

EXPLANATION OF RESPONSES TO INITIAL STUDY ENVIRONMENTAL CHECKLIST

I. AESTHETICS

- a) The project will not have an adverse effect on a scenic vista. Such an impact will not occur because the project will stabilize, restore, and re-vegetate damaged and eroded sites to produce a more natural and esthetically pleasing appearance.
- b) The project will not damage scenic resources such as trees, rock outcroppings, and historic buildings. Such an impact will not occur because the project will not disturb large trees or other scenic features in the process of restoring damaged sites.
- c) The project will not substantially degrade the existing visual character or quality of the work sites and their surroundings. Such an impact will not occur because in most cases the restoration project will restore the natural character of disturbed sites. Where non-natural structures (such as fish screens) are constructed, they will be of small size and compatible with the appearance of their surroundings.
- d) The project will not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area of the worksites. Such an impact will not occur because none of the restoration project action items require installation of artificial lighting.

II. AGRICULTURE RESOURCES

- a) The project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program (FMMP) of the California Resources Agency, to non-agricultural use. Such an impact will not occur because most project worksites are located away from FMMP designated farmland. Project actions associated with farmland (such as fish screens) are designed to allow continued use of farmland with reduced impacts to anadromous salmonids.
- b) The project will not conflict with existing zoning for agricultural use or a Williamson Act contract. Fish habitat restoration actions will not change existing land use.
- c) The project will not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timber zoned Timberland Production. Fish habitat restoration actions will not change existing land use.
- d) There will be no loss of forest land and the project will not result in the conversion of forest land to non-forest use. Road decommissioning projects in forest land will reduce fine sediment delivery to the streams while restoring forest land by planting with native vegetation.
- e) The project will not involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland to non-agricultural use. Fish habitat restoration actions are either away from, or are compatible with, existing agricultural uses.

III. AIR QUALITY

- a) The project will not conflict with or obstruct implementation of the applicable air quality plan. Such an impact will not occur because implementation of the project does not create any features that would be a source of air pollution. Use of vehicles and heavy equipment during construction will be on a limited scope and a short duration and is not expected to adversely affect air quality.

- b) The project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Such an impact will not occur because of the limited scope of construction activities and the fact that work sites are located in rural areas that are in overall attainment of air quality standards.
- c) The project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors). Such an impact will not occur because the project involves no ongoing sources of air pollution.
- d) The project will not expose sensitive receptors to substantial pollutant concentrations. Such an impact will not occur because the project will not significantly increase pollutant concentrations.
- e) The project will not create objectionable odors affecting a substantial number of people. Project actions are designed to restore natural habitat conditions for salmonids, and will not create any stagnant water that might produce objectionable odors.

IV. BIOLOGICAL RESOURCES

- a) The project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (DFG), National Oceanic and Atmospheric Administration (NOAA) or U. S. Fish and Wildlife Service (USFWS). Such an impact will not occur because project activities are designed to improve and restore stream habitat, to provide a long-term benefit to both anadromous salmonids and other fish and wildlife. The project will be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals and cultural resources during construction; the mitigation measures that will be implemented to avoid short-term impacts to rare plants and animals and cultural resources are described in Appendices B, C, D, and E. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

Species Impacts for the following species include (mitigation measures are included in Appendix B):

- i) Point Arena mountain beaver (*Aplodontia rufa nigra*). The Point Arena mountain beaver (PAMB) is a burrowing rodent found in coastal Mendocino County, in an area of approximately 24 square miles (from about 2 miles north of Bridgeport Landing south to about 5 miles south of the town of Point Arena, and from the coast to about 5 miles inland). Mountain beaver inhabit underground burrow systems, associated with moist areas with well drained soils and lush herbaceous vegetation. PAMB populations are typically found in riparian, coastal scrub, or dune scrub habitats; however they may occur in any habitat with brushy or herbaceous cover. PAMB presence is evaluated by surveying for burrows of characteristic size and shape, with signs of recent activity.

Potential impacts to PAMB from salmonid habitat improvement projects include disruption of nesting or other activities due to equipment noise; collapse or damage to burrows from heavy equipment, riparian planting, or foot traffic; and removal of vegetation (such removal is usually temporary, but may nonetheless impact PAMB).

