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**October 31, 2018**

United States Environmental Protection Agency
EPA Docket Center (EPA/DC)
Mail Code 28221T
Attention Docket ID No. EPA-HQ-OAR-2017-0355
1200 Pennsylvania Avenue, NW, Washington, DC 20460

**Re: Docket ID No. EPA-HQ-OAR-2017-0355, Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program**

To EPA OAR Docket:

The National Tribal Air Association (NTAA) is pleased to submit these comments regarding the Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program. While the NTAA recognizes that these are three distinct rule proposals, hereafter they will be referred to collectively as the Affordable Clean Energy Rules or "ACE Proposed Rules."

The NTAA is a member-based organization with 136 principal member Tribes. The organization's mission is to advance air quality management policies and programs, consistent with the needs, interests, and unique legal status of American Indians and Alaskan Natives, herein Tribes. As such, the NTAA uses its resources to support the efforts of all federally recognized Tribes in protecting and improving the air quality within their respective jurisdictions. Although the organization always seeks to represent consensus perspectives on any given issue, it is important to note that the views expressed by the NTAA may not be agreed upon by all Tribes. Further, it is also important to understand interactions with the organization do not substitute for government-to-government consultation, which can only be achieved through direct communication between the federal government and Tribes.

The NTAA has several critical concerns about the ACE Proposed Rules:

1) They will have a negative impact on both air quality and public health in Indian Country, and yet, contrary to EPA Policy and Executive Order (EO) 13175, Tribes were not sufficiently consulted;

2) They have many inherent shortcomings, including Best Systems of Emission Reduction (BSER), lengthiness of timelines, and increases in emissions due to changes in new source review (NSR);

3) They have the potential to fundamentally change the way the EPA implements the Clean Air Act (CAA); and

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4) They are arbitrary and capricious, inconsistent with the law of the CAA, unsupported by the record, and an unreasonable interpretation of the CAA.

For these reasons, the NTAA opposes the new ACE Proposed Rules as drafted and recommends substantial changes.

**Tribal Consultation, Air Quality, and Health**

Over 200 federally recognized Tribes have reservation lands within a 50 mile radius of a coal or natural gas electric generating unit (EGU).[1] Pursuant to the *1984 EPA Policy for the Administration of Environmental Programs on Indian Reservations*, Executive Order 13175 (Nov. 6, 2000), and the EPA Policy on Consultation and Coordination with Indian Tribes (May 4, 2011), Tribal concerns and interests must be considered whenever EPA's actions and/or decisions may affect Tribes. The ACE Proposed Rules involve changes to the regulation of emissions from EGUs that will have a direct impact on the public health and environment in Tribal communities, and therefore government-to-government consultation with Tribes is required. Although EPA offered Tribal consultation on the ACE rule in a letter dated August 24, 2018, the time frame offered did not provide tribes with appropriate and meaningful consultation, due to the relative complexity of the proposal and the volume of other proposals that Tribes have been responding to.

Any Tribe that has a natural gas power plant located on or near Tribal lands could be directly impacted by the ACE Proposed Rules because the source would no longer be an affected source under these rules. Any Tribe that has a coal-fired power plant on or near Tribal lands could suffer from increased (or not reduced) emissions of greenhouse gases (GHGs), particulate matter, and mercury. Furthermore, Tribes that would have benefitted from the incentives to develop and provide renewable energy or energy efficiency efforts will lose the opportunity for economic development for their communities.

Tribes have previously commented on the impact of the mercury rule on Tribal treaty resources.[2] In particular, the Tribes stated: "While the benefits of the MATS *[Mercury and Air Toxics Standards]* Rule to tribes may, for the most part, not be pecuniary in nature, the Rule provides crucial protections for Indian health, fishing rights, and traditional cultures that help the United States fulfill its legal duties to American Indians and tribes." Because the ACE Proposed Rules will likely result in increased mercury emissions, these proposed rules may, in fact, violate the United States trust responsibility to treaty Tribes to protect their treaty resources – namely fish – from environmental harm. The EPA is thus required, under its Memorandum on Treaty Resources, to consult with affected treaty Tribes.

While EPA has identified several purported economic advantages of implementing the ACE Proposed Rules as compared to the Clean Power Plan (CPP)[3], there is no evidence that these benefits are likely to flow to Indian Tribes.

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[1] See Attachment A – Map of EGUs and Tribal boundaries
[2] See Attachment B – NCAI, CRITFC, GLIFWC, et. al. Comments to EPA on Docket #EPA-HQ-OAR-2009-0234 (Jan. 15, 2016)
[3] Such as $3.4 billion in net benefits and $6.4 billion in avoided compliance costs, as well as reduced retail electricity prices (-0.2% to -0.5%) and an increase in coal production for power sector use (4.5% to 5.8% increase (https://www.epa.gov/sites/production/files/2018-08/documents/ace_cost-benefit.pdf)

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Rather, EPA acknowledges in their Regulatory Impact Analysis (RIA) that compared to the CPP, the ACE Proposed Rules could lead to up to 1,400 more premature deaths per year due to an increase in particulate matter generated by coal fired EGUs that are "linked to heart and lung disease, up to 15,000 new cases of upper respiratory problems, a rise in bronchitis," 48,000 new cases of exacerbated asthma, and at least 21,000 new missed school days.[4] As stated in the Status of Tribal Air Report,[5] Tribal children are 60% more likely to have asthma than non-Hispanic White children, and Tribal adults are 30% more likely to suffer from heart disease. Due to these higher rates of health effects from air pollution, the statistics that EPA cites in the RIA will also be proportionally higher for Tribal communities.

