

STEELHEAD TROUT CATCH REPORT-RESTORATION CARD

**Report to the Legislature
Prepared by California Department of Fish and Game,
Native Anadromous Fish and Watershed Branch
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EXECUTIVE SUMMARY

Assembly Bill 2187 (Chapter 1037, Statutes of 1991) enacted the Steelhead Trout Catch Report-Restoration Card (Report Card) in 1991. This legislation required anglers fishing for steelhead trout in inland waters to purchase a Report Card for \$3.15 and record their catch information. Senate Bill 183 (Chapter 240, Statutes of 1997) continued this requirement when the report card provision became inoperative in 1997. The purpose of the Report Card is to gather much needed angler harvest data for use in conserving California steelhead trout, and to provide a specific funding source for recovery of California's steelhead populations. Revenue generated from Report Card sales is used to administer the program and to fund steelhead restoration projects proposed by non-profit organizations, local, state, and federal agencies, and private enterprise. Since the Department began selling the Report Card in 1993, an average of 58,726 cards have been sold annually, generating an average annual revenue of \$176,178. To date, the Report Card program has funded 77 steelhead restoration projects costing over \$530,000. In addition to providing a funding base for steelhead restoration projects, data obtained from the Report Cards provide valuable information used by the Department to generate catch statistics. Data generated from the Steelhead Report Card have taken on a new importance of monitoring potential angling impacts to Endangered Species Act (ESA)-listed steelhead populations. SB 183 requires the Department to provide a report to the legislature regarding implementation of the program and a recommendation regarding whether the catch report-restoration card requirement should be continued. The Department believes that the Report Card program provides the best option for generating steelhead harvest data to meet management goals, to measure potential angling impacts to ESA-listed steelhead, and to generate revenue to implement restoration measures and should be continued.

INTRODUCTION

Pursuant to state legislation (Assembly Bill 2187), the California Fish and Game Commission (Commission) implemented the Steelhead Trout Catch Report-Restoration Card (Report Card) in 1991. AB 2187 established Fish and Game Code Sections 7380 and 7381 that requires anglers fishing for steelhead trout in inland waters to purchase a Report Card and record their catch information. This information is used by the Department of Fish and Game (Department) to manage steelhead angling to ensure that angling programs are not having a detrimental effect on the populations. Section 7381 requires that all revenue derived from the sale of the report cards be used to monitor, restore, or enhance steelhead trout resources and to administer the program. This section also required the Department to submit a report to the legislature regarding implementation, projects undertaken and resulting benefits, and recommendations regarding whether the catch Report Card requirement should be continued. The Department produced this report and submitted it to the legislature in 1997.

AB 2187 became inoperative on July 1, 1997 and was scheduled to sunset on January 1, 1998. The Department sponsored Senate Bill 183 (SB 183), to reestablish the Report Card requirement and program until January 1, 2003. SB 183 requires the Department to report to the legislature "...regarding the implementation of the catch report-restoration card program, the projects undertaken using revenues derived pursuant to that program, the benefits derived, and its recommendation regarding whether the catch report-restoration card requirement should be continued". This document fulfills the reporting requirement.

The purpose of the Report Card is to gather much needed harvest data for conserving California steelhead trout, and to provide a specific funding source for recovery of California's steelhead populations. The program involves developing and implementing the statistical and survey methods to obtain and analyze the harvest and angler-use information contained on the cards, updating the Report Card as necessary, and making management recommendations to restore and enhance steelhead trout resources on a statewide basis.

An Associate Biologist position was established in 1992 to implement and coordinate the Report Card program. The duties of this position are to administer the program, collect the Report Card information through statistically valid surveys, analyze harvest and catch information, and review, prioritize and coordinate the development of specific stream restoration projects to be funded by Report Card revenues.

The Report Card regulation requires steelhead anglers 16 years of age or older to purchase and possess the \$3.15 nontransferable Report Card (Figure 1) when fishing for steelhead in any of the State's anadromous waters. Steelhead anglers must record the date and the stream location before they begin fishing. This information provides the Department with data about fishing effort and an indication of the steelhead population size based on catch-per-effort, even if the angler fails to catch steelhead. Steelhead caught that are greater than 16 inches in length must be recorded on the Report Card, whether kept or released. For purposes of the regulation,

steelhead are defined as any rainbow trout greater than 16 inches in length found in anadromous waters. Based on length data obtained from past steelhead studies, a minimum length criteria of 16 inches includes most steelhead that have spent two years in the ocean, which is the most common life-history type of California steelhead.

Information contained on the Report Cards is used to derive catch and harvest estimates. This information is used by the Department to develop angler regulations and management regulations to ensure that steelhead are not over-harvested, and to monitor the take of steelhead pursuant to Fishery Management Evaluation Plans that are required by the Endangered Species Act (ESA).

