CALIFORNIA DEPARTMENT OF FISH AND GAME

INSTREAM FLOW PROGRAM

ANNUAL REPORT
2008

California Department of Fish and Game
Water Branch, Instream Flow Program
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Instream Flow Program
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Preface

The primary objective of the Department's Instream Flow Program is to develop scientific information on the relationships between flow and available stream habitat to determine what flows are needed to maintain healthy conditions for fish and wildlife. Relationships between flow and habitat will be developed on the selected streams for each species' critical lifestage need, including spawning, rearing and migration. The Department has interest in assuring that water flows within streams are maintained at levels which are adequate for long-term protection, maintenance and proper stewardship of those resources.

This annual report outlines the activities of the Department in 2008 to implement Public Resources Code sections 10000-10005 through the Department's Instream Flow Program, followed by a general workplan for 2009.

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I. PROGRAM ELEMENTS

In calendar year 2008, The Department completed the following activities related to instream flow:

Instream Flow Program Coordinator Position

The Department established an Instream Flow Coordinator position which was filled in April 2008.

Duty Statement for Statewide Water Planning Program Manager

The Department amended the duty statement for the Statewide Water Planning Program Manager in April 2008 to include the obligation to 1) submit future instream flow recommendations, when completed, to the State Water Resources Control Board (SWRCB) within 30 days of completion of a Department final report describing flow recommendations, and 2) to prepare these recommendations for submittal to SWRCB a timely manner.

Historical Instream Flow Recommendations Report

The Department compiled the flow recommendations from historical studies that had been done to assure the continued viability of stream related fish and wildlife resources. The compilation represents historical flow recommendations from 21 streams and watercourses that the Department investigated beginning in the early 1980s and over the next approximately 20 years. The investigations included field studies, data analyses, and consultations with local, state and federal agencies and interested individuals and organizations. Flow recommendations were prepared as a result of the investigations and compiled and summarized in a report for transmittal to SWRCB. Given the historical nature of the report, the flow recommendations were intended to supplement, but not replace, current administrative records.

Priority Streams List

The Department developed a list of 22 priority streams or watercourses for future instream flow work pursuant to Public Resources Code (PRC) 10004. This list was compiled and ranked based on input from Regional Department staff, staff from the SWRCB, U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). In developing the ranking, Department staff considered criteria such as 1) presence of coho or other anadromous species; 2) likelihood that the Department flow recommendations would provide a high level of improvement; 3) availability of recent flow studies or other relevant data; and 4) the possibility of partners/willing landowners.

Coordination with SWRCB

The Department has developed a partnership with SWRCB for purposes of harmonizing priority setting, study availability, and data evaluation. Several meetings have taken place in 2008 with SWRCB staff and Department staff that were focused on better coordinating future efforts related to instream flows in California. For example, on May 29, 2008 Department staff met with SWRCB staff to discuss and seek input on the Department's efforts to create a priority streams list for instream flow studies, and to discuss partnership opportunities. The Department committed to maintain a partnership with the SWRCB, and to develop and transmit flow recommendations to SWRCB in a timely manner. Likewise, SWRCB has updated their Strategic Plan to reflect an expectation that the Department will develop instream flow recommendations.

Coordination of Instream Flow Efforts - Instream Flow Workshops

The Department coordinated the Department's instream flow efforts with the Department's Regions, the SWRCB, scientists, and interested parties. The Department hosted instream flow workshops in May, July, and November of 2008 for purposes of coordinating instream flow efforts. The instream flow workshops are informal public meetings with purposes that include: to exchange information and solicit input; to engage interested parties in study design and development, and obtain comments on study progress and results; to maintain dialogue throughout the instream flow study process and during important decision making steps; to build trust in the underlying science and performance of the studies so that study results are considered valid, credible, and usable; to understand roles and responsibilities from all interested parties; to understand needs of data users; and to explore ways to complement existing efforts and leverage funds.

