

**IEP Tidal Wetlands Monitoring Project Work Team**  
**March 30, 2016**  
**9:00 – 12:00**  
**DWR – West Sacramento – Room 106**  
**Call-in Line: (916) 574-1223 (No passcode needed)**

DFW- Alice Low, Stacy Sherman, Rosie Hartman, Dave Contreras, Alison Furler, Bonnie Wang, Vanessa Tobias, Gregg Erickson, Dave Zezulak, Christina Sloop  
DWR –Ted Sommer, Pascale Goertler, Gina Darin, Louise Conrad, Randy Mager, Steve San Julian, Gardner Jones, Heather Green, Cindy Garcia, Michael Koller, Krista Hoffmann, Gina Darin, Joy Khamphanh, Chris Geach, Priscilla Jiang, Rhiannon Klingonsmith, Cathy Cavanaugh (phone)  
DSP – Maggie Christman, Karen Kayfetz, Martina Koller (phone)  
DSC – Daniel Huang  
USGS - Fred Feyrer, Dave Ayers, Tara Morgan, Oliver Patton  
ESA - Ramona Swenson  
MWD – Shawn Acuna  
USFWS – Lori Smith (phone), Steve Culberson  
SFWCA – Kelsey Cowin  
CA State Parks – Eddie Hard  
Cramer Fish Sciences - Brad Cavallo  
Bruce Herbold

1. Introductions/Housekeeping

Review of meeting notes – January 2016

After meeting agenda announcement

- There is discussion of creating an IEP SAV/FAV Project Work Team

2. Update on Status of IEP Expansion to Compliment Tidal Wetland Monitoring

- Adding zooplankton to current SLS stations around future tidal wetlands shouldn't be an issue as long the FRP team processes the sample.
- The IEP science management team met on March 16 to discuss the possibility of adding stations in Miner and Lindsey sloughs for the SLS and Towner survey to sample fish and collect zooplankton.
  - The issue for adding these stations is that it would require an extra day of sampling and the IEP DFW crew is understaffed.
  - Chronic issue with staffing that leaves IEP sampling vulnerable to disruption – elevated to IEP directors. Discussed looking into changing boat op classification and adding boats for the IEP DFW programs.

3. Update on Conceptual Model Text

- Moving towards publication as IEP Technical Reports
- The models will be circulated to the PWT one more time for comments
- Contaminants text will be circulated in early summer
- The PWT-reviewed models will be forwarded to the IEP science management team for their review
- Author order will be determined by writing contribution

#### 4. Update on Text of Monitoring Framework

- Data management section needs to be constructed and the text will lean heavily on what's developed by IEP Data Management Team (first meeting April 1, 2016)
- A bulk of the framework should be completed by early May and will be sent out to the PWT for comments
- Final framework is scheduled to be finished by December after pilot work is completed
- The team is seeking a website for the framework so it can be downloaded

#### 5. Results of 2015 Pilot Monitoring for Invertebrates – FRP Program

- Trawls, Dip Net, and sweep net got a good number of invertebrates
- The artificial substrates were similar to one another and to the sweep net
- The fall out trap collected a small number of invertebrates compared to the neuston tow
- The throw trap caught a fair number of bugs but was low in critters fish like to eat and was very difficult to use
- Fish diet data needs to be periodically updated to ensure what's being identified as fish food is relevant

#### 6. Update on 2016 Pilot Monitoring – FRP Program

##### Invertebrates

- The first round of leaf packs have been collected along with sweep nets.

##### Fish

- Larval trawls within Liberty Island have been moved to the stair steps, where depth exceeds 6 ft to conduct oblique trawls
- Comparisons between the otter trawl, kodiak trawl, and lampara haul are almost completed
- Comparisons between the beach seine and lampara haul are almost completed
- During fish sampling, water is also collected for Tomo Kurobe at UC Davis for environmental DNA research

#### 7. Ideas for 2017 Pilot Monitoring:

- For timing are there suggestions as to when to sample?

- Try to link to neap/spring tidal cycle – pick one and stick with it
  - Sample based on when the fish community of interest is present
  - Consider runoff
  - Avoid extreme flow events
  - Locations
    - Would like to sample near Tule Red, Overlook club, Winter-Brown’s Island, and in Horseshoe Bend, Lindsey Slough, and Miner Slough
    - Think about what the goal of the sampling is in relation to which tidal wetlands will be restored first
    - Consider physical constraints, within and among site variability in sample effort possible and sufficient to answer questions
  - Leaky breach flux study (Lindsey Slough, Decker, Prospect Islands)
    - Tara has a good study on flux that will probably provide this information, however the FRP team can ground truth some of that data
  - Using selected gear from the pilot studies along Delta ARC Salinity Gradient
    - The team would like to use the recommended fish gear types in channels near current and future wetland locations
      1. A more specific question needs to be developed for this study
    - Another component to this study may be to try and sample shallow water habitat at the “same” time as some of IEP long term monitoring studies
  - Evaluating new gear types (ARIS sonar)
    - The team would like to use an ARIS (next generation DIDSON) to assess the predator community at the same time gill nets are deployed; the FRP team are pursuing purchase of a unit.
  - Gear efficiency studies (lampara net)
    - The FRP team is looking to conduct a gear efficiency study using the lampara net and block nets similar to the USFWS beach seine efficiency study
  - Collaboration with Special Studies
    - eDNA
      1. The FRP team is open to taking water samples for eDNA studies during the lampara gear efficiency study
    - Predator diet analysis
      1. The FRP team is proposing to get some general baseline information on predator fish diets
        - a. It was mentioned that this may be useless because predators will just consume whatever fish are present
        - b. Diet studies are helpful with a focused question
8. USGS sonar studies (Fred Feyrer and Dave Ayers)
- Plans to use an ARIS in conjunction with Smelt Cam, but work not yet authorized

- In the meantime, using the ARIS in a breach to Little Holland Tract; continuous data collection over a 2 week neap-spring cycle starting March 28 to observe fish movement with tides
  - Initial observations – fish move in and out on all tides, many hold and wait. Providing much more information than can be provided with capture studies. Collaborating with the USGS Western Fisheries Research Center in the Columbia River basin.
  - Plan to use data as time series, matching with tidal stage and water quality. Can also turn into discrete data to look at drivers of movement in and out of habitat.

#### 9. Site-specific Monitoring Plans:

- Prospect Island – tabled (low on time)
- Decker Island– tabled (low on time)
- Tule Red
  - Adaptive management and monitoring plan submitted to FAST team. Has identified objectives, uncertainties, and hypotheses using the IEP effectiveness monitoring framework to some extent. Permit conditions preclude fish monitoring at this time.
  - Future special studies could include nutrient exchange/foodweb flux and mercury studies.
- Dutch Slough
  - Monitoring plan drafted but not funded
  - Main question - How does the size and elevation affect the survival and growth of salmon (and maybe Splittail)?
  - A suitable sampling substrate (i.e. a boat ramp that will not be used by boats) should be constructed within Dutch Slough for beach seines and is written into construction plans.
  - Bruce Herbold welcomes comments about monitoring design and the use of boat ramps at [bherbold@gmail.com](mailto:bherbold@gmail.com)