

Prey Working Group Outputs from May 2018



WASHINGTON STATE

Governor's
Salmon
Recovery
Office



Steve Martin
Governor's Salmon
Recovery Office



Washington
Department of
**FISH and
WILDLIFE**

Penny Becker
Washington Department
of Fish and Wildlife

Working Group Assignment for Meeting #1:

Develop the Universe of Potential High Level Actions to Address '4Hs and a P' to Increase Chinook Abundance for SRKW

- Habitat
- Hatchery
- Hydropower
- Harvest
- Predation



Overarching Direction from Task Force:

- 1) Highlight actions that will have **short, medium, and long-term impact**
- 2) Develop a **suite of multiple solutions**, rather than looking for just one solution
- 3) Come up with strong and inclusive policies and **bold, concrete, implementable actions at different scales**
- 4) We will **keep a tally of potential social, economic and environmental costs and benefits**. Highlight where we will have to discuss these considerations in more depth.

Potential Actions for 4Hs & P for Year 1 In-Depth Discussions

- **Proposed action #1:** Complete or modify Hatchery and Genetic Management Plans (HGMPs) to maintain or increase salmon hatchery production. (Intermediate)
- **Proposed action #2:** Achieve full production at hydropower mitigation permitted hatchery facilities. (Intermediate)
- **Proposed action #3:** Reduce marine salmon harvest and transfer opportunity to terminal fisheries while Chinook abundance is increased. (Immediate)

Potential Actions for 4Hs & P for Year 1 In-Depth Discussions

- **Proposed action #4:** Improve juvenile downstream passage at dams. (Intermediate)
- **Proposed action #5:** Gather data and information to support consideration of dam removal on salmon-bearing river systems. (Long term)
- **Proposed action #6:** Remove or alter artificial habitat features so they are not as attractive to predators. (Immediate)

Potential Actions for 4Hs & P for Year 1 In-Depth Discussions

- **Proposed action #7:** Gather data and information to inform consideration of lethal removal of pinnipeds, birds, and/or other predatory fish to benefit specific Chinook runs and stocks. (Year 2 of Task Force should include in-depth discussion when we will have the benefit of all the gathered information to guide recommendations.) (Intermediate)

Potential Actions for 4Hs & P for Year 1 In-Depth Discussions

- **Proposed action #8:** Increase enforcement of current habitat protection regulations. (Immediate)
- **Proposed action #9:** Enhance habitat protection regulations, especially to conserve key areas/habitats for Southern Residents and Chinook. (Immediate)
- **Proposed action #10:** Accelerate habitat restoration, including fish blockages in areas most beneficial to SRKW. (Intermediate)

Next Step for Prey WG

- Priority areas, times, stocks for SRKW: review NOAA/DFW analysis, workshop outcomes
- Begin in-depth discussions to produce detailed outputs and considerations to TF

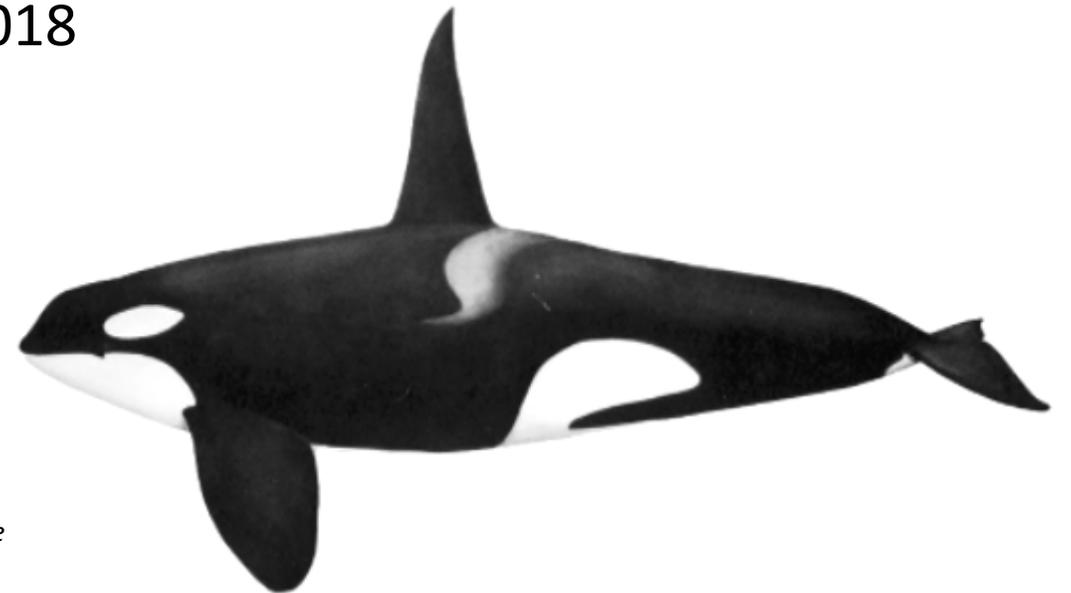
Questions?



