Frequently Asked Questions about
The South Puget Sound Dissolved Oxygen Study

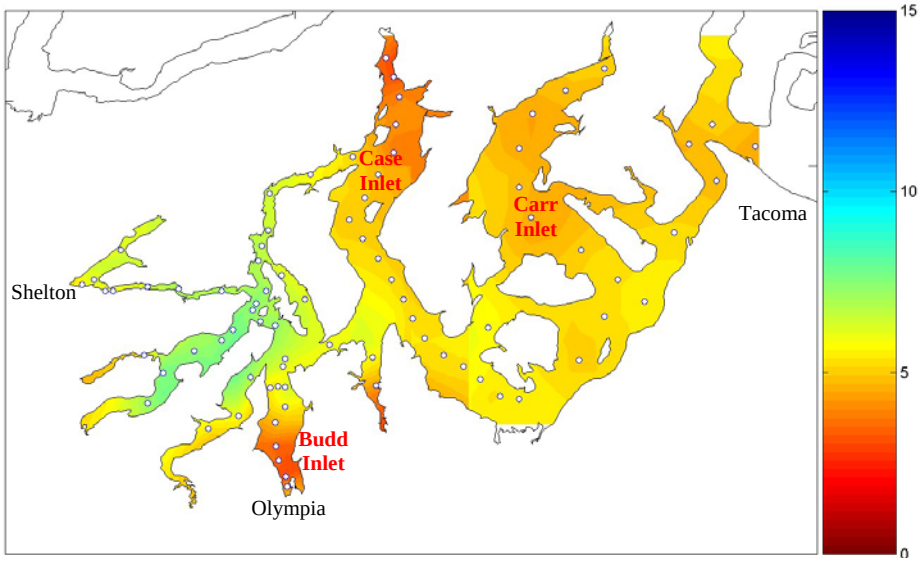
from Ecology's Water Quality Program

Q: What is the South Puget Sound Dissolved Oxygen Study?

A: The Department of Ecology (Ecology) is starting a water quality study on low dissolved oxygen levels in South Puget Sound. Marine animals need oxygen to live. This study will help determine how human activities (along with natural factors) affect low dissolved oxygen levels in South Puget Sound.

Q: What is the extent of the problem?

A: In South Puget Sound, Carr, Case, and Budd Inlets are the locations of greatest concern. This graphic shows dissolved oxygen levels in 2003, with lowest levels in red. The state's Water Quality Standards set the minimum dissolved oxygen criteria for protecting aquatic life. The minimum dissolved oxygen criteria in Puget Sound range from 5.0 milligrams of dissolved oxygen per liter (mg/L) to 7.0 mg/L. As the graphic shows, dissolved oxygen levels in South Puget Sound fall below these minimum criteria.[1] In 2003, dissolved oxygen levels in Budd Inlet were as low as 3.1 mg/L. In Case Inlet, they dropped to 2.6 mg/L, and in Carr Inlet they were 4.3 mg/L.



Dissolved oxygen levels (mg/L) near the bottom of South Puget Sound in 2003.

Q: What stage are we at in the study?

A: We are still in the preliminary data collection and data analysis phase. Earlier work, completed in 2002, found that human activities may affect marine water quality. It also showed that additional data collection was needed. The current work is partially funded by a federal grant.

[1] In situations where dissolved oxygen levels are already naturally lower than the criteria, the water quality standards allow human activities to only cause a further 0.2 mg/L reduction in dissolved oxygen levels.

November 2006 06-10-082

Q: Is this study a Total Maximum Daily Load (TMDL)?

A: No. The intent of this study is to collect data and develop models to determine the effects of nitrogen discharges on dissolved oxygen levels in South Puget Sound. The results of the study will help determine if Ecology needs to do a TMDL. If the study shows that something needs be done to protect dissolved oxygen levels in South Puget Sound, either a TMDL or some other plan of action that will result in clean water will be necessary.

Q: How does this study relate to the Puget Sound Partnership?

Governor Gregoire created the Puget Sound Partnership in 2005 to make high-level recommendations on a comprehensive effort for integrating the work of local, state, and federal governments with private sector and citizen efforts to protect and restore the Sound by 2020. The Puget Sound Partnership will make recommendations to the Governor, the Legislature, and Congress. The South Puget Sound dissolved oxygen study is part of Governor Gregoire's long-term effort to help restore and preserve Puget Sound. For more information on the Puget Sound Partnership, please visit http://www.pugetsoundpartnership.org.

Q: How does this study relate to other studies in Puget Sound?

A: A number of groups are working on projects to improve Puget Sound. Different models are addressing different issues in the Sound. This South Puget Sound dissolved oxygen study will use a model specifically suited for this purpose. For information on other Puget Sound marine environmental modeling work, please visit http://www.psmem.org/.

Q: What is going on in Hood Canal to address dissolved oxygen issues?

A: There is a separate study in Hood Canal addressing dissolved oxygen issues. Some of the issues in Hood Canal are similar to the issues facing South Puget Sound. The first year of the three-year Hood Canal study was recently completed. For more information on the Hood Canal Dissolved Oxygen Project, please visit http://www.hoodcanal.washington.edu.

Q: How do the Clean Water Act Section 303(d) listings fit into this?

A: In the 2004 Water Quality Assessment, 22 locations in South Puget Sound did not meet the water quality standard for dissolved oxygen. This list of waters that do not meet water quality standards is commonly called the 303(d) list. The 1996 and 1998 303(d) lists also identified dissolved oxygen problems in South Puget Sound. As a result of a lawsuit, in 1997 the Department of Ecology agreed to address all 1996 303(d) listings by 2013. This study will help Ecology develop a plan to address all of the dissolved oxygen problems identified in South Puget Sound.

For more information:

Additional information is available on Ecology's Web site at http://www.ecy.wa.gov/puget_sound. Or contact Andrew Kolosseus at the Department of Ecology at:

Washington State Dept. of Ecology
PO Box 47600
Olympia, WA 98504-7600

Phone: 360-407-7543
E-mail: akol461@ecy.wa.gov