From:	Howard, Bruce
To:	ECY RE Fish Consumption
Subject:	comments
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I am writing to provide comments on the Department of Ecology's Publication No. 11-09-050, *Fish Consumption Rates, Technical Support Document*. I appreciate the opportunity to comment in the following areas.

- **Methodology**. While the report references important survey-based consumption information, and discusses the relative uncertainty/validity of information gathered this way, the report would benefit from observed long-term data. Given the uncertainties around the information acknowledged in the report (Chapter 4), and that the information is intended to be used "for regulatory risk management decisions" (p. 64), it is incumbent on Ecology to seek additional verification of this information, as well as peer-reviewed studies generated through traditional means.

- **Regulatory dilemma**. In Chapter 7, the report discusses several issues related to the establishment of fish consumption rates in different regulatory contexts. Ecology states a "[preliminary recommendation] of a default fish consumption rate (or rates) in the range of 157 to 267 g/day." (p. 103) The report also notes that "we are asking for input regarding identifying one or more default fish consumption rates for use in the various regulatory contexts." (p. 103) Ecology should take into account the practical effects of adopting revised FCRs.

  While current FCRs may be lower than observed consumption rates, and certainly lower than the rates reported through surveys of target populations, the application of these rates in different regulatory constructs incorporates additional conservative, "precautionary principle" assumptions. Given the ubiquitous nature of some contaminants, such rates could lead to turmoil in cleanup action, even at sites that have been previously considered "clean." The potential for background-level recontamination from totally unknown sources could create a significant uncertainty around the security of proposed final cleanup actions. Within a Clean Water Act context, water quality standards could be impossible to meet, subjecting dischargers and other permittees to ongoing third-party liability. While these practical outcomes are not the focus of the analysis of FCRs, they help emphasize the need to proceed with caution, and to base any changes on the broadest and most robust scientific review possible. For this reason, the FCR updates should be delayed until the broader possible regulatory outcomes of such changes are evaluated in the appropriate policy contexts. Absent that, the option of site-specific FCRs based on target species and exposure pathways in specific areas may be appropriate for those settings wherein individuals consume high levels of fish.

- **Reasonable Maximum Exposure (RME).** The report discusses factors related to selecting an RME, settling on a recommendation "approximately between the 80th and 95th percentile". However, given the unique consumption rates by the highest-consuming individuals reported in survey summary information, this range can still skew toward an unreasonably high RME. The RME analysis deserves further discussion.

- **Discretion in applying statistical assumptions.** The report acknowledges that there is not a clear path for statistical handling of survey data (see p. 110), and notes that the analyses in this report are based on summary statistics and not data. This further underscores the need for actual data, and thorough analysis in a robust statistical fashion alongside the survey summary information.

Bruce Howard