

Russian River Estuary Management Project

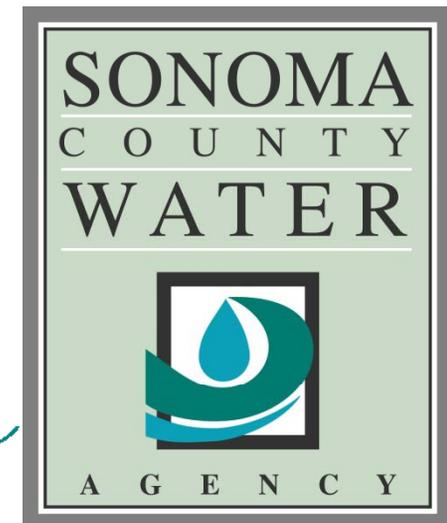
Draft Environmental Impact Report (DEIR)

Public Hearing
January 18, 2011
Jim O'Toole, ESA



www.sonomacountywater.org

RRIFR
*Russian River Instream
Flow and Restoration*



Agenda

- **PURPOSE:**
 - **Overview** of Draft EIR Impacts
 - Receive Public Comments
- **CEQA Process**
- **EIR Overview Presentation:**
 - Summary of Project, Impacts, Mitigation and Conclusions
- **Public Hearing:**
 - Please Fill Out Speaker Cards
 - 5 minutes per Speaker
 - Written Comments also accepted



California Environmental Quality Act (CEQA)

- Disclose Environmental Impacts
- Reduce/Minimize Environmental Impacts
- Disclose Public Agency Decision Making
- Foster Inter-Agency Coordination
- Include Public Participation

EIR Public Review Process

- **Notice of Preparation**

- Circulated Spring 2010
- Public Comments: Scope of Analysis
- Comments reviewed during preparation of the DEIR
- Scoping report is included as an appendix to the DEIR

- **Draft EIR Public Review**

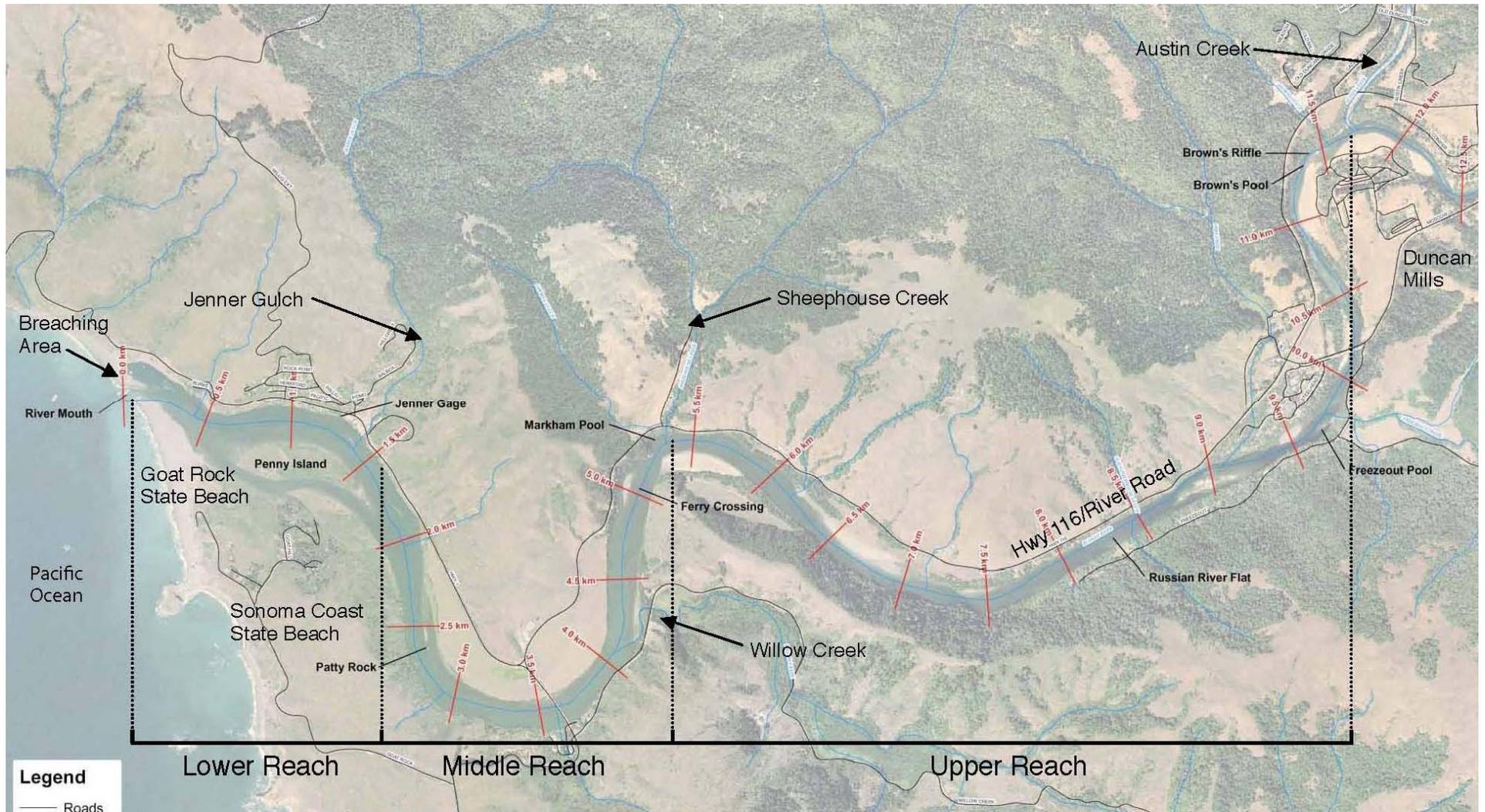
- Circulated December 15, 2010
- 60-day public review period
- Noticed in local papers
- Close of Review Period: February 14, 2011

- **Final EIR**

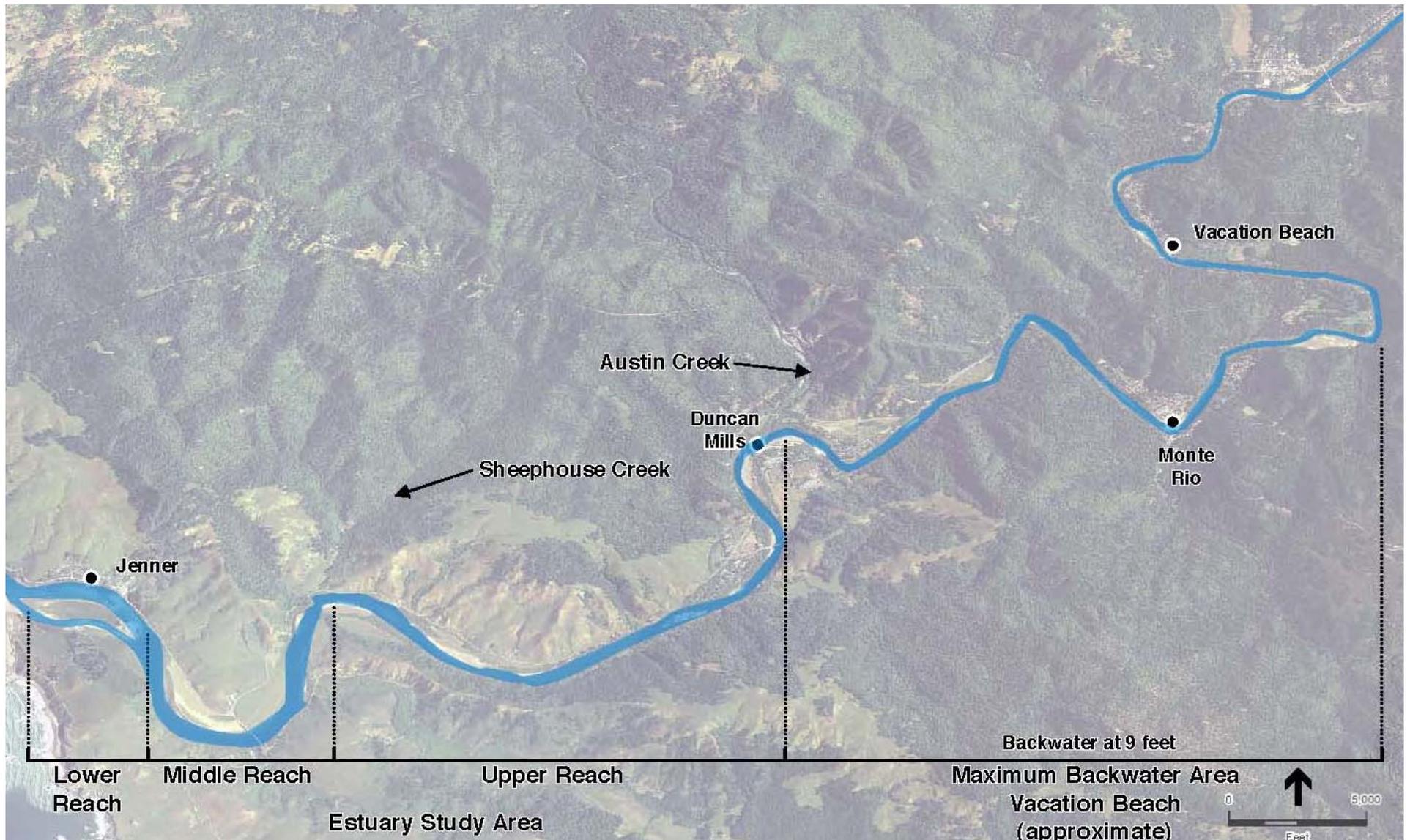
- Anticipated to be available late Spring 2011