- ii) California freshwater shrimp (*Syncaris pacifica*). As an aquatic species California freshwater shrimp (CAFS) depend on the availability of slow moving perennial water and suitable habitat to survive. Habitat for CAFS as described in the Recovery Plan consists of:
 - Slow moving streams 12-36 inches in depth

- Exposed live roots of trees such as willow or alder
- Undercut banks greater than 6 inches
- Overhanging woody debris or stream vegetation and vines including stinging nettles, grasses, vine maple, and mint.

Migration of CAFS is not well understood, however it is speculated that CAFS require access to slow moving waters adjacent to continuous, stable, well vegetated stream banks, or deep stable undercut banks during winter high flows.

Salmonid restoration projects typically enhance or create habitat that is also suitable for CAFS. Stable undercut banks, well vegetated with a variety of native plant species, alongside deep perennial pools, are components of healthy riparian ecology and the end result of many restoration projects. In addition, salmonid restoration projects can remove existing threats to CAFS by:

- Eliminating grazing in the riparian corridor
- Reclaiming riparian vegetation through plantings and increased setbacks in agricultural settings
- Removing summer dams (and culverts) and replacing summer crossings with bridges
- Improving road drainage and maintenance that reduces water and sediment delivery to streams
- Reversing the impacts of flood control practices by replacing vegetation and large woody debris, and by helping restore flood plains and reducing channeling
- Stabilizing banks with vegetation that promotes CAFS habitat
- Removing migration barriers.

While salmonid restoration projects typically enhance or create these habitat and instream conditions that are favorable for CAFS and associated native aquatic species, project activities in wetted stream habitats may directly impact individuals when present. Whereas project activities in dry stream habitats, will not have a direct impact on individuals. Where habitat exists, instream project activities may indirectly impact the species through the loss of habitat. Mitigation measures are implemented to avoid directly impacting individuals when present however, some short term direct and indirect impacts can occur.

Direct impacts may include:

- Short term degradation of water quality at project site resulting in reduction in feeding temporarily
- Addition of instream complex shelter (large and small woody debris, boulders, aquatic vegetation) resulting in temporary dislodgement from undercut banks and vegetation
- Dewatering of project site and movement of animals from preferred habitat to nearby suitable habitat during the project.

Indirect impacts may include:

- Short term loss of habitat until riparian responds
- Short term degradation of habitat
 - √ loss of unstable undercut banks
 - √ short term loss or degradation of overhanging riparian vegetation
- Introduction of migration barriers on one side of the stream.

- iii) California red-legged frog (*Rana aurora draytonii*). As an aquatic species, frogs are generally present in the riparian corridor year-round, utilizing both stream and bank habitat. Impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, unscreened pumping, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and reintroduction of non-native species into stream. Habitat removal and/or degradation are not the result of restoration projects. Typically, removal of riparian vegetation for the

purpose of implementing a project does not occur, but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. More often, dewatering, heavy equipment usage, and work with hand tools occurs during project implementation. All impacts are temporary and can be minimized to avoid take of the species.

