

East Branch North Fork Big River Coho Habitat Enhancement Project - Large Wood (Phase II)

2020

Introduction:

The California Conservation Corps (Permittee) will complete the project to accomplish the listed task, "Install properly sized large woody debris to meet targets specified in recovery plan" as described in *Recovery Plan for Central CA Coast Coho Salmon* (NOAA Final Sept 2012) through the installation of 54 large wood features within 4,995-feet of East Branch North Fork Big River. The large woody debris (LWD) structures will improve habitat complexity by adding high quality shelter and enhancing pools for adult and juvenile salmonids. Additionally, this project aims to provide velocity refugia, promote sinuosity, sort spawning gravels, and improve overall geomorphic function.

The features will be comprised of 167 pieces of appropriately sized LWD, 81 of which classify as key pieces. This project will bring the stream reach from an existing rating of "poor", at 1.7 key pieces/100 meters, up to 7.0 key pieces/100 meters to meet the "good" target as outlined in the Central California Coast Coho Salmon Recovery Plan (NOAA Final Sept. 2012). Additionally, the project will exceed the "very good" target for LWD and key pieces, as defined in the NOAA Fisheries Southern Oregon & Northern California Coast Coho Salmon Recovery Plan 2014. These targets will be met by utilizing redwood and Douglas-fir trees from the adjacent forest lands to ensure appropriate size and type specified in recovery plans. Suitable pieces of LWD will also be salvaged from the forest floor and utilized in features where applicable. Large wood features will be constructed in accordance with the California Salmonid Stream Habitat Restoration Manual 4th edition. Meeting these LWD density targets will sufficiently treat the project reach so that no additional large wood treatment will be needed in the next ten years, or in the foreseeable future.

The Permittee shall not proceed with on the ground implementation until all necessary permits, consultations, and/or Notice to Proceed are secured. All habitat improvement(s) will follow techniques in the *California Salmonid Stream Habitat Restoration Manual* -Volume I, Section VII.

<https://www.wildlife.ca.gov/Grants/FRGP/Guidance>.

Objective(s):

One hundred and sixty seven pieces of large wood, consisting of 81 key pieces, will be utilized to create 54 instream features within 4,995-feet of East Branch North Fork Big River. The addition of large wood will achieve the wood loading target criteria outlined in coho recovery plans. These instream features will increase the quantity, quality, and complexity of salmonid spawning and rearing habitat.

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Project Description:

Location:

East Branch North Fork Big River's legal description at the confluence with North Fork Big River is T17N R15W S20. It is a third order stream and has approximately 6.3-miles of blue line stream. The project location is approximately 10.5 west southwest of Willits CA, Mendocino County. The confluence of Big River and North Fork Big River is approximately 26.8-miles upstream from where Big River enters the Pacific Ocean in the town of Mendocino, Mendocino County, CA. The East Branch North Fork Big River enters North Fork Big River approximately 2.67-miles upstream of North Fork Big River's confluence with mainstem Big River. Right Bank tributary number #5, as designated by CDFW's Habitat Inventory Report, enters East Branch North Fork Big River approximately 2.14-miles upstream of the confluence with North Fork Big River. The downstream end of the project reach is at Tributary #5. The project reach extends upstream 5,485-feet and ends 160-feet downstream of Frykman Gulch. Two short sections of stream were excluded from the project reach where the a logging road comes near the stream making the treatment reach 4,995 feet in length. Mendocino Redwood Company (MRC) has an active logging road (75-EB) which parallels the project reach on the right bank. There is a significant stand of timber between the road and the stream, acting as a buffer for the majority of the project length. Project coordinates are: 39.32625 North Latitude and -123.51935 West Longitude.

