



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
650 Capitol Mall, Suite 5-100
Sacramento, California 95814-4700

MEMORANDUM FOR: Sierra Pacific Land & Timber Company Forestland Management Program Habitat Conservation Plan and Safe Harbor Agreement in the Sacramento River and Trinity River Basins, California (151422-WCR2019-SA00515)

FROM: Cathy Marcinkevage
Assistant Regional Administrator
California Central Valley Office

DATE: September 30, 2021

SUBJECT: Finding of Net Conservation Benefit for the Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement of Survival Permit, and Findings and Recommendation for the Issuance of a Section 10(a)(1)(B) Incidental Take Permit

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) proposes to issue an enhancement of survival permit (ESP) and an incidental take permit (ITP) to Sierra Pacific Land & Timber Company (SPL&T) under the authority of Section 10(a)(1)(A), Section 10(a)(1)(B), and Section 10(a)(2) of the Endangered Species Act (ESA) of 1973, as amended, for a 50-year period.

Documents used in the preparation of this statement of Findings and Recommendation and Finding of Net Conservation Benefit include: the Sierra Pacific Industries Forestland Management Program Habitat Conservation Plan and Safe Harbor Agreement for the Sacramento River and Trinity River Basins (HCP/SHA) (SPL&T 2020), the Final National Environmental Policy Act (NEPA) Environmental Assessment (EA) (NMFS 2021a) and, the NMFS Biological Opinion on the submitted permit applications (NMFS 2021b). These documents are incorporated by reference.

NMFS has reviewed the above-described documents, as well as other available biological information and other documentation, in accordance with ESA Section 10, implementing regulations at 50 C.F.R. §222.307 and §222.308, and other applicable laws and regulations.

This memorandum articulates the Net Conservation Benefit to endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened Southern Oregon/Northern California Coast (SONCC) coho salmon (*O. kisutch*), and threatened California Central Valley (CCV) steelhead (*O. mykiss*) (SHA Covered Species) that is expected to result from the Forestland Management



Program SHA between SPL&T and NMFS. Under the Joint U.S. Fish and Wildlife Service (USFWS) and NMFS Safe Harbor Policy (64 FR 32717, June 17, 1999) (Policy), a "Net Conservation Benefit" finding is required to issue an ESA Section 10(a)(1)(A) permit that authorizes a SHA. The Policy outlines the criteria for issuing an ESA Section 10(a)(1)(A) permit and states that before entering into any SHA, NMFS must make a written finding that all SHA Covered Species will receive a Net Conservation Benefit from Beneficial Management Activities undertaken pursuant to the SHA. The purpose of this memorandum is to provide our written finding of the Net Conservation Benefit from the Beneficial Management Activities undertaken pursuant to the SHA.

Under the Section 10(a)(1)(B) ITP, SPL&T would receive incidental take authorization for Covered Activities administered under their jurisdiction as identified in the HCP submitted as part of the permit application. SPL&T is requesting incidental take coverage for seven anadromous fish species (HCP Covered Species). The Section 10(a)(1)(B) ITP would provide incidental take coverage for one endangered fish species, the Sacramento River winter-run Chinook salmon evolutionary significant unit (ESU), and three threatened fish species: the threatened Central Valley spring-run Chinook salmon ESU, the threatened SONCC coho salmon ESU, and the threatened CCV steelhead distinct population segment (DPS). The ITP also covers three species that are not currently listed under the ESA: the Central Valley fall- and late fall-run Chinook salmon (*O. tshawytscha*) ESU, which is designated as species of concern by NMFS; the Upper Klamath/Trinity Rivers (UKTR) Chinook salmon (*O. tshawytscha*) ESU, which is currently petitioned for listing as threatened or endangered under the ESA and endangered under the California Endangered Species Act (CESA); and Klamath Mountains Province (KMP) steelhead (*O. mykiss*) DPS, which has no current regulatory status. The non-listed species identified above do not currently have protective federal regulations against take, and a Federal permit is not needed to incidentally take them. However, there may be a change in listing status during the permit term. If any of the above-mentioned non-listed species are listed as threatened or endangered in the future, the ITP would become effective immediately for these species.

Background

SPL&T is the largest private forestland owner in the state of California, with ownership currently encompassing approximately 1.79 million acres of timberland throughout the northern and central portions of the state. Sierra Pacific Industries (SPI) is the authorized representative and manager of SPL&T lands. Rivers and streams on portions of SPL&T lands in the Sacramento River and Trinity River basins currently provide habitat for anadromous salmonids, including species listed under the ESA. SPI's forestland management activities have the potential to adversely affect fish species and their habitats that are listed, or may be at risk of listing, under the ESA.

The ITP would require implementation of the HCP, designed to address the potential impacts on Covered Species from SPI's timber harvest activities in watersheds with watercourses accessible to anadromous salmonids or upstream of those watercourses where potential effects from Covered Activities have the potential to extend to occupied habitat. The ESP would require implementation of the SHA, developed to address potential impacts of SPI's timber harvest and other activities on ESA-listed salmonids on SPL&T lands in the Sacramento and Trinity River

basins upstream of impassable dams where NMFS is proposing to reintroduce populations of listed salmonids.

SPI began discussions with NMFS in 2016 regarding the development of the HCP and SHA and continued to meet with NMFS from 2016 to 2019 to further refine the approach for pursuing the ITP and ESP associated with the proposed HCP/SHA. SPI collaborated closely with NMFS to establish the list of Covered Species, the HCP and SHA Action Areas and Plan Areas, and the proposed Conservation Strategy. NMFS provided information on the recommended salmonid reintroduction efforts outlined in the Final Recovery Plan for Central Valley Chinook Salmon and Steelhead (NMFS 2014a) and the Final SONCC coho Recovery Plan (NMFS 2014b).

Proposed activities under the ITP and ESP include those activities necessary to implement the forestland management program, in addition to certain mitigation and conservation measures identified in the HCP/SHA. They also include those activities intended to support reintroduction efforts proposed by NMFS during the permit term. A detailed description and list of Covered Activities are described further in Chapter 2 of the HCP/SHA (SPL&T 2020). Covered Activities involving forestland management are the primary activities conducted on SPL&T lands by SPI. All of these activities are governed by the existing California Forest Practice Rules (CFPRs) and by other SPI management plans and certification guidelines. The CFPRs are updated annually by the State Board of Forestry. While implementing the HCP/SHA, SPI will follow the Z'Berg-Nejedly Forest Practice Act and relevant Public Resource Codes, and all CFPRs current for each year of the permit period.

Forest practices under the CFPRs are conducted within a “functional equivalent California Environmental Quality Act (CEQA) program” (Public Resources Code 2180.5) and requires that significant adverse environmental impacts affected by the project are mitigated to insignificant levels (as defined by CEQA). Timber operations and certain other management actions are conducted as part of the functional equivalent program. The CFPRs regulate all industrial forest management activities and are the primary means by which the goals and conservation measures within the HCP/SHA will be achieved. The CFPRs include implementation measures for timber harvesting and erosion control; site preparation; watercourse and lake protection; and logging roads, landings, and crossings. These measures help to ensure that SPI management within a planning watershed will not result in any significant adverse environmental impacts (CFPRs Articles 4, 5, 6 and 12). The CFPRs in these Articles mandate that any potential negative impacts be mitigated into insignificance (as defined by CEQA). For the purposes of the HCP/SHA, SPI has defined significant adverse environmental impacts as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Definitions

Avoidance and Minimization Measures means measures to avoid or minimize take associated with Routine Forestland Management Activities or Beneficial Management Activities, and Return to Baseline Conditions, for the Enrolled Property.

Baseline Conditions means the habitat conditions for Covered Species on the Enrolled Property when NMFS approves the SHA.

Beneficial Management Activities means activities to be undertaken to benefit the Covered Species, as specified in the SHA for the Enrolled Property. The term includes associated Avoidance and Minimization Measures.

Elevated Baseline Conditions means certain Baseline Conditions improved as a result of the implementation of certain Beneficial Management Activities as described in the SHA. The SHA describes Baseline Conditions on the Enrolled Property, and the Applicant and NMFS have agreed that Elevated Baseline Conditions are the improved riparian and habitat conditions resulting from the proposed forest road improvements and support of NMFS ESA-listed species reintroduction efforts.

Enhancement of Survival Permit (or ESP) means the permit that NMFS issues to the Applicant for the Enrolled Property under authority of ESA section 10(a)(1)(A), 50 C.F.R. § 222.308, and the Safe Harbor Policy.

Enrolled Property means the 211,824 acres of SPL&T owned lands within SHA Plan Area in the Sacramento River and Trinity River basins, a non-federal property that includes its surface water and natural resources to which the assurances in the SHA apply and on which incidental taking is authorized under the ESP.

Incidental Take Permit (or ITP) means the permit that NMFS issues to the Applicant for a Habitat Conservation Plan under the authority of ESA section 10(a)(1)(B), and 50 C.F.R. § 222.307.

Net Conservation Benefit means the cumulative benefits of the Beneficial Management Activities on the Enrolled Property, taking into account the term of the ESP and any adverse effects attributable to incidental take. Such benefit may be an increase in the Covered Species' population or the enhancement, restoration, or maintenance of habitat within the Enrolled Property.

Return to Baseline Conditions means actions taken, during the period starting when the Applicant provides notice of intent to terminate the ESP for the Enrolled Property, until termination, pursuant to notification requirements described in the SHA, that ultimately return the Enrolled Property back to the agreed upon Elevated Baseline Conditions.

Routine Forestland Management Activities are lawful practices for production of timber and the management of forestland owned by SPL&T, as described in the HCP/SHA for the Enrolled Property.

Safe Harbor Policy (or Policy) means the final Safe Harbor Policy published by NMFS and USFWS (64 FR 32717, June 17, 1999).

Plan Area and Action Area

The HCP Handbook (USFWS and NOAA 2016) defines the Plan Area as all areas that will be used for any activities described in the HCP, including Covered Activities and the conservation program. The ESA implementing regulations define the “Action Area” as all areas that will be affected directly or indirectly by the Federal action, and not merely the immediate area involved in the action (50 CFR 402.02).

The HCP and SHA each have defined Plan Areas and Action Areas as described below and shown on Figure 1 and Figure 2. The Plan Areas includes lands owned by SPL&T where SPI forest management Covered Activities are proposed. The Action Areas include the Plan Areas and adjacent lands potentially affected by Covered Activities in the Plan Areas.

