Overview

- Human Health Criteria Rule History
- Rulemaking Schedule
- Fish Consumption Survey
- Policy Development
- Rule Review
History

• 2004 – Oregon DEQ submits their Rule to EPA (17.5 g/day)
• 2005 – April 5th Idaho DEQ Announces Rulemaking
• 2005 – IDEQ Holds Negotiated Rulemaking Meetings and publishes proposed rule.
  – Rule shifts from 6.5 to 17.5 g/day the EPA Nationally recommended fish consumption rate
  – EPA applauds IDEQ rulemaking
• 2005 – November IDEQ Board of Environmental Quality Adopts the Rule
History

- 2006 – Idaho Legislature Approves the Rule
- 2006 – July 7 IDEQ Submits Rule to EPA

Time Elapses

- 2010 – EPA Disapproves Oregon Rule
  - (17.5 g/day)

- 2011 EPA Approves ODEQ Revised HH Criteria
  - Based on a fish consumption rate of 175 g/day

- 2012 May 10 – EPA Disapproves Idaho DEQ Human Health Toxics Criteria
  -- Based on a fish consumption rate of 17.5 g/day
Consequences of EPA’s Disapproval

1. EPA must Promulgate a Rule for Idaho, If DEQ fails to take actions EPA identified to remedy the disapproval

2. EPA identified what DEQ must do:

“To address this disapproval action, Idaho must evaluate local and regional fish consumption information to determine whether its statewide criteria are protective of designated uses.”
Human Health Criteria for Toxic Pollutants
Docket No 58-0102-1201

• DEQ Started rulemaking August 2012
• Evaluated Existing Data
  – Found to be limited in scope for Idaho residents, old and of questionable quality
HHC Rulemaking Schedule

✓ FCR Survey Development - 2012 - 2013
✓ FCR Survey Implementation - 2014 - 2015
✓ Data Analysis – August 2015
✓ Proposed Rule – October 2015
• Board Review – December 2015
• Legislative Review – January 2016
HHC Rulemaking Actions

Meetings

• Fish Consumption Survey Design (2012-13)
  – 8 meetings
  – BSU Public Policy Center
  – Public Comment
HHC Rulemaking Actions

Fish Consumption Surveys (2014-2015)

- General Population
- Idaho Resident Anglers

EPA Efforts

- Tribal Member Survey – EPA Sponsored
  - FCRs, Nez Perce and Shoshone-Bannock
  - Heritage Rates, Kootenai, Coeur d’Alene, Shoshone-Paiute, Nez Perce and Shoshone-Bannock
FISH CONSUMPTION RATE
## Dietary Recall – NCI Results

### Estimated Usual Fish Consumption Rates, g/day

### All Fish

<table>
<thead>
<tr>
<th>Survey/Population</th>
<th>50%</th>
<th>Mean</th>
<th>75%</th>
<th>90%</th>
<th>95%</th>
<th>99%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idaho Total</td>
<td>14.2</td>
<td>22.0</td>
<td>29.7</td>
<td>51.1</td>
<td>67.7</td>
<td>118</td>
</tr>
<tr>
<td>Idaho Angler</td>
<td>15.9</td>
<td>26.5</td>
<td>36.9</td>
<td>64.6</td>
<td>86.4</td>
<td>146</td>
</tr>
<tr>
<td>Nez Perce</td>
<td>49.5</td>
<td>75.0</td>
<td>---</td>
<td>173</td>
<td>232</td>
<td>---</td>
</tr>
<tr>
<td>Shoshone Bannock</td>
<td>14.9</td>
<td>34.9</td>
<td>---</td>
<td>94.5</td>
<td>141</td>
<td>---</td>
</tr>
<tr>
<td>EPA 2014***</td>
<td>17.6</td>
<td>---</td>
<td>32.8</td>
<td>52.8</td>
<td>68.1</td>
<td>105</td>
</tr>
</tbody>
</table>
# Tribal Fish Groups

<table>
<thead>
<tr>
<th>Species Group</th>
<th>Description</th>
<th>Species and Groups Included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 2</td>
<td>Near coastal, estuarine, freshwater and anadromous</td>
<td>All species in Groups 3, 4 and 5 as well as lobster, crab, shrimp, marine clams or mussels, octopus* and scallops</td>
</tr>
<tr>
<td>Group 3</td>
<td>Salmon or steelhead</td>
<td>Chinook, coho, sockeye, kokanee, steelhead, other salmon and any unspecified salmon species</td>
</tr>
<tr>
<td>Group 4</td>
<td>Resident trout</td>
<td>Rainbow, cutthroat, cutbow, bull, brook, lake, brown, other trout and any unspecified trout species.</td>
</tr>
<tr>
<td>Group 5</td>
<td>Other freshwater finfish or shellfish</td>
<td>Lamprey, sturgeon, whitefish, sucker, bass, bluegill, carp, catfish, crappie, sunfish, tilapia, walleye, yellow perch, crayfish, freshwater clams or mussels, other freshwater finfish and any unspecified freshwater species</td>
</tr>
</tbody>
</table>
## Dietary Recall – NCI Results