The Instream Flow Workshops initially started as a mechanism to coordinate Department involvement with the flow studies that are being planned and conducted through a grant from the State Coastal Conservancy (SCC) to Trout Unlimited (TU) to conduct the Coastal Stream Stewardship Project (CSSP). Trout Unlimited subcontracted the instream flow studies component of the CSSP project to the Center for Ecological Management and Restoration (CEMAR). CEMAR is currently developing a study plan for several planned instream flow assessments. The instream flow workshops have provided a forum for discussion and coordination of the CSSP with SCC, TU, CEMAR, SWRCB staff and the Department staff in the Regions and the Water Branch.

Coordination of Instream Flow Efforts – Technical Project Teams

Three technical project teams were identified in 2008 to review existing data, identify data gaps in existing information, and to develop recommendations for future instream flow need assessments. Each technical project team currently consists of Department staff from various offices including the Water Branch and Fisheries Branch in Sacramento, and the relevant Regional office staff. Technical project teams began in 2008 for both lower Butte Creek in Butte County and the Big Sur River in Monterey County. In addition, a multi-agency technical project team has been developed in 2008 to discuss instream flow study designs and methods appropriate for the Santa Maria River in Santa Barbara County to guide future instream flow efforts.

Identification and Evaluation of Instream Flow Studies

The Department identified recently completed or ongoing instream flow studies that could possibly be used to develop stream flow recommendations. The flow studies identified are being funded by multiple entities including U.S. Geological Survey, Los Angeles Department of Water and Power, Southern California Edison, Pacific Gas and Electric, California Department of Water Resources, water agencies and districts, municipalities, local property owners, and others. A number of projects are part of the Federal Energy Regulatory Commission (FERC) relicense process for various hydroelectric projects.

The Department also identified recently completed flow study reports produced under the Central Valley Project Improvement Act Instream Flow Investigations by the USFWS, on the Sacramento, American and Merced Rivers, and Butte Creek. The USFWS intends to release future reports on the Yuba River and Clear Creek. The purpose of the USFWS reports is to provide scientific information to the U.S. Fish and Wildlife Service's Central Valley Project Improvement Act (CVPIA) program to assist in determining instream flow needs for Central Valley streams.

The Department also evaluated existing completed studies. Currently, the Department is evaluating a Butte Creek flow study report by the USFWS, in addition to other documents, for use in developing stream flow recommendations.

Flow Recommendations to SWRCB – 2008 and 2009

The Department intends, to the extent funds are available, to develop and transmit one flow recommendation to the SWRCB by 2010, and on average, to develop and transmit one flow recommendation, to the extent funds are available, per year after 2010.

The Department is developing flow recommendations for Butte Creek using existing data, and intends to transfer the flow recommendations to SWRCB in the spring of 2009 pursuant to the Public Resources Code sections 10001-10002. Butte Creek is a significant watercourse for which minimum instream flow levels need to be established in order to assure the continued viability of stream-related fish and wildlife resources. Butte Creek was selected for development of flow recommendations because it is a significant watercourse with high resource value, and because it is one of only three streams (in addition to Deer and Mill Creek) that harbor a genetically distinct, sustaining population, of Spring Run Chinook Salmon (SRCS), *Oncorhynchus tshawytscha.*

Department Flow Studies Begun in 2008

An instream flow study typically includes the following tasks: 1) project/contract management; 2) habitat mapping; 3) field reconnaissance and site selection; 4) species and lifestage specific habitat suitability criteria (HSC) development, 5) hydraulic data collection; 6) construction and calibration of hydraulic and habitat simulation models; 7) identification of flow recommendations considering all important elements such as hydrology, biology, geomorphology, water quality and connectivity 8) and peer review. Many of these tasks require contracting with outside experts from universities, other agencies, and/or consultants.

The Department intended, to the extent funds were available, to initiate one stream flow study in 2008. In November 2008 the Department's proposal to fund instream flow studies in California was approved for funding by the Ocean Protection Council (OPC). In December 2008, based on the OPC funding, the Department took steps to coordinate the development of scopes of work, contract agreements, and discussions of study designs for two instream flow studies including one study on the Shasta and Little Shasta Rivers and one study on the Santa Maria River. On December 18, 2008 the Department of Finance issued Budget Letter 08-33, which directed all state entities to freeze bond disbursements until further notice. The bond freeze applies to the OPC grant for instream flow studies.