Clint Rivers, Eagle Wing Tours

Contaminants in SRKW

June 14, 2018



**Not to Scale*

What is an Implementation Strategy?

Who's Involved

- Core (Steering Team)
- Interdisciplinary Team

What they Include

- Starter Package
- Situation Analysis
- Intervention Points
- Strategies for intervening
- Much, much more!



What is an Implementation Strategy?

Who's Involved in Implementation

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- **Strategies for intervening**
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WE ARE HERE!

Intervention Strategies

The TIF team identifies actions, or approaches, for each intervention point identified (*no culling or prioritization at this point*)

Intervention Point:

“Inadequate PBDE ban enforcement”

Action:

“Require producers to demonstrate compliance”

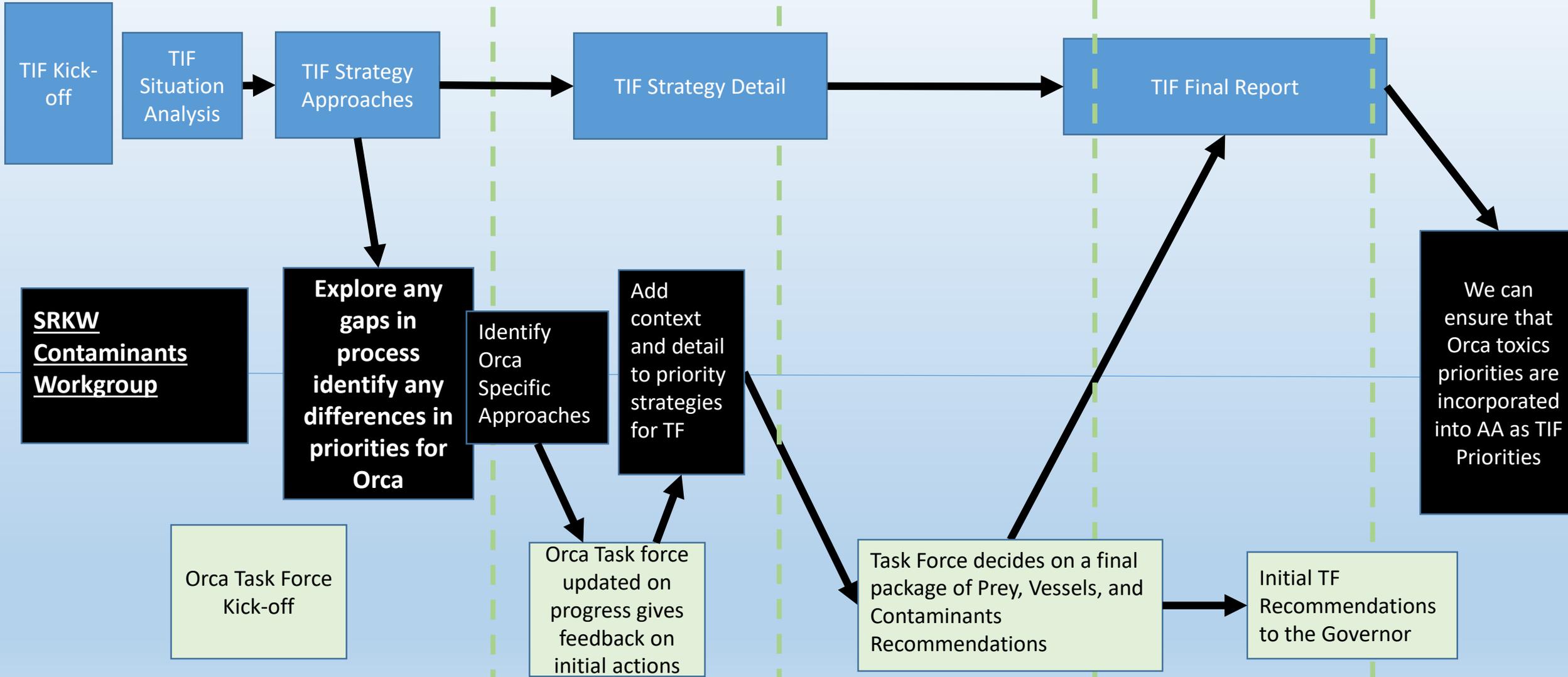
TIF Implementation Strategy

Mid May

Mid August

Mid September

October Draft Deadline



Gov's Orca Task Force

Actions to Reduce Contaminants in SRKW

Stormwater

- Increase treatment and increase the implementation of treatment techniques. Enhanced Maintenance of stormwater systems and street sweeping to reduce loading.

Wastewater

- Increase treatment from wastewater treatment plants to reduce the toxic load coming from wastewater treatment plants. Better management of wastewater residuals could also decrease the impact of applying them on land.

Source Control and Cleanup

- Regulations and Bans could be applicable to many different chemicals. Regulatory changes could include new frameworks that require producers to prove that products or chemicals are safe, or free of harmful chemicals.