Project Set Up:

Permittee laborers duties include: Task 5, implementation. Under the direct supervision of the crew supervisor (Conservationist 1), Permittee Corpsmembers will move LWD into place utilizing wire rope rigging techniques, grip hoists, and other hand tools. Permittee Corpsmembers will also anchor and/or pin the features according to designs. Fisheries Technical Assistant (TA) duties include: Tasks 1,1a,1b,1c,2,3,3a,3b,3c,4,5,6,7. With guidance from Fish Habitat Specialist (FHS) the TA will; submit permit applications, assist with reporting and invoices, provide other administrative support services, and help to coordinate CEQA surveys; work with forester to identify trees, update site designs, flag feature locations and prepare tools and materials for implementation; provide technical support to Permittee crews and crew supervisor at project site during implementation; provide logistical support by delivering tools, materials, and spike supplies as needed; collect metrics data and longitudinal profiles as needed to meet reporting requirements. Conservationist I (CI) duties include: Task 5. The CI will be the direct crew supervisor and oversee crew operations during implementation. CI accrues overtime for overseeing crew while spike camping. The Permittee covers C1 benefits at 43% for overtime pay. Mendocino Redwood Company (MRC) Forester duties include: Task 1c,3a. Approves

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selected trees to be felled for project sites. The forester also helps to coordinate spike camp and land access logistics. MRC Hydrologist duties include: Task 1c. Provides occasional assistance with access, general stream/project area information and informs of any other potential operations in the area. All in 1 Tree & Timber (LTO) duties include: Task 5a. Under direction from Permittee fisheries staff (FHS and/or TA), the LTO will fell flagged redwood and Douglas-fir trees at feature locations. William Rich and Associates duties include: Task 2. Pursuant to the California Environmental Quality Act (CEQA), the Principal Investigator, Research Associate (Archaeology), and Research Associate (Botany) will conduct archeological and botanical surveys/investigations throughout the project reach. Reports will be prepared to document potentially significant impacts on archaeological and botanical resources. and describe subsequent avoidance/minimization measures. Pacific Watershed Associates duties include: Task 2. Pursuant to the California Environmental Quality Act (CEQA), The senior geologist will conduct a paleontological investigation of the project reach. A report will be prepared documenting any significant findings and subsequent avoidance/minimization measures. MRC Aquatic Biologist duties include: Task 2. MRC Aquatic Biologist will perform species surveys, relocation and on-site monitoring as needed as well as any measures required by the CDFW's Lake and Streambed Alteration Agreement (LSAA).

Materials:

All materials are to be purchased by applicant unless specified otherwise:

1. Permittee Laborer Meals (food): To feed Corpsmember crews while on spike. Half of food costs will be covered as cost share.
2. Portable Toilets: To be used while crew is camping on Mendocino Redwood Company Property near project site. Required as a condition of camping on the property.
3. Spike Supplies (propane, lights, tarps, tent repair, water filters, hoses, batteries etc.): Used for preparing Corpsmember meals and providing any miscellaneous amenities necessary for a camp of 12-16 individuals. Permittee provides half as cost share.
4. Logs: The logs are the material used for the in-stream habitat enhancement features. All LWD used will meet or exceed size definitions of LWD in the DFG California Salmonid Stream Habitat Restoration Manual, Section VII, and will consist of redwood and Douglas-fir logs. Key logs meet the specification of NOAA Fisheries CCC Coho Recovery Plan 2012.
5. Root-wads: The root-wads are the material used for in-stream habitat enhancement features. All LWD used will meet or exceed size definitions of LWD in the CDFW *California Salmonid Stream Habitat Restoration Manual*, Section VII, and will consist of redwood and Douglas-fir logs root-wads. Root-wads are cost share from Mendocino Redwood Company.

