**Outline of Fiscal and Economic Impact**

**Overall:**

* The fiscal and economic impact analysis compares the existing human health toxics criteria to the proposed toxics criteria based on a fish consumption rate (FCR) of 175 grams per day (g/d). Therefore, the costs of complying with the existing toxics criteria will not be analyzed for this fiscal review.
* Note that the SAIC report used the currently effective criteria at the time of the report to determine the base costs for compliance, which was primarily based on Table 33A which uses a FCR of 17.5 g/d. Therefore, the report didn’t analyze whether or not criteria based on the currently effective FCR of 6.5 g/d in 2010 would be met. Although the toxics criteria are now based on 6.5 g/day given EPA’s recent disapproval of criteria based on 17.5 g/day, DEQ will use SAIC’s baseline cost estimates derived from a FCR of 17.5 g/day to estimate incremental costs of complying with the proposed FCR of 175 g/day.
* Two main elements to fiscal analysis: (1) Direct and Indirect impacts attributable to the criteria revisions, and (2) Impact of using different implementation tools

**Resources for Analysis:**

1. [*Cost of Compliance with Water Quality Criteria for Toxic Pollutants for Oregon Waters*](http://www.deq.state.or.us/wq/standards/docs/toxics/ORToxicsComplianceCost.pdf) *, SAIC (June 2008)—*The EPA contracted Science Applications International Corporation (SAIC) to develop a report that provided estimates of the potential incremental compliance actions and costs that may be associated with increasing the fish consumption rate associated with calculating human health toxics criteria. The report extrapolated compliance costs for both baseline criteria (i.e. Table 20 and Table 33A) and incremental costs derived from criteria based on various higher fish consumption rates.

2*.* [*Fiscal Impact and Implementation Advisory Committee (FIIAC) Memo*](http://www.deq.state.or.us/wq/standards/docs/toxics/FIIACMemoToEQCFinal.pdf)—The DEQ, EPA, and CTUIR convened a group of interested experts who could help to develop feasible implementation options resulting from a higher fish consumption rate and to provide input on the impacts these options may have on a wide range of permitted dischargers, the public, and other stakeholders throughout the state. The expertise of the group ranged from backgrounds in economics, business administration, public works, public health, water quality, and engineering. The FIIAC developed a memo which provides an overview of the charge of the FIIAC, summarizes discussions around costs, benefits and implementation ideas that were considered by the group, and highlights conclusions and concerns regarding the SAIC report.

3. *NPDES Implementation Issue Paper, ODEQ (October 2010)*—This issue paper was developed by DEQ staff to support the human health toxics rulemaking. The paper is comprised of various potential NPDES implementation tools that could be used in complying with more stringent toxics criteria. Each section describes the tool and includes information such as, policy evaluations, DEQ recommendations, alternatives considered, work group discussions and views, proposed rule language and a framework for implementation. (placeholder for website here)

4. [*EPA National Recommended Water Quality Criteria Website*](http://www.epa.gov/waterscience/criteria/wqctable/)

5. [*Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health*](http://www.epa.gov/waterscience/criteria/humanhealth/method/), EPA (2000). EPA 822-B-009-004.

**OUTLINE**

1. **Direct and Indirect impacts attributable to the criteria revisions (qualitative analysis; don’t have data for cost of meeting criteria themselves)**
	1. Identifying the criteria that are effectively more stringent
		1. Criteria that are more stringent and the new, lower values are measureable (i.e., new criteria value > QL)
			* A table will be provided that will show the current criteria vs. the proposed criteria and whether or not the QL or criteria controls compliance. May focus on pollutants listed on the Willamette and Columbia Rivers.
		2. Uncertainties and potential future effects (e.g., note EPA’s proposed rule on using QLs in permits)
	2. Identifying pollutants most likely to present challenges for sources

