

ARE TIDAL WETLANDS THE NEW MIRACLE CURE?

ROSEMARY HARTMAN,
CDFW
FISH RESTORATION
PROGRAM MONITORING
TEAM



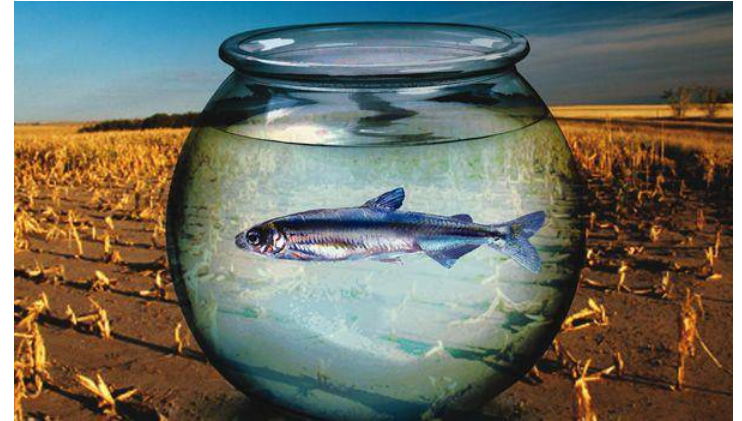
Now with 50% more resilience!



THE SITUATION



Versus



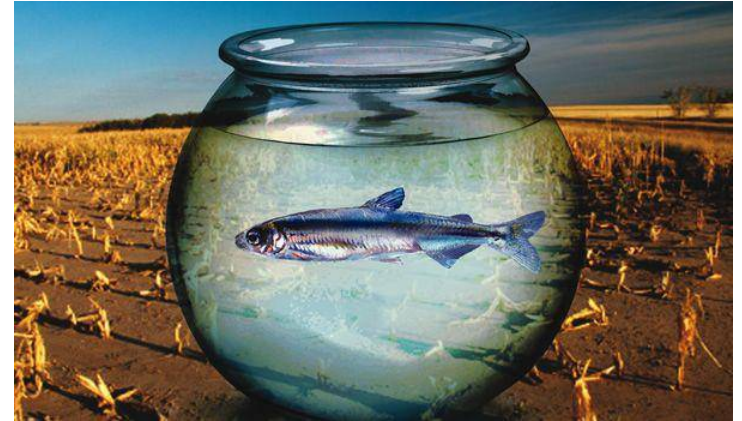
- Constant fresh water in the Delta
- Constant fresh water for export
- Land in the Delta.
- Money

- ~~Water with natural flow regime and salinity~~
- ~~Food~~
- ~~Refuge from predators~~

THE COMPROMISE



Versus



less bad

- Constant fresh water in the Delta

Constant fresh water for export

- ^{less} ^ Land in the Delta.

