
CHAPTER 4: ASSESSMENT OF PROTECTIVE EFFORTS

"Conservation is a state of harmony between men and land."

Aldo Leopold

FEDERAL REGISTER ASSESSMENT OF PROTECTIVE EFFORTS

Two types of assessments are conducted to assess protective efforts in context to listing and recovery:

1. Protective efforts, as evaluated pursuant to the "Policy for Evaluation of Conservation Efforts When Making Listing Decisions" (68 FR 15100), and
2. Conservation Assessment pursuant to the Interim Recovery Planning Guidance (NMFS 2006a).

Protective efforts assessed during listing decisions are required under section 4(b)(1)(A) of the ESA. Federal agencies are required to review the status of the species using the best scientific and commercial data available after taking into account efforts being made to protect the species. The efficacy of existing efforts must consider the following: (1) substantive, protective and conservation elements; (2) degree of certainty efforts will be implemented; and (3) presence of monitoring provisions that determine effectiveness and permit adaptive management.

All pertinent *Federal Register* notices, including both proposed and final listing determinations for the CCC coho salmon were reviewed (Table 5). Documented protective efforts (e.g., conservation efforts) at the time of listing were only those specifically described in the listing determination notices for which the notice pertained, or those incorporated by reference. Assessed and documented are the major conservation efforts that were ongoing at the time of CCC coho salmon listing, including efforts which are currently inactive or still pending implementation and a detailed discussion of efforts since listing (see appendices). An assessment was additionally conducted to define current status of the protective effort, or conservation action, through consultation with staff/personnel from NMFS, DFG, and other entities. All data were catalogued to facilitate tracking of conservation actions identified at the time of listing those changed since listing and newly identified actions (see appendices). Each table within the Appendix records the date and page number of publication in the *Federal Register*, and describes each as it was presented in the Federal Register at the time of publication. A discussion of the current status, current benefits to CCC coho salmon, effectiveness, and duration of each conservation effort is also included below.

Conservation Efforts at, and Since, the Listing of CCC Coho Salmon

Conservation efforts for CCC coho salmon have been ongoing for many years. These efforts are being conducted by individuals, private organizations, state and local agencies, or Federal agencies and others. While much has been accomplished through the California Department of Fish and Game Fisheries Restoration Grant Program (FRGP) and other programs, a comprehensive analysis of the overall benefit and effectiveness has not been conducted since listing. Protective efforts were evaluated, pursuant to the “Policy for Evaluation of Conservation Efforts When Making Listing Decisions” (68 FR 15100), across the geographic area of the CCC coho salmon ESU when the ESU was listed as threatened in 1996 (61 FR 56138) and most recently when the ESU was relisted to endangered in 2006 (69 FR 33116; 70 FR 37160 2005). Efforts ranging in scope from regional conservation strategies to local watershed initiatives were evaluated. Such efforts include completion of the California Recovery Strategy for Coho Salmon and subsequent State listing of coho salmon, the California Fisheries Restoration Grant Program, Warm Springs Hatchery and Scott Creek Hatchery Captive Broodstock Programs, Fish Friendly Farming Program, county programs such as the FishNet 4C, development of Habitat Conservation Plans and others.

While these and other efforts are underway, and collectively enhance the potential that populations and habitats of the CCC coho salmon ESU can be protected, it was determined that they did not provide sufficient certainty of implementation and effectiveness to substantially ameliorate the level of assessed extinction risk for CCC coho salmon. The fact that CCC coho salmon continue to decline is an indication conservation efforts may need refocusing and restructuring to align with the highest priorities to, first, prevent this species’ extinction and, second, provide for its long-term survival.

A discussion of the current status, current benefits to CCC coho salmon, effectiveness, and duration of each conservation effort is also included below. Conservation efforts are organized as Federal, State, local or non-government efforts according to the primary entity leading the effort. Although salmon and steelhead conservation efforts have become more effective and widespread since listing, when considered cumulatively, the following described conservation efforts do not sufficiently address the threats to warrant consideration of downlisting or de-listing of CCC coho salmon at this time.

Federal Efforts at Time of Listing

NMFS identified several potential conservation efforts for CCC coho salmon in the proposed threatened listing in 1995 (60 FR 38011). These efforts included: regulations to ensure fish passage at dams, improved water diversion monitoring and water rights enforcement, and water diversion screening. NMFS also determined inter-agency and public watershed partnerships could play an important role in coho salmon conservation by: encouraging and informing the public on best land management practices; providing guidance and training to other agency personnel; and involving multiple stakeholders in the coho salmon recovery planning process.