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6. One inch diameter by 8-foot length threadbar: Used for anchoring in-stream structures. Threadbar is the structural component of the anchor used to fasten logs to each other and to live trees on the bank. Anchors are used to provide structural integrity, resist buoyancy, and hold structures in place, thereby increasing overall feature effectiveness.
7. Steel Hex Nuts: Used for anchoring in-stream structures. Nuts get fastened on ends of Threadbar, over washers, to secure logs together, and/or to live trees on the bank.
8. Plates (washers): Used for anchoring in-stream structures. Washers are placed on the ends of the threadbar before the nuts, allowing the nuts to lock into place.
9. Wood Auger Bits: Used for drilling holes through logs/root-wads/trees for installation of threadbar during in-stream structure anchoring process.
10. Car Wash-Tool/Gear Decontamination: Used for pressure washing tools to prevent spread of aquatic invasive species and sudden oak death as required in contract.
11. Decontamination chemicals: Used for decontamination of tools/gear as per contract requirements to prevent the spread of aquatic invasive species and sudden oak death.
12. Safety & 1st Aid Supplies for Permittee crew: (gloves, hard hats, ear protection, chaps, safety glasses, etc.) Used to prevent and/or treat personal injuries. Permittee provides half as cost share.
13. Hand Tools, Supplies, and associated expendable miscellaneous items (chain, bar oil, files, hacksaws, pipe wrenches, shearpins, GFI's, chokers, peaveys, hammers, chisels, etc.) (bulk) These hand tools are essential for setting logs and anchoring operations. The Permittee contributes half the cost of hand tools as cost share.
14. Tool/Equipment Service/Repair: To maintain/repair tools/equipment used during project implementation (repair of grapplehoists, drills, wire rope, generators, lifting slings, drill bits, etc.). Tools need to be repaired and serviced in order to complete construction.
15. Office Supplies (paper, printer supplies, etc.): Used for creating designs, work-plans, all pertinent documents relating to the project, reporting, etc. Permittee provides half as cost share.
16. Permittee Mileage (vehicle): All mileage traveled, commuting to/from project site to complete tasks 3 - 6. Permittee cost share.
17. William Rich and Associates: Mileage (vehicle) for travel to and from project site to complete Archaeological and Botanical surveys (task 2) required to comply with the California Environmental Quality Act (CEQA). Mileage to be purchased by subcontractor.
18. Northwest Information Record Search: Used in Archaeological and botanical investigations to complete task 2, which is required to comply with the California Environmental Quality Act (CEQA). Purchased by subcontractor.

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19. LSAA (1600 Permit): Required for all projects involving construction of in-stream structures (requested amount reflects an anticipated 5% increase from current fee schedule to fee at time of purchase).

Tasks & Deliverables:

Task 1. Grant Oversight:

Contract oversight and administrative activities will be conducted by the Permittee Fisheries Technical Assistant and the Fish Habitat Specialist. This task includes, but is not limited to securing permits and subcontracts, reporting, scheduling Permittee crews, coordinating and scheduling with subcontractors and landowners, and budget management. This task will be conducted throughout the life of the project.

Deliverables: Landowner access agreements, subcontracts, permits, annual reports, quarterly invoices and progress reports, final report.

Start Date: 04/01/2021

End Date: 03/31/2025

Task 1a. Reports and Invoices:

Permittee Fish Habitat Specialist and Fisheries Technical Assistant will create and submit reports and invoices, assuring adherence to requirements in grant contract. Progress reports will be submitted with every billing invoice on a quarterly basis. Fisheries staff will also submit annual reports.

Deliverables: Submission of invoices, progress reports, and annual report.

Start Date: 04/01/2021

End Date: 03/31/2025

Task 1b. Permits and Agreements:

Permittee fisheries staff (TA and/or FHS) will acquire appropriate agreements and permits, including but not limited to subcontractor agreements for CEQA surveys, licensed timber operator (LTO) subcontractor agreement, and the CDFW's LSA agreement. Documents will be submitted consistent with requirements in agreement.

Deliverables: Subcontracts with All-in-1 Tree and Timber, William Rich and Associates, and Pacific Watershed Associates. Lake and Streambed Alteration Agreement with CDFW.

Start Date: 04/01/2021

End Date: 06/15/2021

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Task 1c. Landowner Communications:

Permittee fisheries staff will communicate with landowner, MRC to verify combinations, entry policies and procedures, and coordinate logistics of any MRC operations that may coincide with Permittee crew operations. Additionally, the Permittee will notify landowner before entry to property, for the duration of the project. This task will occur when accessing the property for implementation preparation, implementation, and data collection. This task may occur annually until project completion.