- ^{less} ^ Money

- Water with ^{less bad} ^ ~~natural~~ flow regime and salinity

- ^{some} ^ Food*

- ^{some} Refuge from ^ predators*

*maybe

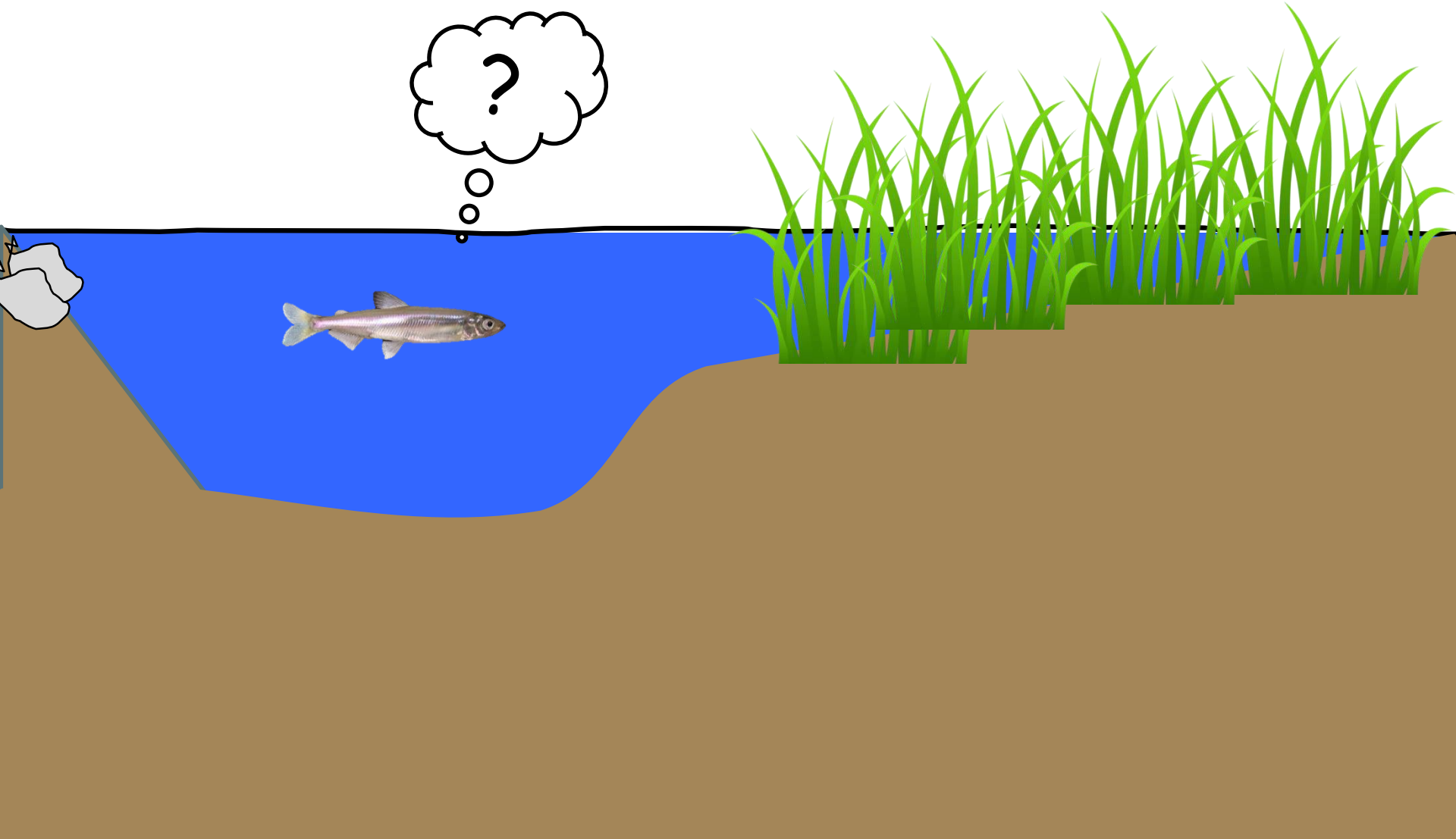
THE BORING DETAILS

- DWR must restore 8000 acres of tidal wetland and associated subtidal habitat
 - 2008 USFWS Bi-Op for Delta Smelt
 - 2009 NMFS Bi-Op for Salmon
 - CDFW ITP for Longfin Smelt
- Implemented through FRP agreement with CDFW
- Target date: 2018