HCP Plan Area

The HCP Plan Area includes all SPL&T lands in planning watersheds currently within the known limits of anadromy. SPL&T owns approximately 355,061 acres within these watersheds (Figure 1). All planning watersheds within the current limits of anadromy are subject to the Anadromous Salmonid Protection (ASP) rules of the CFPRs. Portions of watersheds that are immediately upstream of areas accessible to anadromous salmonids are included under ASP rules because of potential effects on water quality downstream. A complete list of watersheds covered by the HCP is provided in Appendix A of the HCP/SHA (SPL&T 2020).

HCP Action Area

The HCP Action Area comprises areas within planning watersheds in the upper Trinity River basin and the Sacramento River basin currently accessible to anadromous salmonids in which SPL&T owns lands and conducts Covered Activities. The HCP Action Area includes lands within these watersheds potentially affected by activities in the HCP Plan Area and is used to establish context and the evaluation area for potential impacts of the Covered Activities occurring on SPL&T lands. We define potentially affected lands as planning watersheds in which SPL&T own lands, and the adjacent upstream and downstream planning watersheds. The HCP includes all activities described in this document, including Covered Activities and conservation strategy, within these lands. The ITP coverage is not extended to other land ownerships in the HCP Action Area. The HCP Action Area occurs within 159 planning watersheds covering approximately 1,459,900 acres in the Sacramento River and Trinity River basins (Figure 2).

SHA Plan Area

The SHA Plan Area includes all SPL&T lands in planning watersheds outside the current limits of anadromy in which salmonid reintroductions are proposed. These watersheds are within historically occupied habitat and above currently impassable barriers to anadromy.

The SHA Plan Area includes all SPL&T lands within the SHA Action Area. SPL&T owns approximately 211,824 acres within these watersheds (Figure 1). These planning watersheds are

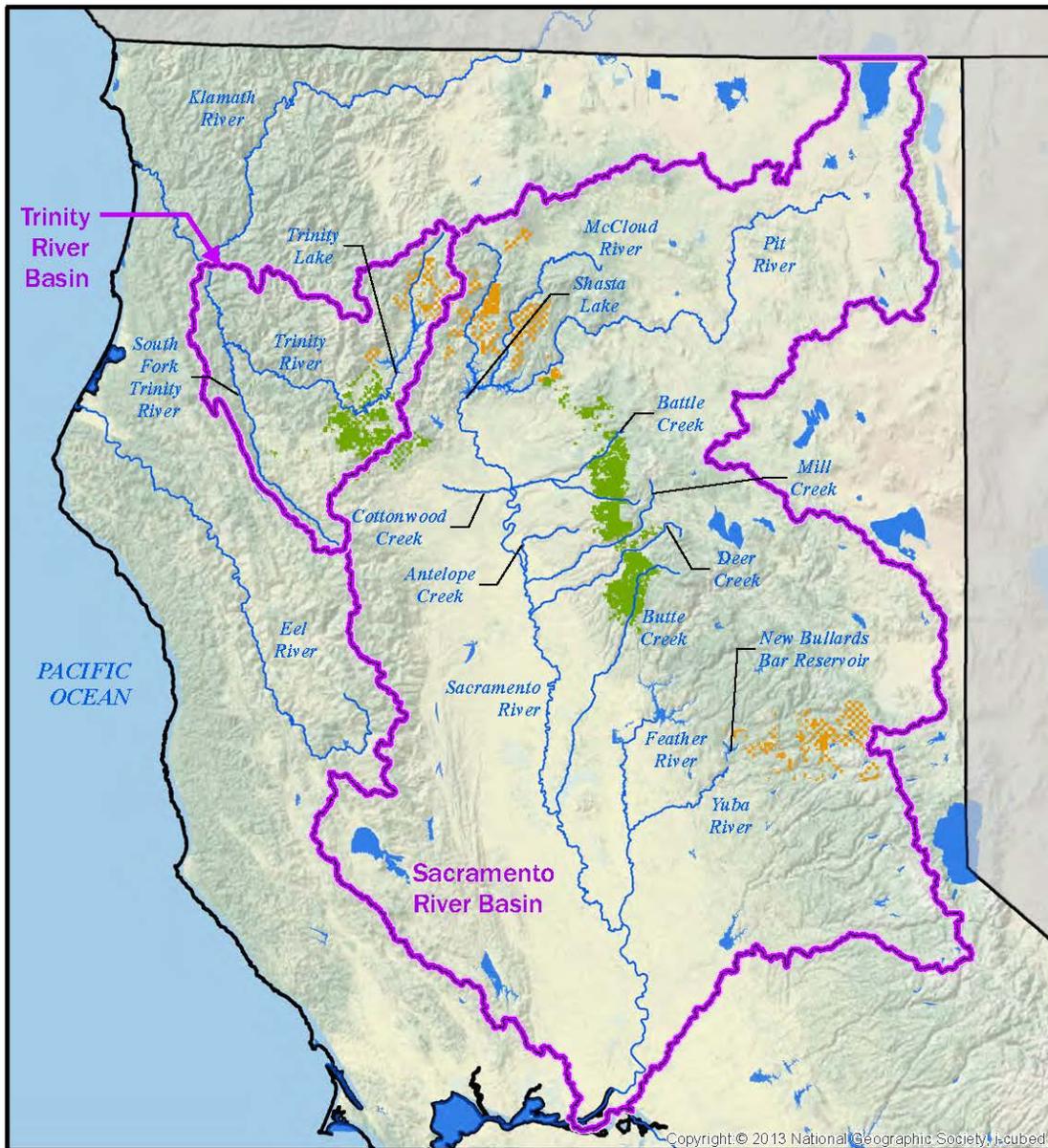
above the current limits of anadromy and not subject to the ASP rules; however, they are managed under the standard CFPRs. The SHA Plan Area includes: (1) SPL&T lands that will be accessible to reintroduced salmonids, and (2) other SPL&T lands that are upstream of the estimated upper limit of anadromy, which are included in the SHA Plan Area, because of potential downstream impacts on water quality associated with Covered Activities.

SHA Action Area

SPL&T proposes to support listed salmonid reintroduction in watersheds with SPL&T ownership above several man-made barriers in the Trinity River and Sacramento River basins consistent with NMFS' recommended reintroduction efforts.

The SHA Action Area comprises 130 planning watersheds currently inaccessible to anadromous salmonids in which SPL&T owns lands and conducts activities. The SHA Action Area includes all ownerships within these watersheds and is used to establish context and the evaluation area for potential impacts of the Covered Activities occurring on SPL&T lands. The SHA incorporates all activities described in this document, including Covered Activities and conservation strategy, within these lands. The ESP coverage is not extended to other land ownerships in the SHA Action Area.

The 130 planning watersheds included in the SHA Action Area occur within approximately 1,057,266 acres in the Sacramento River and Trinity River basins (Figure 2). These watersheds occur in the Upper Sacramento River, McCloud River, Battle Creek (downstream from the HCP Plan Area), North, Middle, and South Yuba Rivers upstream of Englebright Dam, and Stuart's Fork of the Trinity River (upstream from Trinity Reservoir) and the East Fork Trinity River.

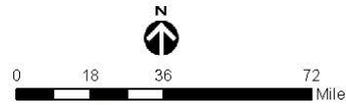


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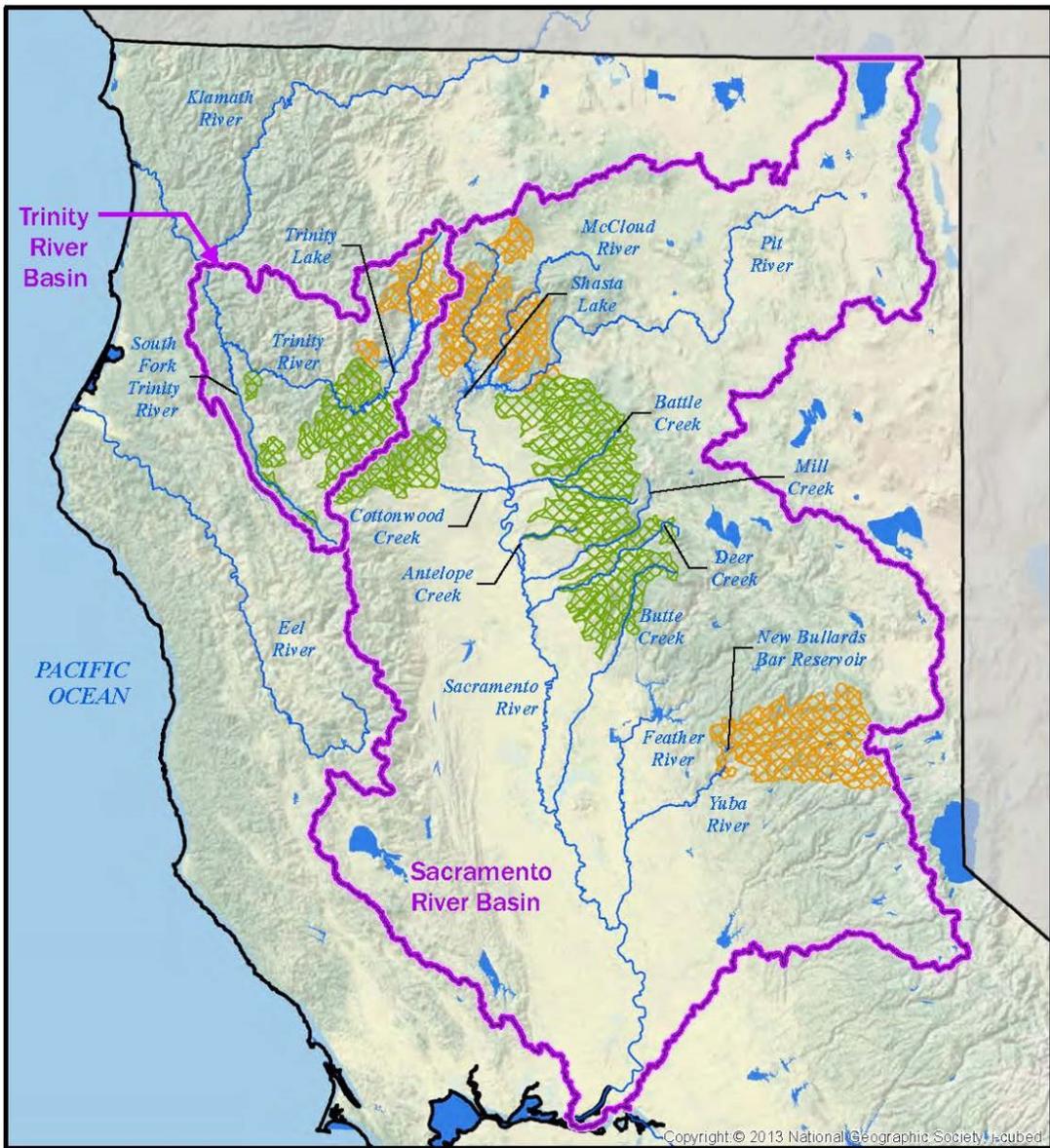
Legend

-  Basin boundary
-  River
-  Waterbody
- Plan Area**
-  HCP
-  SHA

Figure 1A.
HCP and SHA Plan Areas.



