

Habitat Restoration Program Technical Team:

Habitat Restoration Conservation Measures

Presentation to
BDCP Steering Committee
September 19, 2008

Purpose and Process of the Habitat Restoration Program TT

“To develop and recommend habitat-related conservation measures (protection, enhancement, restoration) for implementation within the BDCP Planning Area and Suisun Bay/Marsh that are designed to achieve BDCP covered species biological goals and objectives for adoption by the BDCP Steering Committee.”

Purpose and Process of the Habitat Restoration Program TT

- Address physical habitat-related stressors through:
 - Floodplain habitat restoration
 - Intertidal marsh habitat restoration
 - Channel margin habitat restoration
 - Riparian habitat restoration
- Coordinated evaluation of selected measures with HOTT
- 26 meetings from Jan 9 to Aug 27, 2008

HRPTT Members

Co Chair: John Cain (NHI)

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Handouts Today

- HO#1 Detailed Descriptions of Habitat Restoration Conservation Measures
- HO#2 Summary Table of Habitat Restoration Objectives

Types of Habitat Restoration Actions Addressed in Conservation Measures

- Enhanced floodplain habitat
- Restored floodplain habitat
- Restored freshwater intertidal marsh, including shallow subtidal aquatic
- Restored brackish intertidal marsh, including shallow subtidal aquatic
- Enhanced channel geometry/bankline structure
- Restored Riparian forest and scrub

Descriptions of Habitat Restoration Concepts

- Provided in Attachment A of Handout #1
- Described for floodplain, intertidal, and channel margin habitat restoration concepts:
 - Restoration variables that can be manipulated to restore habitat
 - Design targets that describe desired physical and biological attributes to be provided by restored habitats

Habitat Restoration Concepts

(cont.)

- Potential performance criteria that could be monitored to inform adaptive management decision making
- Key uncertainties with respect to restoration design and expected outcomes
- Potential ecological risks that could be associated with implementing restoration

Major Covered Fish Species Stressors Addressed

- Insufficient salmonid rearing habitat
- Insufficient Sacramento splittail and smelt spawning and rearing habitat
- Impaired aquatic food web processes and food production
- Inadequate connectivity among covered fish species habitats

Other Benefits of Proposed Restored Habitats

- Reduced susceptibility to predation by non-native fish predators
- Localized improvements in water quality (e.g., water temperatures)
- Reduction in stranding losses in the Yolo Bypass

Other Benefits of Proposed Restored Habitats (cont.)

- May provide habitat for other potential covered species:
 - Saltmarsh harvest mouse
 - Suisun shrew
 - Riparian brush rabbit
 - Swainson's hawk
 - Yellow breasted chat
 - Valley elderberry longhorn beetle
 - California black rail
 - California clapper rail
 - Giant garter snake
 - Tricolored blackbird
 - Suisun Marsh aster
 - Delta tule pea
 - Mason's lilaeopsis
 - Delta mudwort
 - Delta button celery
 - Soft bird's beak

Conservation Measure Approaches

- New habitat restoration initiatives developed and implemented by BDCP
- Coordination with flood control agencies to restore floodplains for joint conservation and flood control benefits
- Building on other existing conservation programs benefiting covered species
- Influencing federal, state, and local agency planning efforts to benefit covered species

Inundated Floodplain Habitat: Objectives & Measures

FLOO1: Increase the frequency that the Yolo Bypass floodplain is inundated for at least 45 consecutive days to approximately ___ percent of years based on current hydrology.

FLOO1.1: Modify and operate the Freemont Weir to increase the frequency that the Yolo Bypass floodplain is inundated.

Inundated Floodplain Habitat: Objectives & Measures (cont.)

FLOO2: Restore at least ___ acres of inundated Floodplain surface that provides habitat and ecological functions in support of covered species.

FLOO2.1: Coordinate with flood control agencies to identify, fund, and implement flood control projects designed and managed to restore and maintain floodplain, channel margin, freshwater intertidal, and transitional grassland habitats.

Inundated Floodplain Habitat: Objectives & Measures (cont.)

FLOO2.2 Restore between ___ and ___ acres of inundated floodplain habitat in the South Delta Restoration Opportunity Area.

Freshwater Intertidal Marsh Habitat: Objectives & Measures

FIMA1: Restore, manage, and protect at least ___ acres of freshwater intertidal marsh in the Delta that provides habitat and ecological functions in support of covered species.

FIMA1.1: Restore a mosaic of ___ to ___ acres of freshwater intertidal marsh, shallow subtidal, and transitional grassland habitat within the Yolo Bypass/Cache Slough Complex Restoration Opportunity Area.

Freshwater Intertidal Marsh Habitat: Objectives & Measures (cont.)

FIMA1.2 Restore a mosaic of ___ to ___ acres of freshwater intertidal marsh, shallow subtidal aquatic, and transitional habitat within the Consumnes/Mokelumne Restoration Opportunity Area.

FIMA1.3: Restore a mosaic of ___ to ___ acres of freshwater intertidal marsh and shallow subtidal aquatic habitat within the West Delta Restoration Opportunity Area.

Freshwater Intertidal Marsh Habitat: Objectives & Measures (cont.)

FIMA1.4: Restore a mosaic of ___ to ___ acres of freshwater intertidal marsh, shallow subtidal aquatic, and transitional grassland habitat within the South Delta Conservation Opportunity Area.

FIMA1.5: Restore a mosaic of ___ to ___ acres of freshwater intertidal marsh, shallow subtidal aquatic, and transitional grassland habitat within the East Delta Restoration Opportunity Area.

Brackish Intertidal Marsh Habitat: Objectives & Measures

BIMA1: Restore, manage, and protect ___ acres of brackish intertidal marsh in Suisun Marsh/Bay to provide habitat and ecological functions in support of covered species.

BIMA1.1: Restore a mosaic of ___ to ___ acres of brackish intertidal marsh, shallow subtidal aquatic, and transitional grassland habitat within the Suisun Marsh Restoration Opportunity Area.

Channel Margin Habitat: Objectives & Measures

CHMA1: Enhance at least ___ acres of existing channel margin habitats in the Delta to improve their habitat and ecological functions in support of covered species.

CHMA1.1: Support development and implementation of levee construction and maintenance designs that incorporate aquatic and riparian habitat features.

Channel Margin Habitat: Objectives & Measures (cont.)

CHMA1.2: Design levees constructed under the BDCP to incorporate design features that support and enhance covered species habitats.

CHMA1.3: Enhance channel margin habitats along ___ to ___ miles of Steamboat and Sutter Sloughs to improve habitat conditions for covered fish species.

Riparian Habitat: Objectives & Measures

RIPA1: Restore at least ___ acres of riparian forest and scrub within the Delta to provide habitat and ecological functions in support of covered species.

RIPA1. 1: Restore between ___ and ___ acres of riparian forest and scrub communities as a component of restored floodplain, freshwater intertidal marsh, and channel margin habitats.

Actions by Steering Committee

- Provide input as to measures to keep, discard, revise
- Provide guidance as to additional details and evaluations needed to make decisions regarding specific measures
- Written comments to SAIC by Oct 3
- Additional discussion at Oct 3 SC meeting

Next Steps

- Identify habitat restoration potentials associated with Restoration Opportunity Areas
- Forwarding HRPTT science questions to the Science Liaisons
- Crafting SC approved conservation measures as DRERIP actions and preparing information necessary for conducting formal DRERIP evaluations



Questions & Comments