Estuary Management Activities

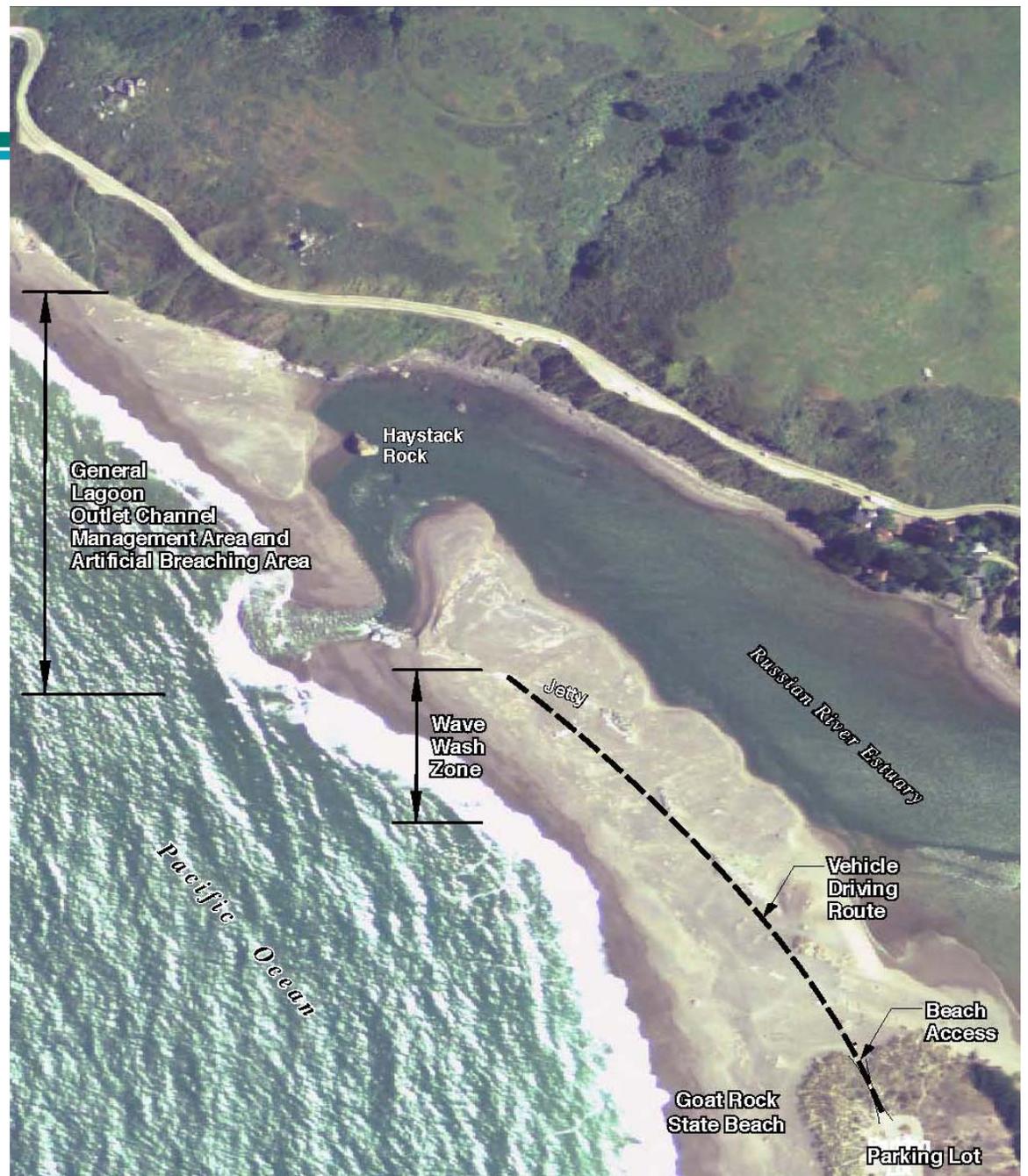
Russian River Estuary Study Area



Maximum Backwater Area



Estuary Management Area



Estuary Management Overview

- Estuary open to tides much of the year
- Barrier beach naturally forms and closes river mouth, forming lagoon conditions
- Water levels in the lagoon rise due to inflow
- Breaching of the barrier beach historically practiced by residents and County Public Works since 1950s
- Water Agency breaches closed barrier beach when water surface is between +4.5 and 7 feet
 - Average 6 times annually since 1990s

Open, Tidal Channel July 1, 2010



Natural Channel Closure caused by Wave Action, July 7, 2010

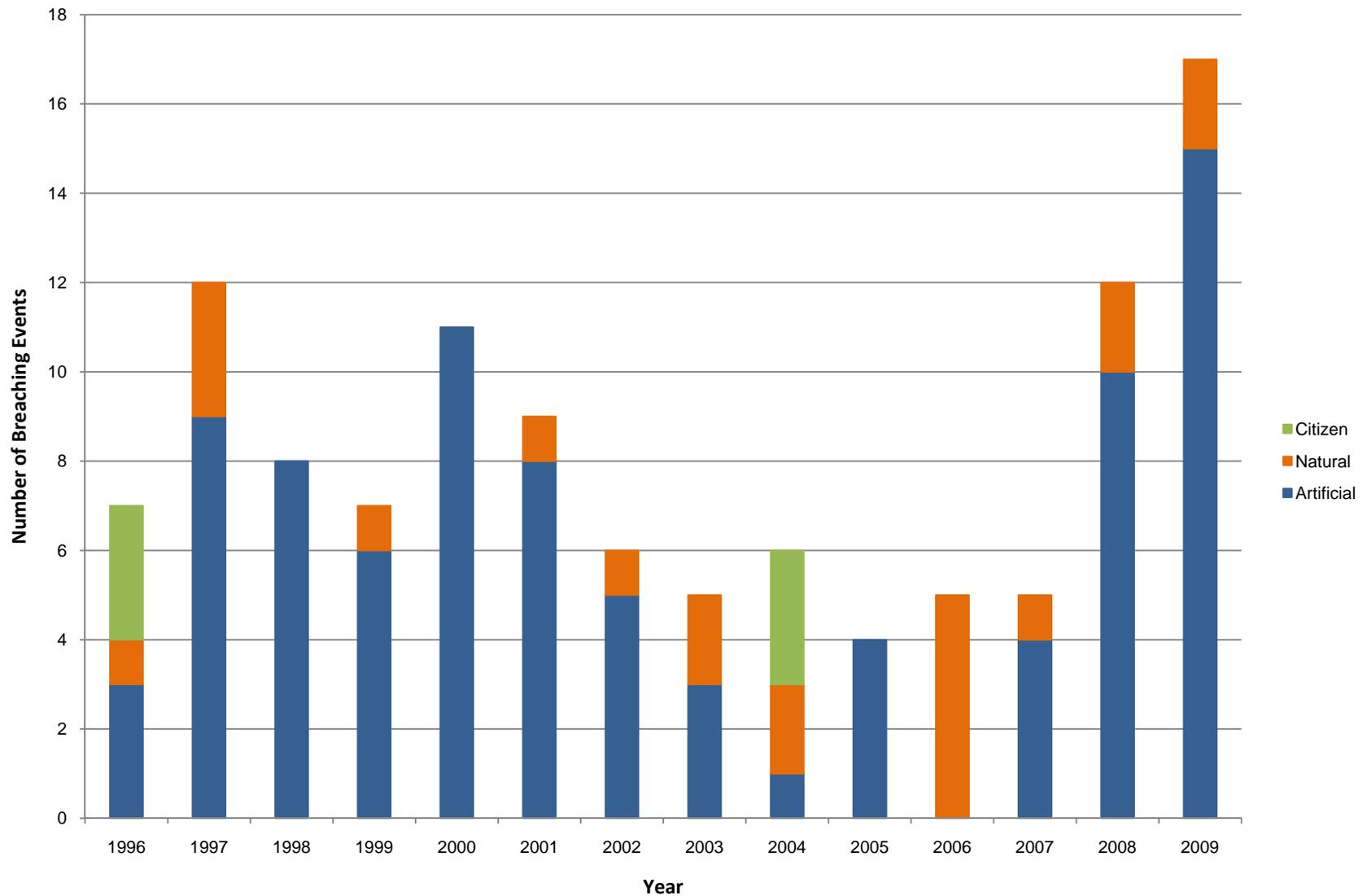




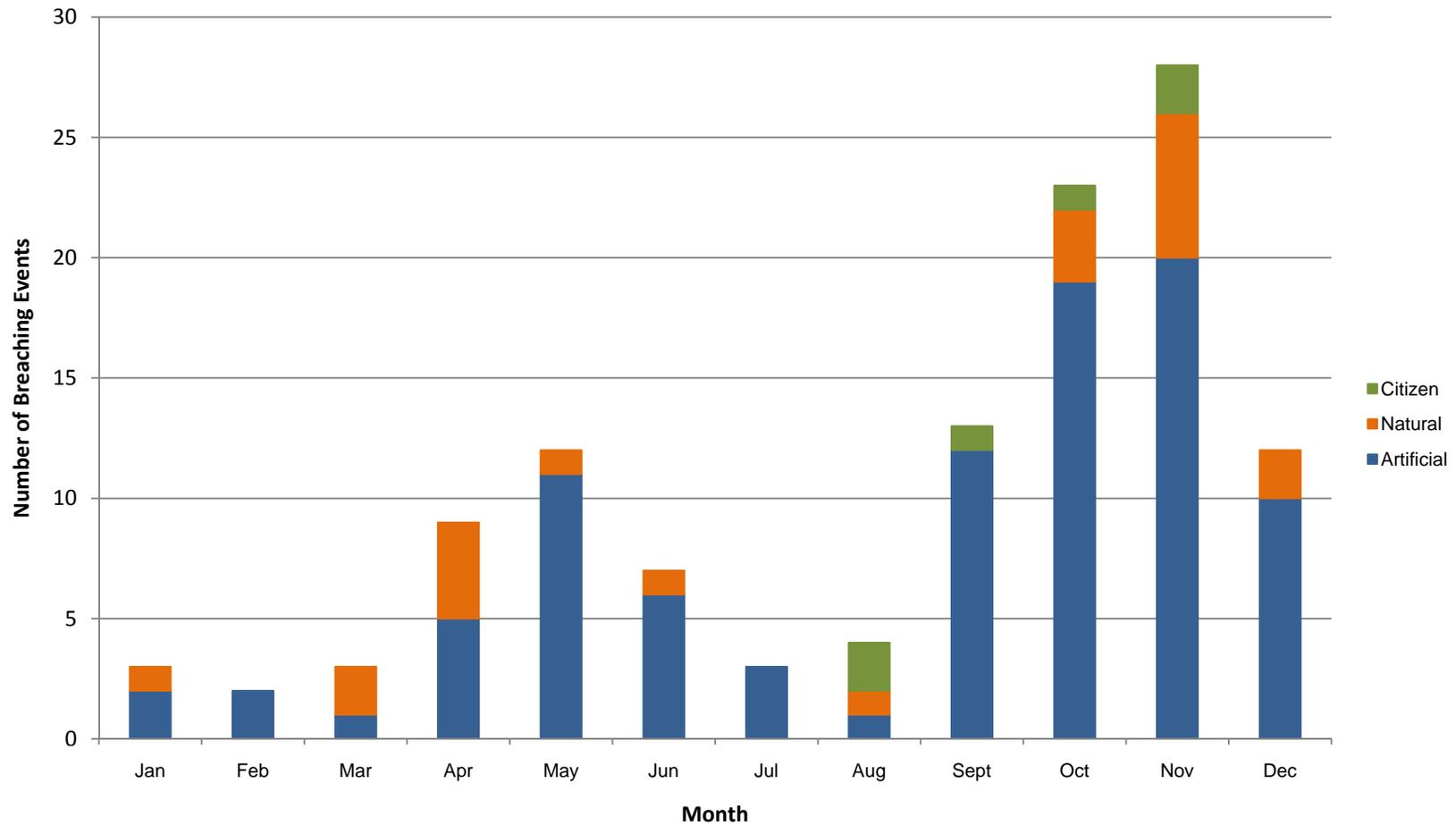


Lowers Water Surface
Establishes Tidal Influence
Saline Conditions

Historic Barrier Beach Breaching Events, by Year (1996 - 2009)



Historic Barrier Beach Breaching Events, by Month (1996 - 2009)



Russian River Biological Opinion and RRIFR Program

NMFS Russian River BO

- Issued September 2008 to Corps/Water Agency
 - Dam Operations, Stream Channel Maintenance and Estuary Management are likely to jeopardize and adversely modify habitat for coho salmon and steelhead
- Established Reasonable and Prudent Measures for Implementation by Water Agency and Corps

NMFS Russian River BO - Estuary Management Conclusions

- Current practice of maintaining a tidal saline estuary minimizes the available habitat for juvenile steelhead
- Fresh or brackish water lagoons in California provide depths and water quality highly favorable to the survival of rearing steelhead
- Modify Estuary Management to reduce marine influence and promote freshwater conditions

RRIFR Program

- To meet the requirements of the NMFS BO, Water Agency is implementing a series of actions, collectively referred to as the RRIFR Program:
 - Changes to Minimum In-stream Flow
 - Estuary Management
 - Enhancements to Dry Creek
 - Stream Maintenance
 - Other Measures



