2014 Technical Review
Team Meeting

March 13th, 2014
Introductions and Overview

- Introductions

- Meeting Overview
  - Review of previous work (modeling, recharge & monitoring)
  - Overview of upcoming projects (recharge projects)
  - Lunch
  - Discussion time (water quality, site locations, priorities, etc.)
  - Site Tour
IWFM Model
Overview of 2012-13 Activities

- Oregon Recharge
  - Existing & New sites
  - Recharge volumes
  - New Limited License

- Washington Recharge
  - Existing & New Sites
  - Recharge volumes
  - New QAPP & WQ requirements
  - Planning/Assessments
Aquifer Recharge Sites

- NW Umapine
- Trumbull
- Johnson
- Barrett
- Anspach
- Locher Road
- Stiller Pond
- West Ringer Road
- East Trolley Lane

Active OR Site
Constructed OR Site
Active WA Site
Overview of 2012-13 Activities

- Johnson Aquifer Recharge site
Overview of 2012-13 Activities

- Trumbull Aquifer Recharge site
Overview of 2012-13 Activities

- Anspach Aquifer Recharge site
Overview of 2012-13 Activities

- NW Umapine Aquifer Recharge site
Overview of 2012-13 Activities

- Barrett Aquifer Recharge site
Overview of 2012-13 Activities

- East Trolley Aquifer Recharge site (Not active)
Overview of 2012-13 Activities

- West Ringer Rd Aquifer Recharge site (Not active)
Overview of 2012-13 Activities

- Oregon Recharge Volumes
  - 2012 WY
    - Johnson spreading basins = 3591.44 acre-feet
    - Johnson infiltration galleries = 288.87 acre-feet
    - Ditch seepage = 1050 acre-feet

4930.31 acre-feet for WY 2012
Overview of 2012-13 Activities

- Oregon Recharge Volumes
  - 2013 WY
    - Johnson spreading basins = 3,972.1 acre-feet
    - Johnson infiltration galleries = 583.4 acre-feet
    - Trumbull = 84.28 acre-feet (only ran for ~3 weeks)
    - Anspach = 11.57 acre-feet (only ran for ~3 weeks)
    - Ditch seepage = 1,175 acre-feet

5,826.35 acre-feet for WY 2013
Overview of 2012-13 Activities

- Oregon Recharge Volumes
  - 2014 WY (through Jan 31st)
    - Johnson spreading basins = 2,037.32 acre-feet
    - Johnson infiltration galleries = 263.31 acre-feet
    - Trumbull = 251.75 acre-feet
    - Anspach = 63.21 acre-feet
    - NW Umapine = 274.22 acre-feet (start Dec 1)
    - Barrett = 13.71 acre-feet (only on for ~3 days)
  - Ditch Seepage = Not calculated yet

2,902.52 acre-feet through Jan 31st 2014
(excludes ditch seepage)
Overview of 2012-13 Activities

- OR Average Recharge Volumes Nov-Jan (excluding ditch seepage)

  WY 2012 = 1505.59 (79 days)  
  19.06 acre-feet per day

  WY 2013 = 2,472.52 acre-feet (92 days)  
  26.88 acre-feet per day

  WY 2014 = 2,902.52 acre-feet (70 days)  
  41.46 acre-feet per day
Overview of 2012-13 Activities

- New Limited License
  - Addition of new AR sites required a new LL
  - New LL allows for 45 cfs to be diverted
  - 7 sites incorporated into a single LL
  - Each site does NOT have a specified rate
  - “Programmatic” monitoring plan
Overview of 2012-13 Activities

- New LL Monitoring Plan

Figure 19. Proposed Source Water Monitoring Locations

Point of Diversion (POD)
Located 1030 Feet North and 900 Feet East from the Center 1/4 Corner Sec. 12 in the SW 1/4 NE 1/4 Sec. 12 T5N, R35E, W.M.
Aquifer Recharge Sites

Active OR Site
Constructed OR Site
Active WA Site

NW Umapine
Trumbull
Johnson
Barrett
Anspach
Locher Road
Stiller Pond
East Trolley Lane
West Ringer Road

MILTON-FREewater
Overview of 2012-13 Activities

- Locher Road Aquifer Recharge site
Overview of 2012-13 Activities

- Stiller Pond Aquifer Recharge site
Overview of 2012-13 Activities

- Washington Recharge Volumes
  - 2012 WY
    - Locher Road = 334 acre-feet
    - Stiller Pond = 32 acre-feet

366 acre-feet for WY 2012
Overview of 2012-13 Activities

- Washington Recharge Volumes
  - 2013 WY
    - Locher Road = 104.38 acre-feet
    - Stiller Pond = Did not operate

104.38 acre-feet for WY 2013
Overview of 2012-13 Activities

- QAPP for WA Recharge
  - Developed to address existing TMDLs for the WWR, Mill Creek and Yellowhawk Creek
  - Added lower detection limits for PCBs and chlorinated pesticides and added additional parameters
Overview of 2012-13 Activities