- Incentives for reducing the toxic contamination could include incentives for reducing vehicle leaks and emissions from passenger and commercial vehicles by incentivizing fleet electrification. Other incentive programs could be targeted to reduce residential trash burning. Stormwater treatment system incentives could increase treatment of contaminated stormwater. Programs to remove contaminant laden furniture from homes and businesses. (Cars, residential trash burning, Stormwater BMPs, furniture)
- Training and certification for facilities that take discarded chemical laden items such as furniture and electronics could help reduce end-of-life risks from product disposal.
- Increasing the rate, or number of toxic cleanup projects could be an important way to reduce contaminant risks to SRKW. Cleaning up legacy contaminants, and removing contaminated materials—such as creosote pilings—could help reduce loading.
- Waste Management

Education

- Education, for both decision makers, and for consumers could be used to help reduce demand for toxic products

Research and Monitoring

- Research and monitoring are important to know where contaminants are, how they move through the environment, and if actions taken to remove them are having their expected impact.

PCBs

Sources
Electrical equipment
Building materials
Inadvertent production

Legacy
Contaminated sediments
Contaminated food web



Pathways
Stormwater
Atmospheric deposition
Groundwater

See Section 3.3.1
of Starter Package

Response

Current Strategies
Remove/replace old electrical equipment

Develop and promote containment BMPs for PCBs in building materials

Sediment remediation

Pigment and dye improvements

Existing Programs

- Ecology's Waste 2 Resources Program
- TMDL, MTCA, CERCLA
- Ecology's Remedial Action Grants and Loans
- Ecology's Voluntary Cleanup Program
- Toxic-Free Future

Current Strategies
Stormwater management

- BMP Implementation
- Enhanced maintenance
- Source tracking

Existing Programs

- NPDES permits
- MS4 stormwater management programs
- Ecology's Water Quality Combined Financial Assistance Program