*Sources of information: SAIC Report, 2004/2006 303(d) list, SIC codes*

* + - * The SAIC report identified three pollutants where additional controls may be needed to achieve lower criteria: (1) arsenic; (2) Bis(2-ethylhexyl)phthalate; and (3) mercury. However, as part of the 2004 rule revision, Oregon withdrew its national CWA § 304(a) human health criterion for total mercury and replaced these criteria with a new fish tissue-based “organism only” human health criterion for methylmercury. DEQ does not have a current criterion for methylmercury, although a new criterion will be proposed as part of this toxics rulemaking. Consequently, until data on methylmercury are collected and analyzed, it is unclear what the state of compliance will be. For arsenic, DEQ is currently proposing a higher criterion than what was reflected in the SAIC report. Therefore, some of the compliance issues associated with arsenic may be minimized. The revised criterion for arsenic, along with criteria for iron and manganese will be proposed in a separate rulemaking from this package and is anticipated to be adopted by the EQC in December 2010.
			* Others?
		1. Identify past listing for pollutants and pollutants identified as “potential concern” (based on 2004/2006 303(d) list
		2. Likely industrial sectors discharging pollutants
		3. Uncertainties and future effects (e.g., 2010 303(d) list)
	1. Permit implementation—looking at permitting processes for major/minor, domestic, industrial, MS4, general permits to determine whether change in criteria are likely to have an effect; describe potential for effect. Generally, criteria will be applicable to all individual and general permits. The degree to which these permits are affected by the new criteria will be determined by the various monitoring requirements that are mandated by state and federal regulations.

*Sources of information: SAIC Report, DEQ resources*

* + 1. Individual permits—potentially affected at next permit issuance
		2. Individual permits with BMP-based requirements (i.e., MS4s),
			1. Applicability--Generally, municipal separate storm sewer system (MS4) NPDES permits cover the discharge of stormwater from urban areas, and the standard for these permitted jurisdictions is reducing the discharge of pollutants to the Maximum Extent Practicable
		3. General permits—
			1. Not applicable to industrial or construction stormwater—not using HH criteria
			2. Need to evaluate current state list of general permits for applicability
		4. Break down analysis by small & large business, potential impacts on local governments
* DEQ anticipates that this analysis will be more qualitative, since permit information related to size of business is not reported on as part of DEQ record keeping.
	+ 1. Additional incremental cost to DEQ to implement
* DEQ will conduct an internal analysis of staff FTE needed to implement this rulemaking which will take into consideration: technical assistance, review of implementation and compliance plans, communicating compliance strategies to regional staff, database tracking, working with EPA for review and approval of variances, 401 certifications, TMDL development and implementation, monitoring program, and developing the Integrated Report, etc.
* May receive requests to conduct UAAs or site specific criteria
* Accounting, business office, PCS?
* Staff time spent on implementing lower human health toxics criteria may impact other priorities of the department.
* Current and future budget implications
* The proposed rules do not generate revenue for DEQ
	1. Other CWA program implications: 401 certifications—
		1. Projects subject to 401 certifications do not have toxics as pollutants of concern—effects are not applicable
	2. Monitoring costs based on priority pollutant scan and other required monitoring (is this indirect?)
		1. Mercury monitoring requirements that may change due to going from total to fish tissue-based criterion
		2. Other monitoring costs? May have additional costs associated with more sensitive analyses
		3. Uncertainties and future effects
			1. Future changes in QLs
			2. Others?
	3. Indirect effects
		1. Associated with municipalities
			1. Pretreatment
* Some businesses that do not directly discharge to a waterbody may be subject to requirements from a municipality under their pretreatment program. 23 POTWs have pretreatment requirements. Currently, all 23 POTWs have set local limits for metals with only one pretreatment POTW having additional limits for: pentachlorophenol, chlorobenzene, chloroform, Trichloroethylene, Acrylontrile, 1,2-Dichloroethane, 2,4-Dinitrotoluene, nitrobenzene, and Chlordane. DEQ surveyed the 5 largest pretreatment programs and determined that approximately 130 of the 285 total number of significant industrial users are small businesses.
	+ - 1. Other costs/requirements passed on upstream to indirect dischargers
			2. Costs passed on to municipal ratepayers
* Indirect impacts to the general consumer may involve rate increases to water and sewer bills to offset compliance strategies, monitoring, etc. utilized by POTWs. Depending on the costs of the compliance strategies, rate adjustments would vary.