The economic benefits also fail to consider the social cost of carbon, which encompasses human and environmental health concerns. Continued emissions of GHGs will perpetuate the effects of climate change already being suffered by Tribal communities. Because Tribal communities are disproportionately affected by environmental degradation and climate change, and have a lesser degree of control over emissions from EGUs, the health of these communities and their lands will continue to be negatively impacted.[6]

The Intergovernmental Panel on Climate Change released its Summary for Policymakers on October 6, 2018, to illuminate the impacts of global warming of 1.5°C. From the report, this level of global warming is likely to occur between 2030 and 2052.[7] In order to limit warming to 1.5°C requires transitioning energy systems at an unprecedented scale, but not an unprecedented speed.[8] This mitigation will require lowered energy usage and a transition to low-emission sources. To avoid overshooting 1.5°C in 2050, renewables are projected to supply 70-85% of global electricity generation; natural gas with carbon dioxide capture and storage (CCS) will make up approximately 8% of global electricity generation; and the use of coal will be reduced globally to 0-2%.[9] The lower the rate of emissions in 2030, the easier it will be to limit global warming to 1.5°C. "The challenges from delayed actions to reduce greenhouse gas emissions include the risk of cost escalation, lock-in in carbon-emitting infrastructure, stranded assets, and reduced flexibility in future response options in the medium to long-term."[10]

Lastly, the EPA does not require the states to consult with key stakeholders – including indigenous and vulnerable communities – as the states develop their state implementation plans (SIPs) and emission standards. For Tribes that may be directly impacted by the ACE Proposed Rules, there may be insufficient consultation with Tribes to protect their interests and be included in the development of standards for EGUs that are on or near Tribal lands. Furthermore, in EPA's *Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples* it is stated, "This Policy provides early meaningful involvement opportunities for federally recognized tribes, indigenous peoples, and others living in Indian country, at all stages of Agency

[4] https://www.nytimes.com/2018/08/21/climate/epa-coal-pollution-deaths.html
[5] http://www7.nau.edu/itep/main/ntaa/Resources/StatusTribalAir/
[6] See 2014 National Climate Assessment, Indigenous Peoples Chapter (https://nca2014.globalchange.gov/report/sectors/indigenous-peoples)
[7] http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf, section A1
[8] http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf, section C2
[9] http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf, section C2.2
[10] http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf, D1.3

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activity, including the development of public participation activities, the administrative review process, and any analysis conducted to evaluate environmental justice issues." Because this rulemaking process may increase pollution in or on Tribal lands, it is incumbent on the EPA to provide analysis of these potential impacts, confer with Tribes on environmental justice issues, and pursue environmental justice through EPA's Office of Environmental Justice. EPA has failed to meet these responsibilities.

**Administrative Concerns**

*Limitations on "Candidate Technologies" (C-12)*

The ACE Proposed Rules adopt certain "candidate technologies" to achieve the BSER. But, in our view there are viable technologies and methods missing from the list, including CCS, co-firing with biomass, and a trading platform of emissions reduction credits (ERCs). While the EPA proposes that these particular technologies and mechanisms could be used as "compliance options" in a state plan, the ACE Proposed Rules claim these options are too expensive, regional based solutions, or too complicated – none of these conclusions are supported by the record.[11] All of these technologies are economically viable, market proven ways to reduce GHG emissions within the "fence line."

The NTAA believes that energy efficiency and shifting generation away from carbon-intensive sources such as coal and towards renewable energy should be included in BSER and SIPs. States have successfully demonstrated that these technologies, as well as emissions averaging and trading, can lead to GHG reductions in a cost effective manner. The NTAA disagrees that these technologies and methods are not allowed in the regulatory history of the CAA, as exemplified by the Cross State Air Pollution Rule and the Clean Air Mercury Rule.

*NSR Program Changes (C-59)*

The ACE Proposed Rules include a change in regulations that negatively affects the implementation of emission guidelines and revisions to the NSR program in order to incentivize heat rate improvement (HRI) at existing power plants. This change means that if a source meets the HRI goal, that source would not trigger non-attainment NSR or Prevention of Significant Deterioration (PSD) permitting even if their emissions are ultimately increased due to running the EGU more often or for longer periods of time. In addition, this change may increase emissions substantially because power plant operators will be able to run an HRI-efficient plant more hours each year.[12] An emissions-based limit avoids this: the EGU is required to remain below the major source significant emissions rate, or else it triggers non-attainment NSR or the PSD permitting processes. While this change may reduce costs to industry, it will also increase pollution, which will negatively impact human health and the environment. For these reasons, NSR permitting costs should not be considered a factor in the states' site specific factors analysis for lowering emission standards, nor should there be any changes to the NSR permitting scheme.

[11] In fact, the New Source Performance Standards for newly constructed or modified EGUs explicitly include CCS as BSER. 80 FR 64509 (Oct. 23, 2015)

[12] According to the record cited by the EPA, a recent study shows that at least 80% of the currently operating coal-fired power plants are producing NOx and SO2 emission in excess of the allowable thresholds. Removing the requirement to comply with NSR will ensure these power plants continue to emit at above-allowable levels.

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We are also deeply concerned by the ACE Proposed Rule's preliminary applicability test for triggering NSR. This new approach would allow sources to first determine whether a physical or operational change made to an EGU would result in an increase to that EGU's hourly emissions rate, rather than considering whether such a change would cause a significant net increase in the facility's annual emissions. We expect that the alternative hourly emissions test will allow many sources to avoid NSR, and thus will increase air pollution nationwide.

*Unreasonable SIP Timelines (C-52, 53, 54)*

The ACE Proposed Rules dramatically lengthen the amount of time allowed for developing SIPs. When all added up, the process may take up to four and a half years, plus an additional two years if EPA must promulgate a federal implementation plan (FIP), and even then the state can ask for a variance. In contrast, under existing law, state plans must be submitted and acted on by EPA within 13 months of promulgation, and if a FIP is required, EPA has an additional six months to promulgate it. The ACE Proposed Rules seek to align these timelines with the statutory timelines in Section 110. But there are no similar statutory requirements in Section 111. Presumably, if Congress wanted to establish similar timelines, it would have done so when it amended Section 111. The proposed timeframe is needlessly lax, ignores the immediate public health threats to Tribal communities from climate change, and simply kicks the can down the road without addressing the need for immediate action. In addition, throughout this process, there is no requirement to consult with Tribal governments. The EPA provides no reasonable explanation for extending these timelines.

