

Comments and Suggestions on the report “Economic Impacts Associated with  
Potential Critical Habitat Designation for the Southern Resident Population of Killer Whales.  
FINAL DRAFT”. Dated November 30, 2005

### **General comment**

While most of the analysis in this report is rather straightforward, the use of the term “economic impact” or economic activity to mean, variously, total annual payroll (Exhibit 1-3), net economic value for fishing, increased annual costs of vessel traffic, increased present value of costs for in-water construction projects, and change in total direct plus indirect plus induced output or sales (Appendix A) will lead to some confusion. I would suggest a short (1 page?) explanation of the various measures of these effects. This would entail assigning each category of “impact” a specific name that would then be used consistently throughout the report.

### **Sec. 1. Overview of Species and Habitat**

The overview seems to set the stage for the following chapters. But what are the three tables (Exhibits 1-3 and 1-4) showing payroll, employment, and number of establishments by county intended to convey? This is a lot of information which is not utilized anywhere else in the report. It could be relegated to an appendix, leaving only a pithy summary of the important points in this overview chapter.

### **Sec. 2 Salmon Fishing**

The descriptive section and explanation of the methodology are clearly written.

1. The method adopted has two obvious strong simplifications: (a) it assumes commercial NEV per fish is a constant amount for each species, and recreational value per fish is a constant across all species. (b) closure of a particular area causes a reduction in catch equal to the amount recently caught in that area; i.e. there is no shifting of effort across area boundaries to harvest some of the fish previously caught in the closed area.

Both of these simplifications were undoubtedly adopted to speed the analysis. But it raises the questions of Why the two existing models (PSC chinook and FRAM) were not utilized, and Why NOAA Fisheries has not engaged in the research necessary to better understand the value of salmon fisheries (especially recreational fisheries)?

2. p. 2-14 Exhibit 2-5. Something went wrong here. The value baseline in this Table is supposed to represent the total NEV for salmon fishing. The NEV for all species/all areas in Exhibit 2-5 is about \$2.5 million. But, the costs of a 50% closure as indicated in Exhibit 2-6 in all areas is \$13.6 million, which vastly exceeds the baseline total value.

I am assuming the “Units” 1, 2, and 3 in Exhibit 2-5 are equivalent to habitat areas 1, 2, and 3. Yes?

Since there is no table showing baseline catch by species by Area, the reader can’t cross-check the detailed numbers in Exhibit 2-5.

3. It is not clear how the fishing closures would affect tribal fishing. If Washington State fishing vessels are closed out of some salmon fisheries, will the tribal fisheries (which cannot be regulated via State law) compensate to some extent by increasing their catches?

### Section 3. Vessel Traffic

1. It is unclear why Appendix A is mentioned on page 3-1, para 1. Why are whale-watching vessels singled out here?

2. The question of “Federal nexus” for Sec. 7 consultation, as discussed at the bottom of p. 3-2, is apparently resolved by considering only vessels that are regulated through fishery management laws, through Coast Guard vessel traffic regulations, and by regulation of commercial vessels carrying 50 or more passengers. On page 3-4 the report concludes that for smaller vessels there may not be a Federal nexus.

However, it should be noted that all commercial tour vessels carrying more than 6 passengers are subject to Coast Guard licensing. This would include many smaller whale watching vessels, Puget Sound tour boats, and some commercial vessels carrying anglers. When I brought this up with a local Coast Guard officer he responded:

“The CG regulates (which means: requires safety and stability requirements are met) passenger vessels that carry more than 6 passengers on domestic voyages. If the vessel is more than 100 gross tons, then the requirement changes and is for any passengers in excess of 12 (same for international voyages: more than 12 passengers - but then again those aren't US requirements, but are SOLAS requirements). I think what you saw was a requirement for vessels that are required to participate in the vessel traffic service (VTS), also a CG entity but with entirely different requirements. Sometimes people confuse the impact of the law. For VTS it is compliance with navigation regs, for folks like me who enforce(d) safety, stability and security regs, the requirements and thresholds are completely different.”

The exact location for all the regs (in addition to VTS, which is in 33 CFR) is in Title 46 Code of Federal Regulations.

I don't know, of course, that including these smaller vessels in the analysis would make a significant difference to the overall impact. I suppose it depends upon whether these smaller vessels make significant noise or harass the killer whales.

