


SB 737

Update and Path Forward for Oregon's Largest Municipal Wastewater Facilities

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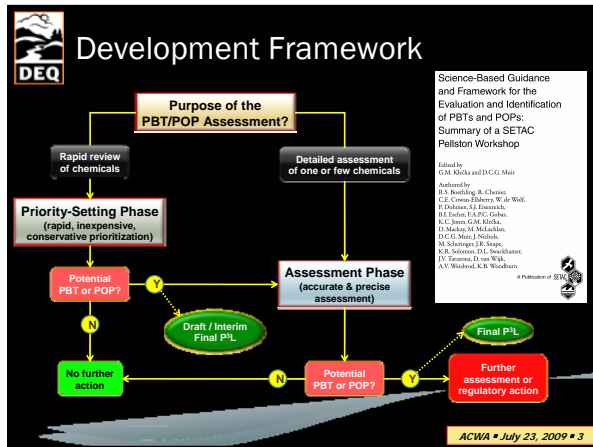

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Why a Persistent Pollutant List?

- Senate Bill 737 (SB 737)
 - A listing of priority persistent pollutants
 - = toxic and (persists or accumulates)
 - Trigger levels for, and monitoring of, listed pollutants
 - Toxics reduction plans if trigger levels exceeded
- Part of DEQ's overall toxics reduction strategy
 - Applicable to Oregon's 52 largest municipal WWTP or WPCF
 - Not a "one-stop" solution to all toxic chemical issues
 - Will change as new information becomes available


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Priority-Setting Phase

- Framework expanded into a 10-step process for list development (see report)
- DEQ advised by 7-member Science Workgroup
- Persistent pollutants identified with U.S. EPA models, technical assumptions, and policy choices
 - Use of models consistent with rapid, inexpensive, and conservative assessment of many chemicals
 - Models also provide equitability

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T and (P or B) Criteria

Category	Overall Persistence (d)	Bioaccumulation (L/kg)	Fish Chronic Toxicity (mg/L)
High "2" vPP	> 180	> 5000	< 0.01 *
Moderate "1" pP	≤ 180 > 60	≤ 5000 > 1000	≥ 0.01 < 1.00
Low "0" Not a PP	≤ 60	≤ 1000	≥ 1.00 *

(or) a human health concern

* After Klecka and Muir, 2008 (draft final criteria were 10x higher)
PP = Persistent Pollutant per SB 737; v = Very

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Models & Assumptions

Component	For Draft Final List (March 2009)	For Interim Final List (June 2009)
U.S. EPA Model	PBT Profiler (ECOSAR v0.99)	EPISuite v4.00 (ECOSAR v1.00)
Persistence	Predominant medium	Overall
Emissions	Equal to air, soil, water	To water only
Advection	n/a	None
Bioaccumulation	Linear regression, no biotransformation	Arnot & Gobas model with biotransformation
Toxicity Criteria	PBT Profiler default (+ human health caveat)	Klečka and Muir (2008) (+ human health caveat)
Solubility	Not considered	log _{K_{OW}} ≥ 8, with exceptions

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Interim Final List (June 2009)

GROUPS	TIERS					Total
	T1	T2	T3a	T3b	T3c	
Pesticides & herbicides	7	22	13	8	1	51
Pharmaceuticals / Personal care products	8	0	8	4	1	21
Polychlorinated biphenyls (PCBs)	0	18	0	0	0	18
Halogenated flame retardants	9	0	0	0	0	9
Industrial chemicals	4	0	1	0	0	5
Polycyclic aromatic hydrocarbons (PAHs)	12	0	0	0	2	14
Inorganic and organic metals	6	0	0	0	0	6
Phthalate esters	0	0	1	0	0	1
Perfluorinated surfactants	5	0	0	1	3	9
Polychlorinated naphthalenes (PCNs)	0	5	0	0	0	5
Dioxins & Furans	0	1	0	0	0	1
Total	51	46	23	13	7	140