As we understand the effect of this proposal, Tribes with EGUs will have three years to submit a Tribal Implementation Plan (TIP). If a Tribe does not submit a TIP, the EPA will then have two years to develop a FIP. This too could result in a lag of five years before an emission standard is set and implemented for EGUs on Tribal lands. However, if a Tribe does not have "treatment as state" (TAS) status, it will not be submitting a TIP. The timeline delays before the EPA develops a FIP for those Tribes is both unreasonable and ultimately potentially unduly harmful to the public health of a Tribal community. This change in the timelines for EGUs on Tribal lands, as well as any other source that will be subject to these rule, is problematic and should be reconsidered to allow for an immediate FIP for Tribes that do not have TAS status.[13]

**Fundamental Changes to EPA's Regulatory Practices (C-50)**

The CAA was crafted and implemented to protect the health of the American people, and to create a level playing field across the country, with national emissions standards that all sources must meet regardless of which state they are in. The ACE Proposed Rules not only remove the national emissions standards set by the CPP, they completely defer to the states to set emission standards – at the EGU level. In fact, EPA explicitly discourages states from even setting a state-wide standard, despite the EPA's repetitive statements that the states will have maximum flexibility under the ACE Proposed Rules. EPA's abdication of its responsibility to set national emissions standards,

[13] EPA has proposed to align the timelines for submission of TIPs for Existing Municipal Solid Waste Landfills with the ACE Proposed Rules. https://www.epa.gov/sites/production/files/2018-10/documents/frn_landfills_subpart_ba_2060-au33_nprm_19oct18disc.pdf

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and not regulating the amount of allowable emissions, is inconsistent with CAA §111[14] and EPA's practice over decades of regulating air pollutants under the CAA §111.

This lack of a national standard, and impermissible deference to states, also abdicates EPA's responsibility to protect air quality over Tribal lands. With EGUs subject to "site specific" standards, Tribes will now be required to comprehensively participate in the SIP processes on an EGU by EGU basis. In some states with multiple EGUs that may affect Tribal lands and air quality, this regulatory participation requirement to protect Tribal air quality is unreasonable and untenable.

The lack of a national emissions standard also impermissibly changes the way EPA has regulated existing sources since the 1970s, and will likely have a spillover effect to other source categories in the future. Under CAA §111(d), the practice and precedent the EPA has historically used was to look at the technology, activities, and work practices of a category of sources, then determine the emission rate that is achievable, while balancing cost considerations with emissions reductions. Nationwide guidelines were then issued with a range of activities on how to achieve compliance. The ACE Proposed Rules look at the technologies and practices of a source category, but do not set an emissions rate limit. This effectively means that there would no longer be a national target to keep the playing field level across states, creating a race to the bottom in which the states that relax pollution controls the most win. This is not in the spirit of the CAA, which was designed to eliminate state boundaries (since air knows no borders) and to protect public health. The EPA has not provided a sound and reasonable explanation for this change in practice and interpretation of the CAA.

**ACE Proposed Rules Violate the Administrative Procedures Act**

The ACE Proposed Rules are arbitrary and capricious, inconsistent with the CAA, contrary to the CAA, and unsupported by the administrative record. As stated above, without a sound and reasonable explanation from the EPA for its proposed change in practice and interpretation, the lack of a national emissions standard is inconsistent with, and contrary to, the CAA.[15]

Furthermore, the ACE Proposed Rules are arbitrary and capricious because they are unsupported by the administrative record.[16] The EPA's Endangerment Finding states that $CO_2$ is a pollutant with deleterious health effects. Such a finding demands that GHG emissions must be regulated consistent with the CAA. The EPA cannot disregard these facts.[17] The ACE Proposed Rules are not only contrary to the Endangerment Finding, they also result in more harm to the public health, not less.

---

[14] Section 111(d) states that "each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant . . . (ii) to which a standard of performance under this section would apply if such existing source were a new source." The EPA has established a performance standard for new fossil-fuel electric generating units, which under the plain language of §111(d), will apply to existing sources.

[15] *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto Ins. Co.*, 463 U.S. 29 (1983)

[16] *Id.*, at 43 (agencies "must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made'")

[17] See *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009) (an agency cannot disregard "facts and circumstances that underlay or were engendered by the prior policy" without providing a reasoned explanation)

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**NTAA Recommendations**

The NTAA has been in discussion with several states (including Minnesota and California) regarding the ACE Proposed Rules. In alignment with the Minnesota Pollution Control Agency, the NTAA recommends complete withdrawal of the ACE Proposed Rules, on the basis that withdrawal is the most appropriate and necessary action to ensure regulatory actions that protect human and environmental health are proposed by the EPA if the CPP is to be replaced.

In addition to the above recommendation for withdrawal, the following recommendations are submitted as minimum actions necessary to improve the ACE Proposed Rules to a level that would provide a platform for further discussion:

* The EPA must allow more time to conduct government-to-government consultation with the potentially impacted Tribes, as required under the EPA Policy and EO 13175.

* The EPA should require states to conduct stakeholder outreach to Tribal communities – and other vulnerable communities – as part of the state's implementation plan.

* The EPA should retain the national emissions standard for GHG emissions adopted in the CPP, as is required under the CAA.

* The EPA should include carbon capture and sequestration and biomass co-firing as "candidate technologies" for achieving national emissions standards.

* The EPA should either develop, or promote the development of, a GHG emissions credit trading scheme for EGUs to achieve emissions standards.

