

Ross Island Update - January 2006

This fact sheet updates ongoing environmental work at Ross Island and assumes a certain level of familiarity with the project. For background on the project, please see the May 23, 2001 Fact Sheet and subsequent updates.

Fact sheets and additional information about the Ross Island investigation are available at: <http://www.deq.state.or.us/nwr/rossisland.htm>

Record of Decision (ROD) signed

The ROD describing the selected cleanup of contamination at Ross Island was signed by DEQ on December 20, 2005. The ROD describes the steps that will be taken to protect human health and the environment from contamination present in site soils, groundwater and sediment. A public review period on the proposed cleanup plan was held in October. DEQ presented an overview of the project at a City of Portland River Renaissance "brown bag" discussion on October 11. Response to comments made during this discussion is provided in the ROD. No written comments on the proposal were submitted.

Evaluation process

Because contaminated material exceeding risk-based standards is present at Ross Island, an evaluation of appropriate measures to clean up the contamination, called a Feasibility Study was completed. The following seven site issues were identified for cleanup evaluation:

- 1) Concentrations of zinc and arsenic found in surface soils within the processing plant area that pose a potential threat to people who may come into contact with it,
- 2) Elevated concentrations of polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals that pose a potential threat to aquatic life if eroded into the lagoon,
- 3) Elevated concentrations of PAHs in groundwater near the southern shoreline of the lagoon that pose a threat to aquatic life if they migrate into the lagoon,
- 4) Breach material that is currently confined in the former eastern section of the settling pond that poses a threat to the lagoon if the cap is not adequately maintained,
- 5) Elevated concentrations of contaminants detected in surface sediments in the southeast bench area and in the vicinity of the breach of one of the confined disposal

cells that pose a threat to aquatic life and consumers of aquatic life.

- 6) Elevated pH in sediment and groundwater along the southern shoreline of the lagoon that poses a potential toxic threat to organisms that live in the sediment,
- 7) Contaminated material that is currently confined in aquatic disposal cells in the southern portion of the lagoon that pose a threat to aquatic life and consumers of aquatic life should the confinement not be adequately maintained.

Cleanup options ranging from removal, with either on- or off-site management, to containment in place were evaluated in the FS. Treatment options were considered for contaminant mixes amenable to treatment. Integration with the on-going reclamation was also considered. Cleanup options were evaluated using the remedial criteria established in Oregon regulations: effectiveness, long-term reliability, implementability, implementation risk, and reasonableness of cost. Where material considered to be "hot spots" (highly concentrated or mobile contamination) was present, a higher priority was given to options involving treatment or removal.

Factors that played a significant role in the cleanup evaluation included the following:

- Contaminants present at the site are not highly mobile in the environment. They have low solubilities and tend to adhere to soil.
- Risks associated with excavation, particularly in the lagoon can be high. For some of the areas of concern, large volumes of clean material would need to be removed to gain access to the contaminated material. Excavation through the water column can result in spreading of contaminants.
- The facility reclamation plan requires that large volumes of fill be placed at the site. Removal options are counter to this objective.
- The most contaminated material encountered at the site (material in the existing confined aquatic disposal cells and material capped in the unused portion of the settling pond) is already confined.
- The dike constructed between Ross and Hardtack Islands has created a relatively calm environment within the lagoon that is not subject to the erosion and boat traffic



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disturbances that occur in the main river channel.

Selected cleanup

Based on the evaluation process described above, the following cleanup actions were selected for the 7 identified areas:

- 1) Complete characterization of extent of arsenic and zinc contamination and cap with clean soil.
- 2) Stabilize contaminated soil adjacent to the lagoon and cap with clean soil.
- 3) Maintain existing cap of breach material in former settling pond.
- 4) Monitor groundwater adjacent to the lagoon.
- 5) Cap contaminated lagoon sediment in the vicinity of the breach.
- 6) Cap shoreline areas where elevated pH has been detected, pending results of pilot study now in progress (see below).
- 7) Stabilize slopes adjacent to existing confined disposal cells in the lagoon and maintain and manage the cells over the long-term.



Installation of multi-level sampling well

Pilot study on elevated pH in progress

Over the past year, RISG has conducted tests to assess the effectiveness of capping in reducing elevated pH to acceptable levels prior to entering the lagoon. Most recently (September 2005), 3 multi-level monitoring wells were installed in shoreline areas where reclamation fill had been placed over areas where elevated pH had been detected. These wells will provide data on how pH changes in groundwater as it moves upward from impacted zones through clean cap material and ultimately enters the lagoon. If capping does not prove effective in reducing pH levels, amendments providing a buffering capacity will be evaluated for use in the caps placed in these areas.

Next steps

RISG will prepare workplans describing how the cleanup action will be implemented. These workplans will describe the integration of capping with the reclamation plan and will

include long-term monitoring and management protocols for the capped areas.

Reclamation update

In 2003, the reclamation plan for Ross Island was revised to reflect a higher level of focus on creating habitat of greatest value to aquatic species and endangered salmon in particular. RISG has been placing clean fill in lagoon shoreline areas over the past two years to meet these specifications. For the most part, this fill has come from the City of Portland combined sewer overflow project and consists of soils excavated from several feet below ground surface to make way for the new sewer lines. Over an approximate 10-year time frame RISG is to bring 4.5 million cubic yards of fill to the site and create 22 acres of emergent wetland habitat and 14 acres of shallow water habitat according.



Southern shoreline where fill has recently been placed

Opportunities for public participation

The Record of Decision is on the DEQ Web site. Many project documents are also available at the Multnomah County Library – Central (801 SW 10th Ave.) and Sellwood (7904 SE Milwaukie Ave.) branches. The project file is also available at the DEQ Northwest Region Office, 2020 SW 4th Ave., Portland. To set up a review appointment please call (503) 229-6729.

DEQ is available to provide updates at neighborhood or other group meetings if there is interest. Direct questions on the cleanup project to DEQ Project Manager, Jennifer Sutter, at (503) 229-6148, or sutter.jennifer@deq.state.or.us.