The FRN analysis during the relisting of CCC coho salmon from threatened to endangered outlined the following in regarding to federal efforts:

- With the ESA listing of CCC coho salmon in 1996, Federal agencies were required to receive technical assistance from and/or initiate section 7 consultations with NMFS, which enabled

NMFS to evaluate the effects of Federal actions on ESA-listed salmonids. In general, section 7 consultations allowed NMFS to promote practices either minimizing adverse effects to salmon and steelhead or improving salmon and steelhead populations and/or habitat. The NMFS section 7 consultation for the USACE and Sonoma County Water Agency Reservoir Operations project (Russian River) was specifically noted (69 FR 33102).

- ❑ Additional Federal conservation efforts at the time of listing of CCC coho salmon included: the Federal CWA, ocean fishing regulations, Federal land management plans, ESA section 7 consultations, ESA section 10 incidental take permits/HCPs, ESA section 4(d) protective regulations and critical habitat designations, Federal funded grant programs for restoration activities, a procedural review process for authorizing salmon and steelhead protective activities on private lands, and the NMFS and DFG Coastal Salmonid Monitoring Program.
- ❑ The Federal CWA established a framework to identify and address water quality impairments in streams throughout the CCC coho salmon ESU.
- ❑ The implementation of more stringent ocean fishing regulations was intended to reduce the harvest of salmon and steelhead and reduce the adverse impacts of ocean fishing practices on salmon and steelhead populations. However, the closure or severe curtailment of ocean and river fishery harvest of coho salmon was noted to have no noticeable benefits to CCC coho salmon (60 FR 38011). Later, the retention of coho salmon in Federal waters was prohibited.
- ❑ NMFS, often in coordination with the USFWS, developed and implemented section 10 incidental take permits/HCPs which contributed to the conservation of ESA-listed salmonids and restored aquatic habitat on private land. In particular, the development and implementation of HCPs were expected to reduce harm and take of CCC coho salmon, address the problems contributing to the decline of CCC coho salmon, and increase the distribution of coho salmon throughout the ESU. The HCP for Mendocino Redwood Company was specifically noted to improve CCC coho salmon populations and habitat.
- ❑ NMFS issued protective regulations for CCC coho salmon under section 4(d) of the ESA on July 10, 2000 (65 FR 42422) and January 9, 2002 (67 FR 1116), to halt the decline and begin the recovery of CCC coho salmon. NMFS simplified and re-issued ESA section 4(d) protective regulations for CCC coho salmon and multiple ESUs on June 28, 2005 (70 FR 37160), in an effort to improve regulatory compliance and protect numerous ESA-listed salmon and steelhead ESUs. NMFS designated critical habitat for CCC coho salmon on May 5, 1999 (64 FR 24049), and again on September 2, 2005 (70 FR 52488).
- ❑ The NMFS Pacific Coastal Salmon Recovery Fund has provided grant funding to the state of California's FRGP for salmon and steelhead habitat restoration, watershed planning, enhancement, research and monitoring, and outreach and education efforts.

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- ❑ NMFS' gravel removal guidelines evaluated the impacts of gravel mining projects to ESA-listed salmonids in Mendocino and Sonoma counties.

 - ❑ The NMFS/Natural Resource Conservation Service (NRCS) Memorandum of Understanding (MOU) was a joint effort between NMFS, NRCS, USFWS, USEPA, the State of California, and numerous local watershed resource conservation districts to provide technical guidance to private landowners on land-use activities that had already undergone section 7 consultation with NMFS or USFWS. The program would facilitate the voluntary implementation of land-use activities that would conserve and protect CCC coho salmon and their habitat. The program would ultimately address the problems contributing to the decline of CCC coho salmon.

 - ❑ The NMFS and DFG Coastal Salmonid Monitoring Program would monitor the abundance and distribution of CCC coho salmon ESU-wide, and would improve long-term population viability assessments. Improved research and monitoring would aid in the response of NMFS and other agencies to the conservation needs of CCC coho salmon.

 - ❑ NMFS identified several potential conservation efforts for CCC coho salmon at the proposed threatened listing in 1995 (60 FR 38011). These efforts included: regulations to ensure fish passage at dams, improved water diversion monitoring and water rights enforcement, and water diversion screening. NMFS also determined inter-agency and public watershed partnerships could play an important role in coho salmon conservation by: encouraging and informing the public on best land management practices; providing guidance and training to other agency personnel; and involving multiple stakeholders in the coho salmon recovery planning process.

