FLOODPLAINS REIMAGINED

ADVISORY COMMITTEE MEETING SUMMARY

September 15, 2023, 9-11am
Zoom Virtual Meeting

Meeting Objectives

- Recommendations to the Steering Committee on Managed Wetlands and Waterfowl Hunting Criteria
- Shared understanding of Technical Assistance projects

Action Items

Program Team

- KSN
    1. Holly Dawley – Connect with Brian Ellrott, NMFS, on coordination on juvenile rearing science and studies

Participants

- Matt Brown, USFWS
    1. Provide updates on the Bridge Group to the next Advisory Committee meeting. The Bridge Group is a group of commercial fishing organizations and Sacramento Valley water users.
- Dan Fehringer, Ducks Unlimited
    1. Verify the years range for the decision support tool for locating fish food production on rice fields in the Sacramento Valley
- All
    1. Consider opportunities for coordination between different efforts to understand, monitor, and release rearing to outmigrating winter-run and fall-run juveniles in the Sacramento River.

Advisory Committee Recommendations

Advisory Committee members recommended that the Steering Committee adopt the following recommended the proposed Managed Wetland and Waterfowl Hunting Evaluation Criteria.

It is important to note that this recommendation for Evaluation Criteria does not connote support for the types of inundation scenarios for which the Evaluation Criteria would be applied. There are some participants that still do not support the preliminary concepts of operable gates on Moulton and Colusa Weirs and the potential inundation scenarios they would enable.

Welcome and Introductions

Julie Leimbach (Leimbach), Kearns & West, welcomed all attendees. All attendees are listed in the table at the end of the document.

Leimbach reviewed the meeting agenda and objectives and outlined the focus and presented the key question to be addressed:

- Are the evaluation criteria and approach adequate to evaluate the performance of potential scenarios?
- Does the Advisory Committee recommend the Managed Wetland and Waterfowl Hunting evaluation criteria to the Steering Committee?
- Is clarification needed regarding the Technical Assistance results?

Leimbach reiterated the role of the Advisory Committee:

- To advise the Steering Committee on the adoption of key work products and Ad Hoc Group input on decision support tools, evaluation criteria, potential actions, expected benefits, and implementation strategy;
- To participate in an open and transparent exchange of information and interests;
- To make recommendations to the Steering Committee;
- Consensus is not required in the development of recommendations.

Managed Wetland and Waterfowl Hunting Evaluation Criteria

Introduction

Leimbach introduced the proposed Evaluation Criteria within the Priorities, Objectives, and Criteria already approved by the Program.

Leimbach presented the priorities and objectives that the proposed Evaluation Criteria would evaluate. The participants recommended that this criteria also evaluate performance against the Agriculture Priority and its objectives. We have added that to the list below:

- Priority: Floodplain Wildlife
    - Objective:
        - Improve Pacific Flyway bird habitat for waterbirds, shorebirds, and migratory birds, using the floodplain
- Priority: Recreation
    - Objective: Maintain or improve recreational hunting opportunities for waterfowl hunting clubs
- Priority: Agriculture
    - Objective: Maintain planting, growing and harvest seasons
- Evaluation Criteria
    - Impacts on Floodplain Wildlife, Recreation, and Agriculture

Proposed Evaluation Criteria

Virginia Getz (Getz) and Dan Smith (Smith), Ducks Unlimited, presented the managed wetland and waterfowl hunting evaluation criteria and reiterated the key question posed to the Advisory Committee: Are the criteria and approach adequate to evaluate the performance of potential scenarios? Getz reiterated that respect for existing land uses is a guiding principle of the Floodplains Reimagined program. The project area is extremely important for supporting waterfowl operations, as well as managed wetlands and rice lands.