- iv) Least Bell's vireo (*Vireo bellii pusillus*). Impacts to the species have the potential to occur as a result of removal of riparian vegetation (willows and low shrubs) during the spring and summer or from disturbance within a 0.25 mile radius of next sites. Typically removal of riparian vegetation for the purpose of implementing a project does not occur, but is minimal when it does. Many projects involve restoring the riparian corridor that is absent. Removal of willow branches for revegetation at restoration sites has the potential to degrade existing vireo habitat. Noise from heavy equipment has the potential to cause nesting birds to abandon nests. All impacts are temporary and can be minimized to avoid take of the species.
- v) Tiger salamander (*Ambystoma tigrinum*). Impacts to the species are highly unlikely as most implementation projects occur in or near the stream and riparian corridor. Upslope projects are typically limited to road upgrading and decommissioning in areas that are steep, eroding, and often in areas vegetated with trees and shrubs. The species uses ponds and vernal pools for breeding and grassland habitat for estivation, both of which are usually not in proximity to anadromous fish-bearing streams.
- vi) Coho salmon, Chinook salmon, steelhead, and coast cutthroat trout. Habitat loss and modification are believed to be the major factors determining the current status of salmonid populations. Conservation and recovery of salmonid depend on having diverse habitats with connections among those habitats. The salmonid lifecycle involves adults maturing in the ocean, migrating back to their home streams and spawning, embryos incubating, fry emerging, juveniles growing, and smolts migrating to the estuary to acclimate to saltwater and moving out into the ocean. While all of the work proposed under this program will enhance habitat for one or more of these species, impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, disturbance of banks, and fish relocation. All impacts are temporary and can be minimized to avoid take of the species.
- vii) Arroyo toad (*Bufo microscaphus californicus*). The Arroyo toad inhabits coastal southern California from Salinas River Basin in Monterey and San Luis Obispo Counties to Arroyo San Simón in northern Baja California, México. This toad prefers riparian habitats with sandy streambeds with cottonwood, sycamore, and willow trees. Some populations occur in streams within coniferous forests. The stream setting usually has adjacent shallow pools where the toad may sit in the water while partially exposed above. These toads are most active during late winter and early spring after seasonal rains. Early in their activity season, toads forage to prepare for breeding. Impacts to the species have the potential to occur during project implementation activities such as (but not limited to) channel dewatering, unscreened pumping, heavy equipment usage, work with hand tools, removal of riparian vegetation, spills from refueling vehicles, and reintroduction of non-native species into stream. Habitat removal and/or degradation is not the result of restoration projects. Typically, removal of riparian vegetation for the purpose of implementing a project does not occur, but is minimal when it does. Projects can involve restoring the riparian corridor that is absent. More often, dewatering, heavy equipment usage, and work with hand tools occurs during project implementation. All impacts are temporary and can be minimized to avoid take of the species.
- viii) Tidewater goby (*Eucyclogobius newberryi*). The tidewater goby is a small, elongate, grey-brown fish with dusky fins not exceeding 50 millimeters standard length (mm SL). The species, which is endemic to California, is typically found in coastal lagoons, estuaries, and

marshes with relatively low salinities. Its habitat is characterized by brackish shallow lagoons and lower stream reaches where the water is fairly still but not stagnant. However, tidewater gobies can withstand a range of habitat conditions: they have been documented in waters with salinity levels from 0 to 42 parts per thousand, temperatures from 8 to 25° Celsius, depths from 25 to 200 centimeters, and dissolved oxygen levels of less than one milligram per liter.

Tidewater gobies may range upstream into fresh water, up to two kilometers from the estuary. In San Antonio Creek and the Santa Ynez River, Santa Barbara County, tidewater gobies are often collected five to eight km upstream of the tidal or lagoonal areas, sometimes in beaver impounded sections of streams. Conversely, tidewater gobies enter marine environments if sandbars are breached during storm events. The species' tolerance of high salinities likely enables it to withstand the marine environment, allowing it to colonize or re-establish in lagoons and estuaries following flood events.

Reproduction peaks from late April or May to July and can continue into November or December depending on the seasonal temperature and rainfall. Males begin the breeding ritual by digging burrows (75 to 100 mm deep) in clean coarse sand. Females then deposit eggs into the burrows, an average of 400 eggs per spawning effort (Swenson 1998 in press). Males remain in the burrows to guard the eggs. Males frequently forgo feeding during this period, possibly contributing to the mid-summer mortality noted in some populations. Within nine to ten days larvae emerge at approximately five to seven mm SL. The larvae live in vegetated areas within the lagoon until they are 15 to 18 mm SL, when they become substrate oriented, spending the majority of time on the bottom rather than in the water column. Both males and females can breed more than once in a season, with a lifetime reproductive potential of 3 to 12 spawning events.

The decline of the tidewater goby can be attributed primarily to urban, agricultural and industrial development in and surrounding the coastal wetlands and alteration of habitats from seasonally closed lagoons to tidal bays and harbors. Some extirpations are believed to be related to pollution, upstream water diversions, and the introduction of exotic fish species (most notably sunfishes and black basses [Centrarchidae]). These threats continue to affect some of the remaining populations of tidewater gobies. Tidewater gobies have been extirpated from several water bodies that are impaired by degraded water quality (e.g., Mugu Lagoon, Ventura County), but still occur in others (e.g., Santa Clara River, Ventura County).

