# CDFW WSIP Ecosystem Benefits



## Informational Meeting Contracts for Administering Public Benefits

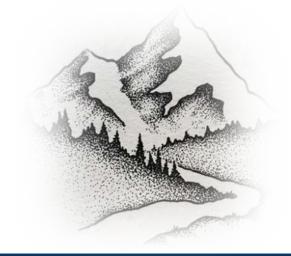
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#### Introduction

- What is CDFW's role in developing contracts for the administration of public benefits?
- What is CDFW's process for developing contracts?
- Why is CDFW interested in stakeholder feedback?





#### **CDFW's Process**

#### Phase 1:

Information Gathering

#### Phase 2:

- □ Contract Development with project applicants per WSIP regulations Section 6014 (a)(2)(A):
  - Public Benefit Description
  - Adaptive Management Plan
  - Reporting Requirements
  - Assurances on project operations and maintenance

#### Phase 3:

□ Contract Ratification





#### **Ecosystem Benefits**

CDFW has made findings on ecosystem benefits that can be organized into nine categories:

- ✓ Chinook Salmon passage flows
- ✓ Feather River pulse flows
- ✓ Reduced salmon entrainment
- ✓ Refuge water supply
- ✓ Sandhill Crane habitat
- ✓ Steelhead Trout habitat
- ✓ Vernal pool habitat
- ✓ Wetland and riparian habitat
- ✓ Yolo Bypass pulse flows



## **Ecosystem Benefit: Chinook Salmon Passage**

**Benefit Description:** Increased flow in the Cosumnes River during adult fall-run Chinook Salmon migration.

**Benefit Rationale:** Increased streamflow will improve migrating conditions and access to Chinook Salmon spawning habitat.

**Benefit Implementation**: Raised groundwater levels will lead to increased baseflow in the Cosumnes River due to surface water/groundwater interactions.



Project(s):
South County Ag Program



#### **Ecosystem Benefits: Pulse Flows**

**Benefit Description:** Pulse flows between 18 taf and 50 taf out of Oroville Reservoir into the Feather River.

**Benefit Rationale:** A pulse of water through the Feather River will benefit juvenile Chinook Salmon emigration.

**Benefit Implementation:** CDFW identifies a need for a pulse. A water transfer occurs between State Water Contractors and the project applicant.



Project(s):
Chino Basin Conjunctive Use Project
Kern Fan Groundwater Storage Project
Willow Springs Water Bank Conjunctive Use Project



#### **Ecosystem Benefit: Reduced Salmonid Entrainment**



**Benefit Description:** Physical improvements to Rock Slough Fish Screen Facilities and expansion of invasive aquatic weed management.

**Benefit Rationale:** Improvements should increase efficient screen performance and maintain appropriate approach velocity to increase salmonid survival.

**Benefit Implementation**: Improvements to hydraulic rake system and other components.



Project(s):
Los Vaqueros Reservoir Expansion Project



## **Ecosystem Benefits: Refuge Water Supply**

**Benefit Description:** Provide between 2 taf and 46 taf of water to State, Federal, and privately managed refuges.

Benefit Rationale: Increased water supply helps improve wetland habitat including avian food production, wintering and brood habitats.

Benefit Implementation: Water releases from reservoirs would be

conveyed to refuge boundaries to improve

wetland habitat.



Project(s):

Los Vaqueros Reservoir Expansion Project Pacheco Reservoir Expansion Project

Sites Project

Temperance Flat Reservoir



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#### **Ecosystem Benefit: Sandhill Crane Habitat**

**Benefit Description:** 3,500 acres of agricultural fields managed for Greater Sandhill Crane habitat.

**Benefit Rationale:** Creation of Greater Sandhill Crane wintering habitat in close proximity to existing habitat will allow for greater dispersal and use by the species.

Benefit Implementation: Active management of agricultural fields for

Sandhill Crane

wintering Greater Sandhill Crane use.



Project(s): South County Ag Program

#### Department of Fish and Wildlife • Water Storage Investment Program

#### **Ecosystem Benefit: Steelhead Habitat**

**Benefit Description:** Year-round reservoir releases to Pacheco Creek targeting average monthly flows of 10-20 cfs.

**Benefit Rationale:** Reservoir releases should Provide improved flow and instream habitat conditions for all life stages of Steelhead Trout.

**Benefit Implementation**: Reservoir releases from the new replacement Dam to Pacheco Creek.



Project(s):
Pacheco Reservoir Expansion Project



#### **Ecosystem Benefit: Vernal Pool Habitat**



**Benefit Description:** Restoration and reestablishment of 500 acres of vernal pool habitat.

Benefit Rationale: Vernal pools are unique habitats for many native species.

**Benefit Implementation:** Strategic land management will allow for vernal pool restoration and establishment.



Project(s): South County Ag Program



## **Ecosystem Benefits: Wetland/Riparian Habitat**

**Benefit Description:** Two areas with 1,280 and up to 4,533 acres of wetland generated or improved, respectively. 500 acres of riparian forest habitat generated or improved.

Benefit Rationale: Wetland and riparian habitats provide refuge for migratory waterfowl and other Californian native species.

Benefit Implementation: Wetland/ riparian habitat generation or enhancement through groundwater improvements with strategic water delivery in some areas.



Project(s): Kern Fan Groundwater Storage Project South County Ag Program



### **Ecosystem Benefit: Yolo Bypass Pulse Flows**

**Benefit Description:** Approx. 40 taf of water for pulse flows in late-summer/fall to benefit Delta Smelt.

**Benefit Rationale:** Yolo Bypass pulse flows have been shown to help promote food production and export in areas where Delta Smelt are known to occur.

Benefit Implementation: Water would be released from the Colusa

Basin Drain through the

Yolo Bypass Toe Drain.



Project(s): Sites Project



### **Information Gathering**

- > Metrics
  - Physical
  - Biological
- ➤ Adaptive Management
  - Monitoring
  - Management triggers
- Considerations
  - Existing knowledge/ programs
  - Constraints







#### **CDFW Contact Information**

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