Getz presented the following information:

- Characteristics of managed wetlands
    - Normally dry during spring and summer; shallowly flooded in the fall
    - Hunting is one major type of land use
- Characteristics of rice fields
    - Flooded after the harvest season
    - Provide habitat for invertebrates
    - Land uses include agriculture and hunting
    - The Sutter Bypass region supports 50 percent of ducks and nearly all geese in the Central Valley

Getz explained Ducks Unlimited's process for developing the evaluation criteria:

- Prior to the launch of Floodplains Reimagined, Ducks Unlimited collaborated frequently with Reclamation District (RD) 108.
- Ducks Unlimited developed a proposed project that was included in the Floodplain Forward portfolio.
- Ducks Unlimited conducted outreach to wetland managers and hunters to better understand the ability to manage flood impacts and still use the land for recreational hunting. Previously, landowners were unhappy with, what they felt was, a lack of consideration for the impact on their land use.
- Ducks Unlimited analyzed the findings.
    - Flood-related impacts included:
        - Waterfowl usage
            a. Flood depths of 12 inches or less was deemed ideal by the Bird Habitat Suitability Criteria approved by the Advisory and Steering Committees
        - Landowner/hunter access
            a. Despite the use of stilts on structures, the water can still reach very high levels
            b. In some areas, boats are the only method for entering and exiting properties
        - Infrastructure maintenance
            a. Accumulated flood damage
            b. Completion of repairs are required before the start of the hunting season
        - Wetland management for bird food production

a. The land needs to be dry enough from late spring to early fall to allow for plants to germinate and produce sufficient food for birds

Smith presented the impact equation which involves daily evaluation of three impact score factors:

1. Flood depth – *How deep is the flood water?*
2. Timing – *When is the flood occurring?*
3. Flood area – *How extensive is the flood water?*

Smith explained the impact score factors in greater detail, along the equations depicted below.

- Flood depth
  - The recommended depth in the criteria is no greater than 12 inches. At this level, there is no impact on rice fields or managed wetlands.
  - As water depths increase, the following impacts can occur:
    - Bird use declines
    - Property access reduction
    - Infrastructure damages
- Flood timing
  - Greater weight is given to days deemed as more critical for waterfowl hunting. This includes the first two weeks of waterfowl hunting season, typically from mid-to-late October; early-to-mid December; and the beginning of February.
- Flood area
  - The hydrodynamic model shows how many acres are flooded at each depth level for both managed wetlands and rice fields.

Questions and Comments

The participants provided the following questions, comments, and recommendations.

Priorities

- Recommendation to include the agriculture as a priority in this evaluation criteria. [Jacob Katz, California Trout]

Impacts

- This presentation accurately represented my observations of my property and the negative impacts of inundation, including loss of land use and loss of infrastructure. [Hans Herkert, RD 1004]
- I also experience the presented issues in my area. The data shows that even during normal flood events, there are impacts. The evaluation criteria and its application to the potential concepts will be valuable. [Denise Carter, Landowner]

Flood Depth

- Recommendation to evaluate the potential benefit to birds of additional shallow depths. [Katz, California Trout]

    - Differing point from the shallow margin: Recommendation that the evaluation of benefits and the scenarios consider that birds and recreation could migrate along with the birds.
- Concern that agencies lack the management capacity during dry years to simulate the high-water conditions highlighted in the presentation. [Katz, California Trout]
    - We have not yet defined the specific scenarios for consideration. We modeled a demonstration of two baseline water years. Deep flooding can happen naturally with precipitation and it's important to understand how it impacts activities on the land. [Getz, Ducks Unlimited]

Flood Timing

- Request for clarification on why not all hunting clubs participate in the inundation process. [Mark Hennelly, California Waterfowl Association]
    - Most of the late-season goose hunting does not take place on managed wetlands or rice fields; it's on pastures. [Getz, Ducks Unlimited]

Other Recommendations for Additional Evaluation Criteria

- Recommendation to consider water quality contamination from salts, chromium, and mercury and its impact on the foodweb's connection to managed wetlands and waterfowl. [Ben King, Colusa Co. Resource Conservation District]
    - Related publication: Colusa National Wildlife Refuge Water Management Plan, March 2011
- Recommendation to consider an evaluation of effects on vernal pools, *i.e.,* seasonal pools of water that provide habitat for distinctive plants and animals. [Ben King, Colusa Co. Resource Conservation District]
    -

Recommendation

Advisory Committee members recommended that the Steering Committee adopt the following recommended the proposed Managed Wetland and Waterfowl Hunting Evaluation Criteria.

