

**MEMORANDUM OF
UNDERSTANDING**

by and between

LOS MOLINOS MUTUAL WATER COMPANY

and

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

MILL CREEK WATERSHED

This California Endangered Species Act Memorandum of Understanding ("CESA MOU") is made and entered into by and between Los Molinos Mutual Water Company, (hereinafter called LMMWC), acting through its Board of Directors, and the California Department of Fish and Wildlife (hereinafter called the "CDFW").

The purpose of this CESA MOU is to provide a framework for cooperative activities and monitoring that involve or address issues of importance to spring-run Chinook salmon (*Oncorhynchus tshawytscha*) in Mill Creek, eastern Tehama County. This CESA MOU provides for take associated with actions taken by the CDFW or LMMWC to rescue and relocate Chinook salmon or assist with increasing flows in the creek for the benefit of spring-run Chinook salmon as management activities under authority of Section 2081(a) of the California Fish and Game Code.

RECITALS

WHEREAS, the CDFW has jurisdiction over the conservation and protection of fish, wildlife, and native plants and their habitats necessary for biologically sustainable populations of those species and holds those resources in trust for the people of California (California Fish and Game Code Section 1802).

WHEREAS, spring-run Chinook salmon are classified as a threatened species by the State of California Fish and Game Commission pursuant to the California Endangered Species Act (CESA, Code section 2050 et seq.).

WHEREAS, Fish and Game Code section 2080 prohibits the import, export, take, possession, purchase or sale of any species, in whole or in part, that has been listed as threatened or endangered by the California Fish and Game Commission. Take is defined in Fish and Game Code section 86 as 'hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill.' However, Fish and Game Code section 2081(a) allows CDFW to authorize take and other acts prohibited by Fish and Game Code section 2080 for scientific, educational, or management purposes. This CESA

MOU authorizes a limited level of take of spring-run Chinook salmon for management purposes.

WHEREAS, on January 17, 2014 Governor Brown issued a proclamation, declaring the state to be in an emergency due to the drought conditions.

WHEREAS, on April 25, 2014, Governor Brown issued an Executive Order directing state agencies to, in part, work with other state and federal agencies and with landowners in priority watersheds to protect threatened and endangered species and species of special concern 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.

WHEREAS Mill Creek provides many important surface water beneficial uses, including agriculture, recreation, wildlife habitat, freshwater habitat, and anadromous fish habitat, particularly for spring-run Chinook salmon (*Oncorhynchus tshawytscha*) listed as threatened under the Federal and State Endangered Species Acts and Central Valley steelhead trout (*Oncorhynchus mykiss*) listed as threatened under the Federal Endangered Species Act. Due in part to naturally occurring low flows, agricultural diversions, channel morphology and excessive temperatures, the upstream migration of adults or downstream migration of juvenile spring-run Chinook salmon and steelhead may be impeded or blocked in some years. In 2014, conditions in Mill Creek are poorer than is typical for this time of year. Conditions may further deteriorate such that listed juvenile and adult spring-run Chinook salmon will need the restoration of suitable instream flow conditions to provide passage and/or be rescued and relocated.

WHEREAS, LMMWC serves as the Watermaster for Mill Creek and operates two low diversions for agricultural water from both the north and south banks. As per the 1920 adjudication decree, LMMWC is also tasked with allocating water supplies, maintaining records of diversion and use, and with maintaining the structures necessary for diversion, conveyance, and delivery of water to all those entitled under the Decree to the water of Mill Creek, including LMMWC for the benefit of its shareholders.

WHEREAS, LMMWC, in its role as Watermaster for Mill Creek, is subject to Division 2, Part 4 of the California Water Code.

WHEREAS, LMMWC has adjudicated rights to divert Mill Creek surface water for irrigation and services approximately 7,000 acres of land within Tehama County.

WHEREAS, LMMWC owns or has access to certain real property associated with the LMMWC Diversion Dam on Mill Creek, Tehama County (Real Property). LMMWC is willing to participate with the CDFW in fish rescue and relocation activities by allowing access to the Real Property for the purposes of monitoring, and/or capturing and removing, and/or relocating spring-run Chinook salmon on or to Mill Creek adjacent to the Real Property or to the Sacramento River.

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

1. Purpose

The general elements of this CESA MOU include eligibility, fish rescue efforts, designated fish passage flows, changes in the timing of diversions to provide improved instream flow and water temperature conditions which would minimize the need to rescue fish, monitoring, and evaluations of management actions. The specific elements of the program are tailored by stream and by an eligible diverting entity and as described in this CESA MOU.

