

## Ross Island Investigation

### Overview/Background

Work began in fall 1998 to assess contaminated sediment disposal practices at Ross Island Sand & Gravel lagoon, and to determine if past disposals in either the lagoon or upland areas pose a current or future risk to human health and environment.

To accomplish this objective, the Department of Environmental Quality (DEQ) entered into an Intergovernmental Agreement with the Port of Portland, and an Order of Consent with the Ross Island Sand & Gravel Company (RISG). These documents spell out requirements for each party to develop work plans and implement separate but coordinated investigations to determine what, if any, environmental or human health risks exist within the Ross Island complex. As of September 2000, the Port of Portland completed their investigation and draft report. Ross Island Sand & Gravel implemented the first phase of a broader investigation, and is continuing to develop a work plan for a second phase.

### Draft Reports Submitted

Between November 1999 and April 2000 the Port of Portland conducted investigative fieldwork in and around five confined, in-water disposal sites or cells within the lagoon. The investigation focused on identifying environmental risks, if any, posed by disposal at these locations of dredged sediments removed from Port drydocks and terminals between 1992 and 1998. The investigation included surface water, groundwater, soils and sediment testing. The investigation was designed to determine whether the underwater disposal cells effectively prevent release of contaminants into the lagoon and groundwater now and over the long term.

Concurrent with the Port's investigation, RISG implemented Phase I of a broader investigation aimed at assessing the environmental risk, if any, posed by other fill material from multiple industrial and commercial sources placed at the site, and the RISG facility as a whole. This investigation consisted of collecting soil samples in upland fill areas and analyzing sediment samples collected by the Port. A draft report on

this work was submitted to DEQ in May 2000. Final revisions to this report are underway.

The Port submitted their draft investigation report to DEQ in July 2000. That document has been reviewed by DEQ and DEQ comments are being addressed. A panel of outside experts and interested individuals and organizations are continuing to review the document through a September public review period. Once the draft report clears technical and public review, DEQ will decide what, if any, additional Port work may be necessary. This decision should come in October 2000.



*Environmental consultants conducted a variety of investigations within the lagoon, including drilling sampling wells and taking sediment samples.*

### Preliminary Findings

The Port concluded in their report that there are no current, unacceptable human health or ecological risks, associated with the material in their disposal cells. This included a determination that there is no risk to human health or the environment from contaminant migration through the groundwater. The study also found that some low levels of PCBs detected in one surface sediment sample in the southeastern portion of the lagoon may be attributable to Port material that settled beyond the disposal cell during placement. However, it concluded that the low levels detected, and the small area affected, present a negligible risk.

Investigators also concluded that there is some potential future risk of contaminant release from the cells due to the potential failure of the slopes surrounding the disposal cells. Hart-Crowser, the environmental consulting firm that conducted the Port investigation, recommended immediate placement of additional fill to buttress the slopes closest to the disposal cells at risk.



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Last Update 9/24/00  
J. Gladson

Overall, the work conducted by the Port and Ross Island Sand & Gravel has provided valuable data for assessing environmental concerns at the site. DEQ has raised questions regarding several of the conclusions drawn in the Port's report but also agrees that the study has reduced some concerns as well. The study has shown the following:

- There appears to be negligible potential that contaminants in the disposal cells will adversely affect groundwater beneath the disposal cells.
- Concentrations of contaminants found in surface sediments were below levels that would present a risk to people using the lagoon for recreation.
- Port-associated contaminants found in surface sediments do not appear to be toxic to aquatic life. The potential for contaminants to pose a risk via bio-accumulation in the food chain needs more evaluation.
- The dike between Ross and Hard Tack Islands appears stable, reducing the threat of erosion of cap material placed over the disposal cells.
- It should also be noted that the concentrations of contaminants detected to date in surface soil samples collected by RISG in upland fill areas are below levels that would pose a threat to recreational users or workers on the island.

DEQ is currently seeking outside technical input on the assessment of the stability of slopes surrounding the disposal cells. RISG has looked at this issue independently, and their consultants, Cornforth Environmental Consulting, disagree with the Port conclusion.

Over the next several weeks, DEQ will consider input from the technical panel and the public on the Port report, and additional material to be submitted by the Port in response to DEQ comments. DEQ will then determine the following:

- Whether additional assessment or immediate response measures are needed to address the slope stability issue.
- Whether further investigation or other action by the Port is warranted or if remaining issues are best addressed in the Phase 2 investigation currently being planned by RISG.

## Future Activities

### Reclamation

RISG is in the process of coordinating a panel to consider modifications to their existing reclamation plan for the islands. In the interim, reclamation fill going to the island must meet strict testing requirements with DEQ oversight. Reclamation filling protocols will continue to be evaluated as a long-term management plan for Ross Island is developed.

### Phase 2 Investigation

A draft Phase 2 Work plan will be submitted by RISG to DEQ for review at the end of September. This document will also be reviewed by the Technical Assistance Panel and made available for public review.

Some of the issues that will be addressed in the Phase II Investigation include:

- Completion of fill characterization to identify any areas of elevated contaminant concentrations.
- Assessment of the potential for contaminants detected in the fill to move into the lagoon at concentrations that would pose a threat to aquatic life. This will include completing the characterization of upland and in-water fill, considering the implications of contaminants detected in the flux chambers (devices used to monitor seepage from the sediment to the lagoon) installed and sampled by the Port, and evaluating contaminant movement from fill to the surface water.
- Evaluation of the potential for contaminants detected in the sediments to pose a threat to human health or the environment through bioaccumulation.
- Further evaluation of the potential for long-term impacts of contaminants to the lagoon.

## Public Meeting

**Date/Time:** Monday, September 25 beginning at 7 p.m.

**Location:** Oregon State Office Bldg, 800 NE Oregon St. in Portland, Room 140.

**For more information:** DEQ website at: [www.deq.state.or.us/nwr/rossisland.htm](http://www.deq.state.or.us/nwr/rossisland.htm)