 - ❑ NMFS recognized several efforts as potential future conservation efforts for CCC coho salmon (61 FR 56138). NMFS planned to evaluate the effects of freshwater fishing regulations and hatchery activities on CCC coho salmon and develop new regulations to reduce the adverse effects of the freshwater fishery and hatcheries. NMFS planned to evaluate the effect/success of the State coho salmon ESA-listing and State coho salmon recovery plan. The future development and implementation of a Federal CCC coho salmon recovery plan was also detailed as a potential future conservation effort.

Federal Efforts Since Listing

Federal conservation efforts since the listing of CCC coho salmon include: the Federal CWA; ocean fishing regulations; Federal land management plans (National Park general management); ESA section 7 consultations; ESA section 10 incidental take permits/habitat conservation plans; ESA Section 4(d) protective regulations and critical habitat designations; NMFS CCC coho salmon recovery and conservation strategy; Federal funded grant programs for restoration activities; fish passage guidelines; water diversion screening and monitoring; a procedural review process for authorizing salmon and steelhead protective activities on private lands (NMFS/NRCS MOU); and the NMFS and DFG Coastal Salmonid Monitoring Program.

The current status of specific efforts mentioned in the FRNs:

- ❑ The NMFS section 7 consultation for the USACE and Sonoma County Water Agency Reservoir Operations project (Russian River) specifically noted in 69 FR 33102 has been finalized;
- ❑ The HCP for Mendocino Redwoods Company was specifically noted to improve CCC coho salmon populations and habitat. The HCP is currently in draft. The finalization of this HCP and the development of either a statewide forestry HCP or other forestry landowner HCPs is a very high priority for the recovery of the CCC coho salmon. Fifteen of the 28 key recovery watersheds are located in areas of large tracts of forestlands owned either by private small landowners or large timber companies;
- ❑ Projects within the CCC coho salmon ESU under the Pacific Coastal Salmon Recovery Fund compete against funding for other salmonid projects within all other coastal ESUs in the state. The plight of CCC coho salmon within California, and the directives from Congress regarding allocation of funds, would suggest consideration of prioritizing funds towards preventing the extinction of CCC coho salmon;
- ❑ NMFS' gravel removal guidelines continue to be a utilized and useful tool when evaluating and reducing the impacts of gravel mining projects to ESA-listed salmonids in Mendocino and Sonoma counties;
- ❑ The NMFS/NRCS MOU was not completed;
- ❑ The NMFS and DFG Coastal Salmonid Monitoring Program is one of the highest priorities designated in this recovery plan. While the draft plan is nearly finalized, the "Program" itself has yet to be funded or implemented on a programmatic level. Various monitoring efforts are occurring throughout California in many of the key watersheds identified in the final draft monitoring plan, by various public and private entities and funding sources (non-dedicated grants and private sources). However, the efforts are not coordinated on a programmatic level to where statewide or even ESU level abundance/trends can be evaluated. The TRT outlined in their report, "It is imperative that California, which is well behind other states in the Pacific Northwest, begin conducting monitoring at spatial scales relevant to recovery planning if we are to have any hope of accurately evaluating status and progress toward recovery" (Spence *et al.* 2008);
- ❑ Little has developed in regards to NMFS participation in inter-agency and public watershed partnerships due to staff limitations and section 7 workloads. For CCC coho salmon recovery, it will be imperative to begin developing and supporting these partnerships. With a few exceptions (*e.g.*, Lagunitas Creek and Russian River), the key CCC coho salmon watersheds occur on private lands and in areas not triggered by section 7 consultations. Use of section 7 towards recovery of CCC coho salmon will have limited benefit except where specific to federal lands, specific actions requiring federal consultation, providing streamlining of restoration projects, or voluntary support for high priority conservation actions; and
- ❑ NMFS evaluations on the effects of freshwater fishing regulations and hatchery activities on CCC coho salmon and the development of new regulations to reduce the adverse effects of the freshwater fishery and hatcheries are ongoing.

State Efforts at Time of Listing

State conservation efforts at the time of listing of CCC coho salmon include: freshwater fishing regulations; the California Forest Practices Act (CFPA); State funded restoration grant programs; and the operation and management of salmon and steelhead fish hatcheries and/or rearing facilities. Also, coho salmon were subject to State conservation efforts and additional initiatives as a listed species under the California Endangered Species Act (CESA). The California Natural Communities Conservation Planning Program and the Coastal Salmon Initiative were examples of conservation efforts by the State of California in response to the species' listing under CESA.