2. Methods

- A. Monitoring: CDFW or its agent will carry out all monitoring activities in accordance with standard fishery practices. Monitoring and evaluations plans shall be in place to inform the effectiveness of the flow events and/or rescue efforts. Monitoring and evaluations will be conducted by CDFW staff. CDFW, or its agent, will notify LMMWC at least 24 hours in advance, to the telephone number listed in Section 12 of this CESA MOU, of all planned monitoring activities it will carry out on the Real Property. Those activities may include:
 - i. Use of video stations to determine if fish are moving through lower Mill Creek in response to minimum base flows and pulse flow events, and to determine population abundance.
 - ii. Snorkel surveys conducted upstream and downstream of diversion structures and critical riffle areas to determine if minimum base flows are passing fish through these areas. It is the intent of the CDFW to detect any fish stranding issues before mortalities are observed, so that sufficient time is provided to inform diverters and take proactive flow restoration or other fish rescue actions.
 - iii. For pulse flow evaluations, identifying fish passage issues by conducting snorkeling surveys downstream of the potential barrier to determine if listed salmonids are in the vicinity of the potential passage issue. Assessment of critical riffles will also be conducted (e.g. cross section profile, longitudinal surveys). Once a fish passage issue is identified, the CDFW will make pulse flow recommendations to LMMWC on the magnitude of pulse flows that may help to move fish upstream past the area. See Section 4.C (i)(a) for a definition of "pulse flow magnitude".
 - iv. Monitoring of habitat conditions in Mill Creek or the Sacramento River prior to relocation of salmonids at risk, including spring-run Chinook salmon.
- B. Fish Capture and Relocation: CDFW or its agent will carry out all fish capture and relocation activities in accordance with standard fishery practices. CDFW, or its agent, will notify LMMWC, at least 24 hours in advance, to the telephone number listed in Section 12, of all planned fish rescue/relocation activities it will carry out on the Real Property.
 - i. Upon determination that stream flow and temperature conditions for salmonids, including spring-run Chinook salmon, are deteriorating in the lower Mill Creek watershed, or upon reasonable projections of same, CDFW will capture and remove salmonids, including spring-run Chinook, from Mill Creek adjacent to

- LMMWC's Real Property and relocate those salmonids to suitable habitat elsewhere in the watershed OR into the Sacramento River;
- ii. Relocating juvenile salmonids, including spring-run Chinook salmon, captured from elsewhere in the lower Mill Creek watershed, to Mill Creek adjacent to Real Property if suitable instream conditions exist, or to a suitable location on the Sacramento River; or iii. Monitoring stream depth and temperature at relocation site(s) post-relocation to determine if conditions remain adequate to keep salmonids alive and provide for salmonid passage.

3. Notice to Other Water Diverters

Prior to notifying LMMWC as described in Section 2.0, the CDFW will request all water diverters on Mill Creek below LMMWC's diversion dam not to divert any Bypassed Water, as defined below in Section 4.C (i). If the CDFW determines that any water diverter below LMMWC's diversion dam will not cooperate, the CDFW may: (a) elect not to request LMMWC to bypass water, in which case the CDFW will notify LMMWC of its decision as soon as possible; (b) withdraw from the CESA MOU in accordance with Section 13.0; (c) suspend the bypass flow events; or (d) take some other action consistent with the CESA MOU.

4. LMMWC Commitments

- A. LMMWC agrees to provide reasonable access to CDFW and its agents, including equipment access, to the Real Property to carry out any of the management activities listed in Section 1 of this CESA MOU for the purposes of:
 - i. Monitoring habitat conditions and spring-run Chinook salmon abundance, size, and condition prior to any management activities;
 - ii. Capturing and removing spring-run Chinook salmon from and/or relocating fish to suitable habitat, and for monitoring conditions post-relocation; or
 - iii. Monitoring stream flow conditions during flow events and/or during post-rescue/relocation to determine if conditions remain adequate to keep fish alive and provide for passage.
- B. All water diversion facilities that LMMWC owns, operates, or controls associated with the property where fish may need to be removed and relocated to more suitable habitats shall be operated and maintained in accordance with current laws and regulations.
- C. LMMWC agrees to perform Required Management Elements (RME's) as outlined below as a condition of this CESA MOU, according to the type of diversion activities conducted at a particular site:
 - i. Bypass Flows: The flow prescriptions identified in the CESA MOU are considered by National Marine Fisheries Service and CDFW to be the minimal flows that are necessary to allow for adult and juvenile fish migration on lower Mill Creek, and they are considered the minimum flows needed for minimize the effects of drought while balancing fish and