* + 1. Associated with industrial sources
			1. For consumers of industrial goods, various compliance strategy costs to produce goods could be passed on to consumers in the form of increased prices.
			2. Others?
	1. Implications for other sources (direct and indirect implementation)

DEQ has determined that this proposed rulemaking will have no effect compared to current rule on the following sectors of nonpoint sources of pollution. The proposed rule revisions in Divisions 41 and 42 for agricultural and forestry nonpoint sources are intended to clarify DEQ’s current authority to regulate nonpoint sources of pollution. Agricultural and forest nonpoint sources are already regulated under Agricultural Water Quality Management Area Plans and Rules or Forest Practices Act rules.

* + 1. Agriculture

*Source of Information: SAIC Report, Fiscal Impact Analyses from AgWQMA Rule making, Kevin Masterson (Agency Toxics Coordinator)*

* + - 1. List of Relevant pollutants (see appendix)
			2. Changes in agricultural activities and conservation practices

Agricultural activities are subject to AgWQMA Plans and Rules, and causing pollution is prohibited under AgWQMA Rules.

* + - 1. Types and Numbers of small business

**The agency welcomes input from the work group**

* Impacts on small businesses and general public

Agricultural activities are already subject to AgWQMA Plans and Rules that prohibit pollution. DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public.

* Impacts on state agencies

**The agency welcomes input from the work group**

* Impacts on DEQ

In order to develop TMDLs that have detailed information, each TMDL will require more resources. DEQ will extend the timeline and prioritize work in order to develop Implementation-Ready TMDLs.

* + 1. Forestry

*Source of Information: SAIC Report, Kevin Masterson (Agency Toxics Coordinator)*

* + - 1. List of Relevant pollutants (see appendix)
			2. Changes in forest activities and conservation practices

Forest activities are subject to Forest Practices Act and rules to meet the water quality standards and TMDL load allocations. The agency does not expect significant fiscal or economic impacts on forest lands.

* + - 1. Types and Numbers of small business

**The agency welcomes input from the work group**

* Impacts on small businesses and general public

Forest activities are subject to Forest Practices Act and rules. DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public.

* Impacts on state agencies

**The agency welcomes input from the work group**

* Impacts on DEQ

In order to develop TMDLs that have detailed information, each TMDL will require more resources. DEQ will extend the timeline and prioritize work in order to develop Implementation-Ready TMDLs.

* + 1. Non-Permitted Urban Sources

*Source of Information: SAIC Report, Kevin Masterson (Agency Toxics Coordinator)*

* + - 1. List of Relevant pollutants (see appendix)
			2. Changes in urban BMPs

For non-MS4 communities and facilities without NPDES requirements, TMDLs are the main driver for developing water quality management plans. Since TMDLs already require local governments and counties as designated management agencies to develop and implement TMDL implementation plans, the agency does not expect significant fiscal or economic impacts for urban sources as a result of this rulemaking process.

* + - 1. Types and Numbers of small businesses affected

**The agency welcomes input from the work group**

* Impacts on small businesses and general public

Urban stormwater and other water quality parameters are subject to TMDLs. DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public.

* Impacts on other state agencies

The department does not expect other state agencies to experience fiscal or economic impacts.

* Impacts on DEQ

In order to develop TMDLs that have detailed information, each TMDL will require more resources. DEQ will extend the timeline and prioritize work in order to develop Implementation-Ready TMDLs.

* + 1. Land & Air sources

*Source of Information: SAIC Report, Kevin Masterson (Agency Toxics Coordinator)*

* + - 1. List of Relevant pollutants (see attached table)
			2. Changes in air source control

DEQ made a policy decision to limit the scope of the toxics water quality standards rulemaking to divisions under water program. The actual regulatory mechanism for addressing TMDL allocations through other media programs still needs to be defined and described.  Since DEQ has all along had the authority to assign load allocations to air sources, the current rulemaking process does not have any fiscal or economic impact. **The agency welcomes input from the work group**

* + - 1. Types and Numbers of small businesses affected

**The agency welcomes input from the work group**

* Impacts on small businesses and general public

Air sources are already subject to TMDLs under current rules. DEQ has determined that this proposed rulemaking does not have direct fiscal impacts or effects on small businesses and general public.