Deliverables: Land access (gate combinations, spike camp agreements).

Start Date: 04/01/2021

End Date: 03/31/2025

Task 2. CEQA:

William Rich and Associates will conduct archeological and botanical surveys of the project reach, utilizing mileage and northwest information search findings, and per diem costs. Pacific Watershed Associates will conduct a paleontological investigation of the project area. MRC Aquatic Biologist will perform species surveys, relocation and on-site monitoring as needed as well as any measures required by the CDFW's Lake and Streambed Alteration Agreement (LSAA). Surveys will be conducted and interim survey reports will be delivered to CDFW Grant Manager prior to receiving a Notice to Proceed. Final archaeological, botanical, and paleontological survey reports will be delivered to the grantee for submittal with the final grant report or any time prior to the Final Report due date.

Deliverables: CEQA compliance, reports for archeological, botanical, and paleontological resources.

Start Date: 04/01/2021

End Date: 07/09/2021

Task 3. Pre-project Design and Data Collection:

Implementation preparation will be conducted by the Permittee TA and FHS. Final feature locations and designs will be prepared, and applicable metrics will be collected.

Deliverables: Final feature designs, pre-implementation photos and metrics to meet approval of grant manager.

Start Date: 04/01/2021

End Date: 07/09/2021

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Task 3a. Tree Identification:

Permittee fisheries staff will walk the project reach with the MRC forester to get approval for trees to be cut at project feature locations. Trees will be selected with consideration for riparian canopy and positioning once felled for efficient manipulation to feature locations. Trees will be marked and flagged in preparation of felling operations by LTO.

Deliverables: Progress report to accompany invoice for Technical Assistant time and other materials.

Start Date: 04/12/2021

End Date: 10/29/2021

Task 3b. Design and Site Preparation:

Permittee fisheries staff will walk project reach and finalize feature designs based on changes in local stream conditions over the winter. Additionally, feature design or location changes may occur as a result of CEQA survey findings, and associated impacts to local resources. Any changes to project designs or locations will be discussed with CDFW grant manager. Anchor points will be painted, and flags will be hung at feature locations. Any avoidance areas that may have resulted from CEQA surveys will be clearly designated with flagging. TA and NOAA/Vet Corps Member will collect pre-construction stream longitudinal profile data, metrics at modified features, and pre-implementation photos. This task may occur annually for the duration of the contract.

Deliverables: Final feature designs to meet approval of grant manager, pre-implementation photos and metrics.

Start Date: 04/15/2021

End Date: 10/29/2021

Task 4. Materials Acquisition:

TA and FHS will purchase materials (hardware), spike supplies, hand tools, drill bits, safety supplies, office supplies, and decontamination chemicals. Additionally, the Technical Assistant will service drill bits to have welded fixed extensions, repair tools needed for implementation, rent Porta - Potty. Permittee crew meals will be coordinated prior to each spike. Additional tools and materials may be purchased or repaired as needed throughout implementation.

Deliverables: Tools and materials used to construct instream features, invoices, and progress reports.

Start Date: 04/01/2021

End Date: 09/30/2024

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Task 5. Implementation:

Permittee Corpsmembers will install large wood features following the Conceptual Designs (see supplemental docs). 54 instream features consisting of 167 pieces of large wood will be installed within a 4,995-foot section East Branch North Fork Big River. Under the direction of the Conservationist 1 (C1), Fisheries Technical Assistant and Fish Habitat Specialist, Permittee hand crews will utilize labor hours constructing in-stream LWD features and completing site rehab and erosion control. This will include travel, setting up spike camp, and breaking down of spike-camp at project completion. The C1 will be responsible for direct crew supervision and operation. This task may occur annually for duration of the contract.

Deliverables: 4,995-feet of East Branch North Fork Big River treated with LWD. Treatment will sufficiently achieve and exceed targets identified in recovery plans so that no re-treatment will be necessary.

