

**Memorandum of Understanding**  
**A Coordinated Approach to Restoring Fish Passage for Anadromous**  
**Salmonids in Coastal Watersheds through Creation of Fish Passage Forum**

Entered into between:

California Resources Agency  
California Department of Fish and Game  
California Department of Transportation  
California Department of Water Resources  
California State Coastal Conservancy  
National Marine Fisheries Service  
U.S. Forest Service  
California Trout  
Southern California Steelhead Coalition  
Five County Salmon Conservation Group  
FishNet 4C  
Friends of the River  
Pacific States Marine Fisheries Commission

**I. Problem Statement**

Man-made barriers to salmonid migration include road /stream crossings, irrigation diversions and dams. Road /stream crossings are extremely numerous and often cross multiple road ownerships within a watershed. Passage impediments and delays in migration affect adult and juvenile fish, preventing the use of available habitat, as well as inflicting injury or death of fish attempting to migrate upstream. A comprehensive California fish passage program is vital towards identifying, prioritizing, and treating migration barriers so that unimpeded migration of California's salmonid populations is achieved. Through coordinating resources and authorities, and creating the Fish Passage Forum, a comprehensive program will be achieved.

**II. Background:**

In November, 1999, the California Resources Agency convened a group of interested state, local and federal agencies, fisheries conservation groups, researchers, restoration contractors, and others to discuss ways to restore and recover anadromous salmonid populations by improving fish passage at man-made barriers (hereafter "group participants"). This effort was part of the Resources Agency's effort to implement an eight point California Coastal Salmon and Watersheds Program, which included an objective to coordinate fish passage activities.

Man-made barriers to fish passage include road/stream intersections, pipeline or other infrastructure crossings, erosion control/flood control structures (rip-rap, concrete channels, etc), and dams which block or delay migration. These barriers impact both adult and juvenile fish by preventing full use of available habitat or altering habitat and hydraulic conditions.

Group participants discussed the need for improved efforts to identify barriers, evaluate and prioritize restoration opportunities, and implement projects in a timely fashion. They identified administrative, financial and technical impediments to addressing these issues, including information gaps, lack of watershed-level assessment and planning, and poorly coordinated project review and permitting processes. Group participants worked together to develop short-term solutions for these types of problems for several known high priority fish passage projects. They also established subgroups for coordinating activities related to: fish passage inventory and assessment protocols, data format and access protocols, information and literature collection, training, and public education and outreach.

As a result of these activities and discussions, it became very clear that there is a critical need for improving coordination of existing agency programs and private sector activities across jurisdictions to improve the timeliness and cost-effectiveness of fish passage restoration efforts.

### **III. Purpose**

This MOU is intended to contribute to the protection and recovery of listed anadromous salmonid species in California through the creation of the Fish Passage Forum, which will promote the collaboration among public and private sectors on fish passage restoration programs and activities.

### **IV. Goals**

This MOU supports voluntary, cooperative efforts for pursuing the following goals:

1. Protect, restore and maintain watershed, stream, and estuary conditions for passage by anadromous fish.
2. Identify passage barriers, opportunities to remedy them and priorities for implementing restoration projects.
3. Improve the State's ability to implement fish passage restoration projects by coordinating agency and private sector efforts.
4. Secure adequate funding for fish passage restoration.
5. Expedite implementation of on-the-ground projects by coordinating and, where possible, streamlining agency permitting processes, while ensuring that restoration programs comply with the State and/or Federal Endangered

Species Act requirements for protecting listed species, and any other applicable state or federal laws.

6. Educate and increase public awareness of fish passage issues to develop support for solving problems and preventing new ones.
7. Ensure that any new structures created are properly designed to ensure fish passage.

## **V. Objectives**

In order to achieve the goals listed above, this MOU will facilitate the collaboration and coordination among state, federal and local agencies, researchers, restoration contractors, landowners and other interested stakeholders through the Fish Passage Forum. The following objectives will be used by the Fish Passage Forum to achieve the goals of the MOU. These objectives may be modified by participants of the forum through the annual work planning process, if needed.

### ***1. Develop inventory, assessment, and prioritization protocols***

- Develop consistent inventory and evaluation protocols for assessing passage at road/stream intersections and other barriers.
- Develop and communicate consistent protocols for prioritizing fish passage restoration at barriers.
- Coordinate processes to prioritize fish passage restoration opportunities as possible, among agencies.
- Communicate fish restoration activities to other agencies, landowners, watershed groups and others within each basin.

### ***2. Train field staff to use assessment and design protocols***

- Implement workshops to train local agency field crews or other interested groups to properly conduct fish passage evaluations at road/stream intersections or other kinds of barriers.
- Train local, state and federal agency staffs in engineering criteria for fish passage design.