* Impacts on state agencies

The department does not expect other state agencies to experience fiscal or economic impacts.

* Impacts on DEQ

In order to develop TMDLs that have detailed information, each TMDL will require more resources. DEQ will extend the timeline or prioritize work in order to develop Implementation-Ready TMDLs where needed.

* 1. Potential increase in number of listings and need for TMDL development

*Source of information: SAIC Report, draft 2010 303(d) list (if available)*

* + 1. Analysis to identify likelihood of additional listings

For some of the pollutants that were evaluated for the SAIC report, the percent of the data that exceeded the criteria increased with higher fish consumption rate.

* + 1. DEQ costs

In order to develop TMDLs that have detailed information, each TMDL will require more resources. DEQ will extend the timeline or prioritize work in order to develop Implementation-Ready TMDLs where needed.

According to SAIC report, additional technical assistance may be needed in order for the dischargers to meet TMDL waste load allocations. Requests for pursuing variances by facilities may increase, for example.

* + 1. Implications/costs for entities (Indirect effect/cost)

See previous section, *Implications for Other Sources* for the potential impacts on sources.

* 1. Benefits attributable to revision and implementation of human health criteria for toxics

*Source of information: FIIAC memo, SAIC Report*

* + - DEQ did not have the financial resources to conduct a quantitative analysis of the direct and indirect potential benefits associated with an increased fish consumption rate, however, the FIIAC committee members along with representatives from the Oregon Environmental Council and CTUIR agreed that while economic benefits can be difficult to analyze, it is important to describe potential benefits, at the very least, in a qualitative manner. Benefits associated with toxics rulemaking were discussed in the FIIAC memo and are summarized below:

**Table 2: Potential Benefits of Raising the Fish Consumption Rate and Meeting the Standards**

|  |  |
| --- | --- |
| ***Benefit*** | ***Examples*** |
| Human Health | -safe drinking water; -avoided costs from environmentally attributable diseases; -reduced risk for those who do eat fish; -recreational – reduced risk from water contact  |
| Environmental | -water reuse opportunities from cleaner effluent;-business—cleaner intake water for downstream industries; -ecosystem health;- tourism; -amenity/aesthetic/property values; -avoided costs to industries and utilities; -fewer contaminants; -fishing – tribal, commercial, recreational and subsistence; -improve other species in the food chain: birds, etc.; -higher quality water supply |
| Cultural | -enable religious/ceremonial activities; -children; -healthy fish – icon of the Northwest -local, and sustainable food options |

**Potential Benefits of Specific Implementation Strategies**

|  |  |
| --- | --- |
| **Strategy** | **Potential Benefit** |
| Toxic Reductions | -Reduced human health impacts;-innovative possibilities used to reach more efficient systems when not fearful of litigation stemming from strict liability regulatory framework;-costs of litigation reduced;-reduced O&M;-reduced hazardous waste removal costs; |
| Stormwater Control | -Co-benefits for toxics reductions and control of other important stressors that affect fish health such as sedimentation and warm water temperatures |
| Infiltration and Inflow (I&I) | -Reduce quantity of water and toxics entering plant, reducing operating costs |

**II. Impact of using different implementation tools**

a. Identify types of situations that would result in sources seeking to use implementation tools

*Source of information: Permits Issue Paper*

* + 1. High natural background
		2. Treatment technology infeasible based on cost-effectiveness or other limitations