Measures to reduce impacts to tidewater goby habitat will include adjusting the timing of projects to avoid disruption to breeding activities, the use of silt fencing to reduce sediment loads and as barricades around project sites, installing coffer dams above and below project sites and translocating individual tidewater gobies found within the enclosures prior to dewatering, minimization of project areas, and requiring qualified biologists to oversee project activities.

- b) The project will not have a substantial adverse effect on any riparian habitat or other sensitive natural communities identified in local or regional plans, policies and regulations, or by the California Department of Fish and Game or U. S. Fish and Wildlife Service. Such an impact will not occur because the project actions are designed to correct past habitat degradation and restore and enhance riparian habitat and associated upland habitats.
- c) The project will not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. The project actions will have either no effect on wetlands or will be beneficial to wetlands.

- d) The project will not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The project will enhance the movement of anadromous fish by the replacement or removal of culverts and bridges that are barriers to fish migration.
- e) The project will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Such an impact will not occur because project actions are designed to restore and enhance biological resources. Some minor disturbance of grasses and shrubs will occur where stream structures are keyed into the stream banks. Care will be taken not to disturb any mature trees. Riparian vegetation will be reestablished where construction activities disturb existing plants, and additional native plants will be planted to enhance the riparian vegetation.
- f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. Such a conflict will not occur because the project restoration actions will not have a significant adverse impact on any species or habitat. Project actions are designed to restore the natural character of the fish and wildlife habitat at the project work sites. The project specifically supports the California Salmon, Steelhead Trout and Anadromous Fisheries Program Act (Fish and Game Code Section 6900 et. seq.)

V. CULTURAL RESOURCES

- a) The project will not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect historical resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B and E for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- b) The project will not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. While ground disturbance will be required to implement the project at some work sites that have the potential to affect archaeological resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) The project will not directly or indirectly destroy any unique paleontological resources or sites, or unique geologic features. While ground disturbance to implement the project at some work sites has the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B and D for all work sites. Resources identified during site-specific surveys will be protected before ground-disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- d) The project will not disturb any human remains, including those interred outside of formal cemeteries. While ground disturbance will be required to implement the project at some work sites that have the potential to affect these resources, this potential impact will be avoided through implementation of the protective measures presented in Appendix B for all work sites. Resources identified during site-specific surveys will be protected before ground-

disturbing activities are permitted at a site. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

VI. GEOLOGY AND SOILS

- a i) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault. Such an impact will not occur because the project does not create any structures for human habitation.
- a ii) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Such an impact will not occur because the project does not create any structures for human habitation.
- a iii) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Such an impact will not occur because the project does not create any structures for human habitation.
- a iv) The project will not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Such an impact will not occur because the project does not create any structures for human habitation.
- b) The project will not result in substantial soil erosion or the loss of topsoil. Such an impact will not occur because implementation of the restoration project is designed to contribute to an overall reduction in erosion and sedimentation. Existing roads will be used to access work sites. Ground disturbance at most work sites will be minimal, except for road improvements or decommissioning. Road improvements and decommissioning will involve moving large quantities of soil from road fills and stream crossings to restore historic land surface profiles and prevent chronic erosion and sediment delivery to streams. The potential for substantial soil loss associated with road improvement and decommissioning will be avoided through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) Some project worksites are on unstable soils; however, the project will not increase the risk of landslides, lateral spreading, subsidence, liquefaction, or collapse. The project actions are designed to stabilize conditions at these sites in order to reduce sediment delivery to salmonid habitat. Actions implemented to stabilize sites may not be successful in all cases, but site instability will not be increased when compared to existing conditions.
- d) Some project work sites will be located on expansive soil; however, the project will not create substantial risks to life or property. Such an impact will not occur because the project will create no habitations, and the majority of the restoration actions will not create rigid structures that could be damaged by expansive soils. The few rigid structures to be created by the project (such as fish screens) will be engineered to withstand expansive soils, if they are present.
- e) The project will not create any sources of waste water requiring a septic system.