Efforts to Seek Funding for Instream Flow Program

The Department intends to seek funding from various sources including water rights fees, General Fund monies, existing and future bond measures (including leveraging of bond expenditures that might necessitate stream flow studies), federal funding, grants, and fees on project applicants (such as development projects that may necessitate stream flow studies).

Staff prepared two grant funding proposals in 2008 seeking funding for stream flow studies on priority streams. The first grant proposal was submitted to the Department's Fisheries Restoration Grant Program (FRGP) Fire Relief Solicitation in the amount of $454,841. The proposal was for funding to Pacific

States Marine Fisheries Commission to assess and establish a post-wildfire baseline of physical stream habitat, assess and establish a post-wildfire baseline of presence and relative abundance of steelhead, and evaluate fire impact among steelhead rearing habitat reaches. The grant proposal identified $100,000 of OPC grant funds as a cost-match, with this funding being used to supplement the overall study by assessing the estuary portion of the river. A decision on the funding status of the FRGP grant has not been received.

The second grant proposal was submitted to OPC that requested $1,000,000. The grant was approved for funding in November 2008. The OPC grant will provide funds to complete four in-stream flow analyses for coastal rivers in California for salmonid recovery. The OPC grant should provide funds for contractors to conduct the following instream flow work: 1) Humboldt State University to conduct a flow study on each of the Shasta and the Little Shasta Rivers (Siskiyou County), 2) Pacific States Marine Fisheries Commission to analyze the Big Sur River (Monterey County) as a cost match of $100,000 to the FRGP grant study outlined above, and 3) US Geological Survey to analyze the Santa Maria River (Santa Barbara County). Each analysis will be completed under the direction and oversight of the Department of Fish and Game Instream Flow Program and Regional staff.

Each of the proposed flow studies would be used by the Department to develop in-stream flow recommendations for transmittal to SWRCB to be considered when SWRCB exercises its water rights authority. A primary objective of each of the stream flow studies is to provide the SWRCB with flow recommendations for the amount of instream flow that is needed to ensure salmonid survival.

Environmental Filing Fees

An application fee (environmental filing fee) for water diversions is currently imposed by PRC Sections 10000-10005 to fund the Department's Instream Flow Program. The environmental filing fees are collected by SWRCB through the water right application process and are transmitted to the Department to help fund the Instream Flow Program. Public Resources Code 10005 sets the filing fee at $850 per application. Department staff reviewed the filing fees collected in 2008.

Between 2005 and 2008 an average of approximately 53 applications was filed annually, resulting in an annual average of $45,697 to fund the Department's Instream Flow Program. In 2008 the Department received $60,186 pursuant to PRC 10005 from SWRCB. This $60,186 was supplemented with approximately $81,814 from the Non-dedicated Fish and Game Preservation Fund for one staff environmental scientist to coordinate the Instream Flow Program. It is anticipated that this funding structure will continue for the foreseeable future, although the Department will seek other stable funding in addition to the environmental filing fees.

Identification of Costs for Instream Flow Program

The Department intends to identify and report 1) the cost to the Department to perform or oversee any flow studies and flow recommendations and 2) the gap between the amount of money necessary to continue or begin the desired instream flow studies or to prepare flow recommendations and the amount of money currently available.

The Department estimates that approximately $1,264,000 per a year would provide for a Instream Flow Program that can make progress at fulfilling PRC mandates. Although internal funds provide a good foundation for the program by funding one full time staff coordinator position, this funding level is inadequate to fulfill the Department's PRC obligations. Including all fundraising services the Department has been able to direct $1,142,000 to instream flow actions for 2009.

II. SUMMARY OF IMPLEMENTATION OF PUBLIC RESOURCES CODE (PRC) 10000-10005.

The Department's efforts to implement PRC 10000-10005 through the Instream Flow Program are summarized in Table 1. The summary includes both activities that took place in 2008 and those planned for 2009. For more information about these activities please refer to Section I of this report (Program Elements).