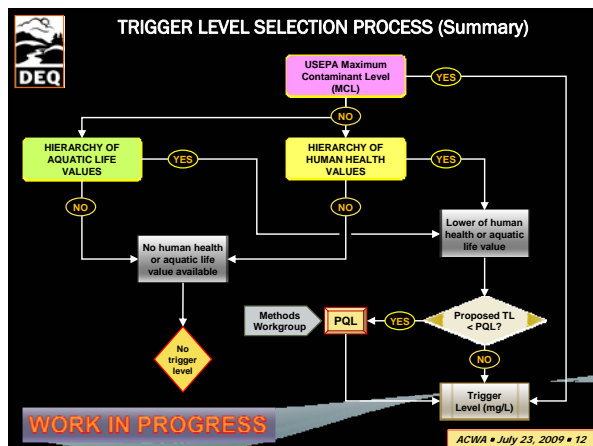
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- ### Tiers 1 & 2
- (1) Persistent Pollutants
 - Not necessarily well studied or understood
 - Primary sources are here & now
 - "Little may have been done, but much could be done"
 - Avoiding the next "legacy"
 - (2) Legacy Persistent Pollutants
 - Well studied, reasonably well understood
 - Primary sources are historical
 - "What can be done, is being done"
 - All it takes is time...
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- ### Tier 3
- (3) Pollutants Under Review
 - (a) Those requested be dropped
 - (b) Those requested be added & met PBT criteria
 - (c) Those retained due to model updates or revisions
 - DEQ is currently - until July 31, 2009 - seeking specific data on Tier 3 pollutants
 - Based on review of these additional data, Tier 3 pollutants will move to Tier 1 or be de-listed
 - "Final" P³ List in October 2009
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- ### Trigger Levels
- Concentration of a pollutant in WWTP effluent which, if exceeded, "triggers" a Toxics Reduction Plan for that pollutant
 - Default value is maximum contaminant level (MCL)
 - If there is no MCL, trigger level is determined by rule
 - MCLs reflect economic and engineering feasibility
 - Non-MCL trigger levels informed by approach to MCLs
 - A trigger level IS NOT, and CANNOT be used as, a water quality standard
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- ### Trigger Level Selection
- DEQ will develop a process for selecting (not developing) trigger levels for pollutants (Fall 2009)
 - DEQ is being advised by 6-member peer-review panel
 - DEQ will also provide opportunities for informal public input on the proposed selection process
 - This will occur prior to the start of rulemaking
 - Additional formal comment opportunities (written & spoken) will be available during rulemaking
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Examples of Sources (if no MCL)

- HUMAN HEALTH**
 - USGS HBSL
 - Includes pesticides
 - USEPA IRIS
 - USEPA HAL
 - USPHS ATSDR
 - Health Canada Health-based Guidelines
 - World Health Organization Guidelines
- AQUATIC LIFE**
 - USEPA National Water Quality Criteria
 - USEPA OPP Aquatic Life Benchmarks
 - Environment Canada Water Quality Guidelines
 - Peer-reviewed Literature
 - USEPA ECOSAR Aquatic Toxicity Model

WORK IN PROGRESS

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Trigger Level Schedule (estimate)

- May-Jun 2009: Develop process; discuss with peer-reviewers; revise as needed
- Aug 2009: Process available for informal public input; revise as needed
- Sep 2009: Open meeting with peer-reviewers; revise as needed
- Oct-Nov 2009: Select trigger levels
- Nov 2009 - Aug 2010: Rulemaking for trigger levels
 - Public comment period
 - Public information sessions & hearings
- Aug 2010: Trigger level rule language before EQC for approval

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What's Next for P³: Near-term

- Summer 2009**
 - Accept and evaluate focused information to refine Interim P³ List
 - Gather information for trigger level selection, and on pollutant sources and pollutant reduction options
 - Work with state agencies, other DEQ programs, and stakeholder advisory groups to coordinate activities
- Fall 2009**
 - Final P³ List will be delivered to Legislature in October
 - Work on rulemaking for trigger levels will begin



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What's Next for P³: 2010

- Winter 2009 – Spring 2010**
 - Source Reduction & Control Planning Phase
 - Public process related to trigger level rulemaking
- June 1, 2010**
 - Legislative Report due
- Late Summer 2010**
 - Trigger levels delivered to EQC for rule adoption
 - 52 largest municipal WWTPs will test effluent for priority persistent pollutants



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What's Next for P³: 2011

- Municipal Toxics Reduction Plans**
 - Pollution prevention is the key
- Community-based toxics reduction is a vital part**
 - For success, community needs to be onboard with DEQ's strategies
 - Local municipalities conduct public outreach & work with their community to reduce these toxics
- Continue to involve interested &/or affected entities in all phases of this work



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