Start Date: 07/10/2021

End Date: 10/31/2021

Task 5a. LWD Acquisition:

LTO will fell flagged trees near project features as specified in site designs. Trees will be selected to minimize impacts on stream canopy, bank stability, and effects on wildlife. The majority of trees will be felled away from the channel and later pulled into the channel with the larger diameter end of log in the water.

Deliverables: Invoice and progress report for subcontractor time.

Start Date: 07/10/2021

End Date: 12/21/2021

Task 5b. Place LWD and Install Anchors:

Before beginning construction, MRC Aquatic Biologist will perform species surveys, relocation and on-site monitoring as needed. Prior to moving logs, felled trees will be cut to length according to feature specific work plans. Logs and root-wads will be moved into place and anchored, per design, to living trees and/or stumps along the stream banks. Logs will be moved by using grip-hoist and wire rope rigging techniques or heavy equipment if available. The anchoring of LWD will require holes to be drilled through both LWD and anchor trees requiring the use of a generator to operate electric drills. One-inch diameter Thread bar will be inserted through the logs and anchor trees, then secured with nuts and washers. All pieces of LWD to be used in feature construction are currently located in or near the riparian corridor or road and would likely not recruit naturally. All features will be built in accordance with CDFW *California Salmonid Stream Habitat Restoration Manual*, Section VII and will consist of redwood and Douglas-fir logs or root wads which also meet the criteria for LWD according to the manual. This task may occur annually for the life of project.

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Deliverables: 54 LWD features consisting of 167 pieces of LWD within 4,995-feet of East Branch North Fork Big River.

Start Date: 07/10/2021

End Date: 10/31/2021

Task 5c. Install Small Woody Debris (SWD)

Available slash and small woody debris (SWD) will be installed into features as applicable to provide immediate cover for salmonids present at time of construction. SWD will be branches and tops of felled redwoods ranging from three to 11-inches in diameter. SWD will also be installed at specific features to capture additional floating debris, increasing the volume of wood in the channel and the associated geomorphic effects. To prevent erosion and introduction of fine sediment into the stream channel, exposed dirt resulting from construction of features will be covered/mulched using on-site forest materials. This task will occur in years of implementation.

Deliverables: Completion of features, invoice, and progress report for Corpsmembers hours and C1 Overtime.

Start Date: 07/10/2021

End Date: 10/31/2021

Task 5d. Decontamination:

To address potential spread of aquatic invasive species and Sudden Oak Death (SOD), personal gear as well as tools/equipment used in the field will be properly decontaminated before moving to a new location in order to comply with CDFW and CA Oak Mortality Task Force disinfection/decontamination protocol Requirements. This task will occur annually in years of implementation.

Deliverables: Adherence to protocols and permits, invoicing for decontamination materials, progress report.

Start Date: 07/10/2021

End Date: 10/31/2021

Task 6. Data Collection:

Upon completion of the project or summer work period, TA, and NOAA Fisheries Veteran will collect longitudinal profile data, photo documentation, required quantitative metrics, and any other required data required for the final and annual reports report. This task may occur annually as implementation takes place.

Deliverables: Invoices with progress reports, compiled information to be included in annual and final reports.

Start Date: 08/02/2021

End Date: 11/12/2021

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Task 7. Final Report:

Permittee Fisheries Technical Assistant and Fish Habitat Specialist will prepare and submit the final report and invoice to CDFW grant manager. Report will include performance measures per site, as built drawings, before and after photos on CD, post-project longitudinal profiles, project map, and any other additional required documents as per the contract.

Deliverables: Final report will include:

- The grant agreement number
- USGS 7.5-minute topographical map of work location
- Specific project access routes and landowner name and address
- Description and analysis of applied restoration and planning techniques
- Description of results
- Dates of work and number of personnel hours expended
- Detailed account of grant dollars spent, contributed, and expended as in-kind services
- Performance measures per site
- Overall project performance measure
- As built drawings
- Before and after photos on CD
- Post-project longitudinal profiles
- Any other additional required documents or information as per the contract.