VII. GREENHOUSE GAS EMISSIONS

- a. The project will emit greenhouse gases (GHG) through the use of fuel to operate vehicles and heavy equipment. The total volume of fuel (diesel and/or gasoline) is not available for each action item; however, the time the heavy equipment is rented for and the mileage from the budget information is used to calculate the GHG emission and it is assumed that the heavy equipment is in use for the duration of the time it is rented. Accuracy of this method is limited by the known information. The assumption that the heavy equipment is in use the total amount of time it is rented for also assumes the “worst case scenario” because in reality, heavy equipment is not in use the total time it is rented for; nevertheless, this is the only information available to obtain the GHG emissions. In the future, the estimated fuel needed to implement the action items will be requested from the action item proponents to better calculate the GHG emissions. The calculations to convert hours of equipment rented to metric tons of carbon dioxide (CO₂) are as follows:
- i. Excavators, dump trucks, bulldozers, water trucks, and trailers are assumed to consume diesel.
 - Mid-size heavy equipment burns roughly 8 to 10 gallons of diesel per hour it is being used. Thus, the average taken was 9 gallons of fuel per hour.
 - ii. Pilot cars are assumed to consume gasoline instead of diesel.
 - The fuel consumption for these vehicles is assumed to be 18 miles per gallon and are mainly used in highways where the max speed limit is 55 miles per hour. To obtain the gallons of fuel consumed: hours rented x 55 miles/hour ÷ 18 miles/gallon.
 - iii. The conversion of gallons of fuel to metric tons of CO₂ is (C=carbon; CO₂=carbon dioxide):
 - Diesel:
2778 grams C/gallon x 99 % oxidation factor x 44 grams CO₂/12 grams C = 10,084 grams of CO₂ emission per gallon of diesel. Then divide by 1,000 to obtain 10.1 kilograms CO₂/gallon. One kilogram is equal to 0.001 metric tons.
 - Gasoline:
2421 grams C/gallon x 99 % oxidation factor x 44 grams CO₂/12 grams C = 8,788grams of CO₂ emission per gallon of gasoline. Then divide by 1,000 to obtain 8.8 kilograms CO₂/gallon.

The estimated hours of heavy equipment and pilot cars are 31,997.5 and 775 hours, respectively. The total mileage was also obtained from the budget information. Mileage is assumed to be for gasoline fueled vehicles and is estimated to be 77,272 miles. One budget did include the estimated fuel use which is 1,500 gallons of gasoline. Thus, the total CO₂ emission from the project is estimated to be 2,980.4 metric tons CO₂. **Table 1** below illustrates the CO₂ emission calculations. Equations to calculate CO₂ emissions from gallons of fuel can be found in the Environmental Protection Agency (EPA) website: <http://www.epa.gov/oms/climate/420f05001.htm>.

Table 1. Calculations for CO₂ estimates.

Estimated factor	Value	Gallons of fuel	CO ₂
Hours of heavy equipment (diesel)	31,997.5 hours	31,997.5 hours x 9 gallons/hour = 287,977.5 gallons	[287,977.5 gallons x 10.1 kg CO ₂ /gallon] x 1 metric ton/1,000 kg = 2,908.57 metric tons CO ₂
Hours of pilot cars rented (gasoline)	775 hours	(775 x 55 miles/hour)/18 miles/gallon = 2,368.06 gallons	[2,368.06 gallons x 8.8 kg CO ₂ /gallon] x 1 metric ton/1,000 kg = 20.84 metric tons CO ₂
Gallons of gasoline	1,500 gallons	1,500 gallons	[1,500 gallons x 8.8 kg CO ₂ /gallon] x 1 metric ton/1,000 kg = 13.2 metric tons CO ₂
Mileage	77,272 miles	77,272 miles/18 miles/gallon = 4,292.89 gallons gasoline	[4,292.89 gallons x 8.8 kg CO ₂ /gallon] x 1 metric ton/1,000 kg = 37.78 metric tons CO ₂
Total			2,980.39 metric tons CO₂