b. Administrative costs associated with using tools for DEQ and for sources

*Source of information: SAIC Report, other sources?*

i. New tools

* + - 1. Variances with pollution reduction plan--SAIC provides some information
				1. Applicable to all types of pollutants
				2. Cost to sources to prepare application, pollution prevention plan, including potential offset strategies, and to implement actions contained in plan
	+ The SAIC report estimates that one-time expenditures associated with variance applications could range from $1.43 M to $7.05 M (total statewide) with a FCR based on 17.5 g/day; incremental variance-related expenditures could range from $0.59 M to $2.68 M (total statewide) under revised criteria.
		- * 1. Cost to DEQ to review and approve plan, incorporate conditions into NPDES permit, coordinate with EPA for review of variances, etc.
	+ SAIC extrapolated the potential number of variance applications for the sample facilities and found that DEQ would need to review approximately 40 requests under the baseline criteria and an additional 16 under the revised criteria. Assuming a cost of $3,900 per review, baseline costs could be approximately $159,000 with incremental costs of approximately $65,000 under the revised criteria.
		- 1. Intake credits
* DEQ does not have specific information on costs associated with implementing intake credits. This is anticipated to be a more qualitative analysis.
	+ - * 1. Applicability to different types of pollutants
				2. Cost to sources
				3. Cost to DEQ
			1. Background pollutant allowance
* DEQ does not have specific information on costs associated with implementing a background pollutant allowance provision. This is anticipated to be a more qualitative analysis.
	+ - * 1. Applicability to different types of pollutants
				2. Cost to sources
				3. Cost to DEQ

ii. Existing tools/mechanisms [generally no extra costs to administer (unless there is an increase in the use of these tools); for each tool, costs offset through use of these tools would be described]

1. Compliance schedules

a. Applicability to different types of pollutants

b. Effect on costs to sources (i.e., would expect use of this tool to mitigate some of the costs to sources of immediately meeting limits in permits based on revised criteria)

2. MAOs (may not be relevant to include here)

a. Applicability to different types of pollutants

b. Effect on costs to sources (i.e., would expect use of this tool to mitigate some of the costs to sources of immediately meeting limits in permits based on revised criteria)

c.

3. General Permits (used as an alternative to address background pollutants)

a. Applicability to different types of pollutants

b. Effect on costs to sources (i.e., are there potential costs avoided if this approach is pursued in lieu of a traditional individual permit?)

* + - 1. Use Attainability Analysis
			2. Possibility of trading with upstream sources to meet WQBEL

