently distributed within the lower and middle sections of Redwood Creek, but are mostly found within the Prairie Creek sub-watershed and the lower sections of tributaries to lower/middle Redwood Creek. CC ESU Chinook salmon are distributed throughout the mainstem of Redwood Creek and Prairie Creek. NC DPS steelhead are distributed throughout the Redwood Creek basin, including Prairie Creek, however tributaries to mainstem Redwood Creek often contain steep channel gradients which limit steelhead distribution to the lower sections of most tributaries. Prairie Creek within the action area contains migratory, rearing and spawning habitat for coho salmon, Chinook salmon and steelhead, and all life stages of salmonids are found within this section of Prairie Creek, at different times during the year. During the fall and winter months, when this project would take place, we expect that adults, eggs, and juveniles of all three species may be present within the action area.

Prairie Creek within the action area contains designated critical habitat for SONCC ESU coho salmon, CC ESU Chinook salmon and NC DPS steelhead. Habitat within the action area contains clean, well-sorted gravels suitable for salmonid rearing and spawning. The adjacent riparian area is a mixture of hardwoods (mostly red alder and big leaf maple) and second-growth

conifers including redwood and Douglas fir. Riffles that may be used as spawning habitat are located approximately 50 feet upstream, and approximately 300 feet downstream, of the project site.

Effects of the Action on Listed Species

The project has the potential to result in: (1) noise or visual disturbance to spawning adult salmonids, (2) construction debris entering the creek, and (3) the delivery of hazardous products, such as petroleum or concrete wash water, to the creek. However, the project incorporates numerous design features and BMPs, and is designed to minimize noise and visual disturbance, and to prevent or minimize the delivery of construction debris, or hazardous products, to the stream network.

Disturbance

Adult coho salmon, Chinook salmon and steelhead may be disturbed if they attempt to spawn near the project site during construction activity. Adult salmonids have been observed upstream and downstream of the bridge at the head of riffles, including one riffle approximately 300 feet downstream of the bridge, and one riffle approximately 500 feet upstream of the bridge. There is also spawning habitat approximately 50 feet upstream of the bridge, where gravels are well-sorted near the east bank of the creek (RNSP 2014), however, there is no spawning habitat at the bridge site itself, or within 50 feet up or downstream of the project site.

The best spawning habitat in the action area is upstream of the bridge, rather than downstream of the bridge (RNSP 2014). If using the closest upstream spawning habitat, adult salmonids would be facing upstream, opposite the construction activities, and they would be located at least 50 feet from construction activities. If salmonids are using the downstream riffle for spawning, they will be at least 300 feet from the bridge, reducing the potential for any disturbance. Importantly, the containment device would be in place beneath the bridge from bank to bank, reducing visual disturbance at the site. Due to (1) the distance to spawning habitat, (2) the orientation of spawning adults that may use the closest upstream riffle, and (3) the presence of the containment device, spawning disturbance is extremely unlikely to occur, and disturbance from project activities is expected to have a discountable effect on listed salmonids.

Construction Debris

There is the possibility that debris (*i.e.* concrete) from bridge rehabilitation may enter the creek. However, the proposed containment structure and associated contract specifications will prevent or greatly minimize the possibility of construction debris entering the creek. In addition, project design features such as the decked bulb tee girder that is pre-cast off site (*i.e.* superstructure) and not cast onsite, also greatly reduces the possibility of construction debris entering the creek. Thus, since it is extremely unlikely that construction debris will enter the creek, exposure to construction debris is extremely unlikely, and construction debris from project activities are expected to have a discountable effect on listed salmonids.

Hazardous Products

With any heavy equipment and power tool use near a stream network there is the possibility that petroleum products may enter the stream network, either through spills or leaks. Spill plans and best management practices for managing petroleum products should prevent or minimize the probability of runoff of hazardous materials in the unlikely event of a spill or leak associated

with power tool or heavy equipment use. In addition, there is the possibility that concrete wash water or paint could enter the creek. However, very little concrete (only the curbs) will be poured on site, the concrete truck will be located well away from Prairie Creek, and very little paint will be used at the site. In addition, the containment structure will prevent or greatly minimize the risk of hazardous products entering the creek. Therefore, since the risk of hazardous products from project activities entering the aquatic environment and exposing listed salmonids to such pollutants is extremely unlikely to occur, hazardous products from project activities are expected to have a discountable effect on listed salmonids.

Effects of the Action on Critical Habitat

For the reasons described above, that construction debris or hazardous materials entering the stream network is extremely unlikely to occur, construction debris and hazardous materials are expected to have discountable effects on critical habitat.

Conclusion

Based on this analysis, our review of the documents provided by RNSP, and based on our review of site conditions within the action area, NMFS concurs with RNSP that the proposed project is not likely to adversely affect threatened SONCC ESU coho salmon, CC ESU Chinook salmon, NC DPS steelhead or critical habitat designated for these species.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by RNSP, or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and if, (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16).

MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and "waters" includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10); and "adverse effect" means any impact that reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

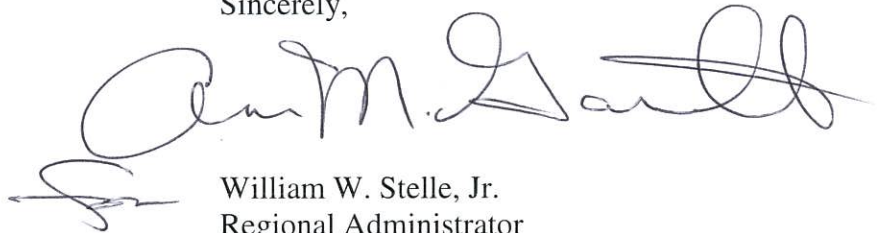
The project area is located within an area identified as EFH for Pacific salmon (coho salmon and Chinook salmon) managed under their respective Fishery Management Plans (FMP) under the MSA. As described previously in this letter, the proposed project includes the risk of construction debris entering the stream network, as well as the use of hazardous products near the aquatic

environment. Therefore, NMFS determined the proposed project would adversely affect EFH as follows: (1) if construction debris enters the creek, and (2) if petroleum products and/or hazardous materials from bridge rehabilitation enter the stream network.

However, the proposed project contains adequate measures to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH (e.g., the use of a containment device, and the use of spill plans and BMPs as described previously in this letter to reduce the possibility of construction debris and hazardous materials entering the stream network). Therefore, NMFS has no additional EFH conservation recommendations to provide at this time. RNSP must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH (50 CFR 600.920(l)). This concludes the MSA portion of this consultation.

Please contact Ms. Leslie Wolff in Arcata, California at (707) 825-5172, or via email at Leslie.Wolff@noaa.gov, if you have any questions regarding these consultations.

Sincerely,

A handwritten signature in dark ink, appearing to read "W. W. Stelle, Jr.", with a stylized flourish at the end.

William W. Stelle, Jr.
Regional Administrator

cc: Kristen Schmidt, Redwood National and State Parks

bcc: CHRON File (pdf)
Division File ARN 151422WCR2014AR00165

REFERENCE CITED

Redwood National and State Parks (RNSP). 2014. A biological assessment of impacts to aquatic threatened species from Prairie Creek Bridge (8480-007S) Rehabilitation in Redwood National and State Parks (RNSP). July 10, 2014.