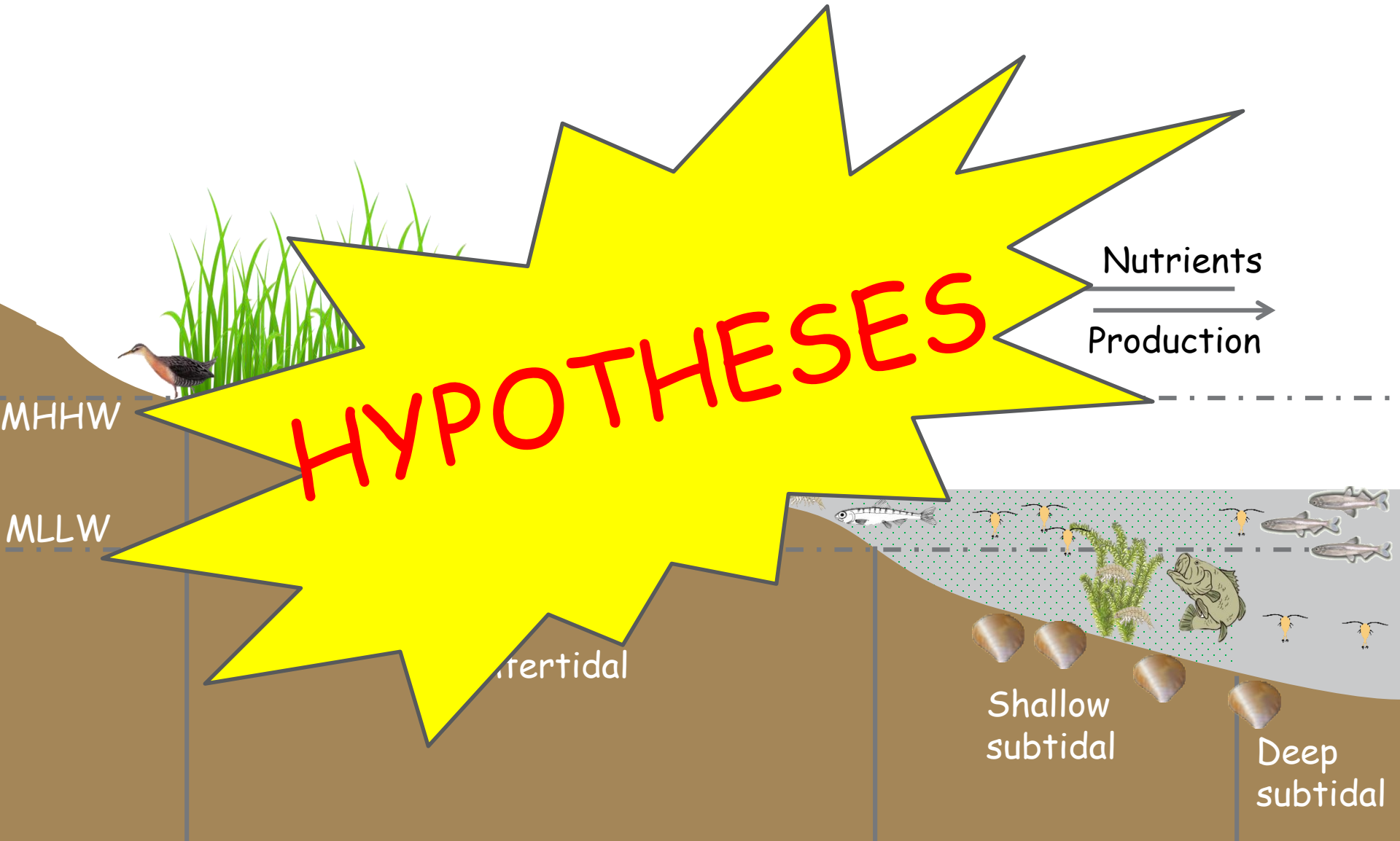


BUT WAIT!

AREN'T SMELT PELAGIC?