National Geographic Society, Topographic base map (2013)
 HCP file: c:\v2016\16-06421-000\VP\elec\report_Figures\Fig1A_PlanArea_16.mxd (6/12/2019)

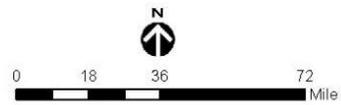


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Legend

-  Basin boundary
-  River
-  Waterbody
- Action Area**
-  HCP
-  SHA

Figure 1B.
HCP and SHA Action Areas.



National Geographic Society, Topographic base map (2013)
ICM Pop. 03/17/2016 05:05:42 | 0000 | File: 03/17/2016 | Figure 1B | Action Area | herra.mxd | 8/12/2013

Covered Activities

Timber operations and other forestland management activities are conducted under a Timber Harvest Plan (THP), pursuant to the CFPRs. Operations are described in detail when they occur as part of an approved THP or Emergency or Exemption Notification, which satisfies CEQA analysis requirements. The CFPRs require winter operating plans if operations are planned in the winter period (November 15 to April 1). The winter period operating plan shall include specific measures used in the winter operating period to avoid or substantially lessen erosion and soil movement into watercourses, and soil compaction from timber operations. Detailed descriptions of the following activities can be found in Section 2 *Covered Activities* within the HCP/SHA (SPL&T 2020).

Activities conducted under a standard THP include:

- Felling and bucking timber
- Yarding timber
- Loading and landing operations
- Transportation of forest products and equipment
- Chipping
- Timber salvage
- Road construction, reconstruction, maintenance, and abandonment
- Drafting
- Watercourse crossing facility placement and maintenance
- Site preparation
- Prescribed burning
- Mastication

A winter period operating plan shall include the following:

- Erosion hazard rating
- Mechanical site preparation methods
- Yarding system (constructed skid trails and tractor road watercourse crossings)
- Operating period
- Erosion control facilities timing
- Consideration of form of precipitation-rain or snow
- Ground conditions (soil moisture condition, frozen)
- Silvicultural system-ground cover
- Operations within the Watercourse and Lake Protection Zone
- Equipment use limitations
- Known unstable areas
- Logging roads and landings

Relationship of the HCP and SHA to Section 7 Consultations

Private actions that are Covered Activities under the HCP/SHA may also be subject to separate Section 7 review if those actions are authorized, carried out or funded by Federal agencies. Incidental take for Covered Activities carried out by the permittee will be subject to mitigation,

minimization, avoidance and other measures provided for under the HCP/SHA. To the extent that Covered Activities involving a Federal nexus are determined to affect federally listed species or their critical habitat in a way not already analyzed in the biological opinion, incidental take coverage would occur through the Section 7 process.

Term of the Permits

The permits (ITP and ESP) will be in effect for a period of 50 years.

NMFS and SPL&T do not have an Implementing Agreement for the HCP. NMFS may suspend or revoke the permits for cause in accordance with regulations and subject to the requirements for notice, review and opportunity to cure in force at the time of such suspension or revocation. These regulations are currently codified at 50 CFR § 222.306. Such suspension or revocation may apply to the entire permit, or only to specified Covered Species, HCP Boundaries, or Covered Activities. In the event of suspension or revocation for noncompliance or violation by SPL&T or SPI, the obligations under the permits and the HCP will continue until NMFS determines that all take of Covered Species that occurred under the ITP has been fully mitigated in accordance with the HCP. SPL&T may relinquish the permit in accordance with the regulations of NMFS in force on the date of such relinquishment (these regulations are currently codified at 50 CFR §222.306(d)). Notwithstanding relinquishment of the permit, SPL&T will be required to provide post-relinquishment conservation or mitigation for any take of Covered Species that NMFS determines will not have been fully mitigated under the HCP by the time of relinquishment. SPL&T obligations under the HCP will continue until NMFS notifies SPL&T that no post-relinquishment conservation or mitigation is required, or that all post-relinquishment conservation or mitigation required by NMFS is complete. Unless the parties agree otherwise or the permit is revoked for non-compliance or violation, NMFS will not require more conservation or mitigation than would have been provided if SPL&T had carried out the full term of the HCP.

Conservation Strategy

NMFS (2014a, 2014b) and the U.S. Bureau of Reclamation (Reclamation 2014, 2016) identified aquatic habitats in the Trinity and Sacramento River basins located upstream of existing man-made barriers to anadromy as high-quality habitat for proposed listed salmonid species reintroduction efforts. These aquatic habitats include lands owned by SPL&T. The proposed reintroduction areas were selected for these efforts, because they are within the historic species' range and contain high-quality habitats capable of supporting these efforts. The Conservation Strategy Goals and Objectives reflect this understanding and are designed to maintain and improve this high-quality habitat.

SPL&T's role and overall objective in the HCP/SHA process for these Covered Species is continued maintenance of streams and other wetlands providing cold, clean water to lands in the HCP/SHA Plan Areas and downstream habitats supporting anadromous salmonids.

This section lists the HCP goals and objectives and how they align with other conservation and recovery strategies. This section also details standard conservation and minimization measures and monitoring activities that will minimize potential impacts on Covered Species. SPI will

monitor the potential impacts of Covered Activities to gauge the effectiveness of the conservation and minimization measures, document compliance with the conservation strategy, and will utilize an adaptive management plan to address uncertainties in HCP implementation. SPI will report results to NMFS annually. The Conservation Strategy will fully offset incidental take and provide a Net Conservation Benefit to Covered Species.

Goals

The HCP goals are descriptive, open-ended statements of desired future conditions used to guide the Conservation Strategy. The primary goal is to improve watershed conditions in order to provide high-quality habitat and delivery of flow, sediment, wood, heat, and nutrients at levels that maintain high quality habitat downstream. The HCP goals include:

1. Improve habitat for Covered Species on SPL&T lands.
2. Provide cold, clean water to downstream watersheds supporting anadromous species.
3. Improve riparian habitat structure.
4. Reduce sediment delivery at the planning watershed scale to promote high-quality aquatic habitat.
5. Monitor overall management and aquatic habitat quality performance at five continuous water quality monitoring stations.
6. Enhance watershed resiliency by identifying and implementing projects designed to reduce wildfire behavior, intensity, and magnitude.
7. Improve stream crossings at existing or new roads during post-fire salvage and reforestation.
8. Reduce delivery of flow and sediment from the existing SPL&T road system.
9. Provide an Elevated Habitat Baseline in the SHA Plan Area supporting NMFS listed salmonid species reintroduction efforts.

Objectives

Objectives are the incremental steps taken to achieve a goal. They provide a foundation for determining conservation measures, monitoring, and evaluating the effectiveness of the conservation strategy. The main objectives include measures for maintaining standard procedures established by the CFPRs to provide conservation and minimization measures for Covered Activities and proactive improvements outside the CFPRs framework. The HCP objectives include:

1. Improve habitat for Covered Species on SPL&T lands by maintaining or improving fish passage and stream flows, reducing potential sediment sources; and maintaining or improving conditions providing wood, heat, and nutrients at levels supporting high quality habitats on SPL&T lands and habitats and further downstream.
2. Provide cold, clean water to downstream watersheds supporting anadromous species by maintaining stream shade, limiting potential diversions caused by road systems, and maintaining stream temperatures.
3. Improve riparian structure and function by assuring natural recruitment processes of riparian vegetation, including hardwoods and conifers, will continue.
4. Identify and reduce sources of suspended sediment from Covered Activities by:

- a. Minimizing stream channel network extension by maintaining existing SPL&T roads in proper function, increasing hydrologic disconnection, constructing new roads meeting CFPRs design and function, upgrading stream crossings, and decommissioning roads no longer required for forest management activities.
 - b. Implementing road improvement projects at those locations where new drains and surfacing will have the greatest effect in reducing sediment production and delivery to streams. Use SPI's Road Erosion and Sediment Delivery Index (READI) model to identify sediment sources from road runoff.
5. Provide for reduced watershed impacts from fire by implementing safe practices and creating fuel break networks and participating in multi-stakeholder fuel reduction strategies, such as SPI's Memorandum of Understanding (MOU) with the U.S. Forest Service, the National Fish and Wildlife Foundation, and the California Department of Forestry and Fire Protection (CAL FIRE) to coordinate protection of spotted owl habitat to reduce potential impacts on owl habitat from large-scale, high-severity wildfire, and to coordinate fire suppression planning and response efforts on federal, state, and SPL&T lands with an emphasis on preserving habitat.
6. Establish SPL&T road systems in each HCP Plan Area watershed that are between 85 to 90 percent hydrologically disconnected by completing the READI model fieldwork, analysis, and specific site improvements. In the Trinity River basin HCP/SHA Plan Areas, SPI will prioritize road improvements on unstable lands based on the landslide risk assessment results and known or potential distribution of Covered Species. Sacramento River basin HCP/SHA Plan Area lands will be prioritized using the NMFS Core and reintroduction classifications, beginning with Core 1 and Core 2 watersheds, followed by Primary and Candidate classifications.
7. Provide an Elevated Habitat Baseline in the SHA Plan Area supporting NMFS listed salmonid species reintroduction efforts. SPI will use the READI model to identify locations of road and drainage improvement projects. Once implemented, these improvements become permanent features in the SHA Plan Area, regardless of current NMFS reintroduction efforts, resulting in improved, or elevated, habitat conditions.