Start Date: 11/15/2021

End Date: 03/31/2025

Additional Requirements:

The Permittee will not proceed with on the ground implementation until all necessary permits and consultations are secured. Work in flowing streams is restricted per the Army Corp of Engineers Regional General Permit. Actual project start and end dates, within this timeframe, are at the discretion of the California Department of Fish and Wildlife.

No equipment maintenance will be performed within or near the stream channel where pollutants (such as petroleum products) from the equipment may enter the channel via rainfall or runoff. Appropriate spill containment devices (e.g., oil absorbent pads, tarpaulins) will be used when refueling equipment. Any and all equipment will be removed from the streambed and floodplain areas at the end of each workday.

All equipment and gear will be brushed with a stiff brush prior to leaving each stretch of stream to avoid the transport of aquatic invasive species (AIS). When transporting traps out of the area, each numbered trap will be bagged in its own bag to avoid cross contamination during transport in and out of the work area. All crew members will decontaminate equipment and shoes for AIS according to the

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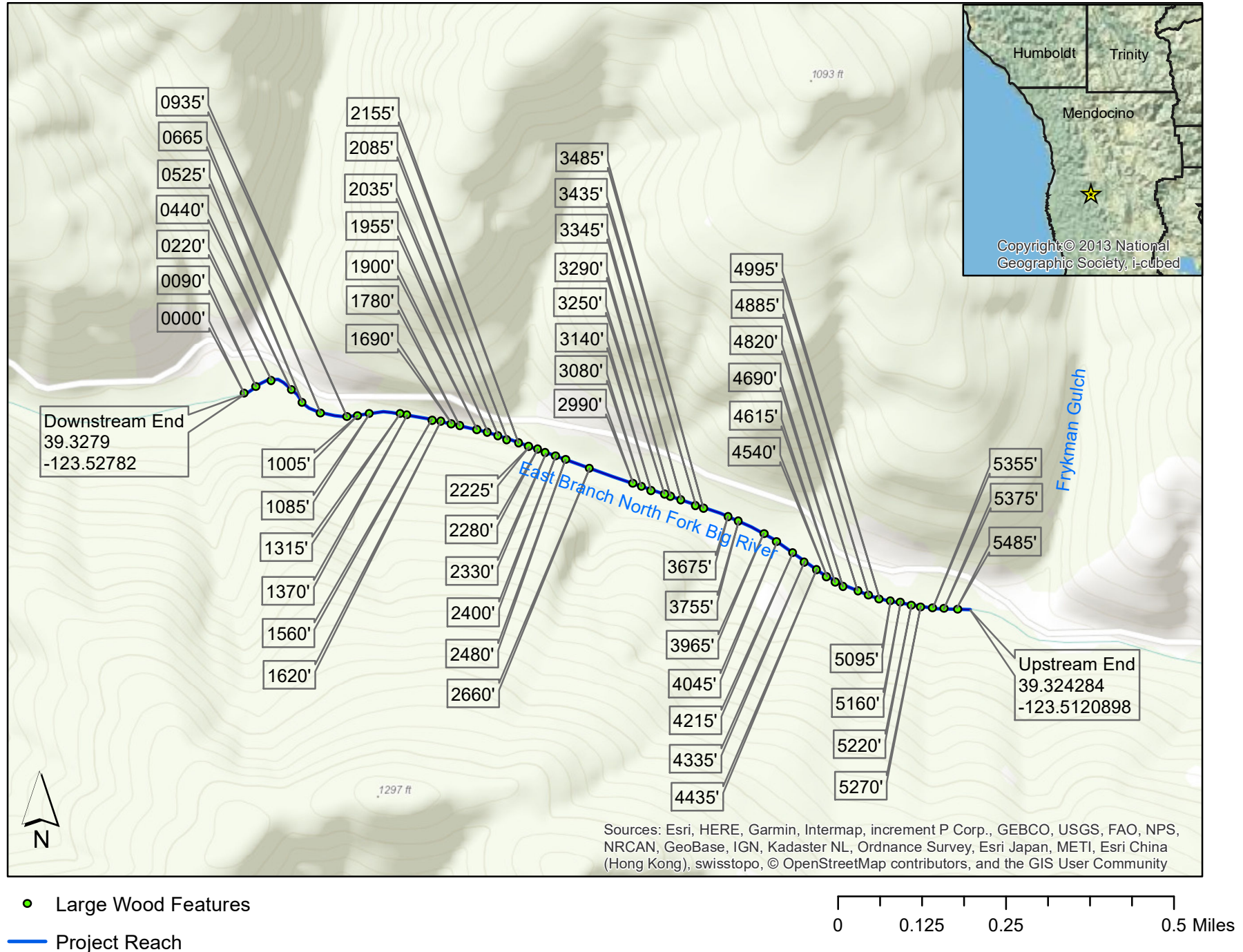
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standards detailed in the California Department of Fish & Wildlife *Aquatic Invasive Species Decontamination Protocol*.