**Conclusions**

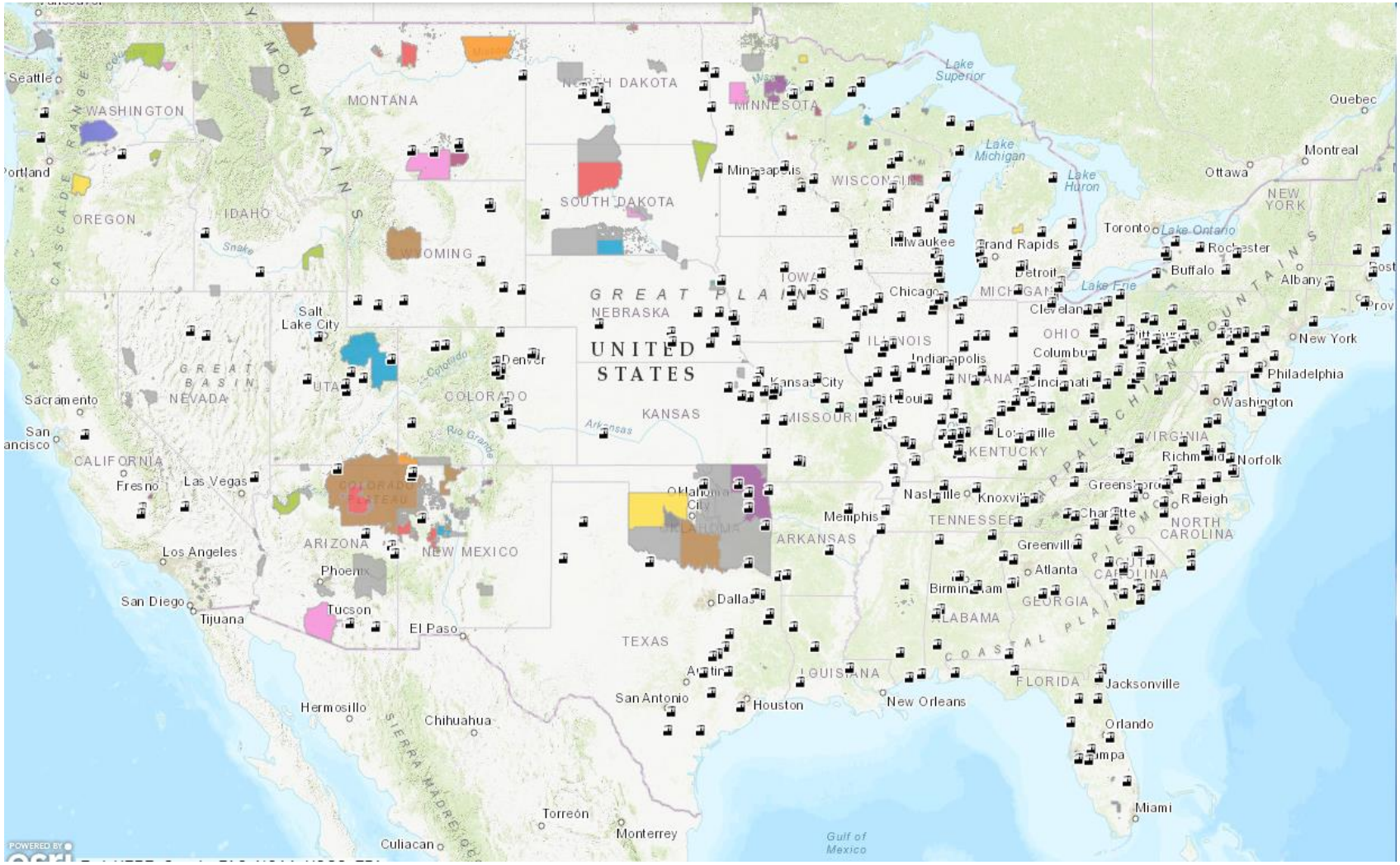
In summary, the NTAA does not support the ACE Proposed Rules as drafted, and requests that the EPA withdraw the ACE Proposed Rules, and at a minimum make changes to the ACE Proposed Rules consistent with the NTAA's recommendations.

The NTAA is pleased to provide the aforementioned comments concerning the ACE Proposed Rules. If you should have any questions about these comments, please feel free to contact NTAA's Project Director, Andy Bessler, at Andy.Bessler@nau.edu or 928-523-0526.

On behalf of the National Tribal Air Association's Executive Committee,

Wilfred J. Nabahe
Chairman
National Tribal Air Association's Executive Committee

**Attachment A**




This map displays coal-fired EGUs in relation to Tribal boundaries. Natural gas EGUs are not shown, but it is estimated that there are over 200 EGUs within a 50-mile radius of one or more Tribal boundaries.
http://www7.nau.edu/itep/main/ntaa/Resources/EDTmap

**Attachment B**

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January 15, 2016

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***RE: Comments on Environmental Protection Agency Docket No. EPA-HQ-OAR-2009-0234 – Supplemental Finding That It Is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generated Units***

Dear Administrator McCarthy,

Please accept these comments regarding the Proposed Supplemental Finding for the Mercury and Air Toxics Rule, provided on behalf of the National Congress of American Indians, Columbia River Inter-Tribal Fish Commission, Great Lakes Indian Fish and Wildlife Commission, Grand Traverse Band of Ottawa and Chippewa Indians, Fond du Lac Band of Lake Superior Chippewa, Little Traverse Bay Bands of Odawa Indians, and Tribal Law and Government Center. The comments and three attachments have been submitted electronically through regulations.gov: Docket ID No. EPA-HQ-OAR-2009-0234.

If you have any questions or would like to discuss the comments further, please do not hesitate to contact us. Thank you for the opportunity to provide feedback on this important matter.

Sincerely,

Riyaz Kanji
Jane Steadman

Encl.: Comments; attachments (3)

Cc:
Avi S. Garbow, General Counsel
Ethan Shenkman, Deputy General Counsel
Dr. Nick Hutson, Energy Strategies Group

**COMMENTS FROM NATIONAL CONGRESS OF AMERICAN INDIANS, COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION, GREAT LAKES INDIAN FISH AND WILDLIFE COMMISSION, GRAND TRAVERSE BAND OF OTTAWA AND CHIPPEWA INDIANS, FOND DU LAC BAND OF LAKE SUPERIOR CHIPPEWA, LITTLE TRAVERSE BAY BANDS OF ODAWA INDIANS, AND TRIBAL LAW AND GOVERNMENT CENTER ON SUPPLEMENTAL FINDING THAT IT IS APPROPRIATE AND NECESSARY TO REGULATE HAZARDOUS AIR POLLUTANTS FROM COAL- AND OIL-FIRED ELECTRIC UTILITY STEAM GENERATED UNITS (EPA DOCKET NO. EPA-HQ-OAR-2009-0234)**

The signatories to this comment letter are federally recognized Indian tribes and inter-tribal organizations that are committed to protecting tribal members and tribal natural and cultural resources. We are writing to support the Environmental Protection Agency's (EPA's) proposed supplemental finding determining that the consideration of cost does not alter the agency's previous conclusion that it is appropriate and necessary to regulate coal- and oil-fired electric utility steam generating units (EGUs) under section 112 of the Clean Air Act (CAA). In addition, we hope to inform the agency of why that determination is particularly correct in light of the significant costs of mercury and other air toxics to American Indians and their fisheries. We request that these considerations be included in the final supplemental finding.

