

**LOWER SPRAGUE-LOWER WILLIAMSON
WATERSHED ASSESSMENT MEETING
Tuesday, June 23, 2009**

Topic:

- **Chapter 10 – Water Quality**
- **Chapter 5 (partial) Hydrology**
- **Rob Roninger – Wood River Wetlands**

Chapter 10 – Water Quality – Dani Watson/Steve Kirk

- Temperature → Algae
 - ↓ Dissolved oxygen
 - Shade is very significant
 - Dissolved oxygen in water
 - pH acidic – basic (normal 7 – high 14)
- Internal loading of phosphorus = natural level in system decomposition of rock, etc.
- Target 40% reduction in external loading to reduce algae
- Point Source: identified input
 - Sewage treatment plant, industry, etc.
- Non-point source
 - Runoff, erosion
- Springs: cold water into system

Action Planning:

1. Restore riparian vegetation (native – tules, sedges, rushes, willows, cottonwood
 - Shade → lower temperatures
 - Narrower, deeper channel – less surface area for solar radiation
 - Holds riparian bank in place
 - i. Less erosion, phosphorus dirt, buffer strips, grazing management, flash grazing, fencing and off-stream watering
2. Reconnect Springs
 - Healthy riparian vegetation around them
3. Vegetation management – Juniper Thinning
 - Paired watershed study shows increase in spring flow and subsurface flow – groundwater recharge
(Tim Deboodt, OSU Extension Prineville, July 10-11)
4. Reconnect Floodplain

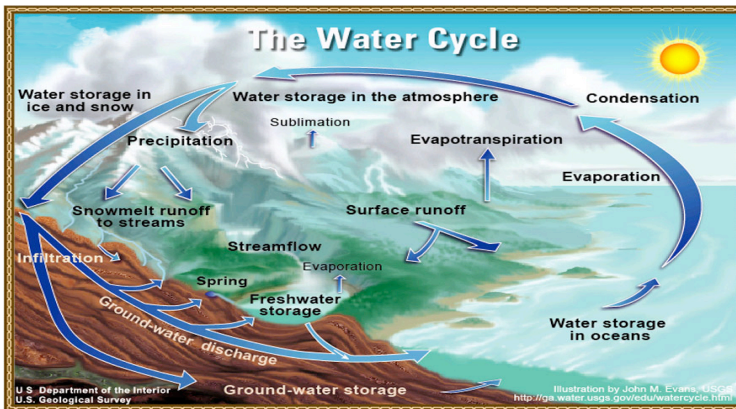
5. Reduce erosion – road drainage
6. Tail water recycle/reuse or treatment wetland

Wood River Wetlands – Rob Roninger

Agency Lake Ranch

- Flooded in Winter/Spring
- Pumped in Summer
- Decrease in nutrient load to the lake
- Diverse wetland
- Klamath Basin Restoration Agreement
 - Proposes connecting Agency Lake Ranch and Barnes to Agency Lake
- 10,000 ducks, 80,000 geese
- 90% waterfowl migratory
 - Spring staging
 - Ducks nesting in may
 - Geese earlier along Wood River & Klamath Refuge
- Wood River pumping starts in March to hold water level for emergent vegetation
- Subsidence: elevation of ground 3 ½" – 4" below lake level
 - Develop biomass to increase ground level (RNC 8-11 ft)
- Late 1990
 - Water quality and quantity
 - Wildlife habitat – wetlands habitat
- Current focus on wetlands
 - Germinate cattail, bulrush, burr reed, regulate decomposition, retain biomass on soil
- Good wocus growth in canals (rare in shallow areas)
- Put river back in historic channel, restore streambanks
- Contribute 4000 ac. Ft. to lake before late April
- Artesian wells capped to reduce
 - Nutrient loading
 - Decommissioned three (filled, casing removed, revegetated)
 - Two plumbed – source of water for wildlife long-term groundwater monitoring gauge – USGS

Chapter 5 Hydrology – Sue Mattenberger – USFWS



- Hydrograph
 - Amount of runoff over time
- Retention
 - Hold the water in the watershed for as long as possible so it percolates down into the soil and stream over the season
- Levees have disconnected the river from the flood plain
- Roads have increased sediment in watershed
- Ground – surface water interaction