Monitoring and Reporting

The HCP/SHA includes a monitoring program using habitat-based ecological surrogates (stream temperature, turbidity) to represent the amount and extent of take. The HCP/SHA also includes three additional monitoring components: effectiveness monitoring, which evaluates the effects of Covered Activities; implementation monitoring, which summarizes READI model application and documents other road watercourse crossing improvements; and compliance monitoring to verify whether the terms of the HCP/SHA and Permits are being implemented. Each of these monitoring components are described in further detail below.

Effectiveness Monitoring

Effectiveness monitoring measures the success of operating within the CFPRs to meet the biological goals and objectives described as part of the Conservation Strategy. Effectiveness monitoring tracks trends in-water quality related to timber operations and forest management activities. It also provides information to better inform the READI model for designing roads and

watercourse crossings to minimize sediment input to nearby watercourses. SPI already monitors several habitat indicators in ASP watersheds (and others) including projects assessing the impacts of fires, ground treatment after fires, logging and road construction, and annual climatic fluctuations on water temperature, stream flows, suspended sediment, and turbidity. The existing monitoring stations represent and monitor the output of all Covered Activities upstream from their geographic location. The stations provide data demonstrating representative conditions, 10 years of baseline conditions, and effectiveness of the CFPRs. The Covered Activities are the same inside or outside of the HCP/SHA Plan Areas; therefore, monitoring stations in the SHA Plan Area or outside both plan areas can represent and monitor Covered Activities anywhere with similar forest types and soils/parent material.

The effectiveness monitoring for the HCP includes two additional components for THPs occurring adjacent to anadromous fish habitat. These efforts are intended to complement the habitat-based surrogate monitoring by focusing on potential site-specific effects. These components include monitoring Watercourse and Lake Protection Zone (WLPZ) canopy cover effectiveness on stream temperatures, and spawning gravel suitability for Covered Species.

SPI will conduct stream temperature monitoring directly relating to THPs in planning watersheds occupied by state or federally listed Covered Species. When a THP is proposed in a planning watershed with stream habitat occupied by Covered Species that are also state or federally listed, and THP activities will occur in WLPZs, SPI will monitor air and stream temperature the year prior to harvest, the harvest year, and one year following harvest. The temperature monitoring effort complements the stream and air temperature habitat-based surrogate indicator monitoring by focusing on potential site-specific effects to stream temperatures. Monitoring will be conducted using appropriate air and water temperature logging devices at locations immediately upstream and downstream of the stream reach included in the THP. The monitoring will occur during the summer, as this is the time when potential effects would be most evident and have the highest likelihood of affecting fish. The summer time period is defined as June 1 through August 31. Monitoring data will be analyzed for the subject aquatic and riparian habitats and included in annual monitoring reports.

SPI will also assess and monitor potential spawning gravel characteristics directly relating to THPs occurring in planning watersheds occupied by Covered Species. When a THP is proposed in a planning watershed with stream habitat occupied by Covered Species, and THP activities will occur in WLPZs, SPI will conduct a spawning gravel assessment and monitor potential spawning gravel substrate the year prior to harvest, the harvest year, and one year following harvest. The spawning gravel monitoring is designed to complement the turbidity habitat-based surrogate indicator monitoring by focusing on potential site-specific effects to potential spawning redd locations. SPI will conduct the monitoring by performing a habitat assessment of the subject stream reach to determine if potential spawning habitat for Covered Species occurs. If potential spawning habitat occurs, SPI will conduct substrate monitoring in coordination with NMFS using current, standard protocols to measure substrate embeddedness and composition at potential spawning gravel locations immediately upstream and downstream of the stream reach included in the THP. The monitoring will occur during the summer or fall periods when stream conditions allow for instream survey work. The summer and fall time periods are defined as June 1 through August 31, and September 1 to November 30, respectively. SPI will analyze the

monitoring data to describe spawning gravel characteristics in the subject stream reaches and include results in annual monitoring reports.

Implementation Monitoring

Implementation monitoring includes providing information relating to READI model application, and documenting other road watercourse crossing improvements. The SPI READI model serves as a tool for implementing mitigation measures designed to achieve between 85-90 percent hydrologic disconnection for SPL&T roads in the HCP and SHA Plan Areas. As READI model application proceeds during the first three years of the HCP, SPI will compile output data at the planning watershed scale. These summaries will be provided in the annual monitoring reports to document the planning watersheds completed and summarize percent hydrologic disconnection. As SPI implements projects based on READI model results, additional documentation will be provided describing the improvement projects and the changes to percent disconnection values.

Implementation monitoring also includes providing summaries of all other road watercourse crossing improvements not directly related to READI model application, such as stream crossing upgrades during THP implementation or crossing improvements made during post-wildfire rehabilitation. These summaries apply to the HCP and SHA Plan Areas and include the geographic location, planning watershed, stream name, and improvements made.

Compliance Monitoring

Compliance monitoring of technical matters will be conducted by a team within SPI, including, but not limited to, internal forestry, fisheries, and wildlife staff. Monitoring will also include SPI's ongoing patrol program, which is coordinated with local law enforcement agencies and includes controlling trespassing, vehicle and off-highway vehicle use, and illegal marijuana cultivation. Collectively, these efforts will ensure compliance with the Conservation Strategy goals and objectives. The monitoring will be implemented or continued as necessary to demonstrate compliance with the HCP and verify that habitat quality does not fall below the baseline established in the SHA.

SPI works with CAL FIRE to ensure compliance with conditions in the THP. Following the approval of a THP, CAL FIRE Unit Forest Practice Inspectors periodically inspect logging operations. When a THP operation has been completed, SPI submits a completion report to CAL FIRE, which then inspects the area to certify that all rules were followed. SPI is also subject to annual third-party audits through certification by the Sustainable Forestry Initiative (SFI), which annually reviews SPI forest management practices and confirms compliance with the SFI program goals and requirements.

Adaptive Management

The SPI Monitoring and Adaptive Management Program incorporates the goals of increasing the understanding of watershed processes and the effects of management activities on the Covered Species and their habitats during the permit term and adapting the HCP Conservation Measures in response to new information. Effectiveness and compliance monitoring will be used to

evaluate how well the HCP goals and objectives are being met. If the monitoring results indicate the goals and objectives are not being met, SPI will adjust management strategies, as appropriate. If habitat surrogate take threshold exceedances occur at any of the five water quality monitoring stations for a consecutive 3-year period, SPI and NMFS will confer to identify possible adaptive management actions to address the condition. SPI will implement the agreed upon adaptive management actions to address the condition as soon as practicable. SPI will modify activities across all lands in the HCP and SHA Plan Areas with similar characteristics and management issues to reduce the potential for these exceedances to occur throughout all covered lands. All exceedances, investigations, and resulting actions will be summarized and included in annual monitoring reports submitted to NMFS.

Reporting

SPI will provide an annual report to NMFS for the duration of the HCP/SHA to verify that the conservation measures are being implemented and to ensure that the level of authorized take is not exceeded. The report will be prepared by SPI and delivered to NMFS by June 30 of each year, covering the previous calendar year while the HCP and SHA are in effect. The water quality-related monitoring and reporting will include data and analysis for the previous water year (October 1 through September 30). The monitoring report will contain summaries of all effectiveness, implementation, and compliance monitoring including:

- A summary of project implementation
- Monitoring methods and results
- Efforts supporting salmonid reintroduction
- Information on the project status and impacts
- Take tracking
- Avoidance and minimization measures
- A summary of habitat surrogate monitoring results
- Relevant information on mitigation, changed circumstances and funding
- Summary of CAL FIRE violation notices pertaining to HCP/SHA Covered Activities, if such notices occur

Public Comment

The HCP/SHA and the Draft NEPA EA were released on June 19, 2020 with a Notice of Availability published in the *Federal Register* (85 FR 37070, June 19, 2020). The public comment period closed on July 20, 2020. NMFS received three letters from the public. The three letters received expressed support for NMFS' approval of the HCP/SHA and the proposed issuance of both the ITP and ESP to SPL&T. There were no changes or updates resulting from the public comment period, as none were requested by the public.

Section 10(a)(1)(A) SHA Criteria - Net Conservation Benefit Analysis

Before entering into any SHA, NMFS must make a written finding that all Covered Species will receive a Net Conservation Benefit from management actions undertaken pursuant to the SHA. The finding must clearly describe the expected Net Conservation Benefit and how NMFS

reached that conclusion. The Net Conservation Benefit must contribute, directly or indirectly, to the recovery of the Covered Species.

Net Conservation Benefit Determination

The Policy defines “Net Conservation Benefit” as:

“...the cumulative benefits of the management activities identified in a Safe Harbor Agreement that provide for an increase in a species' population and/or the enhancement, restoration, or maintenance of Covered Species' suitable habitat within the Enrolled Property, taking into account the length of the Agreement and any offsetting adverse effects attributable to the incidental taking allowed by the enhancement of survival permit [ESA Section 10(a)(1)(A) permit]. Net Conservation Benefits must be sufficient to contribute, either directly or indirectly, to the recovery of the Covered Species. ”

Whereas, “Management Activities” stated above is defined by the Policy as:

“Voluntary conservation actions to be undertaken by a property owner that the Services believe will benefit the Covered Species.”

For the reasons described in this memorandum, NMFS’ analysis indicates that the proposed SHA meets the issuance criteria outlined in the Policy as follows:

- 1. The landowner will have Management Activities that provide benefits for the Covered Species.**

As part of the SHA, the landowner will implement the following Beneficial Management Activities that will improve habitat within the SHA Plan Area:

Road Design and Future Best Management Practices Evaluation

SPI will use the READI model to identify sources of sediment from SPL&T road runoff and apply road watercourse crossing best management practices (BMPs) (Weaver *et al.* 2015) to reduce potential sediment delivery. The READI model is designed to:

1. Evaluate hydrologic connectivity using a simple hydrologic model that can be calibrated using data on runoff and sediment delivery characteristics;
2. Predict effects of changing conditions on runoff and sediment delivery, such as after wildfire when soil infiltration is reduced, or after changing surfacing or traffic levels;
3. Model scenarios, including predicting where additional road drains can be strategically placed to optimize reductions in road disconnections and sediment delivery, and where road surfacing upgrades can optimize reductions in sediment production;
4. Make predictions capable of being tested, including runoff sediment plume lengths below roads;
5. Use a dimensionless index of road sediment production and delivery where local controls on erosion potential are unknown or where sediment yield predictions are not required or reliable;

6. Link sediment delivery storm intensity and duration to provide a physical basis for calculating road to stream hydrologic connectivity and disconnections; and
7. Utilize geo-referenced locations of topographic drainage sites and engineered drainage structures to increase spatial precision. The READI model will be applied over a range of spatial scales, such as individual THPs, small watersheds, entire road networks, larger watersheds, and entire land jurisdictions. Detailed and extensive field inspections of all road and drainage structures are required to populate the READI model data set.