EPA requested that the public limit comments to the proposed supplemental finding and the supporting Legal Memorandum. 80 Fed. Reg. 75,025, 75,027 (Dec. 1, 2015). Please note that many of the signatories to this letter and other entities representing tribal interests submitted comments during prior comment periods for the Mercury and Air Toxics Standards (MATS) Rule that are relevant to the agency's consideration of the costs and benefits of the Rule, particularly in relation to sensitive populations. Because these comments are already before the agency and are part of the MATS Rule administrative record, we do not endeavor to recreate the substantial detail and citations included in those comments here, but we encourage the agency to revisit those comments as it finalizes the supplemental finding. In particular, we direct your attention to the comments of the following entities: Fond du Lac Band of Lake Superior Chippewa; Forest County Potawatomi Community (FCPC); Great Lakes Indian Fish and Wildlife Commission (GLIFWC); Sandra Kuntz; Little River Band of Ottawa Indians; and the National Tribal Air Association (NTAA).

## I. Methodology for Cost Analysis

The Supreme Court in *Michigan v. Environmental Protection Agency*, 135 S.Ct. 2699 (2015), held that CAA section 112(n)(1)(A) requires EPA to consider cost, including the cost of compliance, before deciding whether regulation is appropriate and necessary. *Id.* at 2711. As the agency recognizes, however, the Court "explicitly declined to require formal benefit-cost analysis," Legal Memorandum at 20, indicating instead that it is "up to the Agency to decide (as always, within the limits of reasonable interpretation) how to account for cost." *Michigan v.*

*EPA*, 135 S.Ct. at 2711. By and large, we believe EPA has exercised this discretion appropriately in the proposed supplemental finding.

The agency properly concluded that the statutory text of section 112(n)(1)(A) does not speak to the methodology to be used in its cost consideration, nor does the statutory context suggest that a formal cost-benefit analysis would be a necessary prerequisite to an adequate consideration of cost. *See generally* 42 U.S.C. § 7412; 80 Fed. Reg. at 75,030; Legal Memorandum at 21. Given the focus in section 112 on reducing adverse effects of hazardous air pollutant (HAP) emissions to public health—particularly with regard to the most exposed and most sensitive populations—a reasonable methodology would weigh the benefits of regulation against the costs of compliance.[1] The agency accordingly is correct to consider factors beyond the mere cost imposed on utilities and ratepayers by the Rule. 80 Fed. Reg. at 75,030. We believe the agency's chosen methodology—to weigh the hazards to public health and the environment from HAP emissions (and the substantial reductions of such achieved by the MATS Rule) against the cost of compliance—is a reasonable method of analysis. *Id*. at 75,028, 75,030.

Even if the statute were to require some manner of cost-benefit analysis, which it does not, the agency rightly eschews a methodology that would compare costs only against monetized benefits. We agree that "to the extent a benefit-cost analysis is used to evaluate whether regulation of HAP emissions from EGUs is appropriate, it is important to account for the full range of benefits associated with the action, including benefits that cannot be monetized due to lack of data." Legal Memorandum at 22. As EPA indicates,

> Consistent with standard practice, the RIA [Regulatory Impact Analysis] for MATS considers the quantifiable and non-quantifiable benefits that flow from the rule, including benefits gained through co-benefit reductions in non-target pollutants. Unquantifiable benefits, and benefits associated with concomitant reductions in pollutants other than the targeted pollutants, are *just as real as the targeted benefits that can be monetized*.

*Id.* at 22 (emphasis added). The agency thus properly recognizes that because "some categories of benefits can be difficult to monetize"—and we would add that some, like the ability to sustain one's very culture, are *impossible* to monetize—"this incomplete characterization of the positive consequences can underestimate the monetary value of the net benefits." 80 Fed. Reg. at 75,039-40; *see also* Attachment A, CRIFTC Memorandum, *Federal Legislation and the Role of Economics in the Public Administration of Anadromous Fisheries*.

Moreover, we agree with EPA that "national-level benefit-cost analyses may not account for important distributional effects, such as impacts to the most exposed and most sensitive

[1] We also agree with EPA's interpretation of the purpose of section 112: "[T]he purpose of that section of the CAA is to achieve prompt, permanent and ongoing reductions in HAP emissions from stationary sources to reduce the hazards to public health and the environment inherent in exposure to such emissions, with the goal of limiting the risk to the most exposed and most sensitive members of the population." 80 Fed. Reg. at 75,030.

individuals in a population." 80 Fed. Reg. at 75,040. The attached CRITFC memorandum discusses limitations of cost-benefit analysis in capturing distributional effects occurring in temporal, geographic and social contexts, particularly with respect to tribal members and their culture. Attachment A at 5-10. Indian tribal concerns are uniquely represented in each of these contexts and are unlikely to be represented in a national-level cost-benefit analysis. Wholly putting aside the inability of economists to place monetary values on Indian cultures and their deeply seated practices and customs, cost-benefit analyses tend to present a "smoothed-out" picture of benefits and costs, where the loss of distributional and qualitative values makes this analysis less informative as its scope increases. *Id*. at 9. Such limitations do not exclude economic and other related information from the appropriate analysis by EPA. Rather, these limitations point to the unavoidable fallibilities of applying a formal cost-benefit analysis in this decision context, making its use inherently arbitrary.

EPA's inclusion of non-quantifiable benefits in the proposed supplemental finding is essential to our support of the agency's methodology because so many of the Rule's benefits to Tribes and their members cannot be monetized. Yet those benefits are very real—existential, in fact. The benefits of the mercury rule to American Indians are fundamentally different in kind than the economic costs the rule imposes on coal- and oil-fired EGU operators and ratepayers, and they cannot be compared on the same scale. Even if some sort of numerical data were available to the agency, the value of the MATS Rule to tribal health, subsistence, fishing rights, and cultural identity defies calculation and is inherently incapable of being reduced to a dollar figure. *See*, *e.g.*, *id*. at 11-12; Cass R. Sunstein, *The Limits of Quantification*, 102 Calif. L. Rev. 1369, 1380-85 (2014); *United States v. Washington*, 384 F. Supp. 312, 404 (W.D. Wash. 1974) ("[T]he treaty rights . . . are unique and the damages which have been or will be sustained are not susceptible of definite monetary determination."). For example, we can think of no appropriate principle or methodology by which EPA might assign a monetary value to such fundamental matters as the health of American Indian subsistence fishermen or the continued viability of treaty-protected fishing rights and traditional Indian cultures. In other words, EPA cannot put a price tag on tribal identity, but this does not mean that this core value should be excluded from the agency's consideration of cost for its finding.[2]