Flow changes

Interim Changes to D1610

Permanent Changes to D1610

Estuary Management

Lagoon Management

Outlet Channel

Dry Creek

Habitat Enhancement

Demonstration Project

Phase I

Phase II

Water Diversion Infrastructure

Decommission Infiltration Pond

Fish Screen Replacement

Flood Control

Stream Maintenance Program (complete)

Coho Broodstock Program

Smolt Releases

Project Relationship to RRIFR

- Water Agency provides ongoing Estuary Management
- NMFS Russian River BO requires Water Agency to modify Estuary Management
 - Project is required irrespective of other RRIFR Program Elements
- Water Agency in process of renewing permits for Estuary Management

Estuary Management Plan CEQA Project Description

Project Objectives

- Primary Objectives:
 - Enhance rearing habitat for juvenile salmonids, particularly steelhead
 - Reduce tidal influence May 15-Oct 15
 - Manage water levels to minimize flood risk

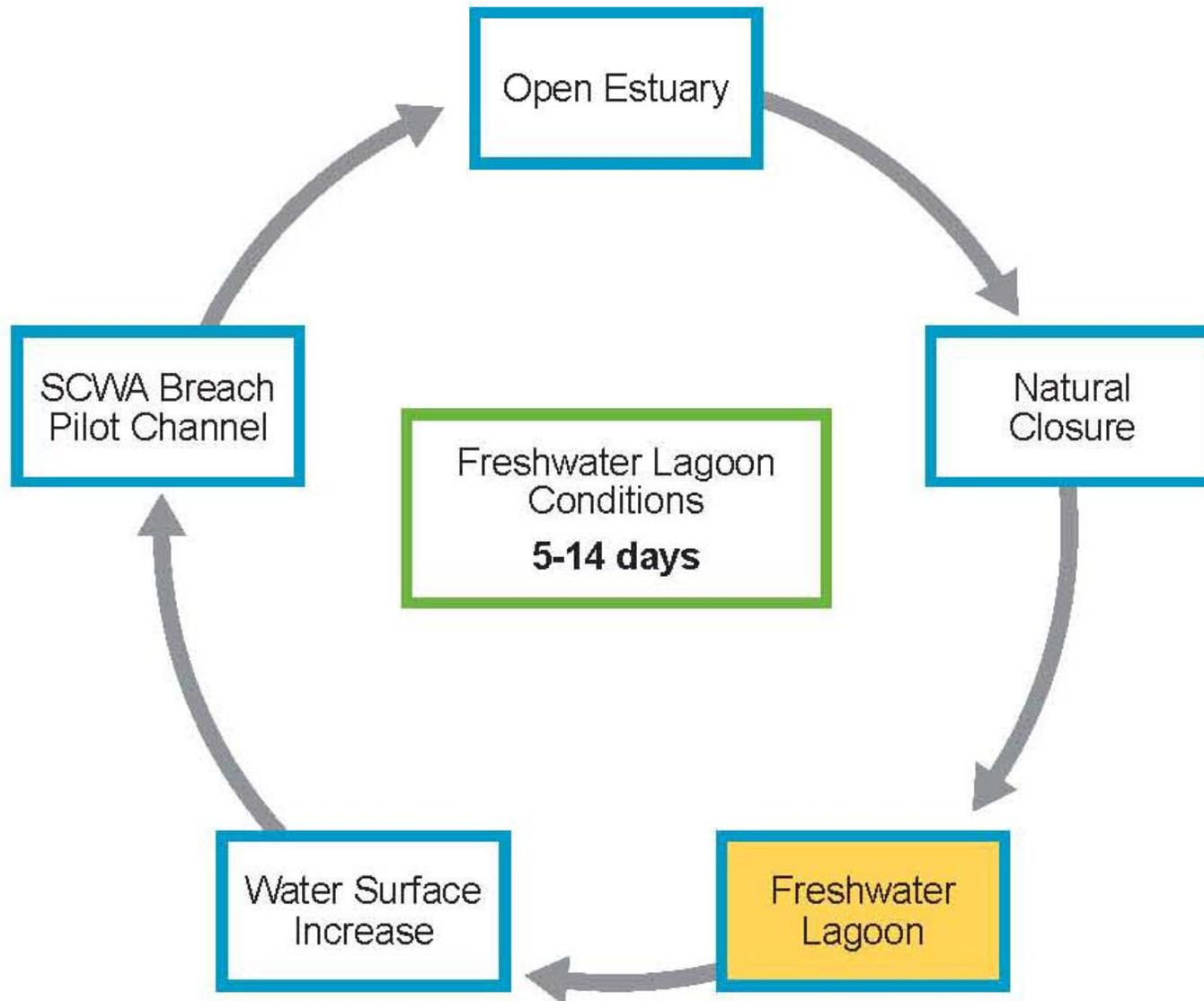
Proposed Project

- Continued artificial breaching
- Lagoon Management Period – May 15 to Oct 15
 - Create temporary outlet channel
 - Monitoring of lagoon conditions
 - Adaptive management of outlet channel
- Conformance with regulatory permits
 - Corps, State Parks, NCRWQCB, State Lands, Coastal Commission, CDFG, NMFS

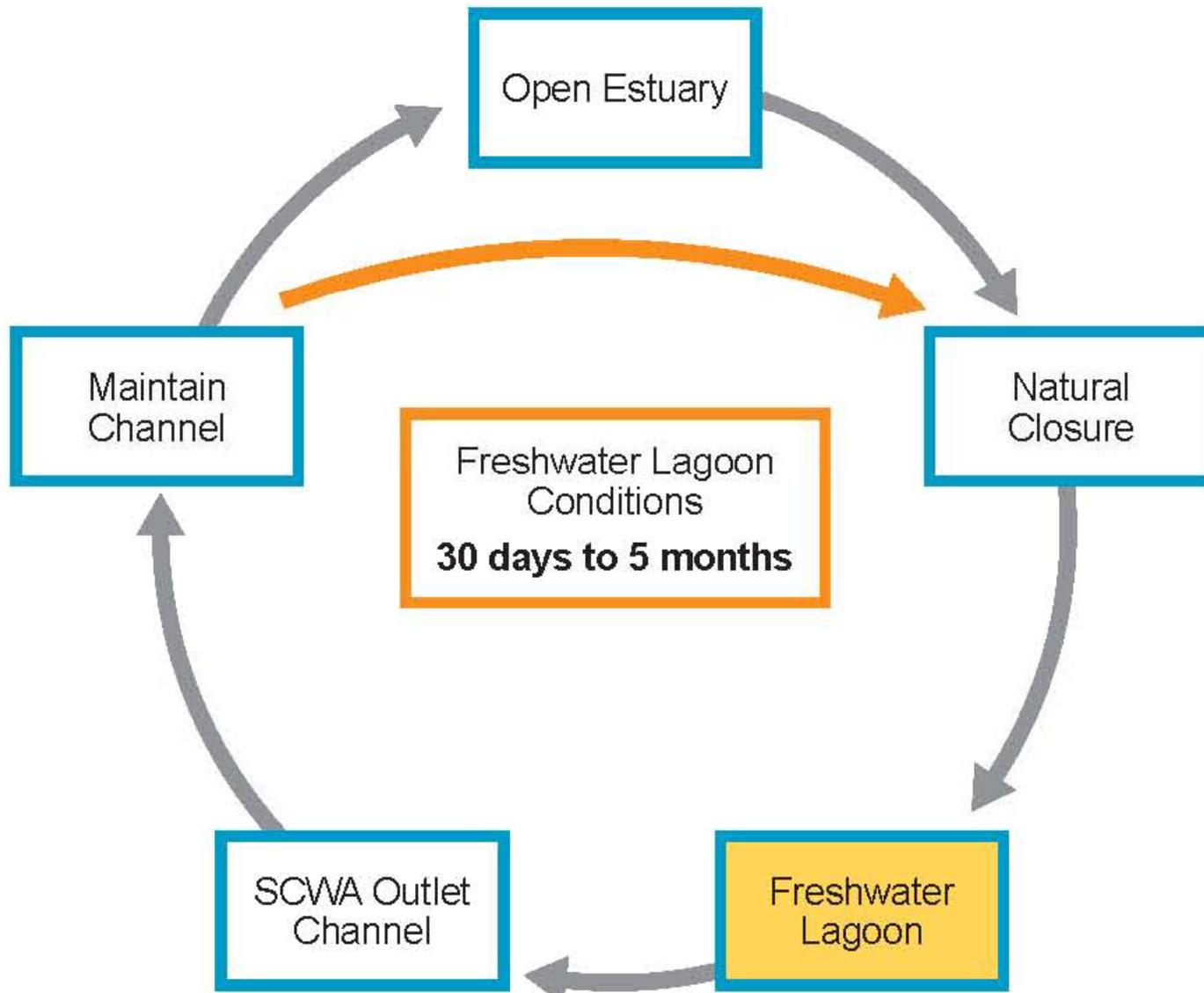
Adaptive Management

- Target Conditions: Freshwater Lagoon in summer for juvenile steelhead
- Adaptively manage the outlet channel
- Monitor conditions in the Estuary
 - Water quality, biological resources, water surface elevations
- Adapt to conditions in the Estuary
 - Dynamic environment, wide range of conditions
 - Modify management in coordination with NMFS and Department of Fish and Game

Current Estuary Management



Proposed Estuary Management



Increase Duration of Lagoon
Conditions under range of observed
flows: 70 cfs to 1,250 cfs



Outlet Channel Location



- Outlet Channel location and configuration will depend on natural closure conditions
- Within historical area of occurrence

Channel Creation

- **Equipment**
 - One or two pieces of equipment, consistent with current practices
- **Frequency**
 - Initial outlet channel establishment
 - EIR assumes 18 maintenance events over lagoon management period (1 per week)
 - Consistent with Marine Mammal IHA, which limits work to 2 consecutive days during harbor seal pupping season
- **Volume of sand**
 - Depends on resulting topography
 - Smoothed into adjacent beach