California State freshwater fishing regulations were acknowledged at the time of CCC coho salmon listing. In particular, the closure or severe curtailment of ocean and river fishery harvest of coho salmon was noted to have no noticeable benefits to CCC coho salmon (60 FR 38011).

The CFPA provided a set of guidelines to establish habitat protection zones and reduce the degradation of aquatic habitat associated with timber harvest operations on non-federal land. In the original threatened listing determination for CCC coho salmon (61 FR 56138), NMFS acknowledged several cooperative efforts with CalFire and/or DFG to: further reduce take of coho salmon during logging operations; increase protective measures for CCC coho salmon and habitat, especially south of San Francisco; and generally improve implementation of the CFPA.

The California FRGP has provided funding to numerous organizations to perform salmonid habitat restoration projects throughout the range of CCC coho salmon.

The operation and management of coho salmon hatcheries and rearing facilities was frequently acknowledged throughout the listing history of CCC coho salmon. Several hatcheries, including private and State run facilities, were recognized as increasing coho salmon population abundance, distribution, spatial structure, and genetic diversity in the watersheds in which they operated. DFG implemented improved hatchery management regulations to ensure the genetic integrity of hatchery produced fish and minimize interaction and adverse effects to wild salmonid populations. In general, hatchery management regulations were designed to ensure that artificial propagation was used for the conservation and recovery of natural, native populations. Several hatchery management regulations include: the incorporation of wild coho salmon into hatchery broodstock, the discontinuation of out-of-ESU artificial propagation and stocking practices, and treatment protocols to control disease outbreaks (*i.e.*, BKD).

Coho salmon were first listed under the CESA in 1995 south of San Francisco only, however, coho salmon throughout the CCC ESU were later included in the CESA listing in 2005. As a listed species under the CESA, CCC coho salmon were the target of numerous State initiated conservation efforts intended to address the problems contributing to the decline of CCC coho salmon. CDF and DFG implemented improved regulations to protect CCC coho salmon under the CFPA. In response to the listing of CCC coho salmon under the CESA, the California Fish and Game Commission initiated recovery planning to identify and address the recovery needs of coho salmon populations and habitat. The recovery plan would provide recommendations addressing stream flow, water rights, fish passage, water temperature,

pool habitat structure, riparian habitat, watershed planning, and gravel mining activities. Hatchery programs and the California FRGP would also be integrated into CCC coho salmon recovery planning. In addition, the California coho salmon recovery implementation plan would provide additional guidance and prioritization of recovery actions.

The California Resources Agency initiated the California Natural Communities Conservation Planning Program and the Coastal Salmon Initiative. Both programs utilized input from the public to develop voluntary coho salmon conservation programs/plans which would address the problems contributing to the decline of CCC coho salmon Statewide. The California Natural Communities Conservation Planning Program was intended to form the basis of protective regulations by NMFS under section 4(d) of the ESA.

State Efforts Since Listing

Significant State conservation efforts since the listing of CCC coho salmon include: California ESA listings and recovery planning; freshwater fishing regulations; the CFPA; water-use regulations; various State funded management and conservation programs which conserve or rehabilitate salmonid habitat through watershed planning, improved regulatory oversight, land acquisition, and habitat restoration or enhancement activities; numerous State funded restoration grant programs; State land-use management plans; the operation and management of salmon and steelhead fish hatcheries or rearing facilities; California Rangeland Water Quality Management Program; California Natural Communities Conservation Planning Program; and the California Department of Transportation's (CalTrans) Environmental Enhancement and Mitigation Program.