To evaluate the effectiveness of existing road engineering, READI assesses each individual road segment in a road system by using road field survey data to assess each road segment, stream crossing, and their potential to deliver sediment to a watercourse. The values calculated for a single segment have much uncertainty because of the many factors that influence sediment production and transport. READI can serve as a screening tool to characterize road networks in terms of relative rates of sediment and water delivery to streams and to identify areas for improvement, but field observations are required to determine actual road conditions.

For designing mitigation, the READI model evaluates road slope, area, surface erodibility, and runoff generation on unpaved roads. The READI model provides an approximation of on-the-ground conditions; however, it often over-predicts annual erosion rates and sediment yields (Surfleet *et al.* 2011). Field validation of model predictions and flexibility are used to determine which best road management practices to apply at each site. Not all on-the-ground site conditions are represented in READI because of its reliance on remote sensing and numerical models.

By examining this background information, SPI derives an implementation strategy designed to bring watershed conditions into similar, 80 percent or greater, percent disconnection ranges. Using percentage of road length disconnection as an implementation goal would be to bring each planning watershed into 80 percent or greater hydrologic disconnection to match the percentage disconnection within the SPI monitoring study watersheds. Once that implementation measure is achieved, then road improvement measures to achieve between 85 to 90 percent hydrologic disconnection of SPL&T forest roads would be implemented during the life of the Plan, with the overall goal of establishing a road system between 85 to 90 percent hydrologically disconnected in each planning watershed.

SPI will complete the READI model fieldwork and data analysis within the HCP Plan Area during the first three years of the permit period, leading to focused road improvements beginning in year-4 following permit issuance. This schedule provides prompt benefits to Covered Species, and will continue throughout the permit period until reaching the 85 to 90 percent disconnection goal for SPL&T roads.

READI model fieldwork and data analysis within the HCP Plan Area in planning watersheds that have not been surveyed is currently in progress. SPI will provide updated results in annual monitoring reports upon permit issuance.

SPI will plan and implement road construction and maintenance based on the READI model results by giving highest priority to locations that would provide the greatest conservation benefit based on the following criteria. In the Trinity River basin HCP/SHA Plan Areas, SPI will give

highest priority to implementing road improvements on unstable lands based on the landslide risk assessment results and watersheds occupied by Covered Species. Improvements in the Sacramento River basin HCP/SHA Plan Areas will be prioritized using the NMFS Recovery Plan guidelines (NMFS 2014a). Core and reintroduction classifications, beginning with Core 1 and Core 2 watersheds, followed by Primary and Candidate classifications.

SPI will initiate READI model fieldwork, data analysis, and project implementation in the SHA Plan Area following permit issuance and upon notification from NMFS that reintroduction efforts will occur. SPI understands that NMFS will notify SPI once NMFS determines specifically when and where reintroduction tasks will begin. Upon notification, SPI will initiate planning efforts to perform READI in the appropriate watersheds selected for reintroduction efforts. SPI will complete the READI model fieldwork and data analysis within these areas during the first three years of the permit period. The READI model results in the SHA Plan Area will be included in annual monitoring reports.

Salmonid Reintroduction

As part of the mitigation for the Covered Activities included in the HCP/SHA, SPL&T supports Chinook salmon, coho salmon, and steelhead reintroduction to the SHA Plan Area per the NMFS species recovery plans (NMFS 2014a, 2014b). Central Valley Chinook salmon and steelhead are proposed to be reintroduced to the Sacramento River above the Shasta Dam; the McCloud River; Battle Creek, downstream from Whispering Falls and Angel Falls; and the Yuba River upstream of Englebright Dam. SONCC coho salmon are proposed to be reintroduced to Stuart's Fork, (upper) Trinity River, and East Fork Trinity River, above the Trinity Dam and reservoir.

SPI will support these reintroduction efforts by maintaining or improving aquatic habitats in the reintroduction areas by reducing potential sediment delivery using the READI model. SPI will also conduct road improvement projects to establish SPL&T road systems that are between 85 and 90 percent hydrologically disconnected at the planning watershed scale. Other activities include enhancing watershed resiliency by identifying and implementing projects designed to reduce wildfire behavior, intensity, potential and magnitude and improving stream crossings at existing or new roads during post-fire salvage and reforestation. These improvements will provide an elevated habitat baseline in the SHA Plan Area upon completion, regardless of NMFS' continued reintroduction efforts in the future. Additionally, SPI will support NMFS' reintroduction efforts by providing physical access to SHA Plan Area lands and related items, such as specific access information, maps, gate key/combo information, physical escort, relevant existing data, *etc.*

These activities qualify as "Management Activities" because: 1) the landowner is not required to undertake Management Activities for the Covered Species on their property, therefore, the activities are voluntary conservation actions; and 2) NMFS believes, for the reasons described below, that the Covered Species will benefit from the Applicant undertaking these activities.

2. The benefits of the SHA exceed the adverse effects from the incidental take authorized by the Permit.

The SHA Action Area includes SPL&T lands that will be accessible to reintroduced salmonids, and other SPL&T lands that are upstream of the current known upper limit of anadromy, because of potential downstream impacts on water quality. Due to the location of the SHA Plan Area and Action Area, Covered Species are not currently present. However, due to historic presence of ESA-listed species in these areas, designated critical habitat does overlap with some portions of the SHA Action Area.

The impacts of forestry activities on Covered Species vary depending on the type of activity, and the species and life stage considered. Covered Activities under the SHA may generate stressors affecting Covered Species and critical habitat by potentially degrading salmonid habitat (*e.g.*, water quality), causing a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the SHA Action Area. Both individually and collectively, those impacts could annually cause altered behaviors, reduced fitness, result in mortality in very low numbers of juveniles and eggs, and slightly reduce the migratory fitness and spawning success for very low numbers of adults. However, the frequency and magnitude of effects are expected to slowly diminish over the permit term as harvest practices are improved through SPI's sustained yield plan and road-related sediment is reduced through implementation of the READI Model.

As previously described, the proposed Beneficial Management Activities involve implementing road improvement projects at locations where new drains and surfacing will have the greatest effect in reducing sediment production and delivery to streams using the READI Model, and support of ESA-listed salmonid species reintroduction efforts proposed by NMFS.

NMFS (2014a, 2014b) has identified aquatic habitats in the Trinity and Sacramento River basins located upstream of existing man-made barriers to anadromy as high-quality habitat for proposed listed salmonid species reintroduction efforts. These aquatic habitats include lands managed by SPI. The proposed reintroduction areas were selected for these efforts, because they are within the historic species' range and contain high-quality habitats capable of supporting these efforts. Salmonid reintroductions are designed to restore Central Valley Chinook salmon and steelhead, and SONCC coho salmon, to historical habitat in the Sacramento River and the Trinity River watersheds. These reintroductions will contribute to recovery efforts addressing several limiting factors identified in salmonid recovery plans, including:

- Keswick and Shasta dams blocking access to habitat historically used by ESA-listed salmonids in the upper Sacramento River watershed
- Passage impediments and flow fluctuations resulting from hydropower operations on the North and South Forks of Battle Creek
- Englebright Dam blocking access to habitat historically used by Yuba River ESA-listed salmonids
- Lewiston and Trinity Dams blocking access to habitat historically used by Upper Trinity River ESA-listed salmonids

Potential high quality anadromous salmonid habitat conditions will persist in the SHA Plan Area, as SPI will continue to manage these lands following the CFPRs. Additionally, conditions in the SHA Plan Area watersheds will improve as SPI uses the READI model to further reduce

potential sediment delivery to streams and implements post-wildfire road watercourse crossing upgrades. These improvements will provide an elevated habitat baseline, as these improved habitat conditions will remain in the SHA Plan Area upon completion, regardless of the reintroduction efforts that are carried out in the future. SPI is committed to implementing the management actions and conservation measures described in the HCP/SHA immediately upon permit approval, and will continue these activities throughout the permit term. The anticipated results of the management actions described in the SHA will improve watershed conditions (e.g., delivery of flow, sediment, wood, heat, and nutrients) to ensure they are at levels that maintain high quality habitat within the SHA Action Area. These actions will improve habitat for Covered Species on SPL&T lands, provide cold, clean water to downstream watersheds supporting anadromous species, improve riparian habitat structure, reduce sediment delivery at the planning watershed scale to promote high quality habitat, and provide for reduced watershed impacts from fire.

NMFS has determined that the proposed action, and incidental take of Covered Species authorized by the SHA and ESP, will not appreciably reduce the likelihood of survival and recovery in the wild of the Covered Species. NMFS expects that the proposed Beneficial Management Activities alone will improve habitat conditions for the Covered Species on the Enrolled Property. All of the Beneficial Management Activities to be implemented as part of the SHA are consistent with the priority restoration actions identified in NMFS Recovery Plans (2014a, 2014b) and, therefore, are expected to result in demonstrable conservation benefits to the Covered Species. Consequently, NMFS believes the benefits of the Beneficial Management Activities exceed the adverse effects from the incidental take authorized by the ESP.

3. Considering the benefits that arise from the management activities, and the offsetting adverse effects being authorized by the Section 10(a)(1)(A), NMFS finds that the resulting Net Conservation Benefit will be sufficient to contribute, either directly or indirectly, to the recovery of the Covered Species.

NMFS has determined that the Beneficial Management Activities, as described in the SHA, would be reasonably expected to provide a Net Conservation Benefit for the Covered Species. NMFS has also determined that the 50-year duration of the SHA and ESP would be sufficient to achieve the Net Conservation Benefit. In addition to the habitat improvements for the Covered Species on the Enrolled Property, implementation of the SHA is expected to increase public and landowner support for the ESA-listed species reintroduction efforts recommended by NMFS. The ESA-listed species reintroduction efforts are high-priority recovery actions identified by NMFS (2014a, 2014b) and the support of these efforts by SPL&T is likely to contribute to the recovery of the Covered Species. These reintroductions will also assist recovery plan objectives for Central Valley Chinook salmon and steelhead by contributing towards the following Diversity Group characteristics, which are necessary for these ESUs/DPS to achieve recovery:

- Sacramento River winter-run Chinook salmon ESU
 - Three populations in the Basalt and Porous Lava Diversity Group at low risk of extinction, including the current population in the mainstem Sacramento River (downstream of Shasta Dam and Keswick Dam), as well as priority reintroductions into Battle Creek, and one of the rivers upstream of Shasta Dam.