IMPLEMENTATION

The Department began implementing the Report Card program in 1993. Numerous iterations of the design of the Report Card were made before a final design was accepted. The basic design, with minor modifications, is still used. When the Report Card regulation was first implemented, the Department responded to numerous telephone calls and letters regarding the program and went to great length to inform the public about the program and the restoration projects that are funded. Personal public correspondence has greatly subsided and is infrequent now. Today, the angling public appears to have accepted that Report Card and recognizes the benefits.

Program implementation also requires a close working relationship with the Steelhead Subcommittee of the California Advisory Committee (CAC) on Salmon and Steelhead Trout (Steelhead Subcommittee). The Steelhead Subcommittee is composed of five members of the CAC. Prior to implementation, the Steelhead Subcommittee reviewed and approved the Report Card design and, together with the Department, developed a protocol for reviewing and approving steelhead projects. The Department and the Steelhead Subcommittee have a complementary relationship and the Steelhead Subcommittee has provided valuable insight and advice. The Department has provided the Steelhead Subcommittee with several administrative reports and keeps them apprised of issues regarding implementation.

Collection of the steelhead harvest data required the development and implementation of a repeatable sampling design. Because it is not mandatory for the Report-Restoration Card purchasers to return their Report-Restoration Card to the Department, a stratified random subset of Report Card purchasers anglers are randomly selected for surveying¹. The design has been successful, although modifications and improvements have been implemented each year.

In 1997, the Department instituted a mass-marking program for all hatchery steelhead, including those raised at non-Department run hatcheries and rearing projects. As a result, all

¹Both AB 2187 and SB 183 specifically state that return of the Report Card to the Department must be voluntary. It is well-documented that voluntary surveys are usually biased because the more-successful anglers are more likely to return their information than less-successful anglers. This is why the Department chose to randomly select a subset of anglers for surveying.

hatchery steelhead are marked with an adipose fin clip, and are readily identifiable to the angler as hatchery steelhead. In 1998, the Commission adopted regulations requiring all non fin-clipped steelhead (i.e., wild steelhead) to be released, except for in the Sacramento River above Redding and in the Smith River system. In 1999, the card was redesigned to capture information on the origin (hatchery or wild) of steelhead caught by anglers. This information will be useful to determine catch rates and potential angling impacts to wild steelhead.

Fiscal

Number of Report Cards sold for calendar years 1996 through 1999 are shown below in Table 1. In 1993 and 1994, over \$232,000 were generated from sales of over 77,000 Report Cards each year. Since 1994, Report Card sales have steadily declined. There are several factors that probably account for this:

- X Inclement weather that causes high, turbid stream flows can have a substantial affect on angling opportunity and was a factor in the 1994-95 and 1996-97 fishing seasons. The Klamath River system, for example, was not fishable for steelhead for 57% of the time during the 1996-97 season. Likewise, the Eel River was not fishable for 38% of the time during this same season.
- X Declining stocks and ESA listings led to more restrictive angling regulations and closures.
- X Publicity regarding the ESA listing likely led some anglers to conclude that steelhead angling was no longer allowable.

Table 1. Annual Steelhead Report Cards Sold and Revenue Generated.		
Calendar Year	Number of Cards Sold	Revenue
1993	77,539	\$232,617
1994	77,178	\$231,534
1995	63,714	\$191,142
1996	58,417	\$175,251
1997	51,851	\$155,553
1998	39,460	\$118,380
1999	42,923	\$128,769

For each of the federal fiscal years 1998/99 and 1999/00, the National Marine Fisheries Service (NMFS) granted \$100,000 to the Steelhead Report Card program. These funds were provided to offset losses in revenue from decreased sales due to the ESA listings and were used to augment revenue generated from Report Card sales to fund restoration projects. In FY 1999/2000, a total of \$112,340 was spent on restoration projects and Report Card program administration and operation, leaving a year-end balance of \$24,260. The Department anticipates the Report Card sales will remain steady.

Restoration Projects

Proposals for steelhead habitat restoration and enhancement projects throughout California are considered for funding using revenue generated from Report Card sales. A majority of the project proposals are received through the Department's annual Request For Proposals (RFP) process which provide a mechanism for funding projects from a variety of funding sources. Project proposals received by the Department are from non-profit organizations, local, state, and federal agencies, and private enterprise.

Proposals potentially benefiting steelhead, and potentially deserving of Report Card funding, are reviewed each spring by the Department for biological soundness, cost effectiveness, technical merit, and use of matching funds by the applicant. These proposals are also reviewed by the Steelhead Subcommittee. The Department and the Steelhead Subcommittee meet annually to discuss each proposal and decide which proposals should be funded by the Report Card program, and at what level. Proposals that adhere to the management goals outlined in the Department's *Steelhead Restoration and Management Plan for California* (Steelhead Plan) receive the greatest consideration for funding. Habitat restoration projects use Department-standardized methodologies described in the *California Salmonid Stream Habitat Restoration Manual*.