While there will be GHG emissions, the impacts will not be significant. The threshold by which project-related greenhouse gas impacts would be considered significant is whether project-related impacts will impair California’s ability to achieve the reduction goals established by Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006. AB 32 establishes a statewide greenhouse gas emissions cap for 2020, based on the 1990 emissions (California Climate Change Portal). In 1990, California’s CO₂ emissions were estimated to be 364.32 million metric tons of CO₂ (http://www.epa.gov/statelocalclimate/resources/state_energyco2inv.html). The project will emit roughly 0.0008% of the 1990 California CO₂ emissions. In 2007, the California CO₂ emissions were estimated to be 4,002.77 million metric tons, the project’s CO₂ emissions are roughly 0.000074% of the 2007 California estimates. The difference between the percent of emissions from 2007 to 1990 is 0.00007%, thus, the emissions from the project will not have a significant effect on California’s ability to achieve the reduction goals. Many of the proposed restoration activities are of short duration. Therefore, the increases in emissions from activities will only occur in the initial phases (a few days to a few weeks) when vehicular and equipment operation is necessary to carry out the restoration actions. Watershed restoration projects often are of longer duration (six to twelve weeks).

Fourteen action items involve road decommissioning in forested landscapes. The decommissioned roads are re-planted with native conifer tree species. This results in the reforestation of lands that were once paved or dirt roads. The project will decommission 24.93 miles of road. The average road width is 16 feet; thus there are 2,106,086 square feet of road, or 48.35 acres. The project will thereby put 48.35 acres of land back into tree production. According to the EPA (<http://www.epa.gov/cleanenergy/energy-resources/refs.html>), pine or fir forest sequesters 4.69 metric tons of CO₂ per acre of pine or fir forest. The net result is 226.75 metric tons of CO₂ per acre per year will be sequestered. Furthermore, a fifty year forest harvest rotation is estimated to sequester 11,337.86 metric tons of CO₂ due to this project or 3.8 times as much CO₂ than if the project was not implemented. Additionally, when plants are removed to implement the restoration activity, the replanting ratio is 1:2 (for every plant removed, two native plants are planted). Initial vegetation planting may require irrigation for a year or two which could involve operating water pumps. Native habitat restoration requires little to no maintenance and therefore little to no additional greenhouse gas emissions.

- b. As stated above, the project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG. The short term impacts to the

GHG levels are less than significant. Furthermore, the long term impacts to the GHG levels from re-vegetation actions will aid in decreasing the GHG levels by reforesting areas where roads have been removed and where restoration work has been done.

VIII. HAZARDS AND HAZARDOUS MATERIALS

- a) The project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Any potential significant hazard associated with the accidental release of coolant and petroleum products used with equipment during construction will be avoided through implementation of the mitigation measures presented in Appendix B. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- b) The project will not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. At work sites requiring the use of heavy equipment, there is a small risk of an accident upsetting the machine and releasing fuel, oil, and coolant. The potential for accidental release will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.
- c) The project will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Such impact is avoided because the project will not create any feature that will emit hazardous substances.
- d) The project worksites are not located on any site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e) No project work site is located within an airport land use plan or within two miles of a public airport or public use airport.
- f) No project work site is located within the vicinity of a private airstrip.
- g) The project will not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Except for the case of road decommissioning, the project has no effect on access. The planned decommissioning of selected unused wild land roads will not have a significant impact on emergency vehicle access.
- h) The project will not expose people or structures to a significant risk of loss, injury, or death involving wild land fires. At work sites requiring the use of heavy equipment, there is a small risk of an accidental spark from equipment igniting a fire. The potential for accidental fire will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant impacts are avoided or mitigated to below a level of significance.

IX. HYDROLOGY AND WATER QUALITY

- a) The project will not violate any water quality standards or waste discharge requirements. There is the potential for minor short-term increase in turbidity during installation of instream

structures or culvert removal, however the mitigation measures described in Appendix B Mitigation, Monitoring and Reporting will assure that the project actions are in compliance with water quality standards. As a result, mitigation measures will ensure that any potentially significant short-term impacts are avoided or mitigated to below a level of significance.