- Maintain one population at low risk of extinction and include one other spawning population that meets the moderate extinction risk criteria.
- Central Valley spring-run Chinook salmon ESU
 - One population in the Northwestern California Diversity Group at low risk of extinction, which includes Clear Creek.
 - Two populations in the Basalt and Porous Lava Diversity Group at low risk of extinction, including Battle Creek, and reintroduction to a river upstream of Shasta Dam.
 - Four populations in the Northern Sierra Diversity Group at low risk of extinction, including Mill Creek, Deer Creek, Butte Creek, and reintroduction into the Yuba River upstream of Englebright Dam.
 - Maintain multiple populations at moderate risk of extinction
- California Central Valley steelhead DPS
 - One population in the Northwestern California Diversity Group at low risk of extinction, which includes Clear Creek.
 - Two populations in the Basalt and Porous Lava Flow Diversity Group at low risk of extinction, including Battle Creek, and reintroduction to a river upstream of Shasta Dam.
 - Four populations in the Northern Sierra Diversity Group at low risk of extinction including Mill Creek, Deer Creek, Antelope Creek, and reintroduction into the Yuba River upstream of Englebright Dam.
 - Maintain multiple populations at moderate risk of extinction

The SHA Plan Area includes a number of the priority watersheds identified for the recovery of all three Central Valley salmonid species. Improvements to habitat for these populations would support recovery, and support for any reintroductions would help advance those recovery action priorities. NMFS believes the SHA will also provide an example to the community that a cooperative government/private partnership can achieve biological goals for the Covered Species while maintaining a landowner's land-use objectives. NMFS is optimistic that this example will benefit the Covered Species elsewhere in the basin and throughout their range.

Net Conservation Benefit Conclusion

NMFS concludes that the SHA's Beneficial Management Activities will provide a Net Conservation Benefit for the Covered Species. This Net Conservation Benefit is sufficient to directly contribute to the recovery of the species and meet the criteria of the Safe Harbor Policy. Implementation of the Beneficial Management Activities on the Enrolled Property will provide the Covered Species with high-quality habitat that also sustains abundant clean, cold water flows throughout the year.

Section 10(a)(2)(A) HCP Criteria – Analysis and Findings

The HCP addresses each of the required elements of ESA Section 10(a)(2)(A) as follows:

1. The impact which will likely result from such taking.

The seven anadromous fish species that are Covered Species under the HCP will be impacted in similar ways, because they share similar life history strategies and habitat needs. Implementation

of the HCP and continued forestland management activities in the HCP Action Area may result in some level of adverse effects to multiple life stages of Covered Species at discrete points in time, given the ownership patterns within the HCP Action Area, the magnitude of habitat responses expected, and the responses of affected populations.

Sacramento River winter-run Chinook salmon

Currently, Sacramento River winter-run Chinook salmon do not use the HCP Action Area for any life history stage. Natural spawning is restricted to the Sacramento River downstream of the Keswick Dam (NMFS 2014a) and Battle Creek below Eagle Canyon Dam. Both areas are downstream of the HCP Action Area. As such, the HCP Action Area overlaps with a very small amount of habitat that is upstream of where Sacramento River winter-run Chinook salmon occur.

The Covered Activities would cause a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the HCP/SHA Action Area. The effects would last over the 50-year life of the HCP/SHA and could persist in planning watersheds for up to 20-years after being entered as part of a THP. Both individually and collectively, those impacts would annually cause altered behaviors, reduced fitness, and mortality in very low numbers of juveniles and eggs, and may slightly reduce the migratory fitness and spawning success for very low numbers of adults. However, it is unlikely that many of the adverse effects described above would extend far enough downstream to impact winter-run Chinook salmon.

The annual number of individuals that are likely to be injured or killed by the exposure to Covered Activity-related stressors is unknown. However, the overlap with occupied habitat is minimal, and in locations where the density of Sacramento River winter-run Chinook salmon is very low. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmon population (abundance, productivity, distribution, or genetic diversity) for this ESU. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of this listed species.

Central Valley spring-run Chinook salmon and California Central Valley steelhead

Due to the presence of large dams in major river systems limiting habitat access throughout the Central Valley, the largest Central Valley spring-run Chinook salmon ESU populations in the HCP Action Area are currently limited to Butte, Mill and Deer Creeks (Williams *et al.* 2016). Small populations also occur in Antelope, Battle, Big Chico, Clear, Cottonwood, and Cow Creeks (Williams *et al.* 2016).

Within the HCP Action Area, CCV steelhead are found in most accessible tributaries of the Sacramento River basin, including but not limited to Antelope, Battle, Big Chico, Butte, Clear,

Cottonwood, Cow, Deer, and Mill Creeks. Many of those tributaries include upper reaches within SPL&T ownership.

SPL&T ownership overlaps Central Valley spring-run Chinook salmon and CCV steelhead in the following watersheds: Antelope, Cottonwood, Cow, Deer, and Mill Creeks. There are 11 planning watersheds present that include approximately 15.33 stream miles subject to anadromy. As such, the HCP Action Area overlaps with a very small amount occupied habitat, near its upstream limit where the density of Central Valley spring-run Chinook salmon and CCV steelhead is expected to be low, especially when compared to the range of the Central Valley spring-run Chinook salmon ESU and CCV steelhead DPS.

The Covered Activities would cause a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the HCP/SHA Action Area. The effects would last over the 50-year life of the HCP/SHA and could persist in planning watersheds for up to 20-years after being entered as part of a THP. Both individually and collectively, those impacts would annually cause altered behaviors, reduced fitness, and mortality in very low numbers of juveniles and eggs, and may slightly reduce the migratory fitness and spawning success for very low numbers of adults. However, the frequency and magnitude of effects are expected to slowly diminish over the permit terms as harvest practices are improved through SPI's sustained yield plan and road-related impacts are reduced through implementation of the READI model.

The annual number of individuals that are likely to be injured or killed by the exposure to Covered Activity-related stressors is unknown. However, the overlap with occupied habitat is small, and in locations where the density of Central Valley spring-run Chinook salmon and CCV steelhead is low. The effects will be spatially and temporally separated as each planning watershed is entered as part of a THP and will likely only affect a small number of fish at any one time. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmonid population (abundance, productivity, distribution, or genetic diversity) for the Central Valley spring-run Chinook salmon ESU or CCV steelhead DPS. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of these listed species.

Central Valley fall- and late fall-run Chinook salmon

In general, Central Valley fall-run and late fall-run Chinook salmon have limited spawning range within the HCP Plan Area. At present, fall-and late fall-run Chinook salmon spawn in the Sacramento River up to the Keswick Dam (not in the HCP Plan Area). They also spawn in Battle Creek, Bear Creek, Cottonwood Creek, Cow Creek, Clear Creek, Deer Creek, and Mill Creek watersheds (SHN Consulting Engineers 2001; Heiman and Knecht 2010; CDFW 2014a, 2014b; CDFW 2015b, 2015c). Although the reaches of Cottonwood, Cow, Clear, Deer, and Mill Creeks that are within the HCP Plan Area are above areas where fall and late-fall Chinook salmon spawn, the effects of the Covered Activities, especially effects to water quality, may extend downstream of the covered lands into habitat used for spawning and rearing.

SPL&T ownership overlaps Central Valley fall-run Chinook salmon in the following watersheds: Antelope, Cottonwood, Cow, Deer, and Mill Creeks. There are 11 planning watersheds present that include approximately 15.33 stream miles subject to anadromy. Central Valley fall-run Chinook salmon typically utilize the lower reaches of available spawning habitat and are less likely to be exposed to the effects of the Covered Activities. As such, the HCP Action Area overlaps with a very small amount occupied habitat, near its extreme upstream end where the density of Central Valley fall-run Chinook salmon is very low. This is especially true when compared to the range of the Central Valley fall- and late fall-run Chinook salmon ESU.

As previously described, numerous watersheds on lands owned by SPL&T in the Sacramento River basin are upstream of anthropogenic barriers to fish migration and currently inaccessible to anadromous salmonids. The likelihood of effects from Covered Activities extending downstream into the lower elevation reached occupied by fall- and late fall-run Chinook salmon is low. The effects will be spatially and temporally separated as each planning watershed is entered as part of a THP and will likely only affect a small number of fish at any one time. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmon population (abundance, productivity, distribution, or genetic diversity) for this ESU. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of this species.

Southern Oregon Northern California Coast coho salmon

The SONCC coho salmon ESU is separated into seven diversity strata and 40 populations, each of which supports several independent coho populations (NMFS 2016). There is some diversity of life history strategies in the Trinity River based on data of run timing and outmigration, but the information is not well documented (NMFS 2014b).

Of the seven diversity strata, only the Interior Trinity diversity strata overlaps with the SPL&T HCP Action Area. The Interior Trinity diversity strata includes the Lower Trinity River, South Fork Trinity River, and Upper Trinity River populations (NMFS 2014b). SPL&T lands within the SONCC coho salmon range included in the HCP Plan Area include approximately 13.2 stream miles occurring in 13 planning watersheds in the Lower and Middle Trinity River populations. These areas represent approximately 13 percent of all SONCC coho habitat for the Lower and Middle Trinity River populations. As such, the HCP Action Area overlaps with a very small amount occupied habitat within only one of the seven diversity strata identified for the ESU.

The Covered Activities would cause a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the HCP/SHA Action Area. The effects would last over the 50-year life of the HCP/SHA and could persist in planning watersheds for up to 20-years after being entered as part of a THP. Both individually and collectively, those impacts would annually cause altered behaviors, reduced fitness, and mortality in very low numbers of juveniles and eggs, and may slightly reduce the migratory fitness and spawning success for very low numbers of adults. However, the frequency and magnitude of effects are expected to slowly diminish over the permit terms as harvest practices

are improved through SPI's sustained yield plan and road-related impacts are reduced by SPI's implementation of the READI model.