**Estimated Usual Fish Consumption Rates, g/day**

**Idaho All Fish / Tribal Group 2 / non-Marine Fish**

<table>
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<th>50%</th>
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<td>36.0</td>
<td>66.5</td>
<td>81.7</td>
<td>159</td>
<td>234</td>
<td>---</td>
</tr>
<tr>
<td>Shoshone Bannock</td>
<td>6.5</td>
<td>18.6</td>
<td>20.0</td>
<td>48.9</td>
<td>80</td>
<td>---</td>
</tr>
<tr>
<td>EPA 2014</td>
<td>5.0</td>
<td>---</td>
<td>11.4</td>
<td>22.0</td>
<td>31.8</td>
<td>61.1</td>
</tr>
</tbody>
</table>
Various Consumption Rates

6.5 g/day = ~7 ounce meal once a month
17.5 g/day = 4.3 ounce meal once a week
66.5 g/day = 4.7 ounce meal every other day
175 g/day = ~6 ounce meal every day
HHC Rulemaking Actions

Meetings

• Policy Decisions/Papers (2013-15)
  – 9 Meetings
  – White Papers
  – Public Comment
HHC Policy Decisions/Papers

1) Fish Consumer or Non-consumers (Oct 2013)
2) General Population or Targeted Subpopulation (Dec 2013)
3) Probabilistic Risk Assessment or Deterministic Assessment (April 2014)
4) Market Fish or Local Fish & Relative Source Contribution (May 2014)
5) Anadromous Fish (July 2014)
6) Suppression (October 2014)
7) Risk Management & Protection of Public Health (Dec 2014)
8) Implementation Strategies (March 2015)
HHC Rulemaking Actions

Data Analysis (2015)

- National Cancer Institute (NCI) Method
- Probabilistic Risk Assessment (PRA) Method
- Deterministic Calculations
Summary of Comments

25 Categories of Public Comments

- 7 Tribes
- 2 Environmental Groups
- 11 Trade or Industry Groups
- 76 Citizen Letters + 1 Citizen Email
- AIC and NACWA
- EPA
Summary of Comments

- Response to Comments prepared
- Comments are Summarized
- DEQ Response provided
- Comments Requested Changes to Rule or Advocated for Particular Positions
- AIC Supportive
Non-Carcinogen Formula

\[ AWQC = RfD \times RSC \times \frac{BW}{DI + (FI \times BAF)} \]
Carcinogen Formula

\[
\text{AWQC} = \frac{\text{BW}}{\text{RSD} \times \left(\frac{\text{DI} + (\text{FI} \times \text{BAF})}{\text{BW}}\right)}
\]

Target Incremental Cancer Risk
\[
\text{RSD} = \frac{1}{\text{Cancer Potency Factor}}
\]
Idaho Rulemaking

- Fish Intake (FI) – Nez Perce Tribe
  Group 2 Fish
  66.5 g/day mean (~70th percentile)
- Deterministic Criteria Calculation
- Bioaccumulation Factors (BAF)
  Bioconcentration Factors when BAF not available
Idaho Rulemaking

• Relative Source Contribution (RSC)  
  Use Default Values –
• Body Weight (BW) –  
  Idaho Survey 80Kg Mean
• Drinking Water Intake –  
  EPA 2.4L  90th %tile
Idaho Rulemaking

Risk for Carcinogens use $10^{-5}$

- EPA guidance allows states to choose from a range of $10^{-5}$ to $10^{-6}$ for the incremental increase in cancer risk used in calculating criteria for the general population

- Higher Consumers should be protected at $10^{-4}$ or lower
Idaho Rulemaking

Risk for Carcinogens

- Idaho has chosen to use an incremental increase in cancer risk level of $10^{-5}$
- General Population – generally at a lower risk
- 665 g/day would be at a risk level of 10-4
- Risk can never be made the same for everyone
# Regional Comparisons

<table>
<thead>
<tr>
<th>State</th>
<th>Fish Consumption Rate (g/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>175</td>
</tr>
<tr>
<td>Idaho</td>
<td>(Disapproved 17.5) 66.5</td>
</tr>
<tr>
<td>Washington</td>
<td>6.5 (EPA at 175 and risk of 10-6)</td>
</tr>
<tr>
<td>Alaska</td>
<td>6.5</td>
</tr>
<tr>
<td>Utah</td>
<td>17.5</td>
</tr>
<tr>
<td>Montana</td>
<td>17.5</td>
</tr>
<tr>
<td>Nevada</td>
<td>6.5</td>
</tr>
<tr>
<td>Wyoming</td>
<td>17.5</td>
</tr>
</tbody>
</table>
What Criteria are at Issue?

- 105 Toxic Substances
- 209 Revised or New Criteria
  - 94 revised substances
  - 11 additional substances
  - based on EPA’s 2015 recommendations
  - Change in understanding of toxicity
  - No criteria currently in Idaho WQS
  - Copper
Some Notable Criteria Shifts

- 6 compounds have switched from cariogenic effect to non-cariogenic effect driving the criteria:
  - Benzene
  - Methylene Chloride
  - Tetrachloroethylene (Perchloroethylene)
  - Trichloroethylene
  - 2,4,6-Trichlorophenol
  - Hexachloroethane

- Technical Support Document 2015
HUMAN HEALTH CRITERIA
RULE REVIEW
Questions