### ***3. Coordinate assessment and prioritization across boundaries***

- Conduct comprehensive inventories of barriers across road ownerships, including stream crossings, dams and other structures.
- Prioritize fish passage restoration opportunities and projects based on potential habitat improvement and fish population response, cost, and feasibility.

### ***4. Develop common databases of necessary information***

- Develop a system for compiling and maintaining a GIS database of fish passage barriers data that is compatible with and can link to other GIS-based information about salmonid occurrence, salmonid populations, and other restoration project databases.

- Develop a database of cost information for repair and replacement activities.

**5. Develop coordinated permitting processes for fish passage improvement projects**

- Develop and promote efforts to streamline environmental permitting for fish passage improvement projects.
- Increase availability of regional permits.
- Promote interagency consultations, Endangered Species Act 4(d), or "take" rules, and other mechanisms for programs, manuals, etc. that can be used to expedite review and implementation of individual projects.
- Facilitate joint agency design and review of projects to expedite permitting.
- Secure adequate staffing for permit review programs.

**6. Develop strategies and coordinate funding mechanisms to remedy barriers.**

- Design, develop and provide necessary environmental documentation for fish passage projects by working with state, federal and local agencies, the private sector and other parties.
- Secure additional engineering design support to fishery agencies.
- Through establishing regional interagency teams, as appropriate, identify, fund and implement priority projects as soon as possible.

**7. Develop guidelines for replacement of existing structures and construction of new ones that do not create fish passage problems.**

- Write and issue guidelines that can be used by all parties and are based on sound science and can realistically be implemented.

**8. Monitor and evaluate fish passage restoration effectiveness to ensure accountability.**

- Establish mechanisms to monitor and ensure that projects are appropriately designed and implemented.
- Establish mechanisms or programs to evaluate changes in habitat use that result from fish passage improvement projects.
- Establish ways to estimate or quantify population increases that result from fish passage projects and to predict increases from proposed projects.

**VI. Management**

The Fish Passage Forum will use the following management procedures to implement the above objectives:

1. **Develop annual work plans** containing assignments and timelines for the objectives and fish passage improvement needs identified by the Forum.

2. ***Use existing sub-groups, or establish new ones as needed***, to report back to the Fish Passage Forum on their progress, and to identify additional needs and opportunities.
3. ***Establish a Management Team, as needed***, to ensure communication among signatories and other group participants on fish passage issues, to increase involvement of stakeholders from coastal watersheds with anadromous fisheries, and to monitor progress of the Fish Passage Forum against objectives.
4. ***Develop a process for measuring effectiveness*** of coordinated efforts to contribute to listed fish recovery.
5. ***Develop a mechanism for reporting annual progress*** and effectiveness to agencies, Legislature, Congressional representatives and the public. These reports should educate the public, promote fish passage restoration, and publicize successful projects.

## **VII. Support of Principal Signatory Agencies**

For the purposes of this MOU, principal signatory agencies are defined as those participating state or federal agencies which have direct responsibilities for the protection or management of anadromous fisheries or fish habitat, or who have established fish passage restoration program elements. The principal signatory agencies will participate in the Fish Passage Forum to implement the actions described above and will undertake projects consistent with the above objectives. They will participate in the Fish Passage Forum to prepare and implement annual work plans. As part of the ongoing cooperative effort to coordinate fish passage restoration that began before the development of this MOU, the signatory agencies and entities will undertake the following activities that are consistent with MOU goals and objectives and are within their statutory mandates and authorities, budgets, funding, and staffing constraints.

### **1. Resources Agency**

- A. The Resources Agency will develop policies and programs for improving the health and productivity of California's watersheds and the recovery of salmonid species that will support fish passage restoration goals. This includes coordinating activities among its departments, with other state, federal and local agencies, and with watershed and other non-profit groups, landowners and the public to encourage cooperative restoration efforts.
- B. The Resources Agency will participate in the management team, as needed.
- C. The Resources Agency, as head of the California Biodiversity Council, will work with the Watershed Working Group to implement Best Funding

Recommendations to coordinate and streamline grant and assistance programs, and improve accountability and tracking for fish passage and other types of watershed restoration projects.

- D. The Resources Agency will continue to explore options for addressing concerns that may discourage landowners or local agencies from undertaking fish passage or other restoration activities.
- E. The Agency will seek adequate funding and staffing to implement a comprehensive, effective program.
- F. The Agency will ensure that new structures permitted by Agency departments comply with all state and federal laws.