See Section 4.2.1
of Starter Package

PCBs

Sources

Electrical equipment
Building materials
Inadvertent production

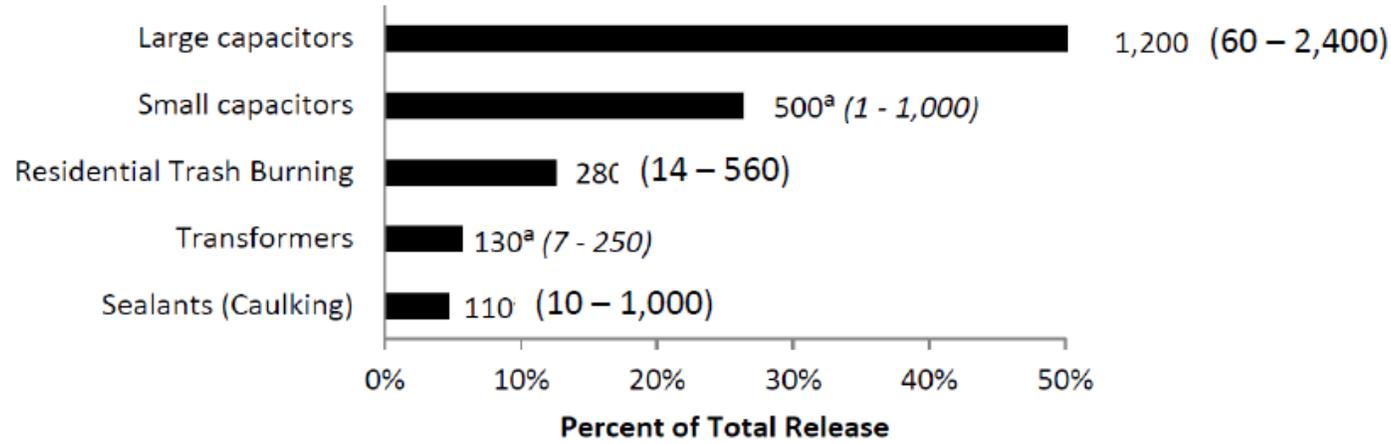
Legacy

Contaminated sediments
Contaminated food web

Pathways

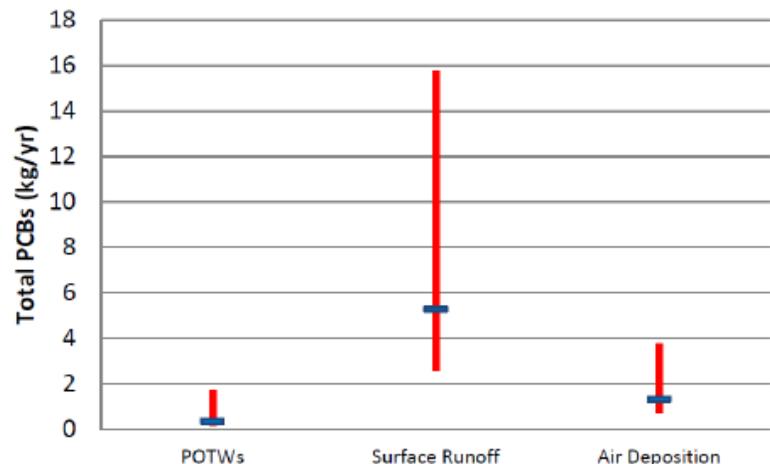
Stormwater
Atmospheric deposition
Groundwater

Estimate of Releases of PCBs



Estimate of Legacy PCBs

Sediments	1440 kg
Water Column	10 kg
Biota	40 kg



Notes:

- These estimates are made based on available data, largely relying on reported values from the literature. The uncertainty is high.
- Distribution of legacy PCBs in sediments is not uniform throughout Puget Sound.
- Distribution of loading is not uniform throughout Puget Sound

References: *Control of toxic chemicals in Puget Sound: assessment of selected toxic chemicals in the Puget Sound basin, 2007-2011* (Ecology and King County 2011); *Control of Toxic Chemicals in Puget Sound. Phase 3: Primary Sources of Selected Toxic Chemicals and Quantities Released in the Puget Sound Basin* (Ecology, 2011); *PCB Chemical Action Plan* (Ecology and Department of Health 2015);