To date, the Report Card program has funded 77 steelhead restoration projects costing over \$530,000. These projects include population and habitat assessment and monitoring, rearing, habitat restoration, education, and restoration-education (restoration-education projects combine restoration and education, where students and/or volunteers from communities implement the project under Department supervision). Most of the assessment-monitoring and restoration projects have been completed with some still ongoing and a few yet to be implemented.

Beginning in FY 1997/98, the Department made an adjustment to how overhead is calculated on dedicated funds such as the Steelhead Report Card Fund. As a result, overhead increased substantially, and the fund balance at the end of FY 1996/97 was nearly eliminated. Because of this, and steadily declining Report Card sales (discussed previously), funding for restoration projects was substantially reduced. As a result, only one project (\$3,060) was funded in FY 1997-98: rearing 120,000 steelhead at the Rowdy Creek Fish Hatchery in the Smith River system (see appendix for project details).

In FY 1998/99, augmentation of the Report Card fund by the NMFS grant allowed the Department to fund four projects: three habitat restoration projects and one habitat assessment project. The habitat restoration projects involved reducing sediment input into Somerville

Creek on the North Coast, constructing instream habitat structures in the Eel River drainage, and removing non-native vegetation and revegetating to provide shade and cover on two Monterey Bay tributaries. The habitat assessment project was a water temperature assessment of Redwood Creek in Humboldt County to identify cold water habitat for summer steelhead. Total funding for these four projects was \$39,468. (See appendix for project details).

In FY 1999/00, six projects were funded: one habitat restoration project, one education project, and four population and habitat assessment project. The habitat restoration project involved modifying culverts on Morrison Gulch in Humboldt County to provide passage to an additional four miles of habitat. The education project provided funds to purchase aquaria and related equipment to educate elementary school children on salmon and steelhead life-history and ecology. The population and habitat assessment projects involved developing a summer steelhead management plan, implementing a survey to collect angler information on the Carmel River, undertaking a genetic analysis of north coast steelhead, and estimating mortality of caught-and-released steelhead in the Eel River. Total funding for these six projects was \$78,444. (See appendix for project details).

Benefits of the Report Card Program

The Department's Steelhead Plan identifies fresh water habitat loss and degradation as the primary factor causing the decline of California's steelhead populations. Since 1993, the Report Card program has appropriated funding for 40 freshwater habitat restoration projects that address known limiting factors affecting steelhead populations. In addition, the program has funded 14 monitoring and assessment projects to obtain much-needed biological information and population and habitat status. Also, 14 projects involving education and public awareness were funded, as well as six restoration-education projects. The Report Card program has been successful in providing a unique and stable funding source for steelhead projects throughout California. Prior to implementation of the Report Card program, steelhead only benefited indirectly from salmon restoration projects that were implemented in waters where both species happened to coexist.

In addition to providing a funding base for steelhead restoration projects, data obtained from the Report Cards provide valuable information regarding the potential impacts to steelhead from angling. This data is used by the Department to generate catch statistics, including the number of steelhead caught and released. Information generated to date indicate that approximately 69% of angler effort is expended on the north coast (north of the Mattole River), 15% on the north-central coast (between the Mattole River and the Golden Gate), 4% on the south-central coast (from the Golden Gate to Pt. Conception) and 12% in the Central Valley. In 1993, the total statewide steelhead catch estimated from Report Card data was 168,000 fish (but only 40,000 were kept). In 1994, estimated catch was 178,000, with 53,000 fish retained. These figures have not been corrected for non-response bias however, so are likely overestimated. One interesting statistic is that, even prior to the implementation of catch-and-release requirement for wild steelhead, California steelhead anglers released approximately 70% of all steelhead caught.

Catch and angler data generated from the Report Card have taken on a new importance regarding the Department's ability to comply with the ESA protections for listed steelhead. In 2000, the NMFS promulgated an ESA section 4d Rule to govern take of listed steelhead in California and the Northwest. To comply with this rule, the Department must develop and implement Fishery Management Evaluation Plans (FMEPs) to assess and monitor the fishery to ensure that angling in the listed areas does not cause further impacts to, or impede the recovery of, listed steelhead. In the draft FMEPs, the Department has identified steelhead angler effort and catch as performance indicators that will be monitored and evaluated on an annual basis to assess the achievement of the FMEPs. NMFS-approved FMEPs would allow continued angling opportunities while not jeopardizing the survival and recovery of listed steelhead. The Report Card program is integral to obtaining this information for 4d Rule compliance that allows angling opportunities to continue.