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Technical Assistance: Decision Support Tool for Locating Fish Food Production on Rice Fields in the Sacramento Valley

Holly Dawley (Dawley), KSN, and Dan Fehringer (Fehringer), Ducks Unlimited, introduced Ducks Unlimited's Technical Assistance project to develop a Decision Support Tool intended to aid in locating rice fields best suited to a fish food production program. The presented information included:

- The Decision Support Tool is directed specifically to determine suitability for rice field management on for fish food production.
- The approach for this project involves identification of the best locations for a fish food program based on several factors. Those include, but are not limited to:
    - Salmon-related factors
        - Proximity of the fields to fish-bearing streams
        - Timing of juvenile salmon presence in the rivers
    - Waterfowl and shorebird-related factors
        - Timing of fish food drawdowns in relation to timing of waterbird population numbers in the Sacramento Valley
        - Ability to reflood fields after food transport
    - Water districts and agriculture-related factors
        - Timing of annual canal and infrastructure maintenance and how this affects ability to flood fields and transport fish food

Fehringer shared a map on water infrastructure developed with data provided by FlowWest. The map depicted return types and distances to fish-bearing streams which helped visualize how far fish food would have to be transported before it reaches the fish. Return types are categorized as:

- Direct – a fish-bearing stream
- Indirect – a secondary canal

Fehringer also shared maps depicting winter flooding frequency in managed wetlands and rice fields for the years range of 2016 – 2022. He pointed out the following details:

- Water levels begin increasing in November
- Water levels are highest in January
- Water levels are lowest in February as the water is being drawn down from the wetlands and fields
- Adding water to the landscape provides value for both fish and waterfowl

Fehringer outlined the next steps for the Decision Support Tool:

- Review and combine infrastructure and flood frequency layers
- Perform outreach with salmon and shorebird biologists, with water districts, and the rice industry to define additional layers and rankings
- Develop a "final" decision support model that incorporates:
    - The initial Decision Support Tool
    - Issues to be examined in the future, e.g., groundwater
    - The ability to build future datasets into the Tool for long-run usage

Fehringer stated that Ducks Unlimited welcomes input from the water districts and agriculture sector. He opened the floor for feedback and discussion.

FlowWest's Collaboration

Mark Tompkins (Tompkins), FlowWest, added details related to FlowWest's collaboration with Ducks Unlimited on development of the Decision Support Tool:

- The Metropolitan Water District provided funding
- The Tool assists with energetics modeling
- The Tool will be available for use in various programs including Floodplains Reimagined
- FlowWest and Ducks Unlimited will conduct formal outreach to instruct potential users

Questions and Comments

The participants provided the following questions and comments.

- How did you choose the years range of 2016 – 2022? [Brian Ellrott, NMFS]
    - Those years were chosen to increase our sample sizes within the Google Earth Engine calculations. The imagery came on board as a remote sensing tool. In 2016, we were limited to Landsat data only, and the available number of images were also limited. Using these years gave us greater reliability. In addition to map layers showing flooding frequency, we have water presence pulled off of Google Earth Engine from November to May. [Fehringer, Ducks Unlimited]
- What factors are we considering for evaluating fish-bearing streams? [Bjarni Serup, CDFW]
    - We are looking at differences in habitat quality that would prioritize one outlet over another. We hope to quantify or identify where there's both habitat and refuge habitat with these outlet structures. [Fehringer, Ducks Unlimited]
- Request for a brief description of the bioenergetics modeling, since combining efforts may be beneficial. [Bjarni Serup, CDFW]
    - There's a life cycle model that studies salmon growth, habitat, and various life stages. Survival and growth are tied to prey density. One important input for evaluating scenarios is to come up with different scales of food production. Another is what sorts of prey densities will make it back to the river. [Tompkins, FlowWest]
    - The Program Team works with a technical team that provides connectivity to the SIT Model. We can look to them for recommendations on how to further integrate the programs. [Dawley, KSN]
- Suggestion for Fehringer and Tompkins to meet with the NOAA Fisheries Floodplain Team regarding program integrations and use of the Decision Support Tool. [Ellrott, NMFS]