2. California Department of Fish and Game (DFG)

- A. As the State Trustee Agency for the fisheries resource, the Department of Fish and Game (DFG) will serve as the principal convener and coordinator for the Fish Passage Forum.
- B. As part of its Trustee Agency role, DFG will continue to assess the health of the coastal watersheds, including identifying and mapping fish passage barriers across ownerships within a watershed in order to identify limiting factors for salmonids and to prioritize salmonid habitat restoration investments.
- C. DFG will continue their Basin Planning and Restoration Program in coastal basins.
- D. DFG will continue to review and permit, and ultimately enforce, activities under its legislative authority and codes (e.g. Streambed Alteration Agreements, CEQA, CESA, and THP's) to ensure that new impediments to fish passage are not created and fish passage improvement activities are performed in a manner consistent with the protection and restoration of the natural resources of California.
- E. In its permitting role, DFG will develop, with other signatory agencies, ways to facilitate an improved process for expediting the permitting of fish passage improvement projects.
- F. DFG will continue the funding of qualified fish passage activities through the Fisheries Restoration Grant Program, and through other programs and funds administered or provided by DFG.
- G. DFG will continue to revise, publish and distribute the California Salmonid Stream Habitat Restoration Manual. This disseminates a common pool of restoration techniques, including fish passage, both within DFG and to other agencies, landowners, watershed groups and the public.

- H. DFG will consolidate internal information concerning fish passage. As part of this effort, DFG will pursue, with other MOU signatories, joint development and management of data depicting resource and facility information needed to assess, prioritize, and monitor fish passage restoration.
- I. In cooperation with DWR and the other signatories, DFG will continue to provide technical guidance to identify sites needing fish passage remediation and to review and support fish passage projects.
- J. DFG dive team will provide snorkel and SCUBA dive inspections for activities related to the improvement of fish passage on as needed and as available basis. (All dive requests shall be coordinated through the DFG Dive Safety Officer.)
- K. As part of their various public information and education programs (e.g. the Streambed Alteration Process Training), DFG will continue to disseminate information regarding fish passage to the public. In addition, DFG will seek public input regarding fish passage improvement activities and interpret current activities for the public.
- L. DFG will periodically assess its multiple efforts in fish passage for effectiveness with the goal of improving future activities.
- M. DFG will assist in the development of a statewide Global Positioning System (GPS) database and a Geographic Information System (GIS) application that will spatially locate data depicting resource, facility, and fish passage analysis information needed to assess, prioritize, develop, and monitor fish passage restoration.

### 3. National Marine Fisheries Service (NMFS)

- A. NMFS will provide technical assistance on hydraulic engineering issues. This assistance will be limited to site evaluation, and project proposal reviews.
- B. NMFS will provide guidelines for the design and installation of structures at stream crossings.
- C. NMFS will participate in the Fish Passage Forum.
- D. NMFS will provide available information to the Geographic Information System Subgroup for fish presence and fish barriers.
- E. NMFS will coordinate with other permitting agencies to develop an improved process for expediting fish passage restoration projects.
- F. NMFS will assist in prioritizing and selecting projects for funding.

G. NMFS will participate in the Management Team.

4. California Department of Transportation (Caltrans)

- A. Caltrans will meet and coordinate its fish passage activities with other MOU signatories and agencies.
- B. Caltrans will design stream crossings on new State Highways to provide adequate fish passage in compliance with State and Federal regulations, and fish passage guidelines from NMFS and DFG.
- C. Caltrans will conduct assessments of existing State Highway culverts to determine if fish passage is blocked or impeded as funding for this program becomes available. Caltrans will perform assessments and analyses employing the inventory and evaluation protocols for assessing passage at road/stream intersections and other barriers contained in Chapter 9 of DFG's "California Salmonid Stream Habitat Restoration Manual" and using passage criteria specified within DFG's "Culvert Criteria for Fish Passage" and NMFS's "Guidelines for Salmonid Passage at Stream Crossings". The activities of Caltrans will be confined to those areas within existing Right-of-Way (ROW) or on adjacent property only when the landowners provide written permission for Caltrans to conduct such activities.
- D. Caltrans will develop a prioritized list of culvert sites for the purpose of integration to its project development process in the planning stages of transportation improvement, protection, and maintenance projects.
- E. Caltrans will assist in the development of a statewide Global Positioning System (GPS) database and a Geographic Information System (GIS) application that will spatially locate data depicting resource, facility, and fish passage analysis information needed to assess, prioritize, develop, and monitor fish passage restoration.
- F. Caltrans will pursue funding to address fish passage impediments at highway road crossings based on priorities for remediation.
- G. Caltrans will train its staff or retain expert services for proper identification, assessment, and design criteria for fish passage. Caltrans will pursue opportunities for development and execution of cross training between agencies.

5. California Department of Water Resources (DWR)

DWR activities will be carried out by the Fish Passage Improvement Program staff within the Division of Planning and Local Assistance.

- A. DWR will meet and coordinate fish passage activities with other MOU signatories and agencies.