- ❑ California Recovery Strategy for Coho Salmon: The State recovery strategy does provide recommendations to address stream flow, water rights, fish passage, water temperature, pool habitat structure, riparian habitat, watershed planning, and gravel mining activities. Recovery priorities have been included into the operations of both conservation hatchery programs (Warm Springs and Kingfisher Flat in Scott Creek) and the DFG FRGP, though currently the plan has not been evaluated for its effectiveness due to lack of funding for State monitoring programs.
- ❑ California State freshwater fishing regulations: Considerations should be made to revise the current fishing regulations to minimize the interception of CCC coho salmon during sport fishing for steelhead and to provide clarity regarding which streams do not have hatchery steelhead or hatchery trout.
- ❑ Forestry: NMFS has participated in Board of Forestry meetings since 1998 and has encouraged the State of California to adopt State Forest Practice Rules protective of salmonids and pursue development of a section 10(a)(1)(B) permit (e.g., HPC) that authorizes incidental take of listed salmonids under the ESA modeled from the Washington State Forest Practice HCP (including their monitoring and adaptive management process). Currently the Rules allow operations to occur in salmonid watersheds that are less protective than standards under west coast forestry HCP's that authorize incidental take. NMFS is considering re-initiating reviews of timber harvest plans and will continue encouragement of either no-take guidelines (similar for the Northern Spotted Owl) or a Statewide HCP. Nearly 85 percent of remaining CCC coho salmon populations co-occur on forestlands and the Board of Forestry has an opportunity to make a significant difference in the future of California's salmon and steelhead, especially CCC coho salmon.
- ❑ Many projects have been implemented within the CCC coho salmon ESU under the DFG FRGP, and DFG conducts implementation and effectiveness monitoring to track the success and benefits of these

efforts. However, these projects compete against funding for other salmonid projects within all other coastal ESUs in the state. The plight of CCC coho salmon within the CCC coho ESU, and the directives from Congress regarding allocation of funds, would suggest that DFG consider the prioritization of funds towards preventing the extinction of CCC coho salmon.

- ❑ Hatchery Practices: Conservation hatchery practices that have been put in place are anticipated to be beneficial to the species. Monitoring is currently being conducted on these populations, though the numbers of fish released are only recently approaching the level at which significant adult returns could be expected. Utilization of excess broodstock within the Warm Springs Captive Broodstock Program has resulted in additional recovery efforts in watersheds where coho were extirpated within the ESU. Specifically adult releases to Walker and Salmon Creeks have been somewhat successful and will continue. These activities should continue, with appropriate monitoring. Additional funding is necessary to evaluate the effectiveness of the Kingfisher Flat Broodstock program.
- ❑ The California Natural Communities Conservation Planning Program was intended to form the basis of protective regulations by NMFS under section 4(d) of the ESA, which is no longer available due to the CCC coho salmon listing of endangered. This program was never realized.

Local Government Efforts At Listing

Local Government efforts at the time of listing of CCC coho salmon include: Mendocino County's efforts to evaluate the impacts to ESA-listed salmonids from gravel mining projects, Fishnet4C's efforts to provide guidance to public works departments to enhance or protect salmonid habitat and Sonoma County Water Agency efforts to assist local agriculture and conservation groups to use Federal Grants for restoration planning.

Local Government Efforts Since Listing

Local government agencies, particularly at the county level, have implemented conservation efforts since the listing of CCC coho salmon. The primary local government conservation efforts targeting CCC coho salmon since the species' listing are the Five County Salmonid Conservation Program, the FishNet 4C program, and cooperative efforts by Santa Cruz County to address forestry practices.

- ❑ FishNet 4C: The FishNet 4C continues to provide coordination and technical guidance for public works departments in Mendocino, Sonoma, Marin, San Mateo, and Santa Cruz counties. A Road Maintenance Manual was developed, and associated training provided for county roads and maintenance staff (and others). The group meets regularly with County and State/Federal fisheries agency staff to discuss progress towards changing County policy to be in line with ESA and Recovery guidelines, and the implementation of fish-friendly projects. More recently the American Fisheries Society distributed a letter to Marin County that outlined recommended improvements to county practices due to the status of CCC coho salmon and their importance in Marin. FishNet 4C provides the forum needed for NMFS and DFG to engage the counties regarding recovery priorities. While a 4(d) Exemption is no longer available, the opportunity to explore other mechanisms for no-take or take authorization for some County activities (through programmatic permits) should be explored.

Non-Governmental Efforts At Listing

Non-Governmental Efforts at the time of listing of CCC coho included activities from the following groups: Coastal Watershed Council, Committee for Green Foothills in San Mateo County, Friends of

Corte Madera creek, Garcia River Watershed Advisory Group, Hawthorne Campbell Timberlands, Mendocino Redwood Company, Mill Valley Streamkeepers, Monterey Salmon and Trout, Noyo Watershed Alliance, Occidental Arts and Ecology Center, Peninsula Open Space District, Pescadero Conservation Alliance, Rangeland Management Advisory Committee, Redwood Creek Landowners Association, Santa Cruz County unspecified watershed groups, Sonoma Ecology Center, Sotoyome Resource Conservation District, Ten Mile Forest Landowners Association, Trout Unlimited and various unspecified local watershed councils and groups. Efforts by these various groups were identified as contributing to the improvement in CCC coho salmon habitats and population abundance.