Lagoon Outlet Channel, July 8, 2010

Channel Sequence - Conceptual Profile View

Current Practice

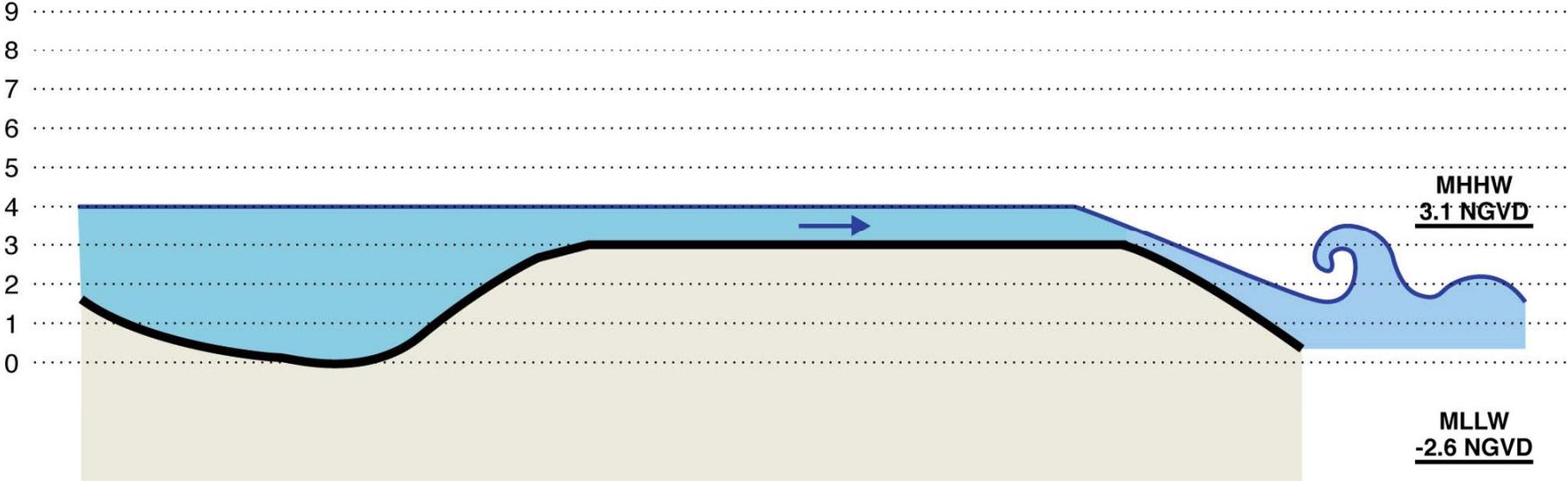
ESTUARY

BEACH

OCEAN

• *River Inflow*

• *River Outflow*



Current Practice

ESTUARY

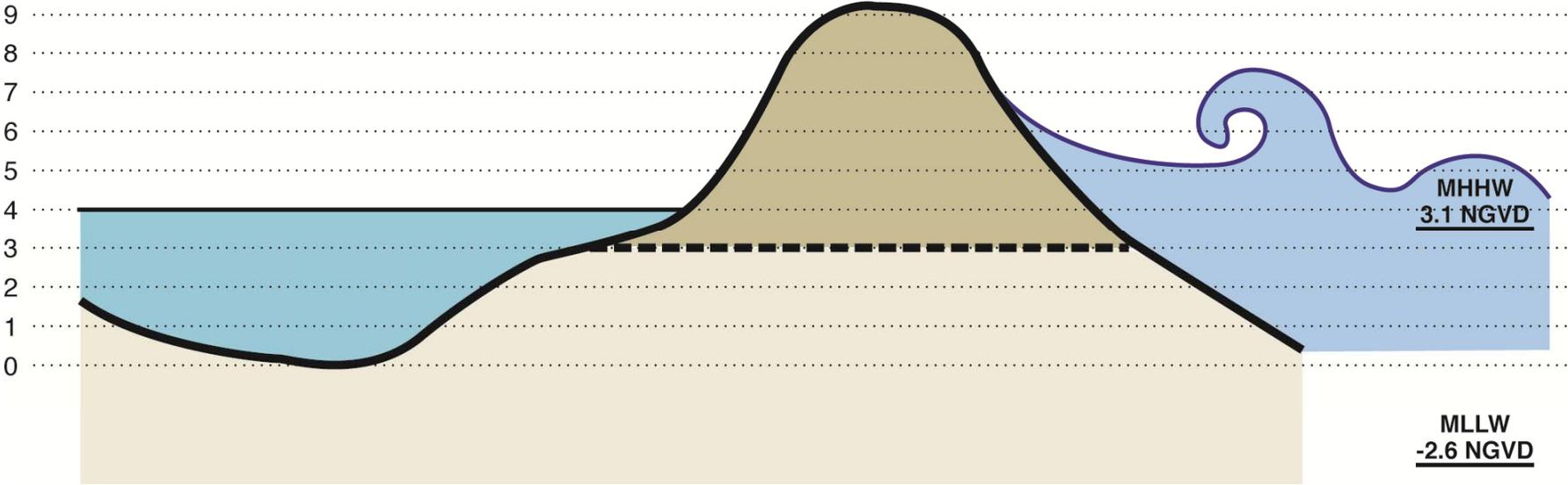
BEACH

OCEAN

• *Freshwater Lagoon Conditions*

• *Natural Barrier Beach Formation*

• *Wave Event*



Current Practice

ESTUARY

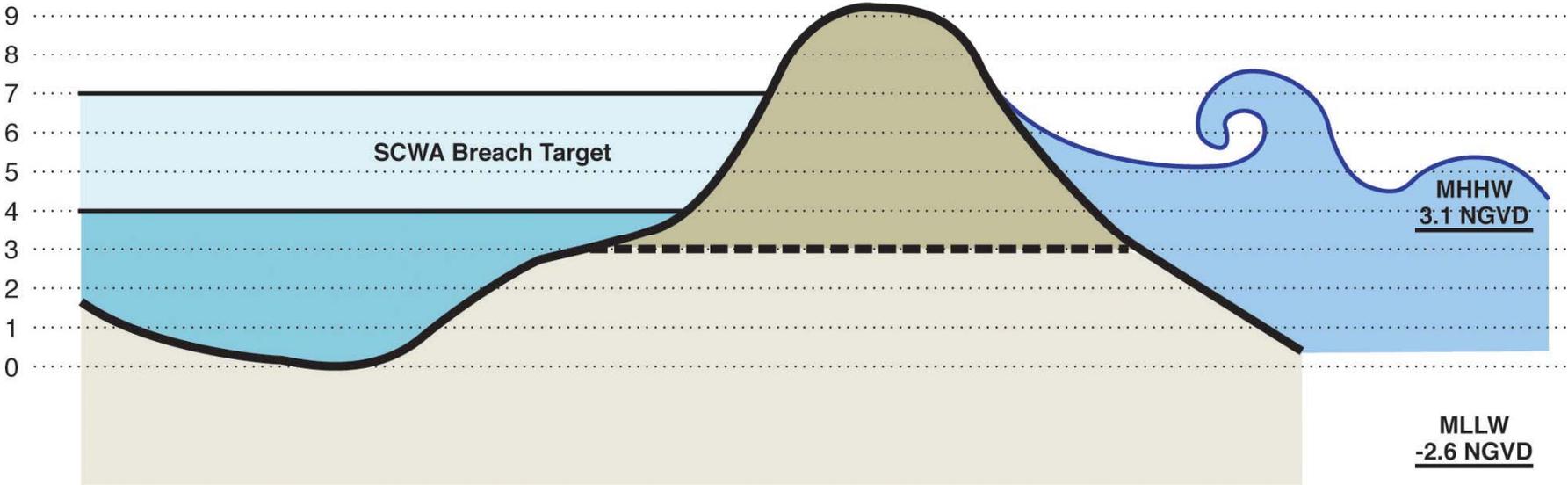
BEACH

OCEAN

• *Increased Water Surface*

• *Barrier Beach Creation*

• *Wave Event*



Current Practice

ESTUARY

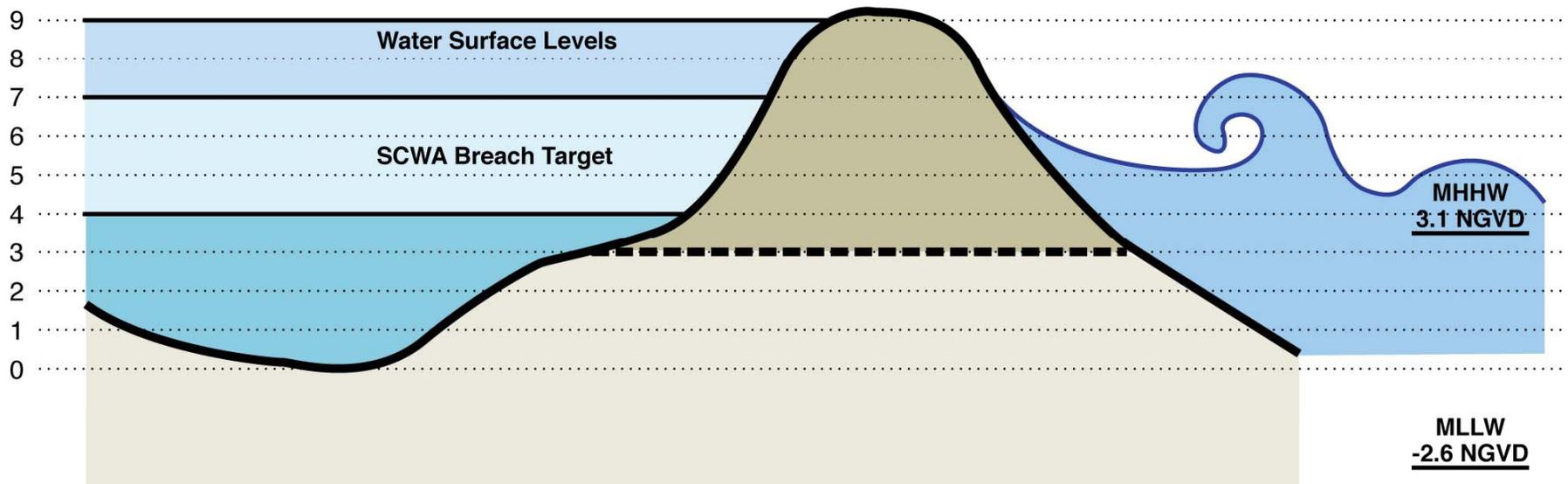
BEACH

OCEAN

• *Increased Water Surface*

• *Barrier Beach Creation*

• *Wave Event*



Current Practice

ESTUARY

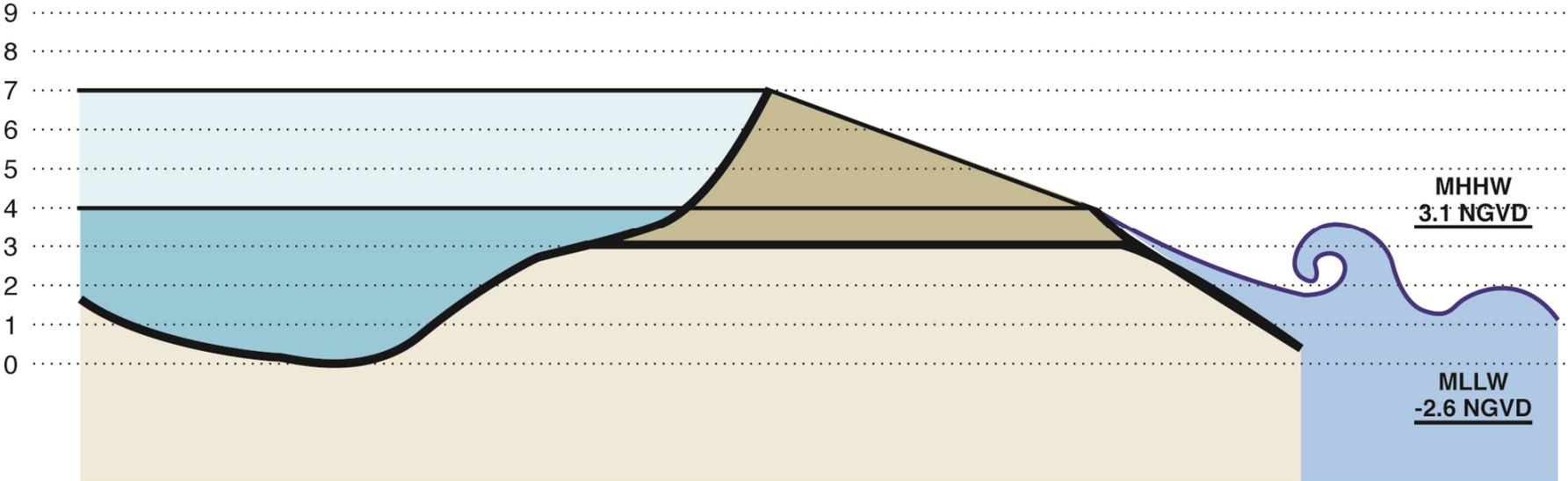
- *Discharge of Freshwater*

BEACH