- B. DWR will carry out specific fish passage projects as specific funding and authorization become available.
- C. DWR will work toward obtaining funding for assessments, evaluations, and specific projects.
- D. In cooperation with DFG, DWR will help to provide engineering and environmental documentation technical advice and support as appropriate and coordinate participation with other DWR resources.
- E. DWR will coordinate hydrologic and other data acquisition from DWR sources for specific projects and regional or watershed assessments.

#### 6. California State Coastal Conservancy (Conservancy)

- A. The Conservancy will meet and coordinate fish passage assessment and improvement activities with other MOU signatories and agencies.
- B. The Conservancy will conduct an assessment of barriers to fish passage in California's coastal watersheds. Upon completion of this assessment, the Conservancy will share the results of that assessment, data collected, and a final report of its findings with Forum members.
- C. The Conservancy will use the report to identify fish passage improvement projects for potential planning, design, permitting, and implementation as funding and authorization allows. The Conservancy will work closely with the Forum members to identify high priority fish passage improvement opportunities.

#### 7. U. S. Department of Agriculture, Forest Service

The Pacific Southwest Region of the USDA Forest Service (Region 5) will:

- A. Conduct an inventory of all road/stream crossings within the anadromous watersheds of the Klamath, Six Rivers, Shasta-Trinity, Mendocino, Lassen and Los Padres National Forests to determine if fish passage at any life stage is blocked or impeded.
- B. The inventory results will be entered into a standardized agency database.
- C. The road/stream crossings will be prioritized based on impacts and extent of impacts on salmonid species. Region 5 will coordinate with local, State and Federal agencies, as well as private organizations, to identify critical watersheds in which to collectively focus activities to reduce fish blockage.
- D. Region 5 will pursue funds to remediate blockage and impediment of fish passage at road/stream crossings.

- E. Region 5 will coordinate internally with other Forest Service Regions and participate with local, State and Federal agencies as well as private organizations to develop consistent criteria for analyzing sites, collecting data, and storing information that is accessible to the participating organizations and to the public.
- F. Region 5 will design stream crossings on new roads to provide adequate passage for all life stages of fish.
- G. Region 5 will use the most recent research in training its staff in the proper identification, assessment, and design criteria for fish passage.

#### **VIII. Contributing and Supporting Signatories**

- 1. Contributing signatories will participate in the Fish Passage Forum and contribute, as resources permit, to the implementation of goals, objectives, and work plans. Supporting signatories support the concept, goals and objectives of this MOU.

#### **IX. Other Provisions and Agreements**

- 1. This agreement is intended to be in furtherance of mutual goals for protecting watershed resources. This MOU is intended to embody general principles, and does not create contractual relationships, rights, obligations, duties or remedies between or among signatories.
- 2. Agency actions are subject to statutory authority and regulatory requirements. Nothing in this MOU is intended to expand or limit the legal authority or responsibilities of any signatory agency, entity or organization.
- 3. Nothing in this MOU shall limit the participating agencies in carrying out their individual statutory responsibilities
- 4. This MOU does not modify or supersede other existing agreements, programs, MOU's, plans, regulations or executive orders.
- 5. Nothing herein alters the existing authorities or responsibilities of any party nor shall be considered as obligating any party in the expenditure of funds or the future payment of money or providing services. The expressions of support by state and federal agencies under this MOU are subject to the requirements of the federal Anti-Deficiency Act and to the availability of appropriated funds. (31 U.S.C. Section 1341). The parties acknowledge that this MOU does not require any agency to expend its appropriated funds unless and until an authorized officer of that agency affirmatively acts to commit to such expenditures as evidenced in writing.

6. Consistent with federal law, nothing in this document constrains the discretion of the President or his or her successor from making whatever budgetary or legislative proposals he or his successors deem appropriate or desirable.
7. This MOU is not intended to, and does not, create any other right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, the State of California, any agencies thereof, any officers or employees thereof, or any other person.
8. Any party may withdraw from this MOU upon 30 days written notice to the other parties.
9. This MOU may be amended only upon the written prior approval of each signatory.
10. Other entities may execute this MOU and thereby become a Supporting Signatory.
11. This MOU is executed as of the date of the last signature and is effective through September 30, 2010, at which time it will expire unless extended.
12. This MOU may be executed in counter part and all executed pages taken together will constitute one and the same MOU.

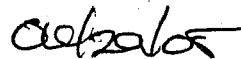
#### **X. Principal Signatory Agencies**

California Resources Agency

Date



California Department of Fish and Game



Date

California Department of Transportation

Date

California Department of Water Resources

Date

National Marine Fisheries Service

Date

State Coastal Commission	Date
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U.S. Forest Service (01-MU-11052008-221)	Date
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**Contributing Signatories**

Southern California Steelhead Coalition	Date
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California Trout	Date
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Five County Salmon Conservation Group	Date
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FishNet 4C	Date
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Pacific States Marine Fisheries Commission	Date
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**Supporting Signatories**

Friends of the River	Date
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