agricultural interests. Upon notice from the CDFW, LMMWC agrees to bypass a portion of the surface water it would otherwise divert from Mill Creek for agricultural use to augment fish transportation flows in Mill Creek, sometimes referred to herein as "Bypassed Water." The amount to be bypassed will be proportional to the streamflow adjudicated to LMMWC (~50-69%, depending on pre-diversion instream flows). Bypassed Water will be limited to flow releases during the spring and fall, as set forth below.

a. Minimum Base Flow: These flows are required to support fish that may already be in Mill Creek but may not have passed to upper elevations OR moved out to the Sacramento River.

1. Adult Spring Run Chinook: 50 cubic feet per second (cfs) between April 1 and June 14, 2014, and 25 cfs between June 15 and 30, 2014 for fish passage through the 2.8 miles of stream between the confluence with the Sacramento River and Ward Dam, as measured at the Department of Water Resources (DWR) flow gage below Ward Dam. Adult Chinook critical passage periods are from April 1 through June 30.

If monitoring and evaluations conducted by CDFW determine that fish are not present in lower Mill Creek or water temperatures are not conducive to fish survival during the period of June 15 to 30, 2014, and it is mutually agreed to by CDFW and LMMWC, base flows may be reduced below 25 cfs.

2. Juvenile spring-run Chinook: 50 cubic feet per second (cfs) between April 1 and June 14, 2014, and 25 cfs between June 15 and 30, 2014 for fish passage through the 2.8 miles of stream between the confluence with the Sacramento River and Ward Dam, as measured at the Department of Water Resources (DWR) flow gage below Ward Dam. Juvenile spring-run Chinook could be present in the system for a large portion of the year. However, as it pertains to this CESA MOU, the critical passage periods are April 1 through June 30 for young-of-the-year juvenile spring-run Chinook, and October 15 through December 31 for yearling juvenile spring-run Chinook. For the fall period, 50 cfs is required for out-migrating yearling juvenile spring-run Chinook and coincidentally Central Valley juvenile and adult steelhead (*Oncorhynchus mykiss*), which are federally listed as Threatened. In the event of a rain freshet, base flows could start on October 1, 2014 if mutually agreed to by NMFS, CDFW and LMMWC.

If monitoring and evaluations conducted by CDFW determine that fish are not present in lower Mill Creek or water temperatures are not conducive to fish survival during the period of June 15 to 30, 2014, and it is mutually agreed to by CDFW and LMMWC, base flows may be reduced below 25 cfs.

- ii. Pulse Flows: Pulse flows mimic the sudden increases in stream discharge following rain or snowmelt events which are absent in drought years. Adult salmonids have evolved to take advantage of such conditions when returning to natal tributaries. Previous pulse flows on Mill and Deer creeks lasting 24 hours or more have helped to create an attraction flow at the confluence of the tributary creek with the Sacramento River, encouraging fish to enter the stream, and providing the greatest instantaneous improvement to fish passage conditions through critical riffles and diversion structures. Pulse flows also encourage juvenile salmonids to migrate downstream before summer water temperatures become too warm.
 - a. Magnitude of pulse flows: A minimum of 50 cfs over base flow (see Section 4.C (i)(a) **or** full natural flows as recorded at the U.S. Geological Survey (USGS) Stream Gage at the mouth of the canyon above Upper Dam. The duration of the pulse flow in terms of time at which peak flow is maintained will be a minimum of 24 hours but not more than 72 hours.
 - b. Time period of pulse flows: April 1 through June 30, at a minimum of once every two weeks.

If monitoring and evaluations conducted by CDFW determine that fish are not present in lower Mill Creek or water temperatures are not conducive to fish survival during June, and it is mutually agreed to by NMFS, CDFW and LMMWC, pulse flows may cease prior to June 30, 2014.

