MEMORANDUM OF UNDERSTANDING

by and between

EDWARDS RANCH

and

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

This California Endangered Species Act Memorandum of Understanding ("CESA MOU") is made and entered into by and between Edwards Ranch (hereinafter called EDWARDS RANCH)-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 Antelope Creek, eastern Tehama County. This CESA MOU provides for take associated with actions taken by the CDFW or EDWARDS RANCH 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 Antelope 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 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 Antelope 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, EDWARDS RANCH is a privately-owned farm with adjudicated rights to divert Antelope Creek surface water for irrigation.

WHEREAS, EDWARDS RANCH is subject to flow maintenance responsibilities in a stream as per Division 4, Parts 7040 to 7045 of the California Water Code.

WHEREAS, EDWARDS RANCH owns certain real property associated with Edwards Diversion Dam on Antelope Creek, Tehama County (Real Property). EDWARDS RANCH 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 Antelope 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 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 MOU.

The elements of this CESA MOU, including flows, monitoring and evaluation, if implemented in the manner described in this below, will provide fishery protections necessary to avoid significant drought-related harm to spring-run Chinook salmon. The flows in this CESA MOU are based on our current understanding of the best available information for protecting fisheries, while maintaining water use in Antelope Creek and are comparable to, and achieve, a similar biological outcome for fishery protection, as those required in the regulations being proposed by the State Water Resources Control Board (Title 23 CCR 877-879.2).

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 EDWARDS RANCH at least 24 hours in advance, to the telephone number listed in Section 12 of this 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 Antelope Creek in response to minimum base flows and pulse flow events, and to determine population abundance.
ii. Snorkel surveys will be 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. Monitoring of habitat conditions in Antelope Creek, its distributaries, 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 EDWARDS RANCH, 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 Antelope Creek watershed, or upon reasonable projections of same, CDFW will capture and remove salmonids, including spring-run Chinook, from Antelope Creek adjacent to EDWARDS RANCH'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 Antelope Creek watershed, to Antelope 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 EDWARDS RANCH as described in Section 2.0, the CDFW will request all water diverters on Antelope Creek at or below Edwards Diversion Dam not to divert any Bypassed Water, as defined below in Section 4.C (i). If the CDFW determines that any water diverter at or below Edwards Diversion Dam will not cooperate, the CDFW may: (a) elect not to request EDWARDS RANCH to bypass water, in which case the CDFW will notify EDWARDS RANCH of its decision as soon as possible; (b) withdraw from the MOU in accordance with Section 13.0; (c) suspend the bypass flow events; or (d) take some other action consistent with the MOU.

4. EDWARDS RANCH Commitments

A. EDWARDS RANCH 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. This includes maintenance of the streamflow gage located above Edwards Diversion Dam, which is on Real Property owned by EDWARDS RANCH.

B. All water diversion facilities that EDWARDS RANCH 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. EDWARDS RANCH agrees to perform Required Management Elements (RME's) as outlined below as a condition of this MOU, according to the type of diversion activities conducted at a particular site:

i. Bypass Flows: Upon notice from the CDFW, EDWARDS RANCH agrees to bypass a portion of the surface water it would otherwise divert from Antelope Creek for agricultural use to augment fish transportation flows in Antelope Creek, sometimes referred to herein as "Bypassed Water." The amount to be bypassed will be proportional to the streamflow adjudicated to

EDWARDS RANCH, as opposed to the streamflow adjudicated to Los Molinos Mutual Water Company. Bypassed Water will be limited to flow releases during the fall, as set forth below.

a. Minimum Base Flow: These flows are required to support fish that may already be in Antelope Creek but may not have moved out to the Sacramento River. Base flows are defined as that flow which is measured above points of diversion on Antelope Creek, as measured at the historic U.S. Geologic Survey (USGS) flow gage site above Edwards Diversion Dam.
   1. Juvenile Spring-run Chinook: Fall Base flows: To meet the needs of out-migrating yearling juvenile spring-run Chinook; Central Valley steelhead (juvenile and adult) will also benefit from this flow prescription; see also Section 7.

      Once there is a freshet that doubles the full natural flow (measured at the historical USGS gage location above Edward's Dam) after October 15, 2014 but prior to November 1, 2014, then a base flow of 35 cfs, or full natural flows, whichever is less, must be maintained from that point forward; this flow will be measured at Cone Grove Park. A freshet is defined as a sudden rise in the level of a stream, or a flood, caused by heavy rains or the rapid melting of snow and ice.

      If there is not a freshet that doubles the full natural flow before November 1, 2014, then for the period from November 1 to December 31, 2014, a flow of 35 cfs, or if the flow is less than 35 cfs, then the full natural flow, whichever is less, will be maintained, as measured at Cone Grove Park.

      It is duly noted that adult and juvenile spring-run Chinook salmon and steelhead are present in stream during other months. However, for the purpose of this CESA MOU, the critical passage periods described above are critical to fish protection during the drought.

D. EDWARDS RANCH shall notify the CDFW'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.

F. EDWARDS RANCH 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, EDWARDS RANCH 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 Marine Fisheries Service (NMFS) fish screening criteria. Sufficient flow will also be supplied in the fish ladder, located on Edwards Diversion Dam to provide upstream and downstream migration of fish.

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 EDWARDS RANCH as provided in Section 2 above.

B. CDFW will maintain the fish screens 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, it employees, and its designees to perform the rescue activities listed in Section 1 above. Central Valley steelhead are also listed as threatened by the Endangered Species Act; the flow prescription identified in Section 4 has been vetted with NMFS staff and determined to be consistent with flow prescriptions identified in volunteer agreements developed by NMFS during the 2014 drought period. However, nothing in this CESA MOU authorizes any action pursuant to the federal ESA.

EDWARDS RANCH 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.

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 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 MOU through written notice. Termination of the 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 EDWARDS RANCH:
Mr. James (Jim) Edwards
13038 Highway 99-E
Red Bluff, CA 96080
eranch@clearwire.net
(530) 527-4285

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.

W James Edwards Jr

JAMES EDWARDS
Edwards Ranch

Date: 5/19/14

13038 Highway 99 E
Red Bluff, CA 96080
(530) 527-4285

NEIL MANJI
Regional Manager,
Northern Region

Date: 5/14/14

California Department of
Fish and Wildlife, Region 1
601 Locust Street
Redding CA 96001
(530) 225-2300