

## MCWC Council Meeting February 4<sup>th</sup> 2010

**Meeting called to order** 6:30 pm at Central Lincoln PUD

**Introductions** (35 people present)

**Recorder's Report:** there were official actions taken to nominate people to fill office and public at-large public positions. Nominations: Sam Adams to fill Chair position, Rennie Ferris, Ed Johnston, and Cyndi Karp to fill Vice-Chair, Fran Recht to fill Recorder position, Jan Christensen to fill Treasurer position, Jennifer Beathe, Stacy Polkowske and Anne Sigleo were nominated to fill the public at large positions.

**Treasurer's Report:** Handout summarizing financial report, full report available. At the end of January there was \$10,480 in the bank. No issues were noted.

**Education Program: Dissolve Oxygen In Two Oregon Estuaries: Importance of the Ocean-Estuary Connection.** Presentation was by Dr. Cheryl Brown of the U.S. EPA based out of the Hatfield Marine Science Center in Newport.

Dr. Brown presented information resulting from her studies of 18 estuaries in Oregon. They are recording nutrient sources, habitat measures, sea grass varieties and other information. They are looking at the importance of coastal upwelling and its influence on water qualities in estuaries. Water quality parameters studied include nitrate, phosphate, chlorophyll a and dissolved oxygen. Upwelling influences may obscure anthropogenic (human-caused) inputs.

The "dead zone" is variable in space and time. Did a nutrient case study in the Yaquina and have also looked at the Yachats.

**Yaquina estuary:** compiled historic and recent scientific cruise data to assess trends. Compared recent data to historic data. In the lower estuary there were no significant changes. In the upper estuary by Toledo there has been an improvement in dissolved oxygen levels over time (likely attributable to the sewer treatment upgrades. In 1954 sewage was only undergoing primary treatment; in 1981 it went to secondary treatment. Another factor this can be attributable to is the logging along the Yaquina River was at a peak in 50-55 then declined. Log rafting then also declined (improving water quality since bark, wood etc. not depleting O<sub>2</sub> in the water ).

The low oxygen levels now are in the mouth of the river. EPA tracked flood tide dissolved O<sub>2</sub> as a function of temp and salinity from May-October. Wind stress causes upwelling in shallow areas. **Cool water and high salinity is correlated with upwelling.** Hypoxic conditions are O<sub>2</sub> levels less than 1%, less than 11% (5 mg/liter) is stressful to fish; 38% O<sub>2</sub> is DEQ criteria (6.5 mg/liter), Phytoplankton need 15 mg/liter. When there is no upwelling O<sub>2</sub> levels are sometimes at 60-80% saturation.

1950s-970s-- historic data from Yaquina show that hypoxic events did occur. 13% of hypoxic events from June-Sept occurred on inner shelf.

A 1960 study Pearson and Holt looked at data from 1951-1957 at the entrance of Gray's Harbor shows a similar pattern to current Yaquina one. They had levels less than 1 mg/L right off jettys.

Summary-- Historically low DO conditions about 20 km from mouth by Toledo—from point source impacts (sewage) and from log rafting.

Increasing trend in DO in upper estuary between 1960-1985.

Presently low DO conditions are occurring in the lower estuary. This is from low DO water advected into Yaquina from coastal ocean.

Consistent with historic data from inner shelf and other estuaries.

Hypoxic conditions appear to have occurred previously on inner shelf.

### **Yachats Study summer 08**

Continuous data-- temp, salinity, DO (dissolved oxygen), in-situ fluorescence,

Also weekly cruises for nutrients, Chl a, salinity, oxygen, water temp. etc. from July 25-Oct 9th

Yachats system very sensitive to precipitation. Even 1" of rain makes the estuary become a full fresh water system.

How frequently are the bottom waters hypoxic? At lower station 80% of time

(July 17-Oct 9, 2 mg/L- 20% of time

5 mg/L is the threshold for biological impacts-- 60% of time )

Cruise data showed high O<sub>2</sub> in surface levels; heavier "trapped" salty waters underneath with very low in O<sub>2</sub>. Very high levels of ammonium here-- resulting from nutrient use by organisms.

Phytoplankton were at very low levels in the surface waters, mid-depth there were phytoplankton blooms, bottom layers very high levels of phytoplankton blooms.

Yachats to measuring station Y1 –goes hypoxic – high salinity, high phytoplankton, high temperature.

Hypoxia never extended all the way to surface. Doesn't make fish happy. Lowest O<sub>2</sub> numbers were measured over a 12-14 day period.

Algae bloom at depth; some coastal ocean phytoplankton invected in and also microalgae.

Estuary flushed out to Hwy 101 bridge with even 1/2" of rain. Trapped salinity got pushed out. This influences nutrients. Any decrease in fresh water delivery in Yachats could worsen situation.

Very susceptible to small changes in the watershed-- e.g.precipitation, climate change, amount of sedimentation.

Historically no data on fresh water inflow, or how mouth looked.

Jim Adler sampled in Beaver Creek – similar picture there too.