|  | **Pollutant** | **CAS number** | **Agriculture (Legacy)** | **Agriculture (Current Use)** | **Forestry (Historic or current)** |  **Urban Stormwater**  | **Air Deposition (widespread)** | **Naturally Occuring**  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Acenaphthene | 83329 |   |   |   | y |   |   |
| 2 | Acrolein | 107028 |   |   |   | y | y |   |
| 3 | Acrylonitrile | 107131 |   |   |   | y |   |   |
| 4 | Aldrin | 309002 | y |   |   |   |   |   |
| 5 | Anthracene | 120127 |   |   |   | y | y |   |
| 6 | Antimony | 7440360 |   |   |   | y | y | y |
| 7 | Arsenic | 7440382 | y |   |   |   | y | y |
| 8 | Asbestos | 1332214 |   |   |   | y |   |   |
| 9 | Benzene [represents range] | 71432 |   |   |   | y |   |   |
| 10 | Benzene | 71432 |   |   |   | y |   |   |
| 11 | Benzidine | 92875 |   |   |   | y |   |   |
| 12 | Benzo(a)anthracene | 56553 |   |   |   | y | y |   |
| 13 | Benzo(a)pyrene | 50328 |   |   |   | y | y |   |
| 14 | Benzo(b)fluoranthene 3,4 | 205992 |   |   |   | y | y |   |
| 15 | Benzo(k)fluoranthene | 207089 |   |   |   | y | y |   |
| 16 | BHC Alpha | 319846 | y |   |   |   |   |   |
| 17 | BHC Beta | 319857 | y |   |   |   |   |   |
| 18 | BHC Gamma (Lindane) | 58899 | y |   |   |   |   |   |
| 19 | Bromoform | 75252 |   |   |   |   |   |   |
| 20 | Butylbenzyl Phthalate | 85687 |   |   |   | y | y |   |
| 21 | Carbon Tetrachloride | 56235 |   |   |   |   |   |   |
| 22 | Chlordane | 57749 | y |   |   | y |   |   |
| 23 | Chlorinated benzenes  |   |   |   |   |   |   |   |
| 24 | Chlorobenzene | 108907 |   |   |   |   |   |   |
| 25 | Chlorodibromomethane | 124481 |   |   |   |   |   |   |
| 26 | Chloroethyl Ether bis 2 | 111444 |   |   |   |   |   |   |
| 27 | Chloroform | 67663 |   |   |   |   |   |   |
| 28 | Chloroisopropyl Ether bis 2 | 108601 |   |   |   |   |   |   |
| 29 | Chloromethyl ether, bis | 542881 |   |   |   |   |   |   |
| 30 | Chloroethyl Ether bis 2 | 91587 |   |   |   |   |   |   |
| 31 | Chlorophenol 2 | 95578 | y |   |   |   |   |   |
| 32 | Chlorophenoxy Herbicide (2,4,5,-TP) | 93721 | y |   | y | y |   |   |
| 33 | Chlorophenoxy Herbicide (2,4-D) | 94757 |   | y | y | y |   |   |
| 34 | Chrysene | 218019 |   |   |   | y | y |   |
| 35 | Copper | 7440508 |   | y |   | y | y | y |
| 36 | Cyanide | 57125 |   |   |   |   |   |   |
| 37 | DDD 4,4' | 72548 | y |   |   |   |   |   |
| 38 | DDE 4,4' | 72559 | y |   |   |   |   |   |
| 39 | DDT 4,4' | 50293 | y |   |   |   |   |   |
| 40 | Di-2-ethylhexyl Phthalate |   |   |   |   | y | y |   |
| 41 | Dibenzo(a,h)anthracene | 53703 |   |   |   | y | y |   |
| 42 | Dibutylphthalate | 84742 |   |   |   | y | y |   |
| 43 | Dichlorobenzene(m) 1,3 | 541731 |   |   |   |   |   |   |
| 44 | Dichlorobenzene(o) 1,2 | 95501 |   |   |   |   |   |   |
| 45 | Dichlorobenzene(p) 1,4 | 106467 |   |   |   |   |   |   |
| 46 | Dichlorobenzenes  |   |   |   |   |   |   |   |
| 47 | Dichlorobenzidine 3,3' | 91941 |   |   |   |   |   |   |
| 48 | Dichlorobromomethane | 124481 |   |   |   |   |   |   |
| 49 | Dichloroethane 1,2 | 107062 |   |   |   |   |   |   |
| 50 | Dichloroethylene 1,1 | 75354 |   |   |   |   |   |   |
| 51 | Dichloroethylene trans 1,2 | 156605 |   |   |   |   |   |   |
| 52 | Dichloroethylenes |   |   |   |   |   |   |   |
| 53 | Dichlorophenol 2,4 | 120832 |   |   |   |   |   |   |
| 54 | Dichloropropane 1,2 | 78875 |   |   |   |   |   |   |
| 55 | Dichloropropene 1,3 | 542756 |   |   |   |   |   |   |
| 56 | Dieldrin | 60571 | y |   |   |   |   |   |
| 57 | Diethyl Phthalate | 84662 |   |   |   |   |   |   |