- b) The project will not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Upslope restoration activities will return drainage to historic patterns thereby decreasing surface runoff and increasing infiltration to the ground water.
- c) The project will not substantially alter the existing drainage pattern of the work sites in a manner that would result in substantial erosion or siltation on- or off-site. Such an impact will not occur because the project actions are designed to produce decreased erosion overall. Instream habitat structures, such as boulder weirs or flow deflectors, will produce local redistribution of sediments. These structures will produce a local redistribution of bed load, facilitating the deposition of spawning gravel in riffles, and improving scour to maintain pools for juvenile fish habitat. This local redistribution of bed load will not produce a net increase of erosion.
- d) The project will not substantially alter the existing drainage pattern of the work sites, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. The project will decrease the risk of flooding through upslope restoration activities that will return drainage to historic patterns, thereby increasing infiltration and decreasing surface runoff.
- e) The project will not create or contribute runoff water that would exceed the capacity of existing or planned storm-water drainage systems, or provide substantial additional sources of polluted runoff. Such an impact will not occur because upslope restoration activities will stabilize slopes and return drainage to historic patterns, thereby decreasing surface runoff and decreasing the silt load delivered to streams in the area of the project.
- f) The project will not substantially degrade water quality. During placement of stream habitat structures and culvert replacement, some minor turbidity may be generated. The potential for degradation of water quality will be reduced to a less than significant level through implementation of the mitigation measures presented in Appendix B, Mitigation Measures, Monitoring and Reporting Program. Some short-term minor increase in turbidity may also occur as the streambed around instream structures adjusts during the first high stream flow following activity completion. However, this is not expected to produce a significant increase over background turbidity. As a result, mitigation measures will ensure that any potentially significant short-term impacts to water quality are avoided or mitigated to below a level of significance.
- g) The project will not place housing within a 100-year flood hazard area as mapped on any flood hazard delineation map. No housing will be created as part of this project.
- h) The project will not place within a 100-year flood hazard area structures which would significantly impede or redirect flood flows. Culvert removal and replacement to be done as part of the project will remove existing impediments to flood flows. Instream habitat structures, such as boulder weirs, deflectors, and bank armor, are built to change the direction and velocity of stream flow. However, these structures are small (sized to affect conditions in the low flow channel) and will not impede flood flows.
- i) The project will not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Such an impact will be avoided because all instream structures to be created are small and will not significantly impede flood flows.

- j) The project will not expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow. Such an impact will not occur because project actions are designed to improve or stabilize conditions at the work sites. Upslope restoration actions will reduce the chance of mudflow by stabilizing disturbed areas, and restoring natural drainage patterns. Project work sites are not located in areas at risk to inundation by seiche or tsunami.

X. LAND USE AND PLANNING

- a) The project will not physically divide an established community. This impact will not occur because no culvert removal or road decommissioning is proposed in any established community.
- b) The restoration activities that comprise this project do not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. Such an impact will not occur because the project's restoration activities are designed to be compatible with local land use plans and ordinances.
- c) The project will not conflict with any applicable habitat conservation plan or natural community conservation plan. Such an impact will not occur because project actions are designed to improve aquatic habitat conditions without adversely affecting any other species or their habitats.

XI. MINERAL RESOURCES

- a) The project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. Such an impact will not occur because project actions are only designed to stabilize and restore habitat and soils within the actions area.
- b) The project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Such an impact will not occur because no mineral resource recovery sites occur at the project work sites.

XII. NOISE

- a) The project will not result in exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies. There may be a minor temporary increase in noise levels at those work sites requiring the use of heavy equipment. While such short-term increase in noise will not produce a significant increase in the noise level in the general environment, there is a potential for equipment noise to affect workers in close proximity to equipment producing noise levels ≥ 85 db, such as chainsaws or backhoes. However, such an impact will not occur because personnel operating noisy equipment will be required to wear hearing protection. As a result, mitigation measures will ensure that any potentially significant noise impacts are avoided or mitigated to below a level of significance.
- b) The project will not result in exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels. Such an impact will not occur because only minor amounts of ground-borne vibration or noise will be generated short-term at those work sites requiring the use of heavy equipment.

- c) The project will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Such an impact will not occur because most project structures are passive (i.e., contain no moving parts). The only exceptions are the proposed fish screens, which will contain moving brushes to clean the screens. These brushes are driven by slow speed (10-15 RPM) water wheels and will not substantially increase ambient noise levels where installed.
- d) The project will not result in a substantial temporary, or periodic, increase in ambient noise levels in the project vicinity above levels existing without the project. Such an impact will not occur because only minor amounts of noise will be generated temporarily at those work sites requiring the use of heavy equipment. At those sites near nesting or breeding sites for listed species, heavy equipment will only be used outside the sensitive periods for nesting or breeding, as described in Appendix B, Mitigation Measures, Monitoring and Reporting Program. As a result, mitigation measures will ensure that any potentially significant noise impacts are avoided or mitigated to below a level of significance.
- e) None of the project work sites are located within two miles of a public airport or public use airport.
- f) None of the project work sites are located within the vicinity of a private airstrip.