PBDE

Sources

Consumer electronics
Furniture
Mattresses

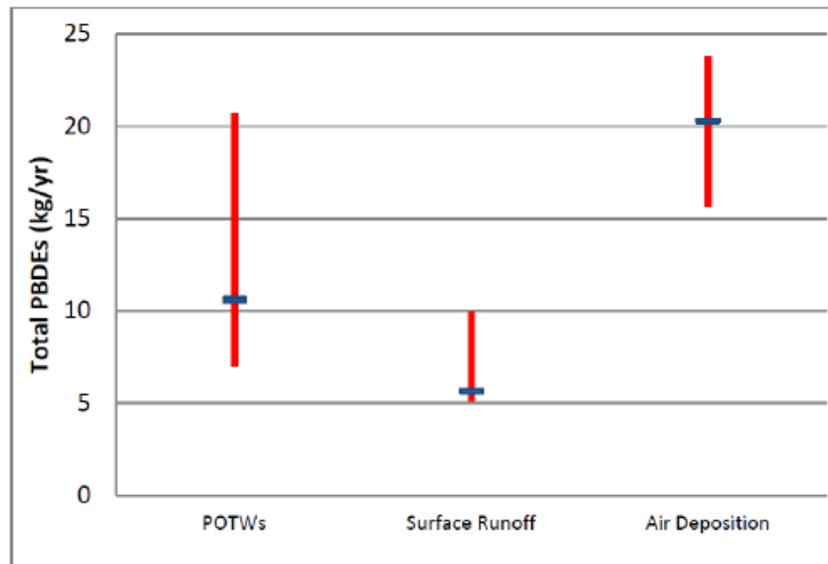
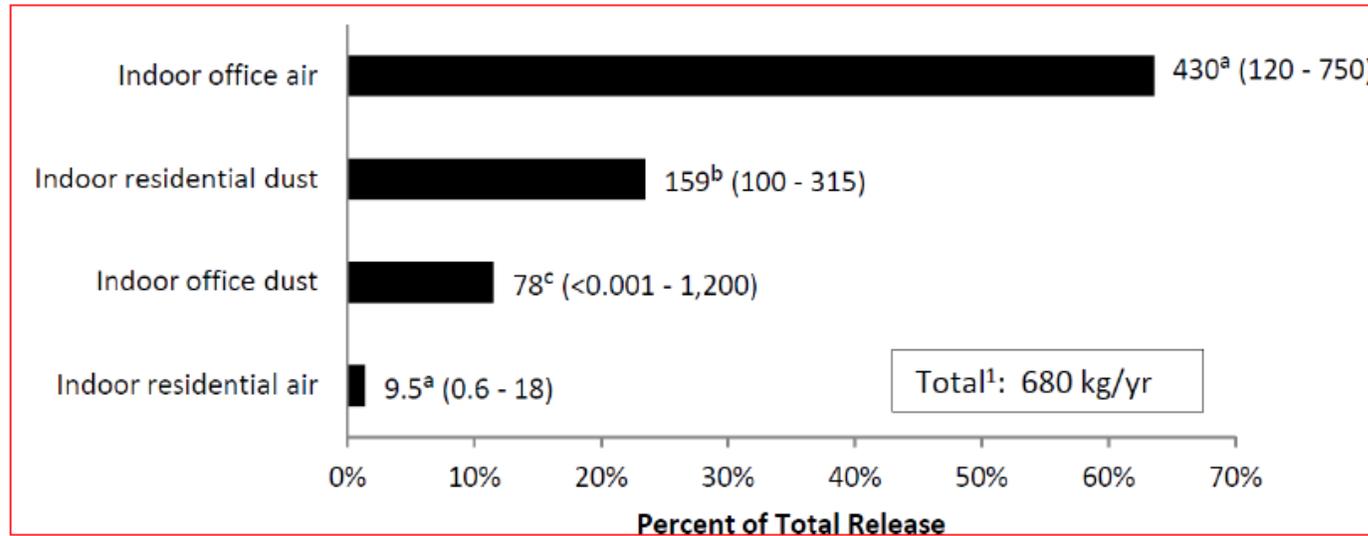
Legacy

Contaminated sediments
Contaminated food web
Landfills

Pathways

Wastewater
(Biosolids)
CSOs
Stormwater
Atmospheric deposition

Estimate of Releases of PBDEs



Notes:

- These estimates are made based on available data, largely relying on reported values from the literature. The uncertainty is high.
- Distribution of loading is not uniform throughout Puget Sound.