- *SCWA Breach at +7 Feet*
- *Downcut Channel*

OCEAN

- *Breach at Low Tide*



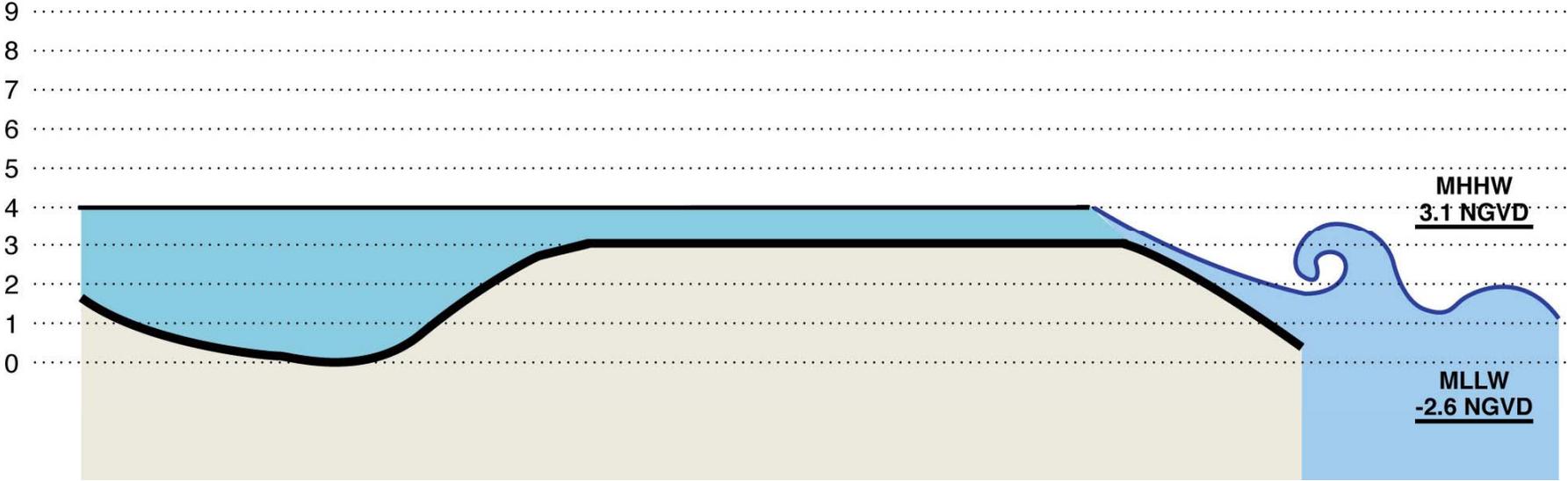
Current Practice

ESTUARY

BEACH

OCEAN

• SCWA Breach at +7 Feet



Current Practice

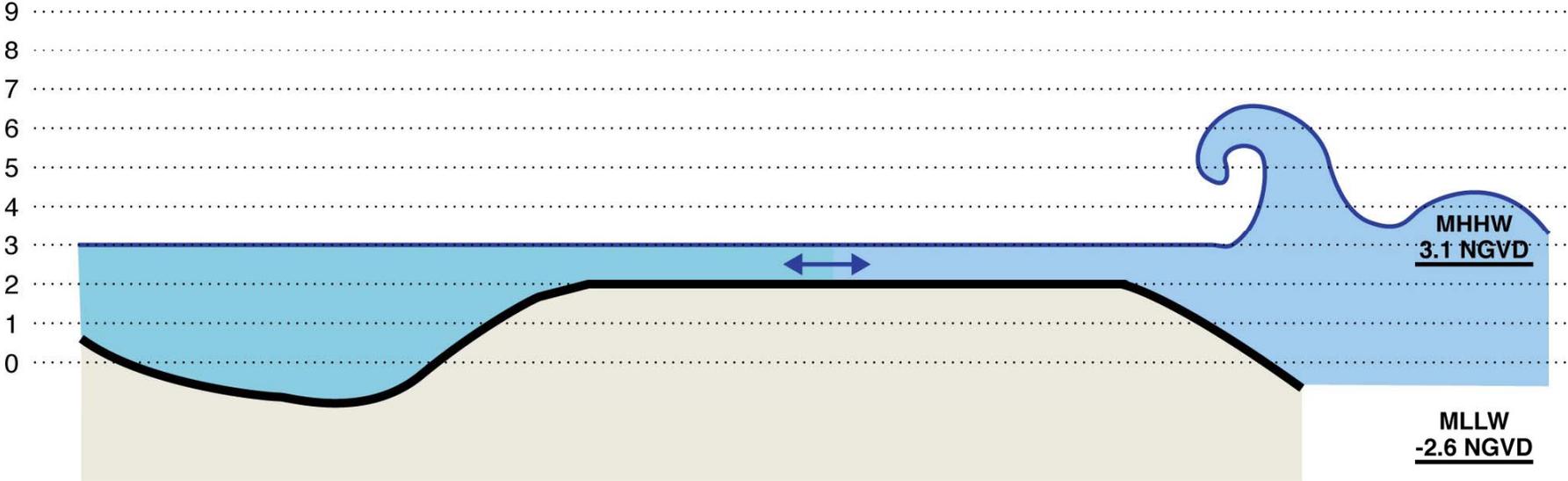
ESTUARY

BEACH

OCEAN

• *Saline Conditions*

• *Ocean Influence*



Proposed Project

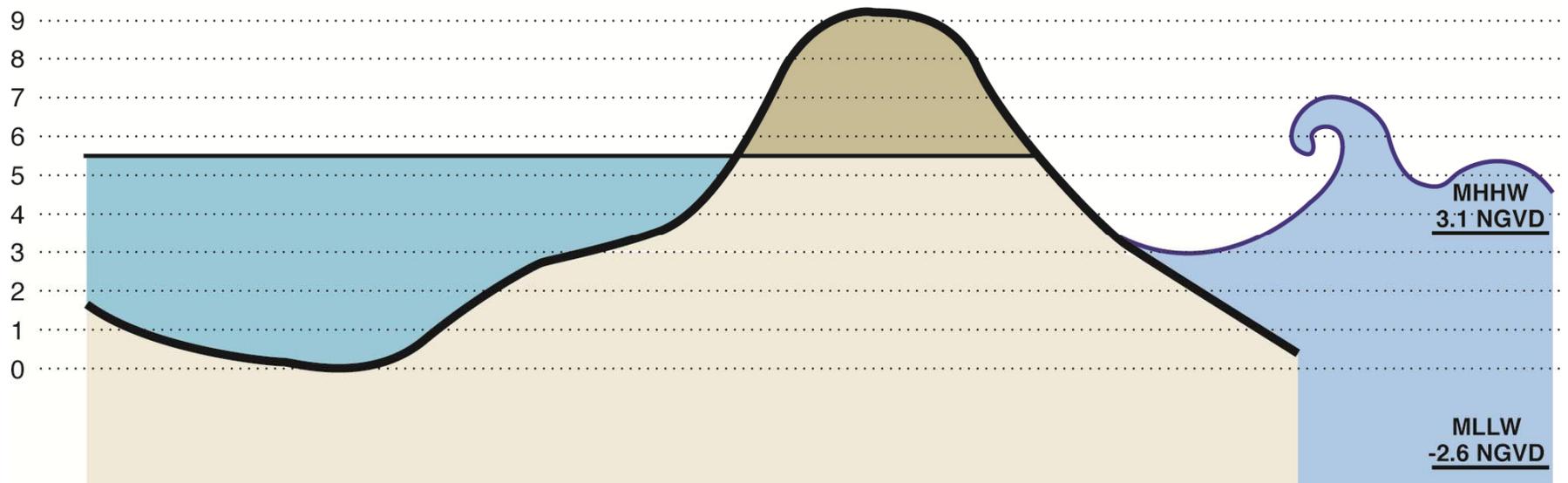
ESTUARY

BEACH

OCEAN

• *Freshwater Lagoon Condition*

• *Natural Barrier Beach Formation*



Proposed Project

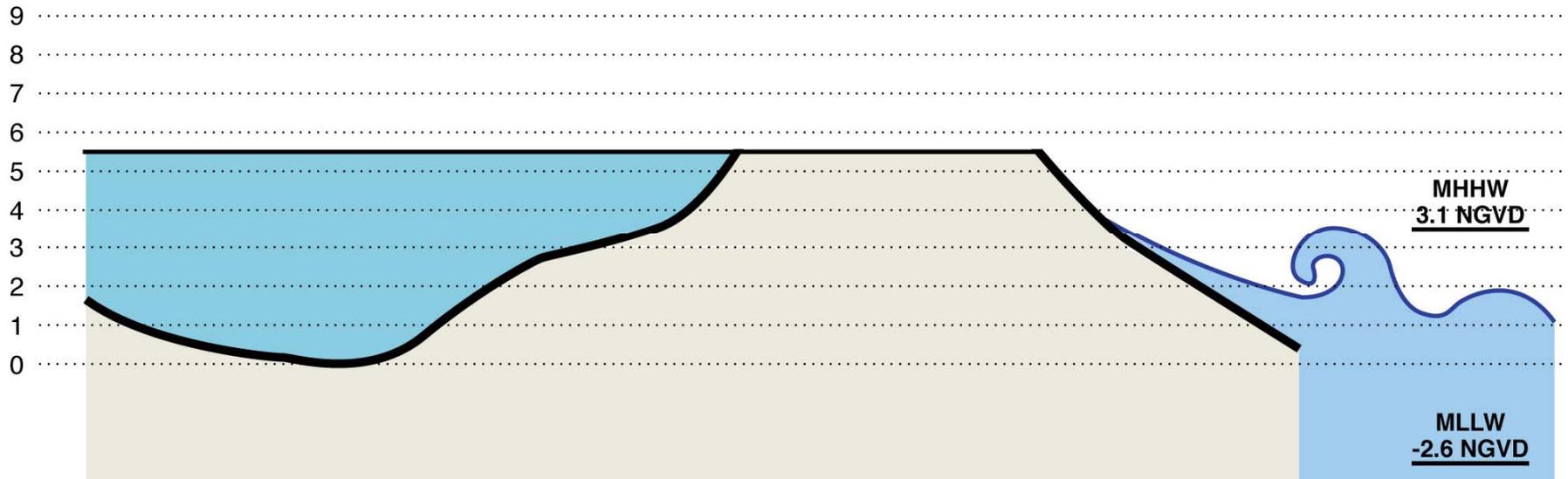
ESTUARY

BEACH

OCEAN

- *Freshwater Lagoon Condition*
- *Longer Duration*

- *SCWA Establish Channel*



Proposed Project

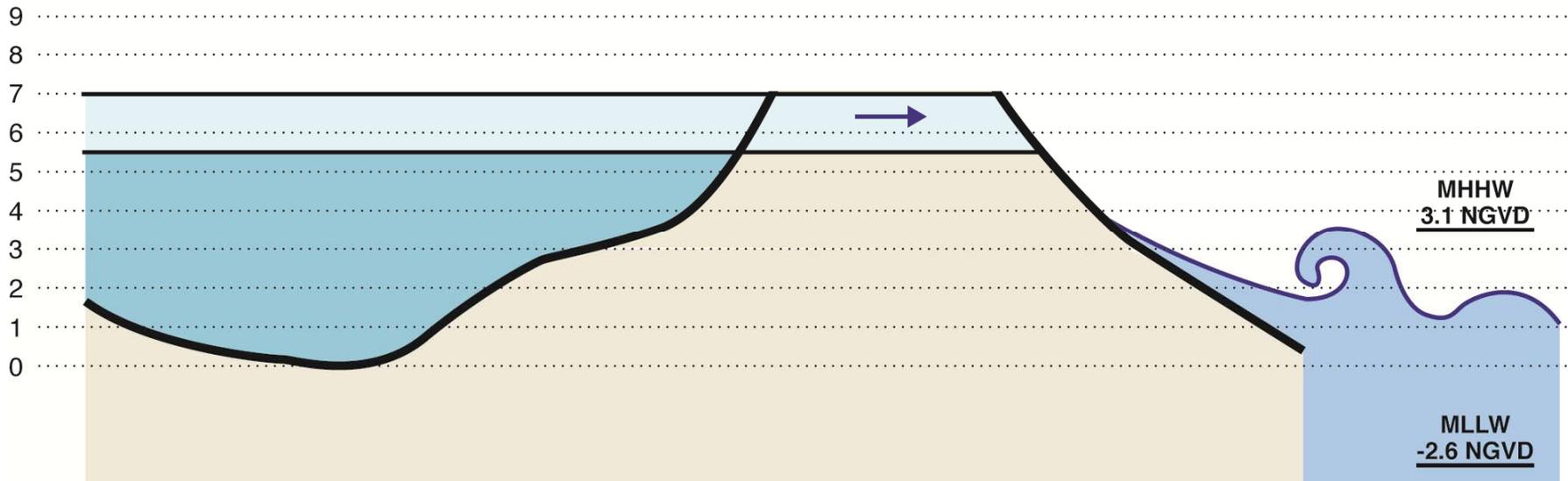
ESTUARY

- *Maintain Water Surface Below Flood Stage*
- *Freshwater Lagoon Condition*
- *Longer Duration*