Moreover, as the agency suggests, the subpopulations to which the statute is keyed are relatively small and the economic impacts of mercury contamination to them are likely minor in comparison to the total cost of compliance. "The most exposed and most sensitive members of a population are almost by definition a small portion of the total population and for that reason

[2] We recognize that EPA considered some of the impacts to American Indians discussed in this comment letter in developing the Rule. For example, the Revised Mercury Risk Technical Support Document (TSD) analyzes the disproportionate mercury emissions impact on American Indians by modeling mercury exposure based on a "hypothetical female subsistence consumer" scenario. Revised Mercury TSD at viii, 8, 32, 40, 80, 111; 77 Fed. Reg. at 9,362 (basing decision that it is "appropriate and necessary" to regulate EGUs, in part, on the TSD). These impacts are still relevant to the cost analysis, however, and the benefits of the Rule to American Indians should specifically be considered in the supplemental finding.

quantifiable HAP specific benefits are difficult to estimate and potentially small in dollar terms compared to total cost." Legal Memorandum at 23. This, however, does not mean that such populations' interests should be excluded from, or somehow discounted, in the agency's consideration of costs. In fact, just the opposite—after all, the Rule is designed to protect the health of sensitive populations, not the bottom lines of the regulated entities who are emitting harmful HAPs that endanger those populations' health, and EPA has the discretion to assign relevant factors greater weight than the cost factor. 80 Fed. Reg. at 75,030-31; Attachment A at 6-7 ("Environmental and social legislation is usually based upon a societal decision that health, ecological, cultural or aesthetic values shall be protected, often despite market pressure to the contrary. . . . [Formal cost-benefit analysis], when used to evaluate environmental and social welfare planning, tends to substitute economic efficiency as the primary planning or project goal."). Consequently, the qualitative benefits of the Rule to American Indians should be weighted significantly more heavily than pure economic considerations.

By declining to conduct a formal cost-benefit analysis, but rather weighing the cost of compliance against both the quantitative and non-quantitative benefits of the Rule, the agency rightly allows for tribal interests to factor into the analysis. Our primary critique of the agency's analysis is that the proposed finding fails to address explicitly the panoply of substantial non-quantitative benefits of the Rule that are unique to tribal communities. We focus on three of these benefits in the next section, but suffice to say, all three are appropriate considerations given EPA's chosen methodology. Moreover, each supports the agency's conclusion that "[a]lthough data and methodological limitations did not allow the EPA to calculate all of the benefits that would result from reducing HAP emissions, the benefits (monetized and non-monetized) of MATS are substantial and far outweigh the costs" of regulation. 80 Fed. Reg. at 75,041.

## II. Benefits to American Indians from MATS Rule

Indian tribes are uniquely positioned to explain the substantial benefits of the MATS Rule (and the costs of mercury and air toxics to American Indians in the Rule's absence). Although mercury pollution has been shown to pose risks for the population at large and to pose disproportionate risks for certain racial and socioeconomic groups, 80 Fed. Reg. at 75,029, 75,040, American Indians are perhaps more adversely impacted by mercury emissions than any other subpopulation in the United States. *See* Jane M. Hightower et. al., *Blood Mercury Reporting in NHANES: Identifying Asian, Pacific Islander, Native American, and Multiracial Groups*, 114 Envtl. Health Persp. 173, 174 (2006). Fish consumption is the primary pathway for human exposure to methylmercury. 76 Fed. Reg. 24,976, 24,999 (May 3, 2011). Many American Indians consume fish at far higher rates than the general population (in some instances, up to 4 or 5 times as high). Mercury Study Report (MSR) vol. IV at 7-2, vol. VII at 2-2; Amy Roe, *Fishing for Identity: Mercury Contamination and Fish Consumption Among Indigenous Groups in the United States*, 23 Bull. Of Sci., Tech. & Soc'y 368, 370 (2003). As a result, American Indians are disproportionately impacted by mercury emissions, and that impact

has significant implications for the health of American Indians, the continued viability of Indian culture, and the ability of many American Indians to sustain themselves.

### A. Indian Health

Mercury emissions are a serious public health threat. 80 Fed. Reg. at 75,029, 75,040. The basic pathway for human exposure to mercury from EGUs is well understood: mercury is a persistent, bioaccumulative toxic metal that is released into the environment when fossil fuels are burned to fire EGUs. *Id.* After circulating in the atmosphere, mercury eventually deposits to water or land, where it can be transformed into methylmercury through microbial action. *Id.* It is then ingested by aquatic organisms and can bioaccumulate in the aquatic food web. *Id.* Larger predatory fish may have concentrations "many times higher than, typically on the order of 1 million times, that of the concentrations in the freshwater body in which they live." *Id.* "The predominant exposure pathway by which humans are affected by [methylmercury] . . . is by ingestion of fish containing it." 76 Fed. Reg. at 24,999.

Mercury emissions harm Indian health disproportionately because many American Indians rely much more heavily on locally caught fish for their daily sustenance than the general public. EPA has determined that, for many American Indians, their "average exposures to methylmercury may be more than two-times greater than those experienced by the average population." MSR vol. IV at 7-2; *id.* vol. VII at 2-2 ("[S]ome Native American populations report fish consumption rates far in excess of the general population."). Indeed, for many tribes, fish consumption rates are so high that EPA's estimate of two-times greater exposure may be a gross underestimate; in fact, studies show that "[s]ome indigenous subpopulations eat 4 to 5 times the amount of fish assumed in EPA models that determined fish consumption advisories." Roe, *supra*, at 370; EPA Region 10, Revision of Certain Federal Water Quality Criteria Applicable to Washington, 80 Fed. Reg. 55,063, 55,066 n.18 and accompanying text (Sept. 14. 2015) (citing numerous fish consumption surveys showing far greater rates of consumption amongst tribal members than the general public). Blood mercury levels of American Indians are among the highest of any racial or ethnic group in the United States. *See* Hightower, *supra*, at 174. American Indians are therefore at unusually high risk for neurodevelopmental disorders, cardiovascular disease, autoimmune disorders, infertility, and other adverse health effects from methylmercury exposure. *See*, *e.g.*, 80 Fed. Reg. at 75,029, 75,040; 76 Fed. Reg. at 25,080-81; 76 Fed. Reg. at 24,978, 24,983.