- Adaptations to the new QAPP
  - New & existing sites would have additional WQ costs
  - Given the project budget we had two options:
    1. Build new sites, but there would likely not be enough money to operate the new or existing sites
    2. Operate existing sites and gather additional information for existing and potential new sites

- The options were discussed with Ecology staff and an amendment to our grant changed the scope of work to allow for the second option
Overview of 2012-13 Activities

- Amended scope of work allowed for:
  - Additional monitoring at Stiller Pond (WQ, wells, and 2 stream gages)
  - WQ sampling at Locher Road
  - Wells drilled in the West Little Walla Walla River to explore water quality conditions
Overview of 2012-13 Activities

- Planning and Assessments
  - Continued assessment of seepage loss from the Gardena Farms Canal (diversion to Lowden-Gardena Road)
  - Drilled wells in the West Little Walla Walla River and at Stiller Pond
  - Conducted an assessment of the West Little Walla Walla River
  - Completed the Walla Walla Basin Aquifer Recharge Strategic Plan
Overview of 2012-13 Activities

- Walla Walla Basin Aquifer Recharge Strategic Plan
  - Basin characteristics
  - Walla Walla AR activities to date
  - Water availability and estimated goals for AR volume
  - Outlines strategic goals & objectives
Telemetry and Monitoring
Overview of 2014-15 Activities

- Oregon AR
  - Have OWEB and BPA funding to build 5 additional sites
  - Obtain Limited License for new sites
  - Install/Test near real-time WQ stations
  - Automate recharge sites if funding is available
  - Continue operating existing sites
Aquifer Recharge Sites

- NW Umapine
- Trumbull
- Johnson
- Barrett
- Anspach
- Locher Road
- Stiller Pond
- East Trolley Lane
- West Ringer Road

- Active OR Site
- Constructed OR Site
- Active WA Site
Overview of 2014-15 Activities

- Washington Overview
  - Task 1 – Modeling
  - Task 2 – Aquifer Recharge Operations and Site Construction
  - Task 3 – Effectiveness Monitoring
  - Task 4 – GIS Geodatabase, Data and Fish-Hydro Analysis
  - Task 5 – Bi-state Strategy & Admin
Overview of 2014-15 Activities

- Task 1 – IWFM Model
  - Expand Model
  - Run additional scenarios
  - Potentially incorporate climate change
  - Expected to be utilized for Office of Columbia River studies
Overview of 2014-15 Activities

- Task 2 – Divided into three subtasks
  - Task 2.1 – Gardena Farms district
  - Task 2.2 – Mill Creek, Middle WWR and Lower Toucher River
  - Task 2.3 – Little Walla Walla River
Overview of 2014-15 Activities

- Task 2.1
  - Working with WWCCD on additional seepage analysis of the Gardena Farms Canal
  - Operations at Locher Road
  - Use seepage analysis to develop potential/construct recharge site(s) to mitigate piping of the GFID canal
Overview of 2014-15 Activities

- Task 2.2
  - Operations at Stiller Pond
    - WQ and stream gages
  - Collecting data for the Environmental Enhancement Project
Overview of 2014-15 Activities

- Task 2.3
  - Develop an aquifer recharge site in the West Little Walla Walla River system
    - Working with the WWWMP on a Local Water Plan
    - Also apply for an EEP
    - Install additional monitoring as needed for LWP or EEP
Aquifer Recharge Sites

- NW Umapine
- Trumbull
- Johnson
- Barrett
- Anspach
- Locher Road
- Stiller Pond
- West Ringer Road
- East Trolley Lane

Markers:
- Active OR Site
- Constructed OR Site
- Active WA Site
Overview of 2014-15 Activities

- Task 3
  - 3.1 – Continue Groundwater and Surface Water effectiveness monitoring
    - ~100 wells (OR & WA)
    - ~60 surface sites (OR & WA)
  - 3.2 – Annual Seepage Assessments (Seepage Runs)
    - WWR, Mill Creek, Touchet River and Detailed Lower Mill Creek
  - 3.3 – Maintain ET stations and telemetry system for modeling
Overview of 2014-15 Activities

- Detailed Mill Creek Seepage Run
  - Stiller Pond
Overview of 2014-15 Activities

- Task 4
  - Geodatabase Management
  - Fish-Hydro Analysis
  - GW & SW Data Analysis
  - GIS Outputs
Overview of 2014-15 Activities

- Task 5
  - Continue to work with WWWMP on Bi-state water management
  - Continue work with the Aquifer Recharge Strategic Plan (communication, potential update, etc.)
- Administration
Discussion

- Priority Areas for Recharge?
Discussion

- Priority Areas for Recharge?
Discussion

- Water Quality Costs
  - Averaging around $30,000 per site per year under new QAPP
  - We will be sampling in the WLWWR, Touchet River and Dry Creek(?) for presence of PCBs
    - If not present – do these areas become “higher” priority?
  - Long-term outlook for aquifer recharge
    - Are costs going to go down?
    - Should we focus on identifying sources?