

## **Seabold Potential Seawater Intrusion Investigation SCOPE OF WORK**

In 2006, chloride sampling results from the Seabold Water Association drinking water supply well exceeded the 100 mg/L early warning level for potential seawater intrusion. In keeping with recommended management actions outlined in the City's Groundwater Monitoring Program Plan, the *Seabold Potential Seawater Intrusion Investigation* is a two-phase project to conduct appropriate and sequential monitoring and investigative activities that, if seawater intrusion is confirmed, will lead to protective or remedial actions.

This project is a partnership of the City of Bainbridge Island (COBI), Public Utility District No. 1 – Kitsap (KPUD), and the Kitsap Public Health District (KPHD).

**Phase I** — Phase I is a preliminary desktop assessment of available water quality data for representative wells in the Sea Level Aquifer around the Seabold region encompassing the north end of the Island north of Lovgreen Road to determine if water levels or water quality are indicative of a regional issue developing in the aquifer. If insufficient historical data are available or suspect or spurious data are identified, additional field data will be collected as necessary.

**Phase II** — Phase II is a field investigation focused in the Seabold Water Association neighborhood encompassing the area bound by NE Ralston Road to the south, Agate Passage to the north, State Highway 305 to the east, and Port Orchard Passage to the west. Physical and chemical parameters of groundwater in the Sea Level Aquifer will be measured and assessed to confirm/rule out seawater intrusion in the aquifer and, if intruded, determine extent.

### **Task 1 – Data Collection**

#### 1.1 Identify representative wells

1.1.1 Phase I - Identify Group A & B public water system wells that meet the following screening criteria:

- Static water level elevation at or near sea level
- Screening elevation in the Sea Level Aquifer

1.1.2 Phase II - Identify Group A & B public water system wells and additional exempt wells, as needed, that meet the following screening criteria:

- Static water level elevation at or near sea level
- Screening elevation in the Sea Level Aquifer



1.2 Compile historical data - Phase I and II – Query State Department of Ecology, State Department of Health, KPHD, KPUD, and COBI data banks for historical data for representative wells for the following parameters:

- Location (GPS)
- Static water level elevation
- Conductivity
- Carbonate
- Bicarbonate
- Sulfate
- Chloride
- Total dissolved solids
- Sodium
- Potassium
- Magnesium
- Calcium
- Hardness

1.3 Collect field measurements and water samples - Phase I (if insufficient amount of historical data are available) and Phase II - Collect water samples and field measurements from representative wells for the following:

- Location (GPS)
- Static water level elevation
- Conductivity
- Carbonate
- Bicarbonate
- Sulfate
- Chloride
- Total dissolved solids
- Sodium
- Potassium
- Magnesium
- Calcium
- Hardness

## **Task 2 – Data Storage**

2.1 Data repository – All project data will be made available to all project partners and the public at any time.

2.1.1 Results of data compilation and screening to identify representative wells will be housed at KPUD.

2.1.2 All newly-collected data will be housed at the COBI.

## **Task 3 – Data Assessment**

3.1 Data quality assurance and control – All project data will be screened for acceptable quality assurance and control (i.e., appropriate field and lab methods applied and data appropriately recorded)

3.2 Data will be:

- Compared to established drinking water criteria or standards
- Compared to the City's early warning levels
- Assessed for water quality or water level status and trends indicative of potential current or developing seawater intrusion in accordance with methods developed by Island County

## **Task 4 – Public Communications and Project Reporting**

4.1 Access to representative wells – partners will:

4.1.1 Secure permissions from well owners prior to commencing any fieldwork

4.1.2 Immediately report to the well owner in the event of any incidental damages caused by project staff and provide the well owner the means for repair and/or reimbursement

4.1.3 Provide data results and project report to participating well owners

4.2 A letter introducing the project and seeking permission to measure/sample will be sent to all owners of potential project wells, and, in the case of Phase II, all residents in the focused area in order to identify unknown potential wells and/or residents interested in participating. Letter will include a FAQ addressing specifics.

4.3 Project report – Project final report will be in the format of a white paper and cover both Phase I and Phase II. Final report will be posted to respective webpages and made available to public at any time.

4.4 Depending upon outcome of the project, additional reports and/or communications to the public may be necessary. Appropriate media, timing, and message will be agreed to by all partners, if this should be necessary.