EGUs are by far the largest U.S. anthropogenic sources of mercury emissions. 76 Fed. Reg. at 24,977. EPA estimates the Rule will result in an annual reduction in mercury emissions from EGUs of 75%. 80 Fed. Reg. at 75,038. Although, as EPA notes, the many hundreds of tons of mercury that EGUs have already emitted into the environment will continue to pose hazards to public health and the environment well into the future, 80 Fed. Reg. at 75,038 n.45, the benefits from substantial reductions in additional future pollution will still be profound for the quality of life for many American Indians plagued by the effects of methylmercury. Further,

these reductions will allow significant cost savings for the Federal and tribal governments from, for instance, the reduced health care, education, and public service campaign needs discussed below.

Women of child-bearing age are a subpopulation of great concern, due to the potential for adverse effects on children exposed to methylmercury *in utero* through maternal fish consumption. 76 Fed. Reg. at 24,978, 24,983. A highly potent neurotoxin, methylmercury "targets the brain of developing organisms, [and] is linked to neurobehavioral testing disorders including deficits in attention span, fine motor function, language, visual-spatial ability and memory even at low exposure levels." Sandra W. Kuntz et al., *Methylmercury Risk and Awareness Among American Indian Women of Childbearing Age Living on an Inland Northwest Reservation*, 109 Envtl. Res. 753, 753 (2009). EPA indicates that the "the population at highest risk is the children of women who consumed large amounts of fish and seafood during pregnancy and that the risk to that population is likely to be sufficient to result in an increase in the number of children who have to struggle to keep up in school." 80 Fed. Reg. at 75,029. Unfortunately, research suggests that some children in Great Lakes tribal populations suffer IQ losses ranging from 6.2 to 7.2 points due to methylmercury exposure. Catherine O'Neill, *Environmental Justice in the Tribal Context: A Madness to EPA's Method*, 38 Envtl. L. 495, 531 (2008) (citing research reported by the Chairman of the Leech Lake Tribal Council and the Leech Lake Band Department of Natural Resources). Resulting costs to public schools, costs to families for private tutoring and medical care, and lost future income for such children have not been measured, but the real benefits of emission reductions for these categories are obvious and should be accounted for qualitatively in the agency's consideration of cost.

The Federal Register notice indicates that EPA, in the MATS RIA, "could only quantify and monetize a small subset of the health and environmental benefits attributable to reducing mercury emissions. Specifically, among neurodevelopmental effects, the EPA was only able to quantify and monetize IQ loss among a small subset of recreational fishers." 80 Fed. Reg. at 75,040. That analysis estimated a value of $4-6 million annually for the beneficial reduction in IQ loss associated with changes in mercury exposure for typical recreational fishers who consume fish during pregnancy from the freshwater watersheds where EPA had fish tissue data. *Id.* As EPA acknowledges, however, this figure is a gross underestimate of the Rule's benefits, stating that IQ loss in not even the "most potentially significant health effect associated with mercury exposure as other neurobehavioral effects, such as language, memory, attention, and other developmental indices, that are more responsive to mercury exposure." *Id*. Moreover, that $4-6 million figure does not account for benefits of the Rule to subsistence fishers, who may consume significantly more fish than the "typical recreational fisher" studied. EPA's conclusion that this "limited estimate for the single neurodevelopmental endpoint that could be monetized . . . is a *substantial underestimate* of the total mercury impacts among affected populations" is indisputably correct. *Id*. (emphasis added).

Fish consumption advisories warning of mercury contamination in fish are widespread and show how the nation has been forced to adapt to the reality of pervasive methylmercury contamination. In some states, all (or nearly all) of the waters are contaminated with mercury and accordingly are subject to mercury-related fish consumption advisories. *See*, *e.g.*, Statewide Mich. Mercury Total Maximum Daily Load: Public Review Draft at 9 (2013), *available at* http://www.michigan.gov/documents/deq/wrd-swas-hgtmdl-draft_415360_7.pdf (all inland Michigan lakes and several hundred river miles subject to mercury fish advisories).

Tribes and inter-tribal organizations have been active in taking steps to protect individuals against methylmercury exposure. Tribes often partner with states in developing fish consumption advisories and other measures to protect the public, sharing and interpreting data on fish, administering surveys on fishing and fish consumption, and developing educational materials for tribal members. In addition, tribes and inter-tribal organizations issue mercury fish advisories of their own. For example, GLIFWC prepared the attached fish advisory for use by members of the Bad River Band of Lake Superior Chippewa. *See* Attachment B. Despite the significant effort, diligence, and cost behind fish advisories such as these, awareness of fish advisories among some American Indian subpopulations remains low. For instance, a survey of American Indian women of child-bearing age in the inland Northwest showed that 80% were unaware of state or tribal fish advisories. Kuntz, *supra*, at 755.

Even for American Indians who know of and rely on fish consumption advisories, the task of avoiding overexposure to methylmercury can be dizzyingly complex. Tribes and inter-tribal organizations try to present advisory information as simply and clearly as possible, but there is only so much they can do to ease the complicated task of avoiding overexposure. The Bad River Advisory illustrates the challenge of creating a simple, easy-to-follow guide for fish consumption. The Advisory contains:

1. Two different maps and two different sets of instructions (one for higher-risk and the other for lower-risk subpopulations);
2. Different advisories for different lakes (dozens in total);
3. Lake-by-lake recommendations on the maximum number of *ogaa* (walleye) meals to consume per month;
4. A warning to adjust the number of *ogaa* meals per month depending on the size of the portions consumed;
5. A suggestion to bag and label *ogaa*, before freezing, according to size and lake of origin; and
6. A recommendation to avoid certain other species altogether.

The Advisory shows how, for American Indians who consume large quantities of self-caught fish, avoiding methylmercury exposure requires navigating complexities that most Americans cannot even imagine contending with in their daily lives.

