

# **Human Health Criteria — Fish Consumption Rates**



## **DEQ RECOMMENDATIONS ON CRITERIA CALCULATION**

**APRIL 21, 2015**

# On the Agenda...

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- Welcome and Introductions
- Update on Idaho Fish Consumption Survey
- Update on Tribal Survey
- Summary of Comments on Policy Discussion #8 — Implementation Tools
- DEQ's Recommendations on Policy Decisions
- Discussion
- What's Next

# Idaho Fish Consumption Survey Update

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**Don A. Essig, DEQ**



# Survey Summary

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- 4570 completed surveys, exceeded goal of 4500
- Ended with 54% of sampled via cell phone
- Final angler/non-anglers split = 36/64, very close to the 33/66 we expect
- Ended with 47/53 male/female split in our survey
- Geographic distribution, within 15% of target across all 7 health districts

# Survey Summary

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- Income <\$25K/>\$25K at 25/75 split, versus 24/76 expected
- We achieved 8.8% Hispanics vs. 11.4% expected
- Over 89% of those surveyed reported eating fish or shellfish in past 12 months; 12% yesterday
- Have 1557 completed re-contacts ... and counting

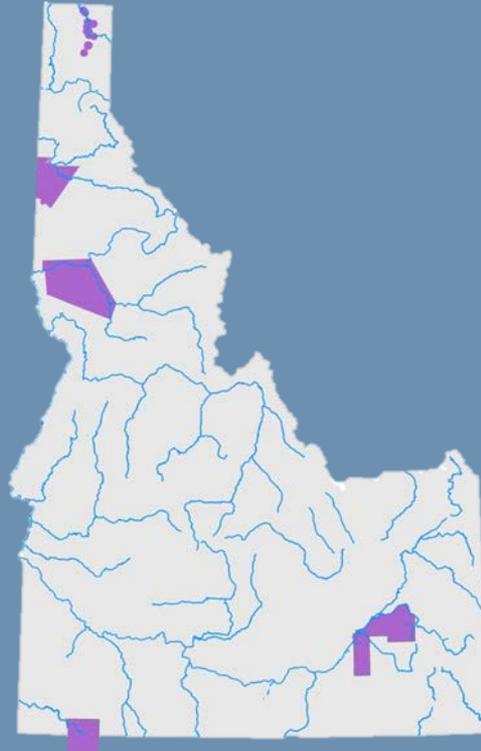
# Arrangement for NCI Analysis

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- We have hired **Information Management Services, Inc.**
- Have had two calls to discuss data formatting & transmittal
- NWRG calculating daily consumption for each of 8 days
- For both initial and re-contacts
- NWRG also working on sample weightings
- Meanwhile IMS has preliminary database

# Tribal Survey Update

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**Lon Kissinger, EPA**



# Summary of Comments

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**Don A. Essig, DEQ**



# Comments on Implementation Tools

## Written comments received from:

- Idaho Conservation League (ICL)
- City of Post Falls (PF)
- Clearwater Paper (CP)
- USEPA Region 10 (EPA)
- Hayden Area Regional Sewer Board (HARSB)
- Association of Idaho Cities (AIC)

# The Question:

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What Implementation Tools Will be Useful?

# Compliance Schedules

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- ICL – Should be of limited duration, not to extend beyond 5 years
- CP – Allow extended compliance schedules, recognize a 20-year compliance path
- HARSB – Rules should not have predetermined maximum duration
- AIC – Extend time frames, use implementation of BMPs as alternative final compliance measure

# Variations

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- ICL – Prefer compliance schedules to variations
- EPA – Would have liked to see discussion on variance renewal, expects to be specifying federal requirements for variations this summer. Notes that if WQS is attainable, neither a variance nor a UAA is allowed
- CP – Variations are necessary, recommends that this rule reference IDAPA 58.01.02.260 for variance process
- HARSB – Strongly supports variations
- AIC – Recommends multiple scales for variations

# Intake Credits

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- ICL – Should take into account how pollutants got into process water and whether pollutants were going to be found in receiving water body absent discharge
- AIC & PF – Supports intake credits, language should include groundwater
- EPA – Clarifies that intake credits are reviewed under NPDES (or IPDES)
- CP – Recommends broadening scope of intake credits
- HARSB – Strongly supports intake credit

