



MAY 14 2014

## **Shasta River/Parks Creek Drought Initiative Individual Agreement (Drought Agreement)**

### **Goals of the Voluntary Drought Initiative**

NOAA's National Marine Fisheries Service (NMFS) and the California Department of Fish and Wildlife (CDFW) are among the Federal and State agencies that recognize the severe constraints the 2014 drought is likely to have on agriculture and fish in California. The California Voluntary Drought Initiative (Drought Initiative) expresses our intention to work with water users in high priority areas throughout the State who acknowledge the unprecedented conditions in order to reduce the negative effects of the drought on salmon and steelhead.

NMFS is charged by Congress to protect species through the Endangered Species Act (ESA). The ESA provides for formal agreements with individuals and organizations pursuing activities, such as agriculture, that allow them to be conducted while protecting fish and their habitat. These processes generally take time to implement and may simply be impractical for severe drought-related water use this year.

Governor Brown proclaimed a drought state of emergency on January 17, 2014 directing State officials to take all necessary actions to prepare for water shortfalls and instructed the State Water Resources Control Board (SWRCB) to notify water right holders that they may be directed to cease or reduce water diversions from streams and rivers later this season due to low water conditions. On April 25, 2014, Governor Brown issued an Executive Order directing state agencies to, in part, work with landowners in priority watersheds to protect certain species and maximize the beneficial uses of scarce water supplies, including employment of voluntary agreements to secure instream flows, relocate members of those species, or take other measures.

To address the urgency created by the drought, NMFS and CDFW have developed the Drought Initiative to reduce the effects of the drought on priority salmon and steelhead populations in California during the 2014 drought, while Federal and State drought declarations or designations are in effect. The initiative includes an approach to the application of the ESA's section 9 enforcement standards, as they are related to the withdrawal of water, from salmon and steelhead-bearing stream and rivers. This is a temporary, volunteer initiative that is only being implemented during Federal and State drought declarations or designations, with the goal of supporting agricultural activities while protecting the survival and recovery of ESA and CESA-listed salmon and steelhead and other species of special concern where they co-occur with ESA or CESA-listed populations.



## **Shasta River and Parks Creek Listed Fish Species and their Recovery Value**

Coho salmon in the Shasta River basin are part of the Southern Oregon/Northern California coast (SONCC) coho salmon Evolutionarily Significant Unit, which is listed as threatened under the ESA and the CESA. Preliminary monitoring efforts conducted by the CDFW fisheries staff estimate that 151 adult coho salmon returned to spawn in the Shasta River during the winter of 2013/2014. Spawning ground surveys conducted by the CDFW in collaboration with biological staff from Emmerson Investments Inc., found that 47 salmonid redds were constructed in Parks Creek and the upper Shasta River, upstream of the confluence of Parks Creek (Figure 1). Of these, 30 are located in Parks Creek (Reach 24) downstream of the confluence of Parks Creek and the slough formed by water conveyed from Bridge Field Springs and Black Meadow.

NMFS and CDFW expect most of the 47 observed redds were constructed by coho salmon. Redd construction occurred co-incident with the run timing of returning Shasta River adult coho salmon. Also, dimensions of observed redds are consistent with the size of coho salmon redds.

Coho salmon recovery in the Shasta River watershed is a high priority for NMFS and CDFW. The diversity and complexity of the physical and environmental conditions historically present within the Shasta River basin created unique life history strategies and diverse coho salmon habitat. Historical instream river conditions, fostered by unique cold spring complexes, created ideal rearing habitat for juvenile coho salmon throughout their freshwater residency. Information suggests that coho salmon abundance is severely depressed relative to historical population numbers. Since 2001 minimum adult coho salmon returns to the Shasta River have ranged between 9 and 291 fish, levels well below depensation. Depensation occurs when populations are reduced to such a low level that adult coho may have difficulty finding suitable mates which decreases the probability of achieving successful egg fertilization. In addition, impacts to genetic fitness increase dramatically with the reduced population size. When combined with reductions in habitat quality and quantity that have occurred over time, these low population numbers have led NMFS and CDFW to determine that the Shasta River population is currently at a high risk of extinction.