2. p. 3-11 In estimating the number of vessels that would be impacted by requirements to reduce noise, the number of landings by fishing vessels and port arrivals by shipping vessels is divided by three. This procedure cannot account for distinct differences in impacts among vessel types. It yields an over-estimate of numbers for some types of vessels, such as local salmon fishing vessels (which land fish every day during the fishing season) and cargo liners which make regular trips across the north Pacific (yielding 20 – 25 arrivals per vessel per year). On the other hand, the larger fishing vessels that winter in Seattle typically land fish locally only once, at the end of the season. I think a bit more searching for information on this would yield a much better estimate of vessel numbers and, hence, costs of complying with noise regulations. It would make sense to divide the analysis into the groups of vessels making frequent trips (container ships,

bulk cargo shippers, and oil tankers), or regularly operating in the three habitat areas (salmon fishing, geoduck fishing, crab fishing, small tankers, etc), and vessels which simply travel through the Sound a couple of times per year (large groundfish fishing vessels). This would allow for refining the application of sound-reducing requirements to vessels that have the most impacts on whales.

3. The analysis seems to miss the volume of traffic going to the Port of Everett, which is expanding rapidly, especially in the container trade and for the Boeing plant. It also fails to note the tug-and-barge operations and within-sound tankers. Again, these are residents of the sound and may cause more overall noise impacts than the larger vessels that come-and-go.

4. The flow of oil tankers from Alaska terminates at three points north of Puget Sound proper, and traffic going to Delta Port in British Columbia may cause noise impacts through the Strait of Juan de Fuca, but these are not specifically included in the analysis.

5. An economic analysis should account for substitutions among ports that would occur as a result of stricter regulation or increased costs due to regulation of some sub-part of the industry. The regulatory cost would then consist, at least in part, of the cost of shifting locations or timing. If ships heading to Puget Sound ports incur higher costs due to noise-reduction regulation, some commercial shipping will shift to the Delta Port, the Port of Portland, OR, and to Oakland and Los Angeles-Long Beach, California. If these shifts occur, the cost of the new regulation will not equal the increased cost per unit of traffic times the existing or forecasted traffic volume. Presumably, substitutions of this sort would reduce the overall costs of the restrictions on vessel traffic.

#### **Section 4 Construction-Related Activities**

The sections 4.2 and 4.3 contain a useful description of the overall levels of construction activities in Puget Sound and the regulatory framework for these activities.

1. The connection between the cost ranges (5% to 30% of baseline costs) and “construction windows” is fairly vague and unclear. The calculations of cost levels simply lays out a possible range of costs, using radically different “high” and “low” estimates per construction project (Exhibit 4-13).

2. It is unclear, however, why these costs are expressed as present values in the text (p. 4-3 and 4-13) rather than annualized values, while the summary costs in Exhibit 4-13 (and ES-2) are apparently annual costs. Further, the PV's are not comparable to the annualized costs estimated for fishing and vessel activities. Won't the presentation of present values for some costs and annual values for other costs lead to reader confusion?

3. The costs of noise reduction are apparently so much lower than the high costs of construction windows that this would lead one to focus on that technology, at least to resolve the uncertainty regarding its effectiveness and impact on whales.

## **Section 5 Water Quality Management**

This section contains a useful summary of the regulatory regime for water quality, including both Federal and State components. It shows where impaired waters are present and where oil spill impacts have occurred. It does not attempt to estimate the economic costs of making water quality management more stringent in order to improve killer whale habitat. It is not clear why the authors didn't take the reported costs of implementing California's toxic rule as a means of "guesstimating" the cost of water quality improvement in Washington.

## **Section 6 Small Entity Impacts**

This seems to be a reasonable summary of the existing numbers of small firms by NAICS and county. It is not clear how this category of firm would be impacted by any of the four categories of potential management actions.

## **Appendix A Regional Economic Impact Analysis: Impact of Reducing Whale Watching in Puget Sound**

The analysis utilizes a standard IMPLAN model, scaled to 19 western Washington counties, and adjusted to reflect the whale watching industry by using some existing sources of information on whale tourism and expenditures. Unfortunately, the presentation refers to "regional economic impact" (also variously called output or revenues) without explicitly listing the impacts as change in regional income. There is a key difference between output or sales impacts and income impacts. The income measure has an understandable relationship to standard national and regional income accounting figures. Expenditures, regional impacts expressed as change in gross expenditure or output, are not meaningless, but they have no intuitive meaning to the public or policy makers who typically pay attention to these impact assessments. Hence, I would recommend that this section be modified to focus on the changes in regional income attributable to the whale watching industry, and to specific hypothetical changes in the size of the whale watching industry. Employment impacts are, of course, also of interest to local decision makers.

It is unclear why there is appendix focusing on whale watching economic impacts, but no similar appendices focusing on fishing, vessel traffic, and construction industries.