TIDAL WETLAND BENEFITS

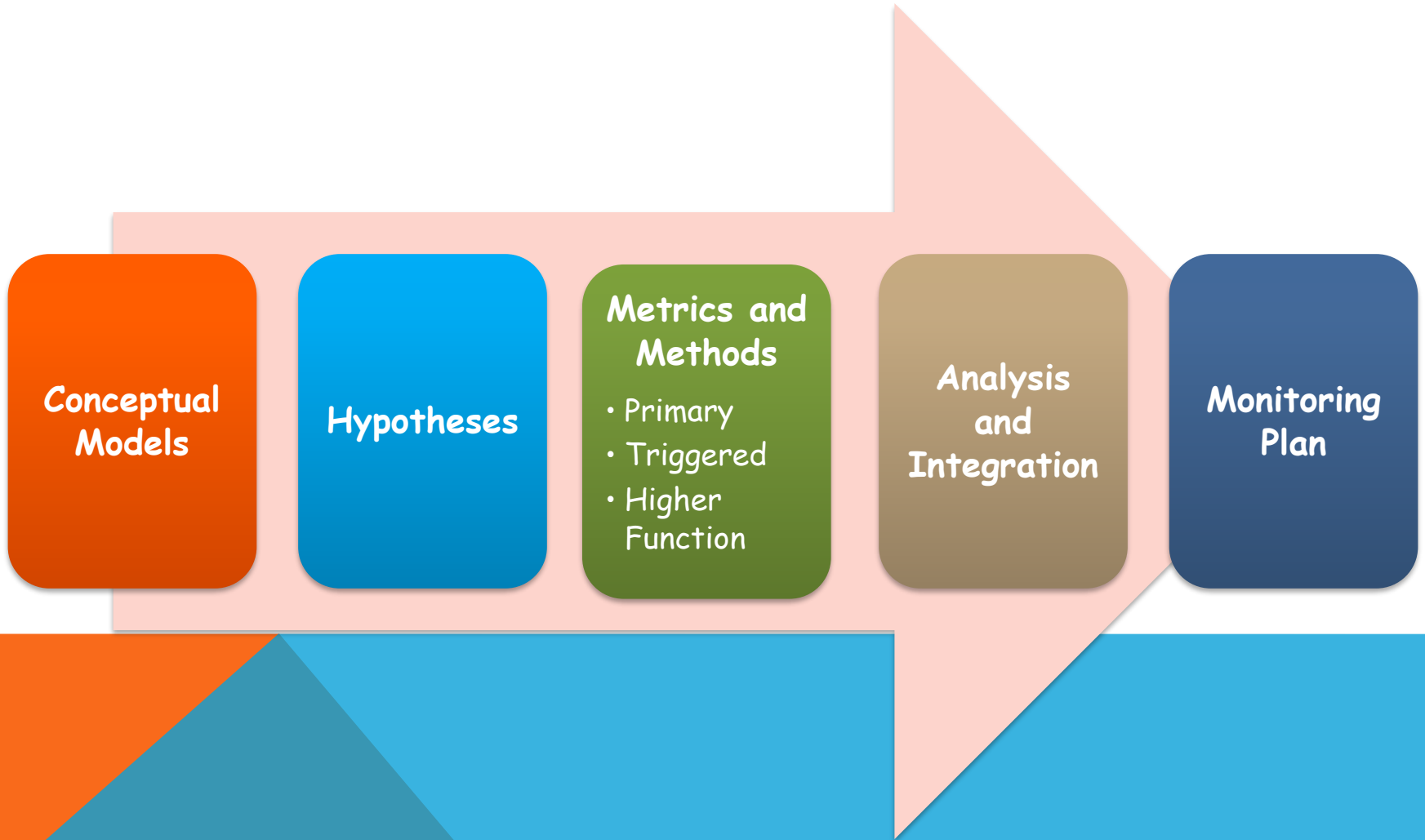


LET'S FIND OUT!

- Tidal Wetlands Project Workteam
- Local experts on wetland and smelt ecology
- Developing generalized framework for effectiveness monitoring restoration sites
- Now we are putting the framework into action!



GENERALIZED FRAMEWORK



LET'S DO IT!!!