However, recent habitat and instream flow restoration activities within the upper Shasta basin have greatly improved habitat conditions for anadromous salmonids in recent years. NMFS and CDFW are hopeful that additional habitat restoration efforts like those being considered by the Shasta Watershed Conservation Group, the Montague Water Conservation District, and The Nature Conservancy within the basin will create conditions that will ultimately lead to a viable coho salmon population in the Shasta River. Given the dire water supply conditions that we are faced with this spring and summer, NMFS would like to encourage local landowners to engage in collaborative water conservation actions to enhance the survival and fitness of incubating embryos, emerging fry and juvenile life stages of coho salmon that are present in Parks Creek and the upper Shasta River.

Given the extensive impact of the 2014 drought, NMFS expects that under the most conservative approaches to water management, some coho salmon fry in Parks Creek and Upper Shasta River will perish. To assist local landowners and provide additional guidance for conservation actions



intended to reduce impacts to coho salmon, NMFS has developed the following Emergency 2014 Drought Initiative Individual Agreement.



## **Benefits for Water Users Who Participate in the Drought Initiative Individual Agreement**

### **ESA Enforcement**

Under the Endangered Species Act, NOAA has responsibility to protect and recover listed species including salmon and steelhead in California. The NMFS Office of Law Enforcement, often working with state and other federal agencies, investigates activities or inactivity that may result in the unlawful take of these species, and refers suspected unlawful activity to the Enforcement Section of the NOAA Office of the General Counsel for civil prosecution, or to the Department of Justice for criminal prosecution. Protection of ESA listed salmon and steelhead are a priority for NOAA across their range, and NOAA uses management plans and takes enforcement actions to help ensure the protection and recovery of these species.

At this time, severe and unprecedented drought conditions are affecting parts of California. To help address the concerns those conditions present, NMFS is working with those withdrawing water from California streams and rivers to take into account those needs and at the same time carry out its responsibilities towards ESA listed salmon and steelhead by taking the extraordinary steps outlined in this agreement. NOAA is thus seeking to encourage participation in the Drought Program. To that end, in making decisions about bringing or referring enforcement actions and about appropriate penalties, NOAA will consider participation in the Drought Program an important mitigating factor if a Drought Program participant unintentionally takes ESA listed fish species while withdrawing water or carries out other action that affects fish passage while complying with a Drought Initiative agreement. To obtain this special consideration, a Drought agreement participant must establish that it has implemented one of the specified water mitigation measures described in this agreement and fully complied with the requirements of the attached Drought agreement. NOAA will actively pursue enforcement actions against those who act negligently, recklessly or intentionally in violation of the ESA.

### **Financial and Technical Assistance**

NMFS will endorse efforts by public and private organizations to provide technical and financial assistance for water users who participate in this program. If requested, NMFS will provide recommendations and letters of support to those organizations for targeting financial and technical assistance for improvements to fish passage associated with water deliveries for program participants.

### **Elements of the 2014 Drought Agreement**

To qualify for the benefits of the 2014 Drought Agreement, the water user must implement A, B, C, and D as described below, and as applicable, as determined by NMFS.

#### **Contribute to Protective Flows**

- A. The water user or a group of water users maintain adequate flows to ensure redds within their property are inundated with moving water until alevins (emerging fry) are no longer



observed downstream of redd locations. Based on our current understanding of emergence timing within the basin, we anticipate that emergence could end sometime between late April and early May.

- B. The water user agrees to maintain adequate flows and instream conditions in Parks Creek from the confluence of the slough formed by water conveyed from Bridge Field Springs and Black Meadow to the confluence of Kettle Springs to ensure coho fry and juveniles have unimpeded passage opportunities to cold water refugia habitats through May 21, 2014.
- C. The water user agrees to forego the use of Kettle Springs for diversions through November 1, 2014, this Agreement is for this year and this year only given the urgency and extent of the drought conditions and shall not be interpreted to and does not waive, relinquish, modify, abandon, forfeit, sever or change the Water Rights or any other water rights held by the owner.
- D. The water user or a group of water users support fish rescue and relocation efforts by
  - I. Adjusting flows in an effort to support NMFS' and CDFW's rescue and relocation of fish. Flow adjustments may require the use of flashboard dams at Bridge Field Springs to reduce flows while rescue operations are underway.
  - II. Allowing fish to be relocated to the river adjacent to their property and following III below or allowing fish to be rescued from the river adjacent to their property and relocated elsewhere, and allowing access for such activities and monitoring described in this agreement.
  - III. Maintaining over-summering instream flows adequate (as defined by NMFS) for the survival of individuals.