References: *Control of toxic chemicals in Puget Sound: assessment of selected toxic chemicals in the Puget Sound basin, 2007-2011* (Ecology and King County 2011); *Control of Toxic Chemicals in Puget Sound. Phase 3: Primary Sources of Selected Toxic Chemicals and Quantities Released in the Puget Sound Basin* (Ecology, 2011); *PBDE Chemical Action Plan* (Ecology and Department of Health 2006);

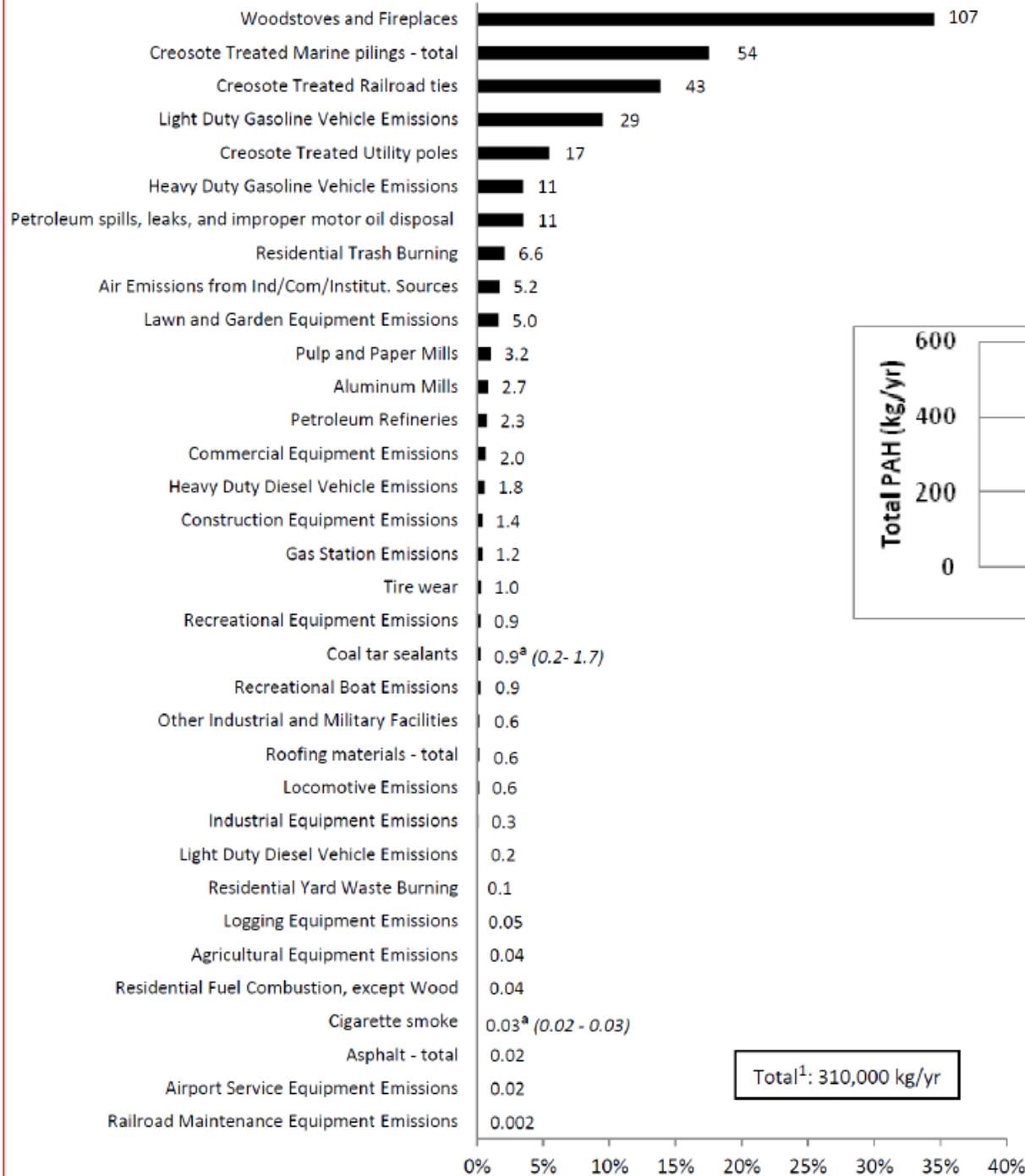
PAHs

Sources

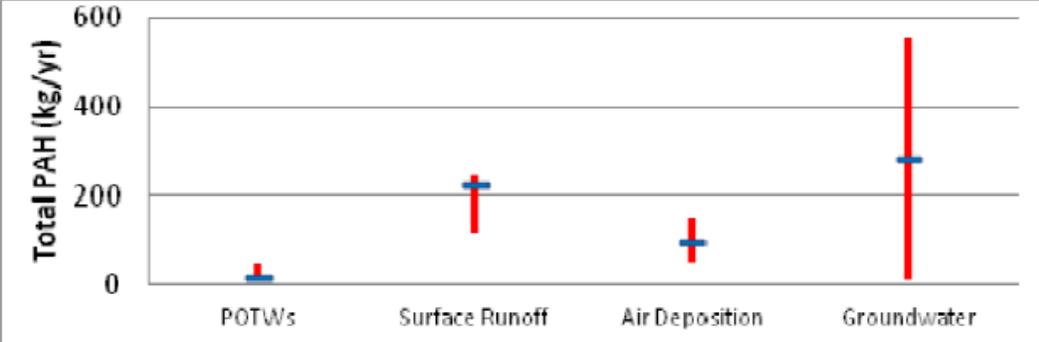
Wood smoke
Vehicles
Spills

Legacy

Creosote pilings
Railroad ties
Asphalt surfaces
Sediment hotspots



Pathways
Stormwater
Atmospheric deposition
Groundwater



Notes:

- The uncertainty is high for the releases data.
- Distribution of loading is not uniform throughout Puget Sound.

References: Control of toxic chemicals in Puget Sound: assessment of selected toxic chemicals in the Puget Sound basin, 2007-2011 (Ecology and King County 2011); PAH Chemical Action Plan (Ecology and Department of Health 2012)

Magnitude of Pathways for PCBs, PBDEs, and PAHs to Puget Sound

	PCBs	PDBE	PAHs
POTW	120 – 1,600	6,600 – 19,300	10 – 40
Surface Runoff	2,000 – 12,500	4,100 – 8,000	260 – 360
Air Deposition	230 – 1,290	2,300 – 5,600	30 – 90
Groundwater	NC	NC	10 – 530