The annual number of individuals that are likely to be injured or killed by the exposure to Covered Activity-related stressors is unknown. However, the overlap with occupied habitat is very small, and in locations where the density of SONCC coho salmon is very low. The effects will be spatially and temporally separated as each planning watershed is entered as part of a THP and will likely only affect a small number of fish at any one time. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmon population (abundance, productivity, distribution, or genetic diversity) for this ESU. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of this listed species.

Upper Klamath/Trinity Rivers Chinook salmon

Salmon in the ESU exhibit both stream-type and ocean-type life history strategies. Genetic differences are not regarded as substantial enough to separate spring-run and fall-run into separate ESUs (Myers *et al.* 1998). Within the HCP Action Area, UKTR Chinook salmon spawn in the mainstem and South Fork Trinity River (with their upstream distribution limited by Lewiston Dam), and in Hayfork Creek (Myers *et al.* 1998). The HCP Plan Area includes a portion of the North Fork Hayfork Creek watershed. The UKTR Chinook salmon ESU is not listed under the ESA. Therefore, no critical habitat has been designated.

The Covered Activities are more likely to affect the spring-run Chinook salmon life history type of the UKTR ESU, due to the summertime holding period exhibited by adults prior to spawning. The UKTR fall-run Chinook salmon exhibits an "ocean-type" life history strategy, where Chinook salmon juveniles which spend less than a year in fresh water before migrating to the ocean. This shorter freshwater residence time coupled with the ability to utilize lower-elevation reaches for adult spawning and juvenile rearing reduces the likelihood of exposure to any impacts resulting from the Covered Activities.

SPL&T lands within the UKTR Chinook salmon ESU range included in the HCP Plan Area contain approximately 60.6 stream miles occurring in 31 planning watersheds in the Lower Trinity, Middle Trinity, and South Fork Trinity River population areas. These streams represent approximately 14 percent of all UKTR Chinook salmon habitat in the Lower, Middle, and South Fork Trinity River populations. As such, the HCP Action Area overlaps with a small amount of occupied habitat, near its extreme upstream end where the density of UKTR Chinook salmon is expected to be low.

The Covered Activities would cause a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the HCP/SHA Action Area. The effects would last over the 50-year life of the HCP/SHA and could persist in planning watersheds for up to 20-years after being entered as part of a THP. Both individually and collectively, those impacts would annually cause altered behaviors, reduced fitness, and mortality in very low numbers of juveniles and eggs, and may slightly reduce the migratory

fitness and spawning success for very low numbers of adults. However, the frequency and magnitude of effects are expected to slowly diminish over the term of the permits as harvest practices are improved through SPI's sustained yield plan and road-related impacts are reduced through implementation of the READI model.

The annual number of individuals that are likely to be injured or killed by the exposure to Covered Activity-related stressors is unknown. However, the overlap with occupied habitat is very small, and in locations where the density of UKTR Chinook salmon is very low. The effects will be spatially and temporally separated as each planning watershed is entered as part of a THP and will likely only affect a small number of fish at any one time. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmon population (abundance, productivity, distribution, or genetic diversity) for this ESU. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of this species.

Klamath Mountains Province steelhead

For the purposes of the HCP, the geographic extent of the KMP steelhead DPS is assumed to include all Class I streams as defined in the CFPRs in all planning watersheds within the HCP Action Area. This area includes all streams considered currently accessible and otherwise restorable for anadromous salmonids (*i.e.*, Covered Species). Collectively, Covered Species on SPL&T lands in the Trinity River Basin occur in 31 planning watersheds included in the Lower, Middle Trinity, and South Fork Trinity River population areas. SPL&T lands in these planning watersheds include approximately 60.6 stream miles within the KMP steelhead DPS range and represent approximately 14 percent of all KMP steelhead DPS habitat in the Lower, Middle, and South Fork Trinity River populations. As such, the HCP Action Area overlaps with a small amount occupied habitat, especially when compared to the range of the KMP steelhead DPS.

Like the discussion for UKTR Chinook salmon, KMP steelhead include both stream-maturing forms (mostly summer steelhead) and ocean-maturing forms (winter steelhead). Due to their extended rearing time in freshwater habitat, juvenile summer steelhead are most likely to be affected by the Covered Activities. Summer-run adults may also have increased exposure to the Covered Activities as they hold and mature in-river over the course of several months during the summertime.

The Covered Activities would cause a combination of impacts that would slightly reduce the functional levels of habitat features within small stream sections across the HCP/SHA Action Area. The effects would last over the 50-year life of the HCP/SHA and could persist in planning watersheds for up to 20-years after being entered as part of a THP. Both individually and collectively, those impacts would annually cause altered behaviors, reduced fitness, and mortality in very low numbers of juveniles and eggs, and may slightly reduce the migratory fitness and spawning success for very low numbers of adults. However, the frequency and magnitude of effects are expected to slowly diminish over the permit terms as harvest practices are improved through SPI's sustained yield plan and road-related impacts are reduced through implementation of the READI model.

The annual number of individuals that are likely to be injured or killed by the exposure to Covered Activity-related stressors is unknown. However, the overlap with occupied habitat would be very small, and in locations where the density of KMP steelhead is very low. The effects will be spatially and temporally separated as each planning watershed is entered as part of a THP and will likely only affect a small number of fish at any one time. Therefore, the numbers of fish and eggs that would be annually affected by the Covered Activities would represent a very small fraction of any annual cohort, and their loss would have no detectable effect on any of the characteristics of a viable salmon population (abundance, productivity, distribution, or genetic diversity) for this DPS. Therefore, the proposed action would not appreciably reduce the likelihood of survival and recovery of this species.

Critical Habitat

The proposed action is likely to affect designated critical habitat for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, CCV steelhead, and SONCC coho salmon. The physical and biological features (PBFs) of salmonid critical habitat that would be affected by the Covered Activities are freshwater spawning sites, rearing sites, and migration corridors free of obstruction and excessive predation. Covered Activities would cause long-term minor adverse effects on water quality, substrate, floodplain connectivity, forage, natural cover, and freedom from obstruction and excessive predation within approximately 2 miles (or less) of locations where timber harvest occurs or roads are within 150 feet of streams.

Based on the best available information, the scale of the proposed action's effects, when considered in combination with the degraded baseline, cumulative effects, and the impacts of climate change, would be too small to measurably reduce the quality or functionality of the freshwater PBFs from their current levels. This is primarily due to the following:

- Implementing the READI model and related improvements will reduce fine sediment inputs to streams and improve water quality throughout the permit period.
- Long-term effects related to temperature exceedances will be minimized by following CFPR requirements to maintain a riparian buffer and no-harvest zone.
- Covered Activities will not obstruct migration corridors.
- No new road construction will occur in Critical Habitat.
- None of the existing road watercourse crossings represent barriers to upstream or downstream movement to any life stage of Covered Species.
- Water withdrawals for drafting will be too infrequent and minor to affect stream flows at large scales.

For the reasons described above, designated critical habitat would maintain its current level of functionality, and retain its current ability for PBFs to become functionally established, to serve the intended conservation role for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, CCV steelhead, and SONCC coho salmon.

2. The steps taken to minimize and mitigate such impacts, and the funding that will be available to implement them.

The Conservation Strategy, as described in the HCP/SHA, minimizes and mitigates impacts associated with the ongoing timber harvest and forestland management activities conducted by SPI. Section 10(a)(2)(A)(ii) of the ESA requires that an HCP specify the measures that the permittee will take to minimize and mitigate to the maximum extent practicable the impacts of the taking of any federally listed animal species as a result of activities covered by the HCP. SPL&T fully complies with the CFPRs, which set prescriptive standards for natural resource protection minimization measures for all activities. The CFPRs set even higher standards for activities in ASP watersheds. Below is a list of the standards contained in the CFPRs particularly relevant to salmonid and aquatic habitat protection, and numerous other conservation measures implemented by SPI designed to protect riparian resources and water quality. These measures are described in detail in Section 6.4 of the HCP/SHA.

- Erosion Control
- Site Preparation
- Watercourse and Lake Protection
- Road Construction and Maintenance
- Water Drafting
- Grazing
- Fuels Reduction

SPI will mitigate for unavoidable take by implementing activities described in the SHA intended to provide a net conservation benefit for the Covered Species. These activities include:

- Using the READI model to identify sources of sediment from road runoff and apply road watercourse crossing BMPs (such as new drains and road surfacing) to reduce sediment delivery.
- Establishing SPL&T road systems in each HCP Plan Area watershed that are between 85 to 90 percent hydrologically disconnected by completing the READI model fieldwork, analysis, and specific site improvements.
- Supporting the reintroduction of ESA-listed salmonids on SPL&T lands above currently impassable barriers.

Funding

The ESA and its implementing regulations provide that an applicant for an ITP must establish that sufficient funding will be available to implement the HCP, including the requirements to monitor, minimize, and mitigate the impacts from the taking.

Measures requiring funding in an HCP typically include onsite measures during project implementation or construction (*e.g.*, monitoring, surveys, research), as well as onsite measures required after completion of Covered Activities. For relatively small to medium-sized projects

involving only one or two applicants, the funding source is usually the permittee and funding is provided immediately before project activities commence, immediately after, or in stages.

SPL&T warrants that it has, and shall expend, such funds as may be necessary to fulfill its obligations under the ITP and the HCP/SHA. SPL&T's demonstrated capability and commitment to fund the Projects and studies during development of the HCP/SHA provides assurances that commitments under the HCP/SHA will be completed when needed. SPL&T shall promptly notify NMFS of any material change in SPL&T's financial ability to fulfill its obligations under the HCP/SHA and the ITP.

SPL&T will ensure full performance of the conservation measures and monitoring obligations contained in the HCP/SHA, and the financial assurance obligations contained in Section 8.5 of the HCP/SHA. SPL&T will submit a written re-assurance by June 1 of each year of the ITP that it will carry out all its obligations under this HCP/SHA. In that submission, SPL&T will provide a summary of expenditures made in the prior year of the ITP, and a scope of work and budget for all monitoring actions and any other HCP/SHA implementation actions SPL&T will undertake in the following year. A responsible corporate official with authority to commit SPL&T's financial resources shall certify that funds to implement this HCP/SHA has been budgeted and will be committed for use in the following year, as well as any material changes in cost estimates provided below based upon actual work performed.

SPL&T, and any successor in interest, will notify NMFS if the permittee's funding resources have materially changed, including a discussion of the nature of the change.

3. Alternative actions to the taking considered by the applicant and reasons why such alternatives are not being utilized.