### **Other Estuaries**

Nutrient dynamics on Oregon estuaries may be influence by red alder cover (up to 80-90% of riverine nitrate may be directly related to alder cover—Compton et al 2003 study). Symbiotic N<sub>2</sub> fixing bacterial in roots.

In studies of various estuaries in OR (including Licatowich and Nicholas 1985-Winchuck River) Some estuaries get cut off from ocean with sand built up; salty water gets trapped; bottom water heats up. Happens in New River, Sixes, Elk, Eucere, Hunter too.

CA estuaries-- periodically have seen hypoxic events too-- Eel, Russian, Salmon Mattole, Pescaero, Weddell and Pmpenio Creek, Lagoon System (Smith, 1990)

Could look at 1930-1990s picture in Hood Canal area, WA-- saw a big increase in the alder signal (as old trees were cut, clear cuts etc.)

EPA report on web from June 07: An Approach for Developing Nutrient Criteria for Pacific NW Estuaries. Other studies available: Oct 09 Classifications of Regional Pattern of Environmental Drivers and Benthic Habitats in Pac NW Estuaries.

**Break--** delicious food and treats were provided by many through a pot-luck

### **Technical Team Report:**

The issue regarding Lincoln City efforts to reduce nutrient inputs into Devils' Lake was discussed by the technical team. Wayne drafted a letter to send to the City from the watershed council regarding support for those efforts.

**A motion was made to send the letter but to strengthen it to stress the ecological importance of the problem.** Passed unanimously.

The tech team is moving forward on action planning, will review what was accomplished in the past, what hasn't been, new information etc. Tour for NOAA officials still in the works. Anchovy fishery in Yaquina Bay was turned down by ODFW. Expect revised permit to come in again though. There is concern for bycatch of chinook smolts.

### **Elections for Board of Director Officers, Public-At-Large members:**

Ballots were counted for positions: Sam Adams was elected to the Chair person position

Rennie Ferris was elected to the Vice Chair position

Fran Recht was elected to the Recorder position

Jan Christensen was elected to the Treasurer position

Jennifer Beathe was elected to an at-large position

Stacy Polkowske was elected to an at-large position

Anne Sigleo was elected to fill an alternative at-large position.

### **Basin Planning Team Reports:**

**Siletz Watershed Council:** Completed wild winter broodstock collection program; will work with Alsea folks on river collection there. Made presentation to Siletz City Council, Oregon State Marine Board and sent letters to Attorney general, governor candidates, re the issue of gas motors above drinking water intakes. Preliminary drawings with topography information have been submitted re Mill Park work; Request for Proposal has been distributed. April 3-- Siletz River Clean-up-- boat rides and prizes of nice fishing gear. Sunk drift boat was removed.

**Yaquina BPT--** Written report provided. Developed outreach presentation for showing to groups, has 5 groups scheduled to see presentation including Altrusa, Rotary, HMSC Volunteers. Making preparations for a Hwy 20 Eddyville/Pioneer Mtn field trip. Will create a 6 panel poster display for the HMSC library and other forums. Anne Sigleo volunteers to help.

**Alsea Watershed Council:** written report provided. January's meeting was at the Fall Creek hatchery. It was their annual meeting and was well attended and had a special event/presentations on the history of the Five Rivers mill. Board nominations were made; elections will be held next month. Lobster/Preacher Creek technical assistance grant application work proceeding, will have help with federal contracts and projects from Kelly Kittel who has had similar experience from work with BPA, Five Rivers Mill site has a new owner and there is interest in exploring habitat improvements here. Feb 18 next meeting.

**Salmon Drift Creek Watershed Council:** written report provided. Volunteer planted day was scheduled for 2/6 with Natural Resource Crews at Tamara Quays; 2/9 meeting will feature Dave Martin now with Camp Westwind about his former work with Wild Salmon Center in Siberia and Russian Far East. Feb 12 board meeting will elect new board members. Cash flow problems and solutions discussed by board; hesitancy about line of credit.

**Administrative Committee Report:** Approved financial report, reviewed auditors report (copy of report summary page and audited financial statement provided as handout). Things are fine, no improvements in procedures needed. Kudos to the excellent work of Tanya Jorgenson. Staff reviews need to be scheduled. Building space lease is up later this year; SWCD is leasee, we will work with them on building needs.

**Education Report:** Natural Resource Crews working on native plantings in partnership with the Aquarium.

**Coordinator's Report:** Wayne serves on the Cape Perpetua marine reserves group as a watershed rep; He gave an update on the first meeting. (Corrina serves on the Cape Perpetua one as the watershed council rep. And Rennie Ferris is an alternative for the watershed council on Cape Perpetua group) (Others involved in the process Bob Kemp, Paul Engelmeyer, and Andra Scharf). February 25<sup>th</sup> there will be an OWEB listening session at Guinn library from 9-1 pm to talk about Council support.

**Announcements:** Need for support for moving school in Waldport out of tsunami zone;

9:00 PM adjourn

notes prepared by Fran Recht, PSMFC, March 2010