Table 1. Summary of the implementation of Public Resources Code (PRC) 10000-10005 activities.

Public Resources Code (PRC) Sections	**Activities**	
	2008	**2009 Planned**
10000-10002. Identify significant streams, develop and transmit flow recommendations for those streams to SWRCB.	Butte Creek identified as significant stream for which stream flow recommendations need to be developed.	Develop and transmit flow recommendations for Butte Creek to SWRCB in spring of 2009.
10003-10004. Priority streams the Department plans on conducting instream flow studies on.	Twenty-two streams identified for future instream flow studies. Scope of work and technical project teams started for Santa Maria River flow Study.	Flow studies planned for the following streams in 2009: - Santa Maria River - Shasta River - Little Shasta River - Big Sur River
10005. Review Environmental Filing fees. Seek funding for Department Instream Flow Program.	Environmental Filing Fees reviewed. Funds for Department Instream Flow Program were sought from: - Department Fisheries Restoration Grant Program (FRGP: $454,841) - Ocean Protection Council (OPC: $1,000,000).	Review Environmental Filing Fees. The Department plans to seek funding for Instream Flow Program in 2009 from: - Department Fisheries Restoration Grant Program (FRGP) - Grant programs including the National Fish and Wildlife Federation (NFWF), and others.

III. GENERAL WORKPLAN FOR CALENDAR YEAR 2009

Program Goals and Objectives – Calendar Year 2009

The overall goal of the Instream Flow Program is to develop scientific information to be used in developing flow recommendations that can be provided to SWRCB, as required by Public Resource Code 10000-10005. The primary objective of the Instream Flow Program is to develop scientific information on the relationships between flow and physical stream habitat for indicators of ecosystem health. Flow habitat relationships for critical aquatic species' lifestages would be developed on selected priority streams. Anticipated projects may include development of the following information: relationships of flow to aquatic habitat, aquatic habitat suitability, stream temperature, channel geomorphology, riparian habitat and restoration activities; the temporal and spatial hydrologic characteristics of flow regimes; fish population abundance, distribution and dynamics; and aquatic invertebrate production.

The Department's Instream Flow efforts may also include: performance review of studies and development of flows by the Department or its contractors; consultation regarding study plans with individuals, agencies or corporations performing studies; review of instream flow studies not performed by the Department itself; and development of associated recommendations from studies not performed by the Department.

Priority Tasks, Schedules, and Proposed Budget for 2009

Priority tasks, schedules, and the associated proposed budget for the 2009 general workplan are outlined below. It is important to note that all tasks are deemed a priority for implementing the Instream Flow Program in 2009, with the exception of Task 2. Task 2 was completed in calendar year 2008, and will serve as the basis for the Department's instream flow efforts and investigations in the following years.

A. PRIORITY PROGRAM TASKS FOR 2009

TASK 1. Program Management.
Overall project management and administration includes overseeing and coordinating instream flow workshops, technical focus groups, project coordination meetings, seeking funding through preparation of grant funding proposals, and managing project finances (budgets, contracts, etc.).

TASK 2. Identification of Priority Streams for Instream Flow Assessments.
Identification of instream flow needs includes the development of the Department's Priority Stream List, which will be used to guide the Department's

future instream flow investigations. The current list was developed and ranked with input from the Department's Regions, SWRCB, NMFS, and the USFWS. The Director has the discretion to revise the list and may add or delete streams as circumstances require. The current list was developed in August 2008.

TASK 3. Coordination of the Department's Instream Flow Efforts.
Coordination of Department's instream flow efforts includes coordination with the Department's Regions, SWRCB, USFWS, NMFS, other scientists, and other interested parties.