Section 10 of the ESA and its regulations require that an HCP describe actions the applicant considered as alternatives to the take that would result from the proposed action, and the reasons why the applicant did not select any of those alternatives. SPL&T considered several alternatives that would avoid or reduce the taking that are described in the following sections. The alternatives were ultimately rejected, because they did not provide the desired conservation benefit for Covered Species or the level of regulatory assurance sought by SPL&T.

No Permits/No Plan

Under the No Permits/No Plan alternative, SPI would continue to engage in forestland management activities without developing an HCP and would not receive incidental take coverage for its timber management operations. SPI timber operations and related activities would continue in accordance with existing state and federal regulations, several of which prohibit the take of listed species. SPL&T would not participate in the reintroduction of listed salmonids on SPL&T lands. The alternative was not pursued, because it would not provide the level of regulatory certainty SPL&T seeks for its timber management activities and would not establish a long-term commitment providing conservation benefits for Covered Species.

Shorter Permit Duration

Under the Shorter Permit Duration alternative, SPL&T would develop their HCP with a proposed permit duration of only 10 years. The alternative was rejected, because such a short permit duration is inconsistent with other planning efforts anticipated by SPI and does not reflect the amount of time needed to realize conservation benefits from re-establishing ESA-listed species in the SHA Plan Area.

Road Management/Sediment Reduction Strategy

Unpaved roads are likely the dominant source of land use-related sediment pollution in forested landscapes in the United States, with the potential to impact water quality and aquatic biota (McCashion and Rice 1983; Megahan and Ketcheson 1996; Coe 2006; Cafferata *et al.* (2007); Goode *et al.* 2012). The contribution of roads to sediment pollution (Gucinski *et al.* 2001) has led the State of California to impose BMPs to hydrologically disconnect forest roads from streams and reduce sediment delivery. The READI Model was designed to address forest road sediment production and delivery to streams by linking the condition of SPL&T's constructed road network with site-specific road segments and crossings that produce sediment.

SPI investigated alternatives that would change the timing, frequency, location, and overall approach to conducting road management related to forestland management activities. Two road management alternatives were considered; road improvements (sediment reduction) planned on a "THP basis" and road improvements (sediment reduction) following an "assessment basis" using SPI's READI model.

The THP basis alternative consists of assessing, planning, and constructing road improvements based on roads used for certain THPs, including appurtenant roads. The assessment basis alternative consists of using SPI's READI model to assess and select road improvements at priority sites based on sediment reduction potential on a planning watershed basis, regardless of whether the road is used for current THP purposes.

SPI rejected the THP basis alternative and selected the assessment basis alternative, as this alternative reduces potential species take more quickly over time as potential locations of greater sediment input are given priority for remediation in a planning watershed.

4. Other measures the Secretary may require as being necessary or appropriate for purposes of the plan.

Any additional measures that require the HCP to be fully implemented are described in 2.9.3 Reasonable Prudent Measures and 2.9.4 Terms and Conditions section of the Biological Opinion (NMFS 2021b) and are included below. The following RPMs and associated Terms and Conditions will be incorporated into the ITP issued to SPL&T for the HCP:

1. Minimize the extent of incidental take to the maximum extent practicable from exposure to Covered Activities.

2. Conduct monitoring and reporting to confirm that the take exemption for the Covered Activities is not exceeded.

To implement RPM Number 1, “Minimize the extent of incidental take from exposure to Covered Activities,” SPL&T shall adhere to the following:

1. All conservation measures described in the final HCP/SHA (Section 6, Page 188 in SPL&T, 2020), together with the associated Section 10(a)(1)(B) ITP and Section 10(a)(1)(A) ESP issued with respect to the HCP/SHA, are hereby incorporated by reference as terms and conditions within this Incidental Take Statement. Such terms and conditions are nondiscretionary and must be undertaken for the exemptions under Section 10(a)(1)(B) and Section 7(a)(2) of the ESA to apply. If SPL&T fails to adhere to these terms and conditions, the protective coverage of the Section 10(a)(1)(B) permit and Section 7(a)(2) may lapse. The amount or extent of incidental take anticipated with implementation of the proposed HCP is described in Section 2.9.1 of this biological opinion and incorporated as a term and condition in NMFS’ accompanying Section 10(a)(1)(B) permit. The associated reporting requirements and provisions for disposition of dead or injured animals are as described in the HCP and its accompanying section 10(a)(1)(B) ITP.

To implement RPM Number 2, “Conduct monitoring and reporting to confirm that the take exemption for the Covered Activities is not exceeded,” SPL&T shall ensure that:

1. Data assessment relative to the temperature and turbidity habitat-based ecological surrogate levels identified in Table 13 shall occur on a monthly basis to verify that incidental take has not been exceeded.
2. As part of the annual reports that are submitted to NMFS for the previous water year (October 1 through September 30), the following information shall be provided:
 - a. Copies of all completed Water Drafting Logs for ASP watersheds filed with CAL FIRE at the end of seasonal operations.
 - b. A summary of the THP Completion Reports submitted to CAL FIRE, including any responses received from CAL FIRE.
 - c. A summary of any third-party audits through certification by the SFI.
 - d. A summary of any Covered Activities conducted by SPI that are not subject to THP approval by CAL FIRE or other CEQA review. The summary should include a description of the Covered Activity, the timing, and the location.

ESA Section 10(a)(2)(B) and 50 C.F.R. §222.307 Permit Issuance Criteria – Analysis and Findings

Having considered the above, NMFS makes the following findings under Section 10(a)(2)(B) of the ESA and its implementing regulations at 50 C.F.R. §222.307:

1. The taking will be incidental.

NMFS concluded in its biological opinion that take in the form of harm, injury, and mortality is likely to occur incidentally due to the Covered Activities resulting from implementation of the HCP. Harm includes the significant modification or degradation of habitat which actually kills or injures fish or wildlife by significantly impairing the listed species' behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering. The Covered Activities will affect fish and their habitat, and any take that occurs is incidental to the activities authorized under the HCP.

2. The applicant will, to the maximum extent practicable, monitor, minimize, and mitigate the impacts of such taking.

NMFS finds that SPL&T will monitor, minimize and mitigate the impacts of take of the covered species to the maximum extent practicable. Under the provisions of the HCP, the impacts of take will be minimized, mitigated, and monitored in accordance with the requirements of the Permit as described in the biological opinion in section *1.3.7 Conservation Strategy* (NMFS 2021b). In consideration of all the provisions of the HCP and as described in the biological opinion, NMFS finds that: (1) the minimization and mitigation fully offsets the impacts; (2) the HCP is consistent with the long-term survival and recovery of the covered species; and (3) the HCP monitors the effects of take to the maximum extent practicable. These findings are based on the fact that benefits to the species will be demonstrable, especially compared to existing conditions or those conditions expected to occur absent the HCP.

3. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

NMFS, using the best scientific and commercial data available, has evaluated the anticipated extent of take that will be incidental to the Covered Activities identified in the HCP, throughout the term of the HCP, and has concluded that the incidental takings likely to occur will not appreciably reduce the likelihood of survival and recovery of the Covered Species. The conclusions for each of the Covered Species can be found in the Conclusion section of the biological opinion (NMFS 2021b). The Section 7(a)(2) "no jeopardy" standard is identical to the Section 10(a)(2)(B) "no jeopardy" standard.

4. The applicant has amended the conservation plan to include any measures (not originally proposed by the applicant) that the Assistant Administrator determines are necessary or appropriate.

NMFS did not identify any additional necessary or appropriate measures. During development of the HCP, NMFS and the applicant collaborated extensively on developing conservation measures that would minimize take to the maximum extent practical. The HCP and ITP incorporate all elements determined by NMFS to be necessary for approval of the HCP and issuance of the permit.

5. There are adequate assurances that the conservation plan will be funded and implemented, including any measures required by the Assistant Administrator.

The NMFS finds that SPL&T ensures funding adequate to implement the HCP. In Chapter 8.5 of the HCP/SHA, the funding mechanisms available to implement the HCP Conservation Strategy and monitoring are identified. SPL&T warrants that it has, and shall expend, such funds as may be necessary to fulfill its obligations under the ITP and the HCP/SHA. SPL&T's demonstrated capability and commitment to fund the Projects and studies during development of the HCP/SHA provides assurances that commitments under the HCP/SHA will be completed when needed. SPL&T shall promptly notify NMFS of any material change in SPL&T's financial ability to fulfill its obligations under the HCP/SHA and the ITP.

SPL&T will submit a written re-assurance by June 1 of each year of the ITP that it will carry out all its obligations under this HCP/SHA. In that submission, SPL&T will provide a summary of expenditures made in the prior year of the ITP, and a scope of work and budget for all monitoring actions and any other HCP/SHA implementation actions SPL&T will undertake in the following year. The estimated annual budget and budget for the term of the ITP are identified in Table 32 of the HCP/SHA (SPL&T 2020). A responsible corporate official with authority to commit SPL&T's financial resources shall certify that funds to implement this HCP/SHA has been budgeted and will be committed for use in the following year, as well as any material changes in cost estimates provided below based upon actual work performed.

General Permit Criteria and Disqualifying Factors

NMFS has no evidence that the ESP or ITP should be denied on the basis of criteria and conditions set forth in 50 C.F.R. section 222.303(e)(1). The applicant has met the criteria for issuance of the ESP and ITP and does not have any disqualifying factors that would prevent the ESP or ITP from being issued under current regulations.

Recommendation of Permit Issuance

Based on the foregoing findings, NMFS recommends the issuance of the ESP and ITP to SPL&T for the ongoing forestland management activities described in their HCP/SHA and located in the Sacramento River and Trinity River basins, California.

The ESP would authorize the incidental take of endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened CCV steelhead, and threatened SONCC coho salmon, once they are reintroduced to historically occupied habitat within watersheds on SPL&T lands. Any take that occurs as a result of a reduction in the habitat quality and/or quantity established as the Present or Elevated Baseline Conditions on the SPL&T lands described in the SHA is not authorized.

The ITP would authorize the incidental take of endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened CCV steelhead, and threatened SONCC coho salmon. Take authorization for Central Valley fall and late-fall Chinook salmon, UKTR Chinook salmon, and KMP steelhead would go into effect should any of these species become federally listed while the ITP is in effect.

A. Catharine Marcinkevage

Cathy Marcinkevage, Assistant Regional Administrator, California Central Valley Office

9/30/2021

Date

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