For the DMMP Dioxin Project, this document summarizes input received from the public between May and November, 2007.

- *This Executive Summary presents the key issues raised in public comment*
- *The Executive Summary also overviews the primary suggestions raised by the public on how to proceed*
- *The body of the document provides more detail on the project, the process for public input and comments received*
- *Appendices include documentation of the public process, meeting handouts, meeting summaries, summaries of comments, and the written comments received by email.*

EXECUTIVE SUMMARY

Key Issues Raised in Public Comment

Consistency Across Regulatory Program Policies is Important

- Cleanup, source control and dredging programs are interrelated and should be coordinated. DMMP is one of many programs that will address ubiquitous pollutants in the Sound.
- Unintended policy outcomes for other programs may come from a revised DMMP framework for dioxins.

Open Water Disposal of Bioaccumulatives is a Regulatory Dilemma

- Existing conditions in the Sound (sediment, bottom-fish, and crab tissue) likely exceed acceptable risk levels based on the "absolute risk" approach that is currently the standard for regulatory programs and using recent superfund guidelines for determining reasonable maximum exposure (RME;USEPA 2007).
- When calculated, sediment or tissue risk-base levels are below background, current state regulations allow for the use of "natural" background based on non-urban reference bays such as Carr Inlet, where dioxin is present at low levels.
- In contrast, maintenance dredging activities most often occur in urbanized harbors and waterways, where dioxin concentrations are typically elevated above non-urban reference bays.
- If the dioxin suitability disposal framework were to be based on sediment or tissue levels from non-urban reference areas, a substantial fraction of dredged material would not be acceptable for open water disposal.
- The framework developed for dioxins will have implications for other widespread persistent bioaccumulative compounds such as PCBs and carcinogenic PAHs, for which background-derived risk values may also be unacceptably high under current regulatory approaches.

It is Important that the Solution be Viewed in the Context of a Healthier Puget Sound and Tribal Fishing Rights

- It is the Governor's intention and the mission of the Puget Sound Partnership (PSP) to improve the health of the Sound. The DMMP framework and associated decision-making should be viewed in a context of contributing to this overall goal.
- All of the DMMP-managed non-dispersive unconfined open-water disposal sites are located within tribal U&A areas.
- It is likely that background sediment in Puget Sound, including the non-urban reference sediments, contain dioxins at levels that present an unacceptable risk to tribal/subsistence seafood consumers according to the current absolute risk evaluation approach.

Data Gaps and Scientific Uncertainties Should be Accounted For

- Dioxin data characterizing existing conditions (sediment and tissue) in Puget Sound are limited.
- There are uncertainties associated with the risk of dioxin at low levels, the cumulative risk of dioxin chemical mixtures, the degree of transfer of dioxins from sediment to seafood tissue, from tissue to humans, ecological effects to high trophic levels, and dioxin chemical fate and transport.

There are Many Benefits of Maintaining a Viable Open Water Disposal Program

- Maintenance and navigation dredging is crucial to the Puget Sound economy. If the framework for dioxin suitability for open-water disposal of dredged material is too stringent, affected projects would be numerous, and beneficial uses of dredged material in environmental restoration could be affected, to the detriment of restoration projects. This is an important part of the toolkit for improving the quality of the Sound.
- Dredging and harbor area redevelopment projects using DMMP disposal sites often create habitat and stormwater improvements that may become infeasible if unconfined, open-water sites are unavailable for some of the materials. These projects and improvements are also important parts of the toolkit for improving the quality of the Sound.
- Alternate disposal methods would have substantial impacts to the economy and the environment, including high disposal costs, potential reduction in redevelopment projects and environmental cleanups or restorations, increased carbon footprint due to fuel consumed to move the material, the need for improved transportation infrastructure, and reduction in the operational life of landfills.

Primary Suggestions Raised by the Public on How to Proceed

Process

Defer DMMP Decisions to Follow Development of Coordinated Regulatory Approach to Address Low-Level, Persistent Bioaccumulative Compounds in the Sound

- Prior to a DMMP decision on how to move forward with the dioxin framework, make policy decisions across multiple programs and agencies regarding the overall risk management approach and priorities for dealing with low level contamination by persistent bioaccumulative compounds in Puget Sound.
- Establish a technical forum with individuals reflecting a range of perspectives to frame choices for policy makers.

Utilize a Transparent, Multi-criteria Approach for Developing Guidelines and Adaptively Managing Them

- Multi-Criteria Decision Analysis is a structured approach to evaluate multiple objectives and document the decision rationale. Objectives may include human health and ecological risks; economic benefits and costs; environmental impacts and benefits; and regulatory consistency. In a program such as the DMMP, this approach has the ability to incorporate new information (e.g., toxicity, site monitoring data) and update management processes.

Options for a Revised Framework

Base the Framework on Non-Urban Background Concentrations

- Use existing sediment and tissue concentrations in primary basins of Puget Sound or reference areas without urban influence, to set suitability thresholds for the disposal sites.

Base the Framework on Existing Conditions in Puget Sound with Some Urban Influence

- Use existing sediment and tissue concentrations in primary basins of Puget Sound, - including areas that are not highly impacted by urban activities, but have some urban influence.

Determine Suitability Based on Incremental, as Opposed to Absolute Risk

- Calculate acceptable sediment or tissue levels for disposal that would keep the risk at the disposal site within an acceptable increment of risk above the existing background risk at the time that the framework was established. (Existing background risk would not be considered.)

Utilize Comparative Risk Evaluations to Consider Total Project Effects

- Develop a comparative risk evaluation framework template to determine whether the risk of the material after placement at the disposal site is less than or greater than the risk of the material remaining in place at the dredging site.

Set Multiple Suitability Thresholds by Depth at the Disposal Site, and Require Sequencing of Material Placement

- Define suitability dredged material thresholds for dredged material based on urban-influenced existing conditions, or an acceptable incremental risk (using methods as described above).
- Require that material placed at the surface of the disposal site during each placement event meet a more stringent (lower) threshold, perhaps based on a non-urban background.

Evaluate Existing Disposal Sites to Determine Acceptability of Past Disposal Practices

- Use monitoring of the disposal site areas to determine whether concentrations in the target areas of many of the disposal sites are hard to distinguish from surrounding disposal site background levels, as a component in the evaluation of the need for adjusted protocols.

Consider Establishment of Multi-User Confined Aquatic Disposal Sites

- Implement agency permitting and management of publicly-accessible confined aquatic disposal sites. The September, 2003 Multi-User Disposal Site (MUDS) EIS could be a starting point.