During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris will be removed from work areas.

Final structure design and placement will be determined by field consultation between the Grantee and the Grantor Project Managers. All habitat improvements will follow techniques described in the *California Salmonid Stream Habitat Restoration Manual*.

Map 2. Features
 East Branch North Fork Big River Coho Habitat Enhancement Project - Large Wood (Phase II)
 California Conservation Corps
 East Branch of North Fork Big River, Comptche Quad
 Mendocino County, CA





Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Comptche (3912335) OR Navarro (3912325) OR Elk (3912326) OR Mathison Peak (3912336) OR Noyo Hill (3912346) OR Northspur (3912345) OR Burbeck (3912344) OR Greenough Ridge (3912334) OR Bailey Ridge (3912324))

Possible species within the Comptche and surrounding quads for 1723379 - East Branch North Fork Big River Coho Habitat Enhancement Project - Large Wood (Phase II), Mendocino County

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter gentilis</i> northern goshawk	ABNKC12060	None	None	G5	S3	SSC
<i>Accipiter striatus</i> sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<i>Agrostis blasdalei</i> Blasdale's bent grass	PMPOA04060	None	None	G2	S2	1B.2
<i>Alisma gramineum</i> grass alisma	PMALI01010	None	None	G5	S3	2B.2
<i>Arboreus pomo</i> Sonoma tree vole	AMAFF23030	None	None	G3	S3	SSC
<i>Arctostaphylos nummularia ssp. mendocinoensis</i> pygmy manzanita	PDERI04280	None	None	G3?T1	S1	1B.2
<i>Ascaphus truei</i> Pacific tailed frog	AAABA01010	None	None	G4	S3S4	SSC
<i>Astragalus agnicidus</i> Humboldt County milk-vetch	PDFAB0F080	None	Endangered	G2	S2	1B.1
<i>Atractelmis wawona</i> Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
<i>Brasenia schreberi</i> watershield	PDCAB01010	None	None	G5	S3	2B.3
<i>Calileptoneta wapiti</i> Mendocino leptonetid spider	ILARAU6040	None	None	G1	S1	
<i>Campanula californica</i> swamp harebell	PDCAM02060	None	None	G3	S3	1B.2
<i>Carex californica</i> California sedge	PMCYP032D0	None	None	G5	S2	2B.2
<i>Carex lenticularis var. limnophila</i> lagoon sedge	PMCYP037A7	None	None	G5T5	S1	2B.2
<i>Carex lyngbyei</i> Lyngbye's sedge	PMCYP037Y0	None	None	G5	S3	2B.2
<i>Carex saliniformis</i> deceiving sedge	PMCYP03BY0	None	None	G2	S2	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Castilleja mendocinensis</i> Mendocino Coast paintbrush	PDSCR0D3N0	None	None	G2	S2	1B.2
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<i>Coptis laciniata</i> Oregon goldthread	PDRAN0A020	None	None	G4?	S3?	4.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Erysimum concinnum</i> bluff wallflower	PDBRA160E3	None	None	G3	S2	1B.2
<i>Erythronium revolutum</i> coast fawn lily	PMLIL0U0F0	None	None	G4G5	S3	2B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fissidens pauperculus</i> minute pocket moss	NBMUS2W0U0	None	None	G3?	S2	1B.2
<i>Gilia capitata ssp. pacifica</i> Pacific gilia	PDPLM040B6	None	None	G5T3	S2	1B.2
<i>Grand Fir Forest</i> Grand Fir Forest	CTT82120CA	None	None	G1	S1.1	
<i>Helminthoglypta arrosa pomoensis</i> Pomo bronze shoulderband	IMGASC2033	None	None	G2G3T1	S1	
<i>Hemizonia congesta ssp. congesta</i> congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
<i>Hesperovax sparsiflora var. brevifolia</i> short-leaved evax	PDASTE5011	None	None	G4T3	S3	1B.2
<i>Hesperocyparis pygmaea</i> pygmy cypress	PGCUP04032	None	None	G1	S1	1B.2
<i>Hesperolinon adenophyllum</i> glandular western flax	PDLIN01010	None	None	G2G3	S2S3	1B.2
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Kopsiopsis hookeri</i> small groundcone	PDORO01010	None	None	G4?	S1S2	2B.3