BEACH

- *Monitor Performance*
- *Re-establish in Event of Closure*

OCEAN



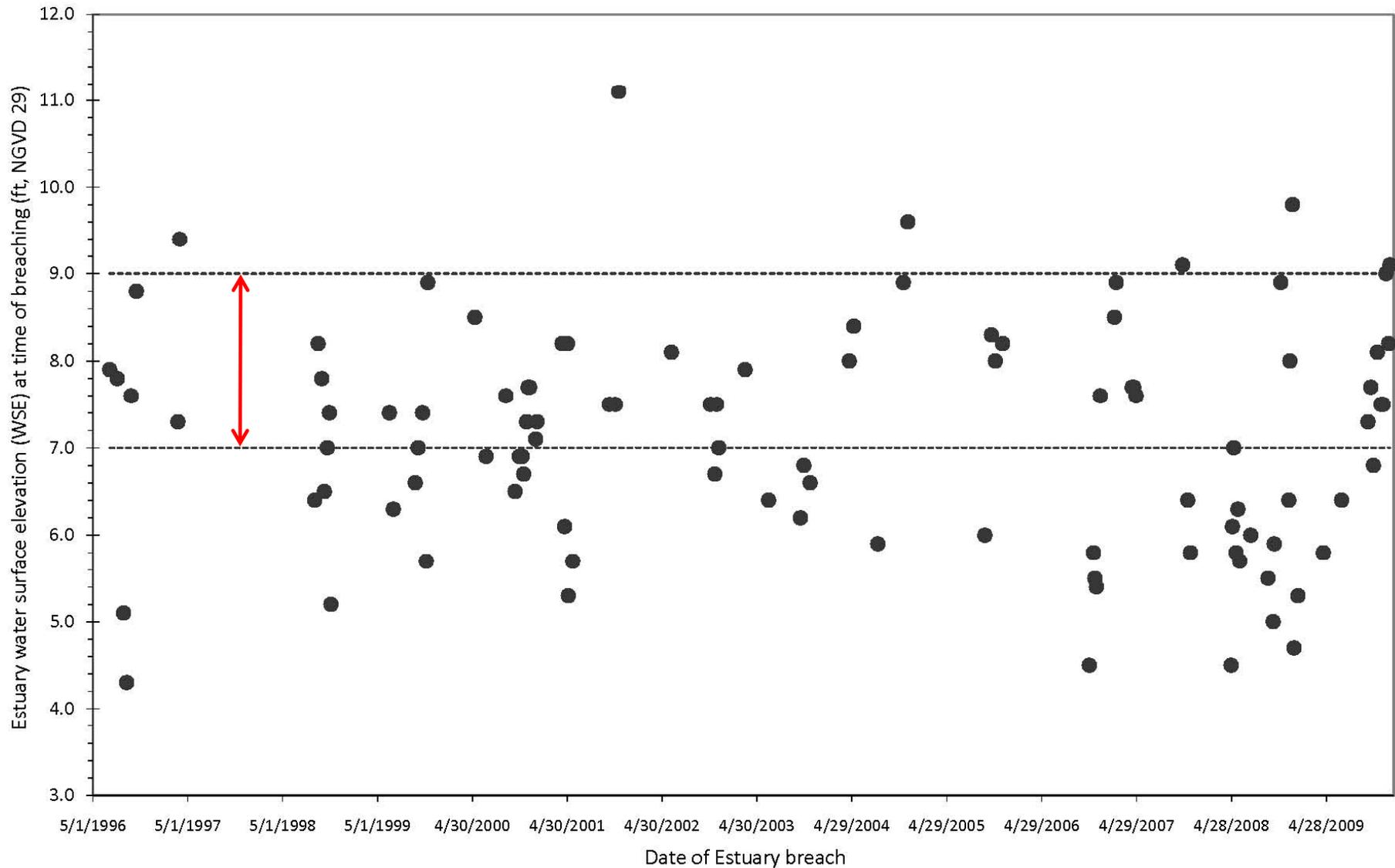
EIR Analysis Sections

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems
- EIR Analysis: Establish Performance Standards and Mitigation Framework

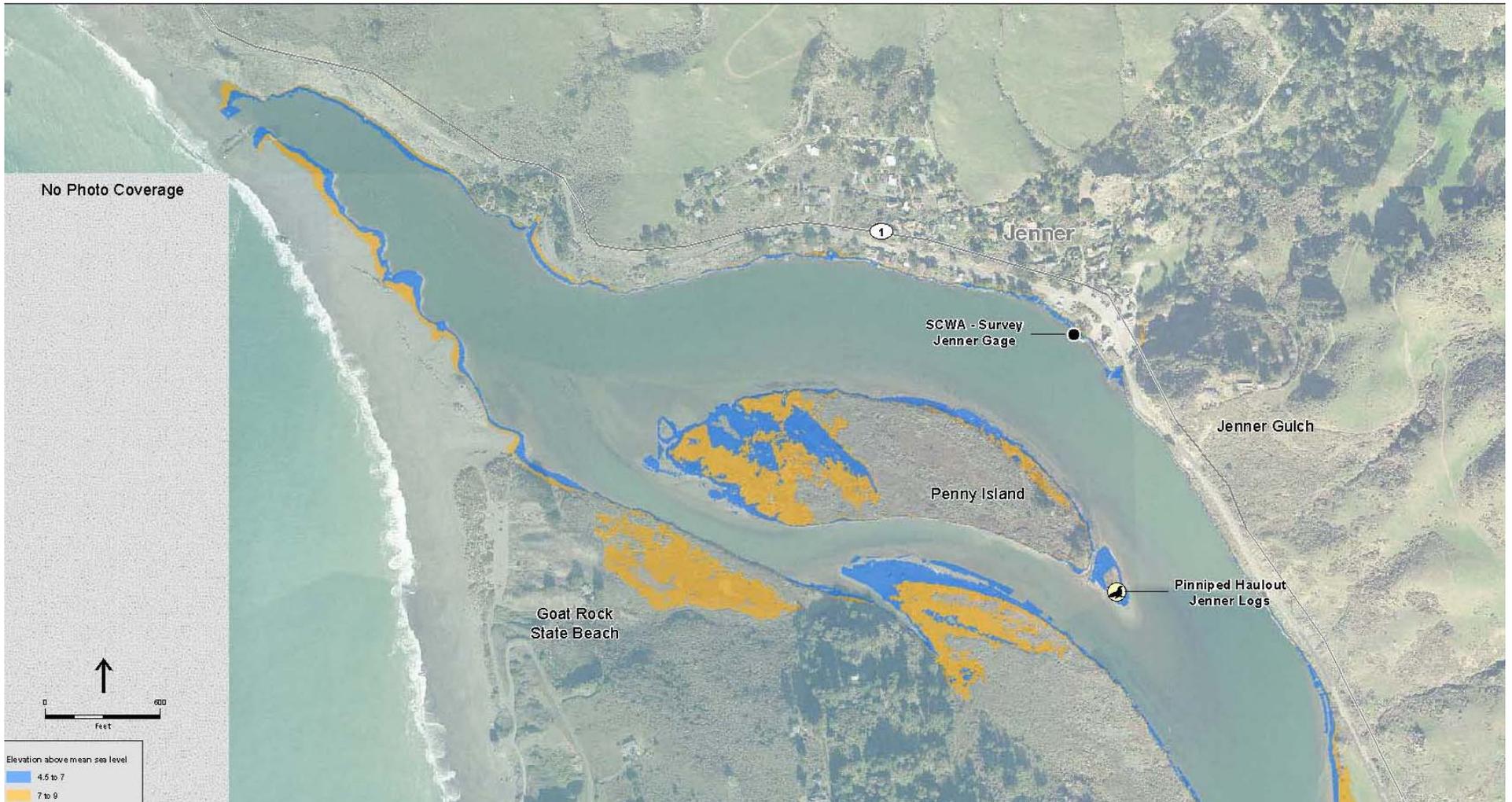
CEQA Analysis

- Change from Existing Conditions during Lagoon Management Period
 - Estuary is a dynamic environment, subject to a wide range of physical conditions
- Target water level: 7'; Maximum water level: 9'
 - 9' water level is currently reached under certain conditions
- EIR assumes lagoon outlet channel will perform at maximum 9 feet for 5 month period