| 58 | Dimethyl Phthalate | 131113 |   |   |   |   |   |   |
| 59 | Dimethylphenol 2,4 | 105679 |   |   |   |   |   |   |
| 60 | Di-n-butyl Phthalate | 84742 |   |   |   |   |   |   |
| 61 | Dinitrophenol 2,4 | 51285 |   |   |   |   |   |   |
| 62 | Dinitrophenols | 25550587 |   |   |   |   |   |   |
| 63 | Dinitrotoluene 2,4 | 121142 |   |   |   |   |   |   |
| 64 | Dioxin (2,3,7,8-TCDD) | 1746016 |   |   |   | y | y |   |
| 65 | Diphenylhydrazine |   |   |   |   |   |   |   |
| 66 | Diphenylhydrazine 1,2 | 122667 |   |   |   |   |   |   |
| 67 | Endosulfan |   |   | y |   |   |   |   |
| 68 | Endosulfan Alpha | 959988 |   | y |   |   |   |   |
| 69 | Endosulfan Beta | 33213659 |   | y |   |   |   |   |
| 70 | Endosulfan Sulfate | 1031078 |   | y |   |   |   |   |
| 71 | Endrin | 72208 | y |   |   |   |   |   |
| 72 | Endrin Aldehyde | 7421934 | y |   |   |   |   |   |
| 73 | Ethylbenzene | 100414 |   |   |   | y |   |   |
| 74 | Ethylhexyl Phthalate bis 2 | 117817 |   |   |   | y | y |   |
| 75 | Fluoranthene | 206440 |   |   |   | y | y |   |
| 76 | Fluorene | 86737 |   |   |   | y | y |   |
| 77 | Heptachlor | 76448 | y |   |   |   |   |   |
| 78 | Heptachlor Epoxide | 1024573 | y |   |   |   |   |   |
| 79 | Hexachlorobenzene | 118741 | y |   |   |   |   |   |
| 80 | Hexachlorobutadiene | 87683 |   |   |   |   |   |   |
| 81 | Hexachlorocyclopentadiene | 77474 |   |   |   |   |   |   |
| 82 | Hexachloroethane | 67721 | y |   |   |   |   |   |
| 83 | Indeno(1,2,3-cd)pyrene | 193395 |   |   |   | y | y |   |
| 84 | Isophorone | 78591 |   |   |   |   |   |   |
| 85 | Manganese | 7439965 |   |   |   | y | y | y |
| 86 | Methoxychlor | 72435 | y |   |   |   |   |   |
| 87 | Methyl Bromide | 74839 | y |   |   |   |   |   |
| 88 | Methyl-4,6-dinitrophenol 2 | 534521 |   |   |   |   |   |   |
| 89 | Methylene Chloride | 75092 |   |   |   |   |   |   |
| 90 | Methylmercury (mg/kg) | 22967926 |   |   |   | y | y | y |
| 91 | Nickel | 7440020 |   |   |   | y | y | y |
| 92 | Nitrates | 14797558 |   | y |   |   |   |   |
| 93 | Nitrobenzene | 98953 |   |   |   |   |   |   |
| 94 | Nitrosodibutylamine, N | 924163 |   |   |   |   |   |   |
| 95 | Nitrosodimethylamine, N | 62759 |   |   |   |   |   |   |
| 96 | Nitrosodi-n-propylamine, N | 621647 |   |   |   |   |   |   |
| 97 | Nitrosodiphenylamine, N | 86306 |   |   |   |   |   |   |
| 98 | Nitrosopyrrolidine, N | 930552 |   |   |   |   |   |   |
| 99 | Pentachlorobenzene | 608935 |   |   |   |   |   |   |
| 100 | Pentachlorophenol | 87865 |   |   |   | y |   |   |
| 101 | Phenol\* | 108952 |   |   |   |   |   |   |
| 102 | Polychlorinated Biphenyls (PCBs) |   |   |   |   | y | y |   |
| 103 | Pyrene | 129000 |   |   |   | y | y |   |
| 104 | Selenium | 7782492 |   |   |   | y | y | y |
| 105 | Tetrachlorobenzene, 1,2,4,5- | 95943 |   |   |   |   |   |   |
| 106 | Tetrachloroethane 1,1,2,2 | 79345 |   |   |   |   |   |   |
| 107 | Tetrachloroethylene | 127184 |   |   |   |   |   |   |
| 108 | Thallium | 7440280 |   |   |   |   | y |   |
| 109 | Toluene | 108883 |   |   |   |   |   |   |
| 110 | Toxaphene | 8001352 | y |   |   |   |   |   |
| 111 | Trichlorobenzene 1,2,4 | 120821 |   |   |   |   |   |   |
| 112 | Trichloroethane 1,1,2 | 79005 |   |   |   |   |   |   |
| 113 | Trichloroethylene | 79016 |   |   |   |   |   |   |
| 114 | Trichlorophenol 2,4,6 | 88062 |   |   |   |   |   |   |
| 115 | Trichlorophenol, 2, 4, 5- | 95954 | y |   |   |   |   |   |
| 116 | Vinyl Chloride | 75014 |   |   |   |   |   |   |
| 117 | Zinc | 7440666 |   |   |   | y | y | y |