CASE STUDY – PROSPECT ISLAND

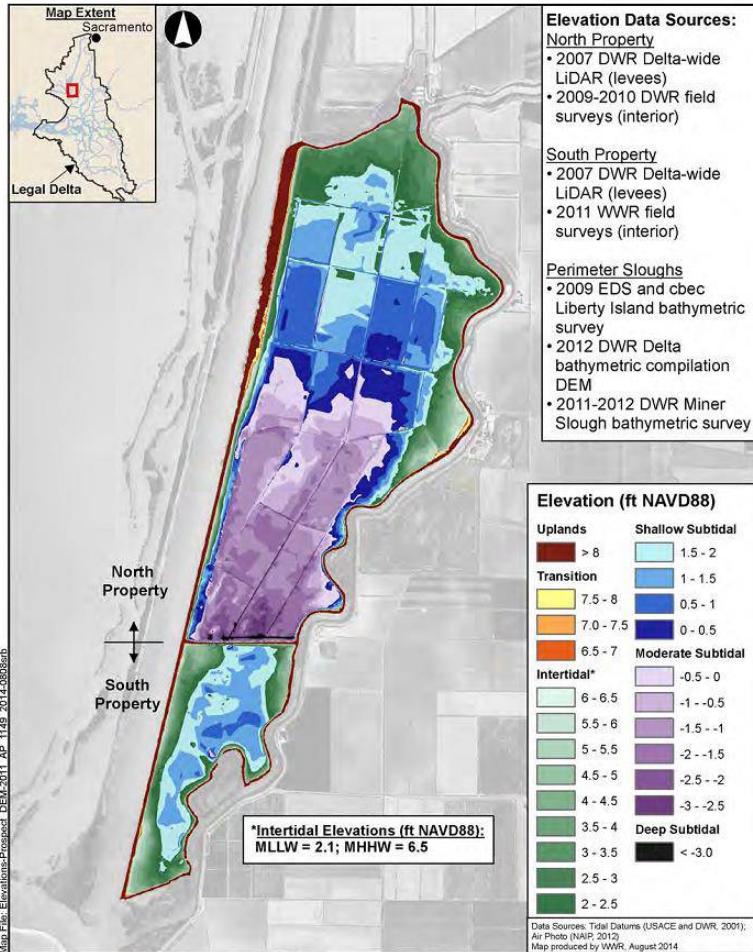


Figure 4-4

Elevations at Prospect Island

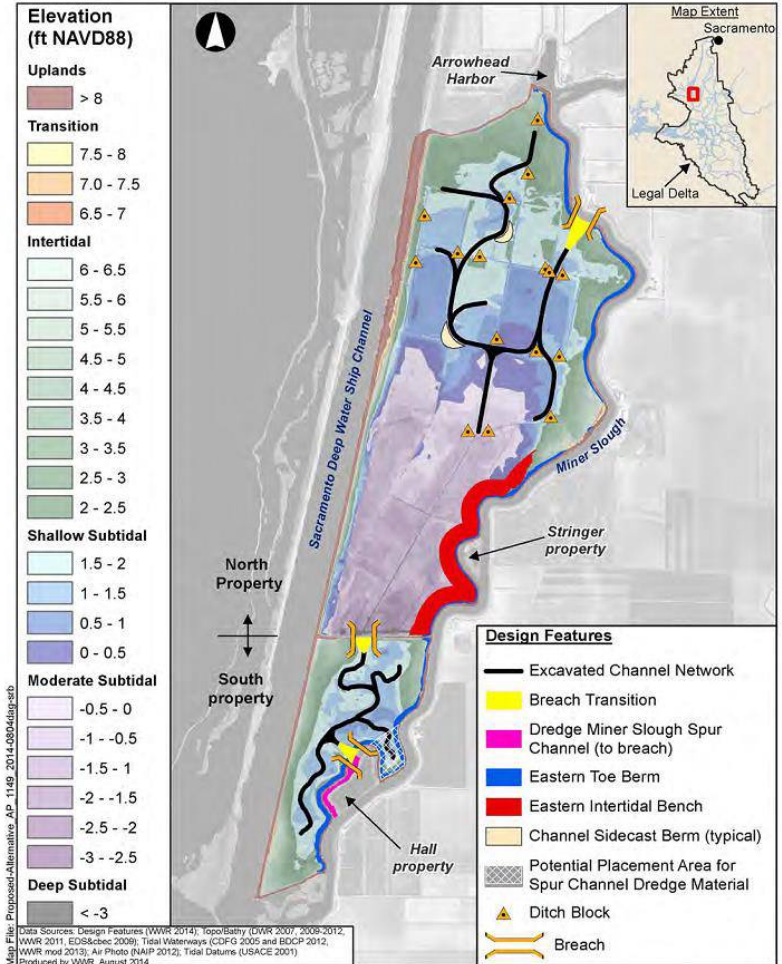
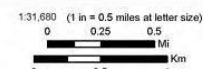
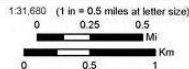


Figure 6-2

Proposed Project



PROSPECT MONITORING PLAN

Objective:
Enhance
productivity
and food
availability

Hypothesis:
Higher
water
residence
time =
higher
production.

**Metrics and
Methods:**

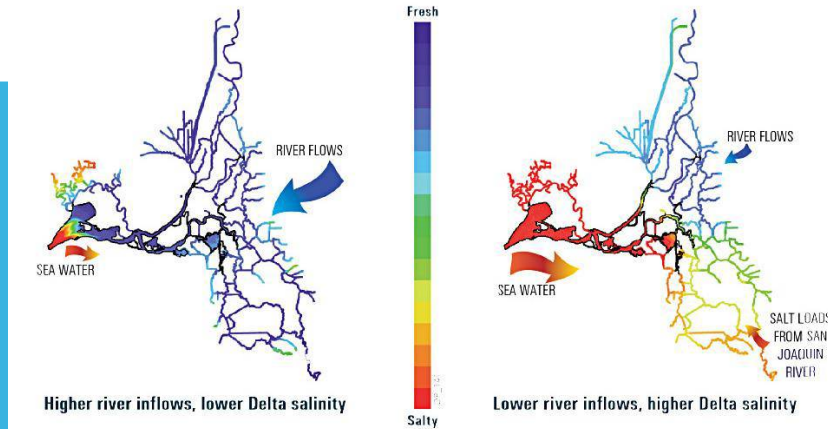
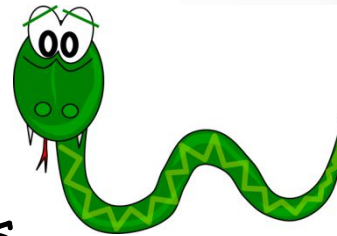
1. Hydrodynamic
model
2. Phytoplankton
3. Zooplankton

**Analysis and
Integration:**
Regional
comparisons
and temporal
trends

**Adaptive
management:**
Changes on-site
and learn for
future sites

SO, ARE YOU DONE YET?

- Constraints on restoration
 - Land acquisition
 - Permitting
 - Engineering
 - Salinity effects
 - Other endangered species
 - Scientific unknowns



WHY MONITOR?

- Adaptive management required by Delta Plan
- Unprecedented scientific opportunity
- Stakes are high
- Are tidal wetlands a miracle cure?
- Only effectiveness-monitoring can say for sure!
- Come on! Let's save the Smelt!!



Please!



QUESTIONS?