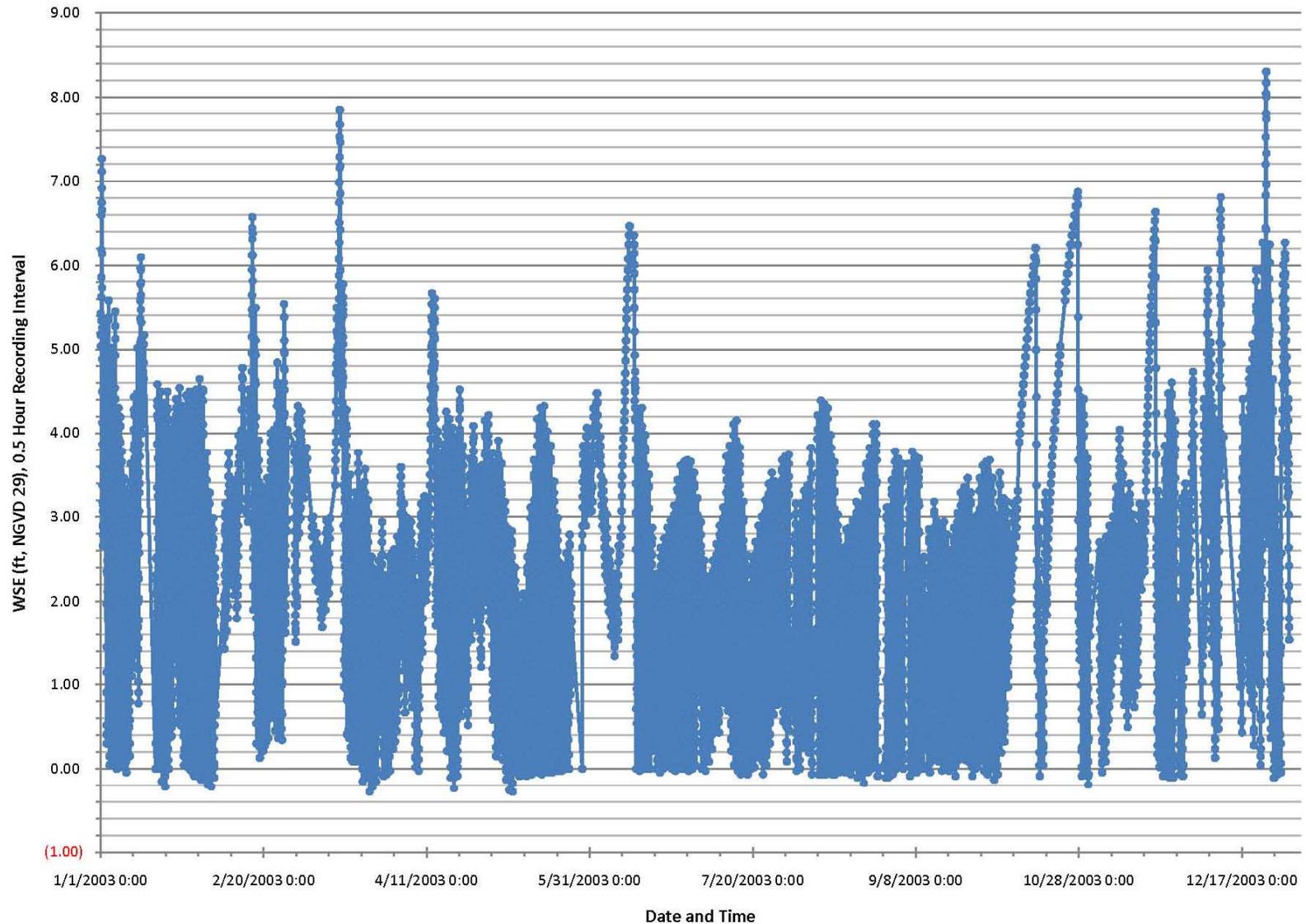
Existing Conditions: Estuary Regularly Experiences Water Levels of 7' and 9'



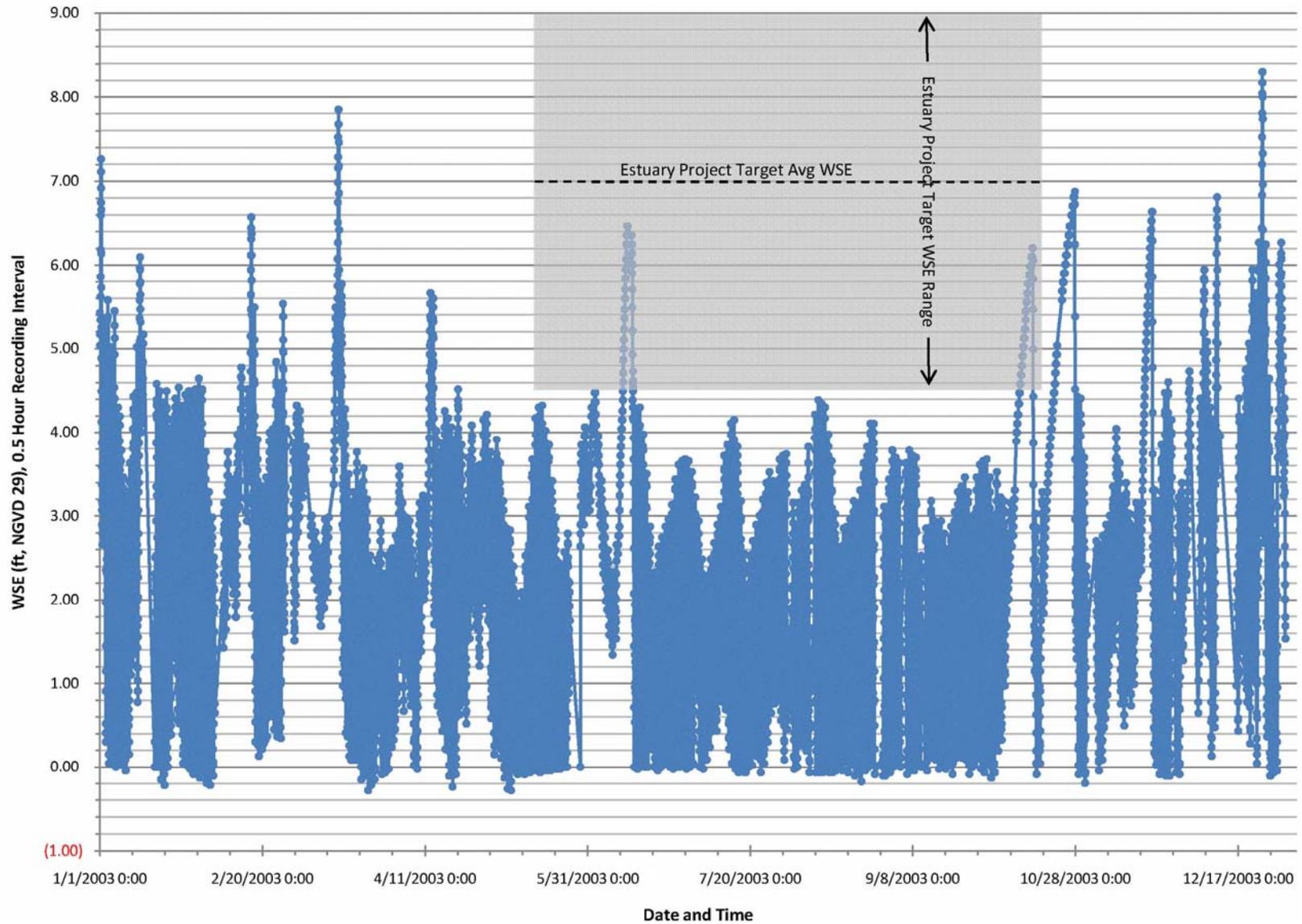
Water Levels at 7' and 9'



Water Levels: Average Year 2003



Target Water Levels: Proposed Project

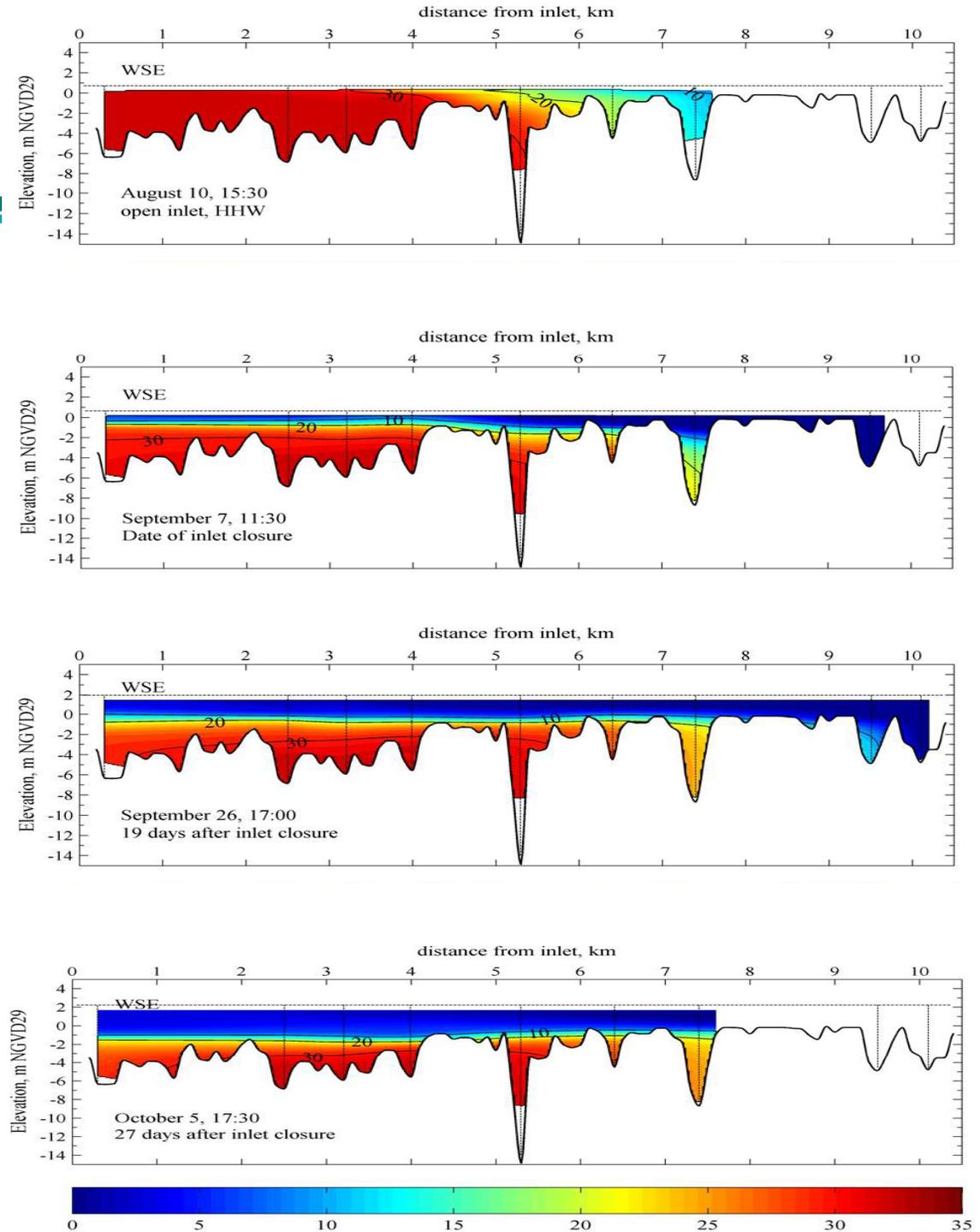


29-Day Closure Event - October 2009

- SCWA/Bodega Marine Lab Monitored Water Quality
- Showed stratified conditions:
 - Freshwater “lens” floating on denser salt water
 - Freshwater upper layer, transition zone, saline lower layer
 - Freshwater lagoon under existing conditions

Salinity

- Shows formation of stratified conditions



Summary of Key Resource Analyses

Hydrology

- Increases # days of 7-9 feet during 5 months Lagoon Management Period
 - from 5-14 days to 1 - 5 months, depending upon channel performance
 - Will effect 78 parcels: 2 structures, 7 docks
- **Mitigation:** Survey 9 structures affected, coordinate with NMFS and property owners to minimize effects.
- **CEQA Conclusion:** Significant and Unavoidable

Hydrology

- Jenner Area mapped within Tsunami Hazard Zone by CA Emergency Management Agency
- Project Increases # days of 7-9 feet during Lagoon Management Period compared to open estuary conditions
- Potential for tsunami to occur is unchanged
- Increased risk of flooding in the unlikely event tsunami occurs during Management Period
- **CEQA Conclusion:** Significant and Unavoidable

Water Quality - Salinity, Temp, DO

- Changes in salinity, DO, temperature: within the range currently experienced
- Identifies potential for anoxic conditions to occur in the lower portion of the water column and for longer periods
- Consistent with observed existing conditions
- **CEQA Conclusion:** Less than Significant

Water Quality - Nutrients/Bacteria

- Project would not affect nutrient or bacteria inputs into Estuary
 - Flow through channel and seepage through barrier beach
 - Freshwater residence time estimated up to 22 days, about a week longer than existing
 - No adverse conditions observed during 29-day closure in 2009
- Lack of conclusive data on prolonged closure did not allow conclusion of less than significant effect
- **CEQA Conclusion:** Significant and Unavoidable