Non-Governmental Efforts Since Listing

In addition to government agencies, the conservation efforts of numerous local non-governmental groups including RCDs, private conservation entities/watershed councils, timber companies, and water agencies have persisted since the listing of CCC coho salmon. Non-governmental organizations have also been highly effective at utilizing various Federal, State, local, and private funding sources to perform voluntary and proactive fisheries habitat restoration projects and other efforts.

- The effectiveness of conservation efforts of numerous local non-governmental organizations, while likely benefiting CCC coho salmon, is unknown in terms of increasing coho populations. While DFG conducts project monitoring associated with all PCSRF funded projects, there is no larger oversight body that conducts implementation and effectiveness monitoring for all local, state and federal funding sources to determine whether these actions are successful, or are benefiting the populations of CCC coho salmon as a whole – this is partially related to the lack of a statewide coordinated trend and abundance monitoring program.
- The Fish Friendly Farming Program provides guidance to grape growers to manage agricultural land to decrease soil erosion and sediment delivery to streams and improve riparian conditions. This effort has resulted in needed education, outreach and improvements in agricultural practices. While the program addresses water infrastructure concerns (passage barriers, screening criteria, *etc.*) it has not addressed streamflow impacts to salmon from diversions on participating ownerships and does not necessarily provide standards that achieve a “no take” standard.
- The California Rangeland Management Plan has not been evaluated.

Numerous Federal, State and local conservation programs that have been ongoing include:

- Development and implementation of EPA Total Maximum Daily Load Programs;
- CalFish and California Fish Passage Forum; and
- Salmonid Coalition of the Russian River.

Priority Conservation Efforts

While the Federal, State, County and non-governmental efforts are underway, and collectively enhance the potential that populations and habitats of the CCC coho salmon ESU can be protected, they do not provide sufficient certainty of implementation and effectiveness to substantially ameliorate the level of assessed extinction risk for CCC coho salmon. The fact that CCC coho salmon continue to decline is an indication that conservation efforts may need refocusing and restructuring to align with the highest priorities to, first, prevent this species’ extinction and, second, provide for its long-term survival.

Given all of the ongoing conservation efforts, the following efforts are considered the highest priority for future continuation:

- ❑ Russian River and Scott Creek Captive Broodstock Programs: a permanent source of funding is needed for the Scott Creek Program; monitoring for both programs should continue.
- ❑ Pacific Coastal Salmon Recovery Fund provides funds to the State for use in their Fisheries Restoration Grant Program: Geographically, funding for projects has had a larger than anticipated focus on restoration actions for coho salmon in the South Oregon Northern California (SONCC) ESU (e.g. efforts on the Scott and Shasta rivers). Funding for projects specifically directed for the benefit of CCC ESU coho recovery has been diluted by the SONCC focus and competing priorities for other salmonid species. Where funding for restoration projects does occur within the CCC ESU, many projects, particularly those south of San Francisco Bay are directed at steelhead restoration with secondary consideration to coho salmon. Funding should be appropriately allocated to prevent the extinction of CCC coho salmon; and
- ❑ California Coastal Salmonid Monitoring Program: The combined DFG and NMFS efforts towards a completion of a final plan should continue. Funding and implementation of a coordinated Program are the required next steps to enable ESU and statewide tracking of population trends for listed species and tracking of efforts towards recovery.

Conservation efforts of very high priority that were anticipated at the time of listing for implementation but currently remain unrealized, or not fully realized, include:

- ❑ Mendocino Redwood Company HCP: The company owns portions of six high priority recovery watersheds in Mendocino and Sonoma counties; watersheds currently supporting extant Coho populations. Finalization of the HCP is strongly recommended and is expected to have significant benefits to preventing the extinction and facilitating recovery of CCC coho salmon.
- ❑ Other HCPs: HCPs in development at time of listing (i.e., Jackson Demonstration State Forest and Georgia-Pacific Corporation now Hawthorne Timberlands Inc. managed by Campbell Timberland Management) have been discontinued and are not anticipated to recommence in the foreseeable future. These should be investigated for possible continuation and to focus on securing these forestlands for the long term due to the high number of watersheds where current populations of CCC coho salmon persist.
- ❑ The California Recovery Strategy for Coho Salmon has been finalized and was largely relied upon in the development of this recovery plan. The priorities described in the Strategy, and this recovery plan should guide implementation of the PCSRF/FRGP funds as discussed above.