Update on Potential Release of Fall-run Chinook Juvenile Salmon in Sacramento River and Butte Creek

- The Bridge Group proposed to increase production of fall-run Chinook salmon and introduce juveniles into floodplains to rear. It's an urgent effort, as the fall-run Chinook will begin spawning in early October. The goal is to add millions of fish into the rice fields in the Sutter Basin, which will be a major lift as well as costly.
- We want to use use a method called parentage-based tagging to determine fish origin. The State will be using data from this effort to manage ocean fish harvesting.
- Funding for management and modeling has not yet been obtained, and is needed quickly, although the Federal government is not expected to respond quickly. [Matt Brown, USFWS]

    - The Bridge Group shares multiple concerns. Everyone is trying to provide help for the fall-run salmon and commercial recreational charterboard fishery. We welcome input to develop an effective approach but acknowledge it will happen over several years. [Lewis Bair, RD 108]
    - The California Rice Commission is very supportive of the Bridge Group proposal. Currently, there are more landowners than needed to participate in the financial incentive program to rear juvenile fish on their land. We want to move quickly but manage the fields in the most cost-efficient way. Right now, the cost is approximately $100 per acre. [Paul Buttner, California Rice Commission]
- NMFS and CDFW expressed concern about tradeoffs between fall-run and spring-run Chinook. Releasing fall-run fish could potentially negative impact spring-run Chinook salmon. Fish released into the Sutter Bypass and Butte Creek could be in competition with spring-run fish, which are doing poorly and could be transitioning to endangered status soon. There was also a disastrous event in the Butte Creek Canal related to sediment. [Ellrott, NMFS]
    - The proposed plan to release fall-run hatchery fish requires amending USFWS' Biological Opinion as soon as possible. USFWS will examine the tradeoffs between spring and fall-run impacts during that process. [Brown, USFWS]

Closing Remarks and Adjourn

Leimbach reviewed the action items, thanked participants for their participation, and adjourned the meeting.

Participants

Advisory Committee Members	
Affiliation	**Name(s)**
Bird Haven Ranch	Andy Atkinson
California Department of Fish & Wildlife (CDFW)	Bjarni Serup Duane Linander Elaine Jeu Michelle Forsha
California Rice Commission	Paul Buttner
California Trout	Jacob Katz
California Waterfowl Association	Mark Hennelly
Central Valley Flood Protection Board	Jane Dolan

Colusa County Resource Conservation District, Board & Landowner	Ben King
Department of Water Resources (DWR)	Jesus Esparza
Ducks Unlimited	Brian Heidman Dan Fehringer Dan Smith Virginia Getz
FlowWest	Mark Tompkins
Foraker Properties	Erik Foraker
Landowner	Denise Carter
National Marine Fisheries Service (NMFS)	Brian Ellrott
Northern California Water Association (NCWA)	Todd Manley
Paskenta Band of Nomlaki Indians	Rachel Vansickle
Reclamation District 70/1660, Tisdale Irrigation District, Butte Slough Irrigation	Andy Duffey
Reclamation District 1004	Hans Herkert
River Partners	Julie Rentner Torey Byington
United States Fish & Wildlife Service (USFWS)	Baker Holden Jeff Beauchamp Jim Earley Matt Brown
Wild Goose Club	Roger Swanson
Yolo County	Sabrina Snyder

Program Team **Affiliation**	**Name(s)**
cbec	Chris Campbell Jesse Rowles
Cramer Fish Sciences	Steve Zeug
Kearns & West (K&W)	Julie Leimbach Bethany Taylor
Kjeldsen Sinnock Neudeck (KSN)	Holly Dawley
Larsen Wurzel & Associates (LWA)	Eric Nagy Mark Cowen

Reclamation District (RD) 108	Lewis Bair
San Francisco Estuary Institute (SFEI)	Alison Whipple