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lavinia symmetricus navarroensis</i> Navarro roach	AFCJB19023	None	None	G4T1T2	S2S3	SSC
<i>Lilium maritimum</i> coast lily	PMLIL1A0C0	None	None	G2	S2	1B.1
<i>Lycopodium clavatum</i> running-pine	PPLYC01080	None	None	G5	S3	4.1
<i>Mendocino Pygmy Cypress Forest</i> Mendocino Pygmy Cypress Forest	CTT83161CA	None	None	G2	S2.1	
<i>Mitellastra caulescens</i> leafy-stemmed mitrewort	PDSAX0N020	None	None	G5	S4	4.2
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Oncorhynchus kisutch pop. 4</i> coho salmon - central California coast ESU	AFCHA02034	Endangered	Endangered	G4	S2?	
<i>Oncorhynchus mykiss irideus pop. 16</i> steelhead - northern California DPS	AFCHA0209Q	Threatened	None	G5T2T3Q	S2S3	
<i>Packera bolanderi var. bolanderi</i> seacoast ragwort	PDAST8H0H1	None	None	G4T4	S2S3	2B.2
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Pekania pennanti</i> fisher - West Coast DPS	AMAJF01021	Endangered	Threatened	G5T2T3Q	S2S3	SSC
<i>Pinus contorta ssp. bolanderi</i> Bolander's beach pine	PGPIN04081	None	None	G5T2	S2	1B.2
<i>Piperia candida</i> white-flowered rein orchid	PMORC1X050	None	None	G3	S3	1B.2
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	PMPOA4Y070	None	Threatened	G2	S2	1B.1
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Ramalina thrausta</i> angel's hair lichen	NLLEC3S340	None	None	G5?	S2S3	2B.1
<i>Rana aurora</i> northern red-legged frog	AAABH01021	None	None	G4	S3	SSC
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rhyacotriton variegatus</i> southern torrent salamander	AAAAJ01020	None	None	G3G4	S2S3	SSC
<i>Rhynchospora alba</i> white beaked-rush	PMCYP0N010	None	None	G5	S2	2B.2
<i>Sanguisorba officinalis</i> great burnet	PDROS1L060	None	None	G5?	S2	2B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Sidalcea calycosa ssp. rhizomata</i> Point Reyes checkerbloom	PDMAL11012	None	None	G5T2	S2	1B.2
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
<i>Speyeria zerene behrensii</i> Behren's silverspot butterfly	IILEPJ6088	Endangered	None	G5T1	S1	
<i>Sphagnum Bog</i> Sphagnum Bog	CTT51110CA	None	None	G3	S1.2	
<i>Taricha rivularis</i> red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
<i>Trifolium buckwestiorum</i> Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
<i>Trifolium trichocalyx</i> Monterey clover	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
<i>Usnea longissima</i> Methuselah's beard lichen	NLLEC5P420	None	None	G4	S4	4.2

Record Count: 69