- D. LMMWC shall notify the Department's fisheries program at the telephone number listed in Section 12, at least three (3) days prior to any significant planned changes in operation of the diversion and associated screen and bypass and other structures.
- E. All water diversion facilities shall be maintained so they do not prevent, impede, or tend to prevent or impede the passing of fish upstream or downstream. This includes installation and correct usage of CDFW-approved temporary fish passage structure, as described in a separate agreement between LMMWC and CDFW for use of such fish passage structure in 2014.
- F. LMMWC shall notify CDFW, at the telephone number listed in Section 12, at least three days, or as soon as practicable, prior to closing a headgate or valve when fish stranding may occur in the diversion conduit as a result of that activity.
- G. In cooperation with CDFW staff, LMMWC shall regularly inspect all fish screens and bypass pipes or channels to verify that they are effectively protecting salmonids and other fish species in accordance with CDFW and National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) fish screening criteria.

Sufficient flow will be supplied from the diversion into a fish bypass to safely and efficiently return fish back to the stream.

5. CDFW Commitments Regarding Fish Management Activities on the Real Property

- A. CDFW agrees that CDFW and its agents will conduct all rescue/relocation activities only after CDFW has provided the advance notice to LMMWC as provided in Section 2 above.
- B. CDFW will maintain the fish screens, bypass structures and/or fish ladders it has already agreed to maintain previously in writing.

6. Authorized Take Level

Chinook salmon: The number of spring-run Chinook salmon which may die in the course of fish capture and relocation activities conducted by CDFW is typically small (less than 10%) and is much-reduced from levels of mortality that will potentially occur in absence of carrying out this activity. As such, fish mortalities related to, or occurring in the course of, fish rescue activities is authorized.

7. Federal Endangered Species Act

Central Valley spring -run Chinook salmon are listed as a threatened species under the federal Endangered Species Act (ESA) of 1973. In its regulations, NMFS has limited the general prohibition of taking threatened spring-run Chinook salmon under the federal ESA to allow, CDFW, its employees, and its designees to perform the rescue activities listed in Section 1 above.

LMMWC is not expected or authorized to assist in the handling of Central Valley spring-run Chinook salmon as a part of the fish rescue effort. Nothing in this CESA MOU authorizes any action pursuant to the federal ESA.

8. Effective Date and Termination

Unless terminated sooner by either party of the CESA MOU by giving thirty (30) days prior written notice of earlier termination, this CESA MOU shall commence on the date of execution and will terminate on **December 31, 2014**, both days inclusive.

9. Dispute Resolution

The Parties shall make reasonable efforts to resolve any disputes that may arise from this CESA MOU in a prompt and timely manner. In the event of a dispute, the Party claiming a dispute shall give verbal and written notice of the dispute to the other Parties within 5 business days. If resolution of the dispute cannot be resolved within 5 business days of the notice either party may terminate the CESA MOU through written notice. Termination of the CESA MOU will result in a loss of take coverage for future actions.

10. Amendments

Amendments to this CESA MOU may be proposed by either party and shall become effective when both parties sign a written modification to this document.

11. Applicable Law

This CESA MOU shall be construed under and governed by the laws of the State of California and of the United States, without giving effect to any principles of conflicts of law if such principles would operate to construe the CESA MOU, as amended herein, under the laws of any other jurisdiction.

12. Notice and Contact Persons

Any written notice, and the telephone notice specified in Section 4 required to be given by the CESA MOU, shall be deemed to have been given by the notifying party when mailed, postage prepaid or delivered to the following representatives, who will also serve as main contact people for their respective Party:

For LMMWC: Mr. Darrell Mullins
25162 Josephine Street
Los Molinos, CA 96055
lmmutual@att.net

For CDFW: Mr. David Leitaker
Northern Region
California Department of Fish and Wildlife
1760 Bidwell Street
Red Bluff, CA 96080
David.Leitaker@wildlife.ca.gov
(530) 528-9406

13. Signatories' Authority

The signatories to the CESA MOU on behalf of all the Parties hereto warrant and represent that they have authority to execute the CESA MOU and to bind the Parties on whose behalf they execute the CESA MOU.

14. Disclaimer

The CDFW shall incur no fiscal obligation under this CESA MOU.

IN WITNESS WHEREOF, THE PARTIES HERETO HAVE EXECUTED THIS CESA
MOU TO BE IN EFFECT AS OF THE DATE LAST WRITTEN BELOW.



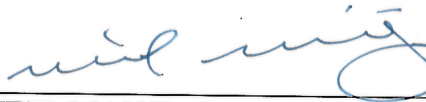
DARRELL MULLINS

Manager,

Los Molinos Mutual Water Company

Date: 5/19/2014

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Regional Manager,

Region 1

Date: 5/19/14

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