RECOMMENDATIONS

The Department recommends that the Steelhead Trout Catch Report Card requirement and program be continued. All other Pacific States that have steelhead populations have catch report card requirements that provide a means to monitor steelhead fisheries, but only California requires that the proceeds from card sales be used for steelhead restoration projects.

The Department believes that the Report Card program provides the best option for generating steelhead harvest data to meet management goals outlined in the Steelhead Plan, to measure potential angling impacts to ESA listed steelhead in compliance with ESA Section 4d, and to generate revenue to implement restoration measures identified in the Steelhead Plan and elsewhere. Now that the Report Card can capture data on wild (non fin-clipped) steelhead separately from hatchery steelhead, it is a much more valuable tool for managing steelhead populations listed under the ESA. In addition, the Report Card program should be continued because it provides an excellent source of revenue for steelhead projects to monitor, restore, and enhance California's steelhead resources.

APPENDIX

Summary of Steelhead Report Card-funded restoration projects for FY 1997/98, 1998/99, and 1999/00

FY 1997-98 PROJECTS FUNDED BY STEELHEAD REPORT CARD REVENUES				
Contractor - Project Name	Funding appropriated	Project Objective	Stream	County
Rowdy Creek Fish Hatchery - Salmon & Steelhead Enhancement Project	3,060	Spawn and rear 620,000 salmon and 120,000 steelhead.	Rowdy & Dominic Creeks	Del Norte

FY 1998-99 PROJECTS FUNDED BY STEELHEAD REPORT CARD REVENUES

Contractor - Project Name	Funding appropriated	Project Objective	Stream	County
Mullins Restoration- Sommersville Creek Stream Restoration Project	\$15,000	Improve water quality and spawning/rearing habitat by reducing a major source of sediment along a 250-ft. section of stream. Stabilize bank, install instream structures, and revegetate.	Sommerville Creek	Humboldt
Eel River Salmon Restoration Project, PCFFA - Tostin Creek Steelhead Enhancement Project	\$3,671	Construct instream fish enhancement structures and stabilize one eroding bank on Tustin Creek, tributary to Salmon Creek on the SF Eel River. [due to the problem being more extensive than originally thought, the contractor withdrew the contract, hence no work has been done]	Tostin Creek	Humboldt
Flycasters, Inc.- Uvas/Carnadero Creek Restoration #2	\$16,187	Enhance steelhead trout spawning and rearing in Uvas/Carnadero Creek by removing wild cane and trash from the stream bed and by planting saplings to provide shade and cover.	Uvas and Carnadero Creek	Santa Clara
North Coast Fisheries - Redwood Creek Summer Steelhead Recovery Project	\$4,610	Identify cold water habitat in Redwood Creek to be improved by reintroducing woody debris to help increase summer steelhead and other salmonid populations	Redwood Creek	Humboldt

FY 1999-00 PROJECTS FUNDED BY STEELHEAD REPORT CARD REVENUES

Contractor - Project Name	Funding appropriated	Project Objective	Stream	County
Humboldt County Public Works Department - Humboldt. Bay Watershed Instream Barrier Project; Culvert Replacement	\$20,000	Restoration of salmonid access to about 22,600' of habitat by replacing documented culvert barriers with other culvert designs allowing fish access and designed for 50-year storm conditions.	Morrison Gulch	Humboldt
Eel River Salmon Restoration Project, PCFFA- Salmonid Education Equipment Upgrade	\$5,444	Purchase 7 aquaria, chillers, and related equipment to educate school children about salmonids and their ecology	Several North Coast streams	Humboldt
California Department of Fish and Game - Status and Management of Summer Steelhead	\$20,000	Compile and analyze summer steelhead population and environmental data and develop management recommendations	various North Coast streams	Humboldt, Del Norte, Trinity, Siskiyou, Mendocino
California Department of Fish and Game - Angler Survey of the Carmel River	\$3,000	Construct and place ten angler survey boxes along the lower Carmel River to collect angler catch and effort information.	Carmel River	Monterey
Cooperative Fishery Research Unit, Humboldt State University - Microsatellite Genetic Analysis of California Steelhead/Trout tissues	\$20,000	Determine if fin tissue collected from trout and steelhead contain distinct genetic allelic structure when compared to other coastal California steelhead populations and hatchery steelhead used for supplementation in the same geographic area.	various North Coast streams	Humboldt, Del Norte, Trinity, Siskiyou, Mendocino
Mortality of Angler Caught and Released Winter Steelhead	\$10,000	To determine sportfishing mortality rates of adult steelhead using bait and artificial lures.	Eel River	Mendocino