### **Protecting Saved Water**

It is the intent of NMFS' and CDFW's drought initiative to help ensure contributions of willing participants will be honored by downstream water users so that whatever drought measure is chosen, the saved or dedicated water will be prioritized for passage flows and protected from downstream appropriation at least downstream to the confluence of Parks Creek and the Shasta River.

### **Fish passage Flows in Parks Creek**

The objective for providing adequate fish passage flows in Parks Creek is to provide fry and juvenile coho salmon with the opportunity to move into thermal refugia habitats associated with cold water springs. Potential locations where coho salmon may move include habitats near the source of Black Meadow, Bridge Field, and Kettle Spring in the Parks Creek watershed, Clear Springs in the upper Shasta River, Big Springs Creek, Little Springs Creek and other cold water sources (smaller springs or seeps) that may exist. The following are base flow scenarios that agencies believe to be needed for the successful passage of juvenile salmonids to over-summering habitat associated with cold water spring sources.



## **Parks Creek Flow Targets**

**Base flows-** (1) Maintain current flows (approximately 4 cfs) from the slough conveying waters from Bridge Field and other springs, through May 21, 2014 or until mean daily water temperatures begin to exceed lethal levels for coho salmon (24 °C, based on Sullivan et al. 2000), necessitating rescue and relocation efforts, . Based on previous studies, we anticipate that juvenile coho will move toward cold water habitats once mean daily water temperatures reach about 20 °C. (2) Unimpeded discharge from Kettle Springs to the confluence of Parks Creek until November 1, 2014.

**Access/Monitoring of Emergence and Fish Passage Success-** The applicant has worked closely with NMFS and CDFW representatives to develop the proposed flow requirements described in the agreement to protect in-gravel larvae, fry, and smolts and allow fish to migrate. The applicant and agency representative will continue to coordinate so that flow contributions are monitored, to determine if the intended results of protective measures occur. The applicant grants reasonable access over the property to conduct the monitoring activities described in this agreement.

Monitoring may involve one or more of the following activities:

- (1) Up and downstream snorkel surveys, where appropriate to determine where the fish are, and when they will need passage flows.
- (2) Use of traps (McBain traps or fyke nets) to monitor abundance and movement. Traps will need to be checked each morning to reduce potential impacts (delay in feeding, predation).
- (3) Monitoring of flow and water temperature conditions to allow adequate time to coordinate and assemble equipment necessary to conduct fish rescue operations prior to the point when adverse water quality conditions (high temperatures) might decrease the effectiveness of those operations.

## **Potential Fish Relocation Areas**

The applicant has agreed to work closely with NMFS and CDFW to identify suitable locations where rescued coho salmon could be placed to successfully rear over the summer period. NMFS and CDFW and the applicant have determined that the preferred alternative is to relocate coho salmon to the Parks Creek and Kettle Springs Creek confluence where cold water refugia exist. Through this agreement, the applicant has agreed to protect the Kettle Springs Creek cold water refugia. If adequate fish relocation areas are not available at or near the Parks Creek and Kettle Springs Creek, NMFS and CDFW will work with other landowners to identify suitable locations where rescued coho salmon could be relocated. Potential locations include spring sources along the upper Shasta River and in the Big Springs complex.

If you have questions about the program or your eligibility for program benefits, please contact:



## 2013 Shasta River Observed Redds Reaches 22, 23 and 24

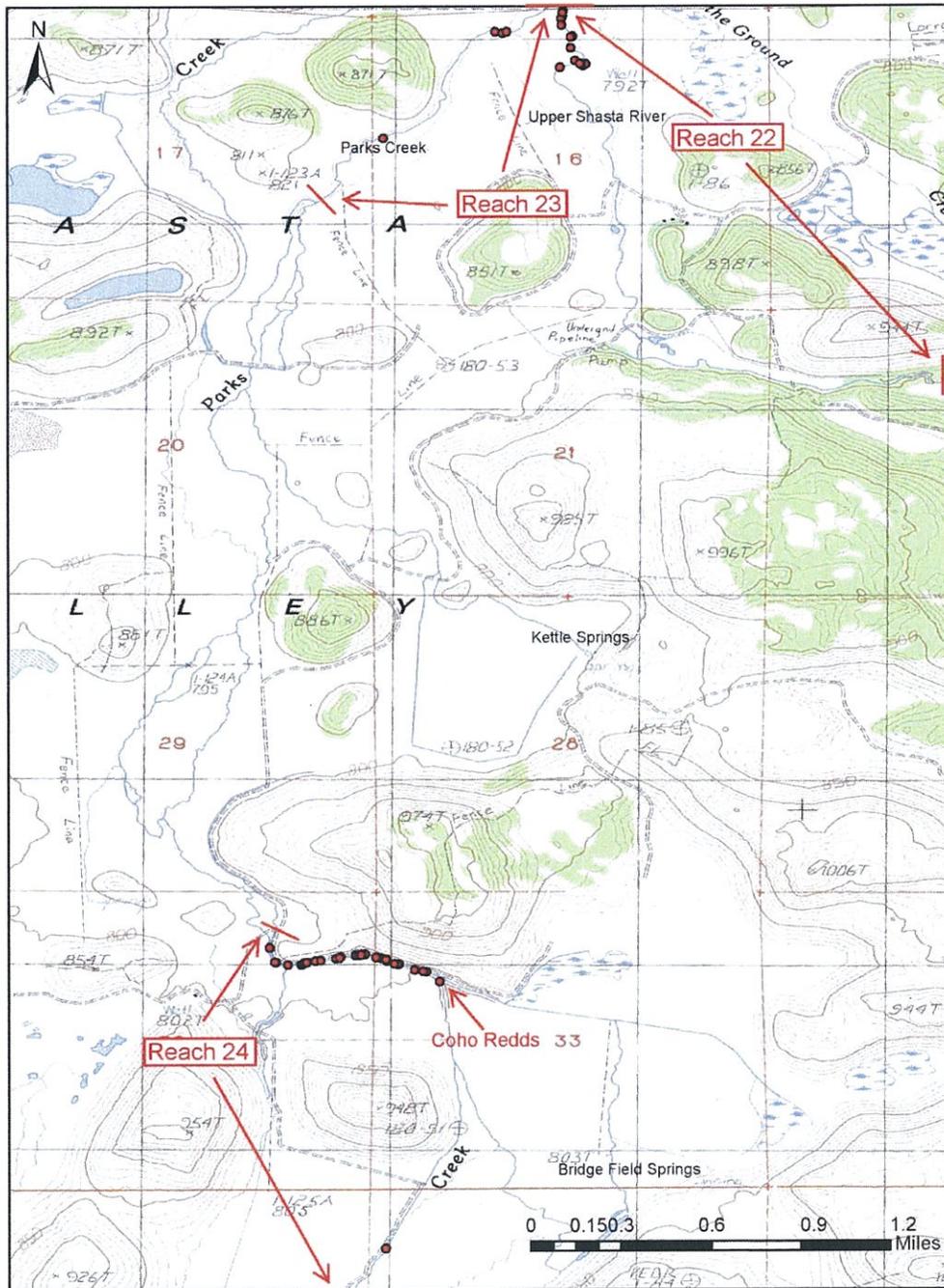


Figure 1. Location of coho salmon spawning redds observed in the upper Shasta River and Parks Creek during the winter of 2013/2014. Data and map were provided by the California Department of Fish and Wildlife in February of 2014.



**NMFS Contact:**

Jim Simondet  
National Marine Fisheries Service  
California Coastal Area Office  
1655 Heindon Road  
Arcata, CA 95519  
Email [jim.simondet@noaa.gov](mailto:jim.simondet@noaa.gov)  
(707) 825-5171

**Participating Parties**

A handwritten signature in green ink that reads "Daniel Monaschek". The signature is written in a cursive style and is positioned above a horizontal line.

Applicant for the Landowner  
Emmerson Investments Inc.

A handwritten signature in blue ink that reads "Irma Lagomarsino". The signature is written in a cursive style and is positioned above a horizontal line.

Irma Lagomarsino  
Assistant Regional Administrator  
National Marine Fisheries Office, West Coast Region, California Coastal Area Office