# Other Tools

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- Multi-discharger Variance
  - ICL – Prefer individual compliance schedules with dischargers
  - HARSB – Strongly supports multiple discharger variances
  - AIC – Provides efficiency in permitting
- Water Quality Trading
  - ICL – Supports trading, would like DEQ to further develop guidance for trading for HHC
  - PF – Supports trading for toxics

# Policy Recommendations

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**DON A. ESSIG, DEQ**

# Consumers/non-consumers

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- **Recommendation:** Include only consumers of fish in fish consumption distribution.
- **Basis/Rationale:** Non-consumers of fish are not affected by fish borne contaminants. We thus acknowledge that non-consumers are protected regardless and focus our attention on the consumers that are exposed to contaminants in fish.

# Everyone or only High Consumers

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- **Recommendation:** Evaluate range of exposure/risk in both the general population and higher consuming subpopulations.
- **Basis/Rationale:** This is what EPA's guidance recommends. We will be able to speak to the risk for all that our criteria will protect.

# Deterministic or Probabilistic

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- **Recommendation:** Use probabilistic risk assessment in addition to deterministic calculation to inform criteria selection.
- **Basis/Rationale:** Probabilistic Risk Assessment gives us better information on the range of risk in our population. This allows better communication of risk to the public and policy makers.

# Include or Exclude Market Fish

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- **Recommendation:**
  - Base Idaho's regulatory FCR on local fish only.
  - Use RSC to account for market fish/other sources.
  - Include rainbow trout as a local fish
- **Basis/Rationale:** Idaho water quality standards only apply to discharges into Idaho waters, we do not regulate quality of market fish. Consistent with EPA's treatment of marine fish in their national FCR.

# Include or Exclude Anadromous Fish

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- **Recommendation:** We recommend excluding anadromous fish.
- **Basis/Rationale:** Although anadromous fish can be caught in Idaho waters, as returning adults almost all the contaminants they bear are not locally sourced, thus like market fish, their quality is not under our control.

# Risk and Human Health Protection

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- **Recommendation:** We recommend setting criteria for carcinogens to achieve a  $10^{-6}$  incremental increase in cancer risk at the mean consumption rate for high consuming subpopulations (using angler or tribal data whichever is greater), while making sure that  $10^{-6}$  risk in the overall population occurs at no less than the 95<sup>th</sup> %tile.
- **Basis/Rationale:** This is a risk management decision. We believe this is an appropriate balance of protectiveness for both high consumers and the general population.

# RSC

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- **Recommendation:** We recommend adjusting relative source contribution based on change in FCR.
- **Basis/Rationale:** RSC varies by contaminant but also by exposure:
  - Fish + water > fish only.
  - High BAF > low BAF.
  - High FCR > low FCR.
- EPA's 2000 recommendation is to start with RSC of 0.2

# BAF/BCF

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- **Recommendation:** We recommend that we move to bioaccumulation factors (BAFs).
- **Basis/Rationale:** EPA's 2000 recommendation is to use bio-accumulation factor (BAF) instead of bio-concentration factor BCF to better account for increase in toxin concentration in the food chain.

# Body Weight & Drinking Water Intake

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- **BW Recommendation:** We established a 3 step preference: 1) use data from Idaho's survey, 2) use data from DHW/BRFSS; 3) use EPA's 2011 Exposure Factors Handbook/NHANES. For deterministic calculation the body weight will be the mean adult value.
- **DI Recommendation:** Use data in EPA's 2011 Exposure Factors Handbook. For deterministic calculation the value will be the 90th %tile, which is 2.4 L /day.

# Protectiveness of Criteria

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- **Recommendation:** We recommend that our criteria not be allowed to become less protective going forward.
- **Basis/Rationale:** Regardless of specifics of criteria calculation, we want to assure that we will be improving human health protection in the future.

# Thank You!

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- The comment deadline on today's discussion is **May 22, 2015**
- Next Meeting is on **July 8, 2015** (9am-noon MST)
  - Preliminary Draft Rule

# Twice Consumers

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- For overall fish consumption, looking at just past 24 hours, we have 31 twice consumers
- But if we go back just 2 days our number of twice consumers increases to 92
- To get  $\geq 50$  twice consumers for anglers only we have to go back 3 days
- Things get very tenuous if we focus on consumption of Idaho fish, with just 2 twice consumers in 24hr