TASK 4. Conducting Instream Flow Assessment Investigations.
The Department expects to conduct stream flow investigations on the Shasta River, Little Shasta River, Big Sur River, and the Santa Maria River in 2009. The Shasta and Little Shasta River flow studies will include working with Humboldt State University to conduct two in-stream flow analyses for the mainstem of the Shasta River (Shasta River Canyon reach) and a tributary watershed (Little Shasta River), both of which provide critical coho salmon rearing habitat. The Big Sur River flow study includes working with Pacific States Marine Fisheries Commission and Thomas R. Payne and Associates to determine flows needed for steelhead lifestages in anadromous reaches of the river, as well as the estuary. It is important to note that funding approval for the Big Sur River component of this task has not been received at time of this report. The Santa Maria River flow study includes working with the U.S. Geological Survey to determine flows for passage of steelhead into upper reaches of the Sisquoc River, as well as to determine use and suitability of the estuary for steelhead habitat.

TASK 5. Identification and Evaluation of Instream Flow Studies.
Identification and evaluation of instream flow studies includes the identification and evaluation of existing, recently completed or on-going studies that could form the basis for flow recommendations.

TASK 6. Development and Transmittal of Flow Recommendations.
Development and transmittal of flow recommendations includes the development of flow recommendations from either existing and/or new data, and the transmittal of those flow recommendations to SWRCB.

TASK 7. Partnership with SWRCB**.**
This task includes maintenance of a partnership with the SWRCB to harmonize priority setting, study availability, and data evaluation.

TASK 8. Seek funding for Instream Flow Program.
This task includes seeking funding for the Department's Instream Flow Program.

B. SCHEDULES AND DELIVERABLES

#	TASK	Dates		Deliverables[1]
		Start	Complete	
1	Program Management	1/01/09	12/31/09	Annual Report
2	Identification of Priority Streams for Instream Flow Assessments[2]	n/a	n/a	n/a
3	Coordination of the Department's Instream Flow Needs	1/01/09	12/31/09	Annual Report
4	Conducting Instream Flow Assessment Investigations	1/01/09	12/31/09	Annual Report
5	Identification and Evaluation of Instream Flow Studies	1/01/09	12/31/09	Annual Report
6	Development and Transmittal of Flow Recommendations	1/01/09	3/31/09	Flow Recommendations; Annual Report
7	Partnership with SWRCB	1/01/09	12/31/09	Annual Report
8	Seek Funding for Instream Flow Program	1/01/09	12/31/09	Annual Report

[1] All outcomes and deliverables from program tasks will be summarized and reported in subsequent annual reports.
[2] Task 2 was completed in calendar year 2008, and will serve as the basis for the Department's instream flow efforts and investigations in the following years. If priorities change a new list will be developed.

C. PROPOSED 2009 BUDGET AND FUNDING SOURCES

#	TASK	PROPOSED BUDGET (STAFF)	PROPOSED BUDGET (CONTRACTS)		PROPOSED BUDGET TOTAL 2009
		Internal Funds[3]	EFF Fees[5]	Grants[6]	
1	Program Management	$21,300			$21,300
2	Identification of Instream Flow Needs	$0			$0
3	Coordination of the Department's Instream Flow Needs	$14,200			$14,200
4	Coordinating and Conducting Instream Flow Assessment Investigations	$56,800	$45,697	$1,454,841	$1,557,338
5	Identification and Evaluation of Instream Flow Studies	$7,100			$7,100
6	Development and Transmittal of Flow Recommendations	$21,300			$21,300
7	Partnership with SWRCB	$7,100			$7,100
8	Seek Funding for Instream Flow Program	$14,200			$14,200
	Total	**$142,000**	**$45,697**	**$1,454,841**	**$1,642,538**

[3] It is anticipated that internal funds will be used to fund one Staff Environmental Scientist at approximately $142,000 (including administrative overhead and benefits).
[5]EFF = Environmental Filing Fees. The EFF is an $850.00 fee charged for certain types of water rights applications by SWRCB. This fee is transmitted to the Department to fund the instream flow program pursuant to Public Resources Code 10000-10005. EFF revenues have averaged approximately $45,697 per year between 2005 and 2008 depending on the number of applications filed with SWRCB.
[6]Grants includes potential grant awards from proposals prepared in 2008.