Vessels Working Group Outputs

Todd Hass, PhD

Chair, Vessels Working Group

Puget Sound Partnership

June 14 2018



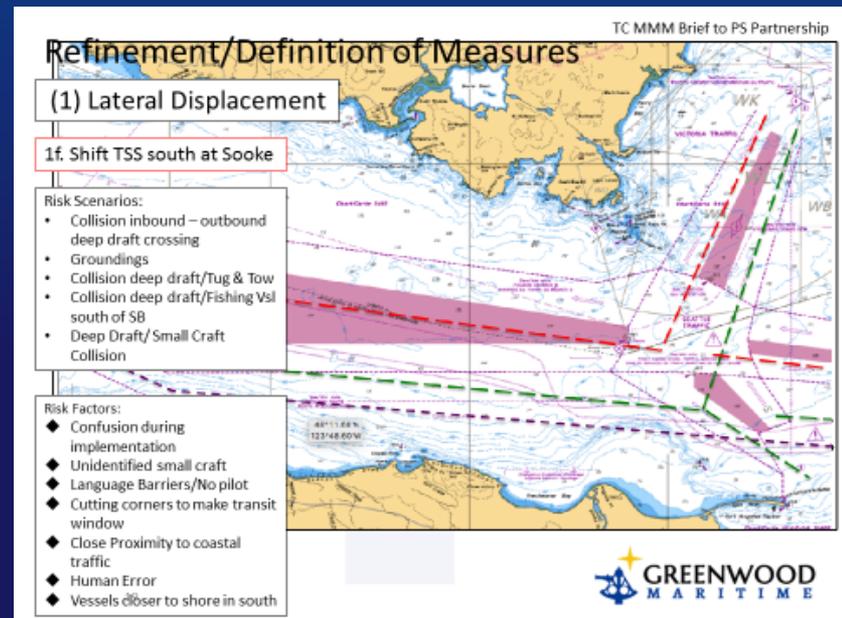
The screenshot shows the 'Puget Sound Vital Signs' website. The header includes the logo and navigation links for 'VITAL SIGNS', 'RECOVERY ATLAS', and 'REPORT CARD'. A 'PICK A VITAL SIGN TO EXP' button is visible. The main content area features a pink header for 'Orcas' with a sub-header 'Southern Resident Killer Whales once numbered around 200 whales, but in the past decade the population has totaled fewer than 90 individuals.' Below this, it lists the 'Indicator Lead: Ken Balcomb, Center for Whale Research'. At the bottom of the section are links for 'View Report Card' and 'Download PDF from the latest State of the Sound report'. A photo of an orca is shown on the right side of the section, with a note that the data was last updated on March 16, 2018, and the photo credit is Michael Ford.

Working Group Assignment for Meeting #1:

Product 1: The universe of potential actions to reduce 'vessel noise and physical disturbance' to SRKW

“What noise sources have the greatest impact on orcas?”

- Shipping
- Small vessels
- Sonar
- Ferries



Overarching Direction from Task Force:

- Highlight actions that will have **short, medium, and long-term impact** **yes-variable onset**
- Develop a **suite of multiple solutions**, rather than looking for just one solution **yes-portfolio w/ 4**
- Come up with strong and inclusive policies and **bold, concrete, implementable actions at different scales** **yes-local to Salish Sea**
- We will keep a tally of potential social, economic and environmental costs and benefits. **yes-process** *warning*: keep list short for sufficient context/engagement -- or bust

Potential Actions for Year 1 In-Depth Discussions

- Create **speed limits** for small vessels near SRKWs
- Expedite transition to quieter **WA State ferries transition**
- Develop/apply best, safe practices for recreational use of **echosounders**
- Create **permit system** for commercial whale watching vessels
- Expand Washington State collaboration in **transboundary shipping mitigation** options via ECHO
- Balance and advance **no-go zone** implementation

Product 2: Answers to your ?s

Questions and consideration requests from SRKW Task Force *in italics*;
provisional answers from sources and/or Chair, Todd Hass after hollow bullets

Topic 1. Sonar

- *What are some options for dealing with the fact that depth sounders are pinging at a frequency that interferes with orca foraging?*
 - Require such vessels, when consistent with navigational safety, to shut off sonars and other underwater transducers within 1 km (vicinity) of the whales. (CEOP, PWWAVG) Highlighted among initial 6 options.
- *Is the Navy's use of sonar equipment out of Bremerton and other places impacting the whales?*
 - Recommended for fall phase of discussions.

Topics 2. & 3. Ships and Small Vessels

- *Can we change the geographic distribution of vessels?*
 - Yes—in theory and practice—for example, options like no-go zones and lateral displacement of the international shipping traffic separation scheme, for small vessels and ships, respectively.
- *Consider creating a communication system between the whale watching fleet and commercial shipping, so the whale watching fleet can let them know where whales are at certain times and they can slow down in those areas.*
 - ECHO and Washington State Ferries are collaborating on advancing a communication system. Highlighted among initial 6 options.

Topic 2. Ships

- *What incentives does industry need to participate voluntarily?****
 - Vaguely worded/applied: can seek answers through ECHO, though voluntary participation in slowdown trials in 2017 (>60%) and 2018 expected if well-

Questions?



Clint Rivers, Eagle Wing Tours