XIII. POPULATION AND HOUSING

- a) The project will not induce substantial population growth in an area, either directly or indirectly. Such an impact will not occur because the project will not construct any new homes, businesses, roads, or other human infrastructure.
- b) The project will not displace any existing housing and will not necessitate the construction of replacement housing elsewhere.
- c) The project will not displace any people and will not necessitate the construction of replacement housing elsewhere.

XIV. PUBLIC SERVICES

- a) The project will not have any significant environmental impacts associated with new or physically altered governmental facilities. Issuance of restoration grants to government agencies could, in some cases, lead to minor increases in staffing to complete projects. Such increases will not lead to any significant adverse impacts, because the increases are short term, and no significant construction will be required to accommodate additional staff.

XV. RECREATION

- a) The project would not increase the use of existing neighborhood and regional parks, or other recreational facilities. Such an impact will not occur because the project actions will restore anadromous fish habitat and do not significantly alter human use or facilities at existing parks or recreational facilities. Overall, the Restoration Program is expected to increase recreation opportunities by assisting in restoring populations of anadromous fish.
- b) The project does not include recreational facilities and does not require the construction or expansion of recreational facilities.

XVI. TRANSPORTATION/TRAFFIC

- a) The project will not conflict with any applicable plans, ordinances or policies that establish measures of effectiveness for the performance of the circulation systems. Such a conflict will not occur because the project will result in only minor temporary increases in traffic to primarily wild land sites during implementation of habitat improvement measures.
- b) The project will not conflict, either individually or cumulatively, with any applicable congestion program established by the county congestion management agency for designated roads or highways. Such an impact will not occur because the habitat improvement actions will not generate a significant amount of traffic at each individual work site and because the work sites are dispersed throughout the coastal counties.
- c) The project will not result in any change in air traffic patterns.
- d) The project will not alter roads in any way that will substantially increase hazards to transportation. The proposed project will reduce hazards to transportation, because the proposed project will correct and reduce landslide and erosion damage on the selected rural roads.
- e) The project will not result in inadequate emergency access. Such an impact will not occur because during replacement of small road crossings, an alternate route for traffic will be provided around the construction.
- f) The project will not significantly affect parking capacity or demand for parking.
- g) The project will not conflict with adopted policies, plans, or programs supporting alternative transportation.

XVII. UTILITIES AND SERVICE SYSTEMS

- a) The project will not produce wastewater.
- b) The project will not require, or result in the construction of, new water or wastewater treatment facilities or expansion of existing facilities. Such an impact will not occur because the project will not produce wastewater.
- c) The project will not cause significant adverse environmental effects associated with the construction of new storm water drainage facilities or expansion of existing facilities.
- d) The project will have sufficient water supplies available to serve the project from existing entitlements and resources.
- e) The project will not produce wastewater.
- f) The project will not generate solid waste requiring disposal in a landfill.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

- a) The project does have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. However, the potential is reduced to less than significant by implementing the mitigation measures in Appendix B: Mitigation Measures, Monitoring and Reporting Program. The project shall be implemented in a manner that will avoid short-term adverse impacts to rare plants and animals, and

cultural resources during construction. The project activities are designed to improve and restore stream habitat; thereby providing long-term benefits to both anadromous salmonids and other fish and wildlife.

- b) The project does not have adverse impacts that are individually limited, but cumulatively considerable. Cumulative adverse impacts will not occur because potential adverse impacts of the project are only minor and temporary in nature. It is the goal of the project that the beneficial effects of habitat enhancement actions will be cumulative over time and contribute to the recovery of listed anadromous salmonids.
- c) The project does not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. The habitat enhancement measures implemented as part of this project will contribute to improved water quality, increased soil stability, and the recovery of listed salmonids, all of which will be beneficial to human beings.