Background Information:

Oregon Human Health Criteria Under Review

**Criteria That *Would* Be Affected by a Revised Fish Consumption Rate:**

There are 103 substances that have human health criteria that are calculated using a fish consumption rate (FCR). For each of these substances there are two human health criteria: “water + organism” and “organism only.” In a few cases, the “water + organism” criterion for a chemical is the same value as the “organism only” criterion. These criteria will be revised through the water quality standards rulemaking due to changing the FCR from 17.5 to 175 grams per day.

**Criteria That *Would Not* Be Affected by a Revised Fish Consumption Rate:**

**A.** There are 9 substances with criteria that will not be affected by a revised FCR. The substances, associated 2004 and Table 20 criteria, and the beneficial use are provided in the table below. Please note that revisions to some of these criteria are under consideration by EPA, but such revisions would not be due to a revised fish consumption rate.

| Substance | CAS Number | Current Federal Criteria  (µg/L) | | Table 20 Criteria  (µg/l) | Beneficial Use |
| --- | --- | --- | --- | --- | --- |
| Water and Organism | Organism Only | Water + Organism |
| Asbestos\* | 1332214 | 7,000,000 f/L | --- | 30,000 f/L | Drinking Water |
| Barium | 7440393 | 1000 | --- | Same | Drinking Water |
| Chlorophenoxy Herbicide (2,4,5,-TP) | 93721 | 10 | --- | Same | Drinking Water |
| Chlorophenoxy Herbicide (2,4-D) | 94757 | 100 | --- | Same | Drinking Water |
| Copper\* | 7440508 | 1300 | --- | --- | Drinking Water |
| Iron | 7439896 | 300 | --- | Same | Aesthetics - Objectionable taste and laundry staining |
| Manganese | 7439965 | 50 |  | Same | Aesthetics - Objectionable taste and laundry staining |
|  | 100 | Same | Consumption of marine mollusks (fish ingestion approach was not used to derive criterion) |
| Methoxychlor | 72435 | 100 | --- | Same | Drinking Water |
| Nitrates | 14797558 | 10,000 | --- | Same | Drinking Water |

\*Note – Asbestos and copper are considered priority pollutants. The remaining pollutants in the above table are non-priority pollutants.

**B.** Human health criteria for the following 7 chemicals were withdrawn from Oregon’s toxics criteria table in 2004 (based upon EPA’s withdrawal of these criteria). For this reason, the human health criteria for these 7 chemicals would not be affected by a revised FCR. Please note, however, that until EPA takes action on the 2004 human health criteria revisions, the Table 20 criteria for these 7 chemicals are still effective.

| EPA ID Number | Chemical Name | CAS Number | Table 20 Criteria  (in µg/L) | |
| --- | --- | --- | --- | --- |
| Water and Organism | Organism Only |
| 3 | Beryllium | 7440417 | 0.0068 | 0.117 |
| 4 | Cadmium | 7440439 | 10 | --- |
| 5a | Chromium III | 16065831 | 170,000 | 3,433,000 |
| 5b | Chromium VI | 1854029 | 50 | --- |
| 7 | Lead | 7439921 | 50 | --- |
| 11 | Silver | 7440224 | 50 | --- |
| 41 | Trichloroethane 1,1,1- | 71556 | 18,400 | 1,030,000 |

**Criteria for Which *More Information is Needed* in Order to Determine if They Would Be Affected by a Revised Fish Consumption Rate**

Human health criteria for the following three chemicals were derived in 1980 using EPA’s 1980 human health methodology for the protection of drinking water and fish consumption. The 1980 methodology utilized several of the same default exposure assumption variables as was used in the more recent 2000 human health methodology, including a body weight of 70 kg, a water consumption variable of 2 L/day. The 1980 methodology used a fish consumption rate of 6.5 grams per day, whereas the 2000 methodology use a FCR of 17.5. However, EPA did not update the human health criteria for these three chemicals in 2002 using the new 2000 human health methodology. EPA Region 10 is currently trying to determine why these criteria were not updated in 2002, in order to determine whether the Oregon criteria for these 3 should be revised be based on a FCR of 175 g/d.

| EPA ID Number | Chemical Name | CAS Number | Human Health Criteria  (in µg/L) | | Beneficial use |
| --- | --- | --- | --- | --- | --- |
| Water and Organisms | Organisms Only |
| 19N | Hexachlorocyclo-hexane-Technical | 319868 | 0.0123 | 0.0414 | Drinking Water and Fish Consumption |
| 26N | Nitrosamines | 35576911 | 0.0008 | 1.24 | Drinking Water and Fish Consumption |
| 29N | Nitrosodiethylamine,N | 55185 | 0.0008 | 1.24 | Drinking Water and Fish Consumption |

**Criteria That *Are* Based on a Fish Consumption Rate, but EPA Criteria are Based on 6.5 g/d (not updated to 17.5 g/d)**

| Substance | Current Federal Criteria  (µg/L) | | Table 20 Criteria  (µg/l) | | Beneficial Use |
| --- | --- | --- | --- | --- | --- |
| Water and Organism | Organism Only | Water + Organism | Organism Only |
| Arsenic | 0.018 | 0.14 | 0.0022 | 0.0175 | Drinking Water and Fish Consumption |
| Chloroform | 5.7 | 470 | 0.19 | 15.7 | Drinking Water and Fish Consumption |
| Nickel | 610 | 4600 | 13.4 | 100 | Drinking Water and Fish Consumption |