Water Quality - Groundwater

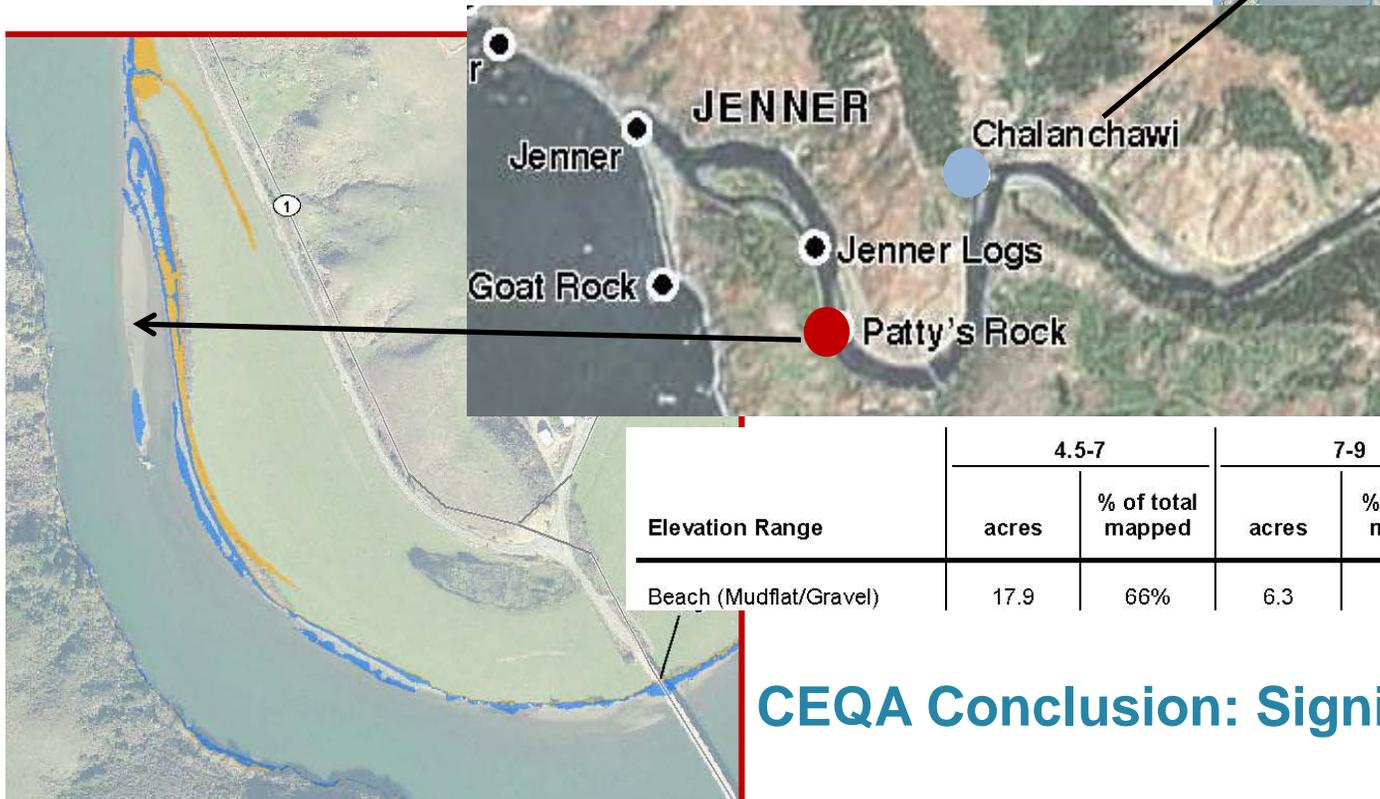
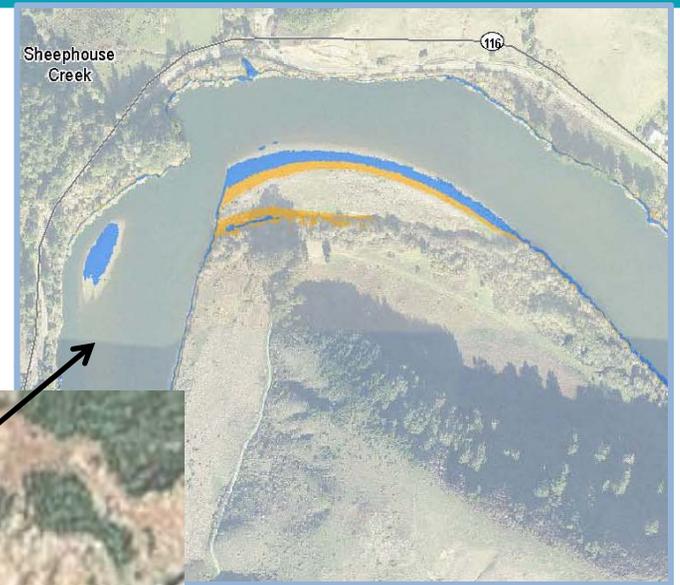
- 20 wells within Estuary Study Area, 8 wells in Maximum Backwater Area
- Anecdotal evidence: seasonal saline intrusion under existing conditions
 - Common condition along estuaries
- Project may increase duration of saline conditions experienced, and may increase extent upstream
- **CEQA Conclusion:** Significant and Unavoidable

Biological Resources

- **Direct Effects of Channel Creation: Equipment**
 - Marine mammals, special status plants/butterflies
 - Mitigation Measures Established under Marine Mammal IHA Permit
- **Mitigation:**
 - Comply with Marine Mammal IHA, Monitor harbor seals at haulouts;
 - Environmental awareness training; Pre-construction surveys;
- **CEQA Conclusion: Less than Significant**

Biological Resources

Potential change in pinniped use of interior river haulouts (logs, rock)



Elevation Range	4.5-7		7-9		9-14		Total Mapped (acres)
	acres	% of total mapped	acres	% of total mapped	acres	% of total mapped	
Beach (Mudflat/Gravel)	17.9	66%	6.3	23%	3.0	11%	27.2

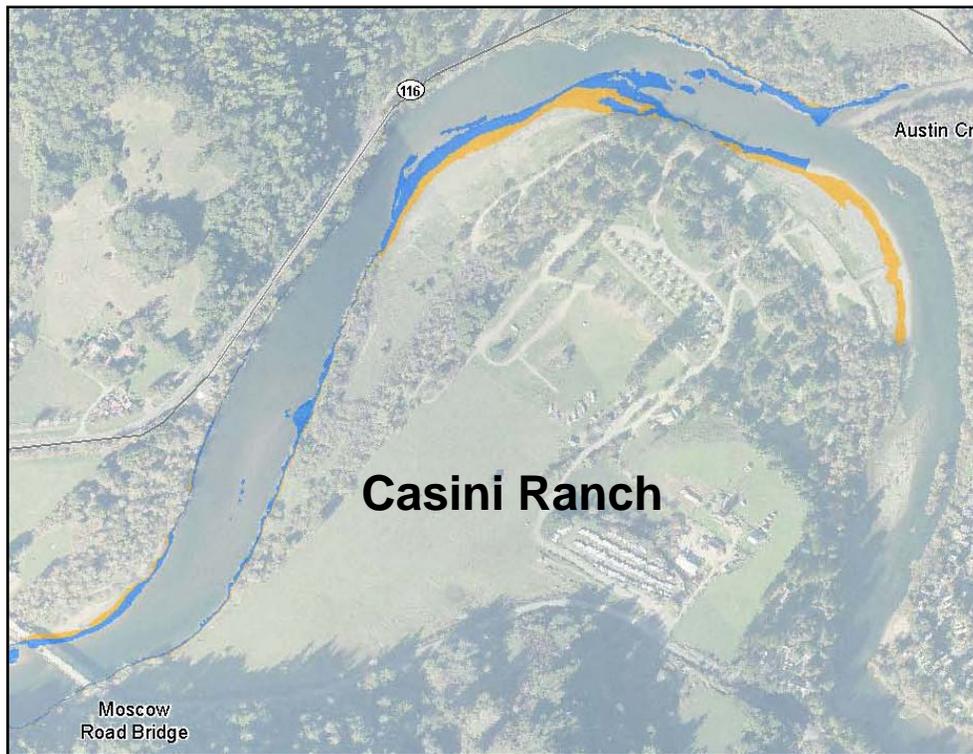
CEQA Conclusion: Significant, Unavoidable

Fisheries

- Beneficial effect to juvenile steelhead habitat availability
 - Estimated total increase of 6,357 AF of potential habitat from Mouth to Vacation Beach
- Potential changes to marine species habitat
 - Historical closures have already modified estuarine habitat in lower estuary; species have range of tolerance for these conditions
 - Effects would be localized relative to coastal marine population levels
- **CEQA Conclusion: Less than Significant**

Recreation - River Beach Inundation

Elevation Range	4.5-7		7-9		9-14		Total Mapped (acres)
	acres	% of total mapped	acres	% of total mapped	acres	% of total mapped	
Beach (Mudflat/Gravel)	17.9	66%	6.3	23%	3.0	11%	27.2



- 9' water level will partially impact river beach areas during summer months
- **CEQA Conclusion:**
Significant and Unavoidable

Recreation - Surfing

- Tidal channel conditions conducive to surfing during summer months
 - Tidal channel conditions may establish offshore sand bar conditions
- Project will reduce tidal channel conditions during five month management period
- **CEQA Conclusion:** Significant and Unavoidable

Channel Creation

EIR Reviewed:

- Short-Term Impacts
 - Noise, Emissions, Recreational Access, Visual Resources
- Less than Significant Level of Impact with BMPs

Cumulative Impacts

- Project effects considered with effects of other projects
- Considers other RRIFR and Non-RRIFR Projects that have potential to contribute to impacts
- Considers potential effect of sea level rise
- Identifies Project contribution to cumulative effects
- Proposed Project + Fish Flow Project
 - In some years, lower flows may increase occurrence of nutrient/bacteria conditions upstream

Cumulative Impacts

- Cumulatively Significant Effects identified for:
 - Water quality (nutrients/bacteria)
 - Groundwater impacts
 - Changes to in-river pinniped haulouts
 - Beneficial effects to juvenile steelhead
 - Recreation: recreational boating and surfing

Alternatives

Range of Alternatives:

1. No Project Alternative
2. Habitat Restoration Alternative
3. Temporary Standpipe Alternative
4. Reduced Project Alternative
5. Jetty Modification
6. Alternative Flood Management

Alternatives

- Reviewed relative to ability to reduce impacts and meet project objectives
- Proposed Project best meets project objectives and regulatory requirements
- Reduced Project Alternative:
 - Incrementally reduces inundation impacts to
 - Parcels
 - Interior gravel bars for pinniped haulout and recreation
 - Reduces potential steelhead habitat benefit by 966 acre-feet

How to Comment on the DEIR

Public Comment Period

- Comment Cards Available
- Submit electronic comments via email before 5:00p.m. on February 14, 2011 to estuaryproject@esassoc.com
- Mail Written Comments Directly to:
Sonoma County Water Agency
Attn: Jessica Martini Lamb
404 Aviation Boulevard
Santa Rosa, CA 95403

Public Hearing

- Please fill out speaker card or submit written comment cards
- 5 minutes per Speaker
- Transcripts will be prepared by court reporter
- All comments received during comment period will be addressed in response to comments in Final EIR

Public Hearing