In any event, mercury fish advisories are not an adequate or appropriate substitute for eliminating mercury contamination in the first place. For many tribes, adhering to fish advisories necessarily entails a drastic and unacceptable curtailment of their traditional reliance on fisheries. As explained more fully below, many American Indians catch and consume fish because it is central to their tribal identity and often is essential for their survival. Indians who rely on fish as a mainstay of their culture and diet do not have an easy option of eating less fish and switching to other food sources. Compliance with fish advisories can thus result in profound cultural loss and dietary impact, discussed in greater detail below. Mercury reductions resulting from the MATS Rule would benefit American Indians and tribes by avoiding the consequences of EGUs' mercury emissions described in this section, and should be fully considered in EPA's analysis.

### B. Indian Culture

As briefly described above, mercury emissions greatly harm Indian culture. Methylmercury contamination threatens traditional Indian lifeways, including longstanding traditions of fishing and fish consumption that are central to many tribes' cultural identity and make individual tribes distinct as people. For many tribes, fishing and fish consumption are critical social practices, handed down from generation to generation.

> [T]he Ojibwe peoples understand themselves to have a *responsibility* to continue to fish and to consume fish . . . . Fishing and fish consumption are integral components of the traditional and ceremonial activities at the heart of Ojibwe culture . . . . Fishing and eating fish provide important occasions for the intergenerational transfer of knowledge (including ecological, historical, and social knowledge) that forms a central part of the inheritance of each succeeding generation.

O'Neill, *supra*, at 510 (citing Letter from James H. Schlender, Exec. Adm'r, GLIFWC, to EPA, at 2 (June 29, 2004), and Sue Erickson, *Doing It Right: A Boy, His Teachings and His Net*, Mazina'igan 12-13 (2004)); *see also* Allison M. Dussias, *Spirit Food and Sovereignty: Pathways for Protecting Indigenous Peoples' Subsistence Rights*, 58 Cleveland St. L. Rev. 273, 333-41 (2010) (discussing fishing and other subsistence activities as "bridges" between tribal members and across generations and time).

Methylmercury contamination of fish threatens to disrupt time-honored practices that define many tribes' cultures. One tribe has poignantly described the dilemma facing it and its members as follows:

> [T]he Tribe and its members are left with a Hobson's choice of ingesting materials that may ultimately injure Tribal members' health, or [forgoing] cultural practices that are essential to our individual and Tribal spiritual well-being and way of life.

FCPC MATS Rule Comments at 5. Another tribe has explained the impact of methylmercury contamination as follows:

> [T]here are many Tribal families that no longer engage in cultural practices associated with fishing, and are thus not passing these traditions to new generations of Tribal members. The loss of our cultural ceremonies, language, and songs associated with fishing represents a significant impact on our Tribe, and results in permanent loss of culture which defines our Tribe.

O'Neill, *supra*, at 497 (quoting Letter from William W. Phillips, Tribal Chief, Aroostook Band of Micmacs, to EPA (Apr. 20, 2004)). Throughout the MATS process, many tribes have expressed significant concern over the "cultural impact of impaired water quality," 76 Fed. Reg. at 25,087, and explained that Indian cultural activities "are often dependent on the purity of waters . . . , many of which have become tainted by mercury exposure." NTAA MATS Rule Comments at 2; *see also* Fond du Lac Band MATS Comments at 2 (describing deleterious effect of mercury deposition on the Tribe's "water based culture").

Furthermore, tribes are often connected to particular waters for cultural, spiritual, or other reasons (and others' fishing rights are limited to certain grounds by treaty), so they cannot simply move their fishing to another location to avoid mercury contamination. *E.g.*, Attachment A at 8 ("Equitable distribution of fishery values is of great importance to the Northwest Indian fisheries, which are location bound . . . ."). For instance, as the Forest County Potawatomi Community has indicated when discussing the impact of methylmercury on fishing in one of the Tribe's most significant waters:

> Devil's Lake has special significance both culturally and spiritually to FCPC and its membership . . . . [T]he significance stems from the Tribe's belief that Devil's Lake is bottomless and is connected by underwater tunnels to other water bodies . . . . For centuries, the Tribe has used Devil's Lake for fishing . . . to fulfill responsibilities in the natural world.

*See also* FCPC MATS Comments at 5. And many tribes' cultural concerns extend not only to fish and places, but to fish-eating birds and mammals, whose health is also adversely impacted by methylmercury and whose well-being is a matter of cultural significance for many Indians. *E.g.*, Little River Band of Ottawa Indians MATS Rule Comments at 157; *see also* 80 Fed. Reg. at 75,029 ("[Q]ualitative analyses on ecosystem effects found that mercury emissions from U.S. EGUs contribute to adverse impacts on fish-eating birds and mammals."); 77 Fed. Reg. at 9,424 (acknowledging benefit of Rule to fish-eating birds and mammals).

EPA has long recognized the importance to tribes of environmental quality sufficient to support these tribal resources and uses. For instance, in discussing the Clean Water Act (CWA), the agency has stated:

> Tribes require clean water for a domestic water supply and to maintain fish, aquatic life and other wildlife for both subsistence and cultural reasons . . . . [C]lean water is a crucial resource that plays a central role in Tribal culture. Because clean water has a direct effect on the . . . health and welfare of . . . Tribes that is serious and substantial, . . . Tribes have a strong interest in regulating on-

reservation water quality.

EPA, Memorandum in Support of Motion for Summary Judgment at 16, *Montana v. U.S. Envtl. Protection Agency (EPA)*, 941 F. Supp. 945 (D. Mont. 1996); *see also Montana v. EPA*, 941 F. Supp. 945, 958 (D. Mont. 1996) *aff'd Montana v. EPA*, 137 F.3d 1135 (9th Cir. 1998) (affirming EPA's decision based on these findings). EPA has also recognized the importance of pollution prevention to tribal self-preservation.

> Indian tribes, for whom human welfare is tied closely to the land, see protection of the reservation environment as essential to the preservation of the reservations themselves. Environmental degradation is viewed as a form of further destruction of the remaining land base, and pollution prevention is viewed as an act of tribal self-preservation that cannot be entrusted to others.

EPA, *EPA, Federal, Tribal and State Roles in the Protection and Regulation of Reservation Environments* at 2 (July 1991), *available at* http://www.epa.gov/region4/indian/EPAStTri_relations.pdf. However, despite the agency's apparent understanding of the importance of clean water and safe fish to eat for the maintenance of many tribes' cultural identity and self-preservation, the agency has not figured the benefits of the MATS Rule to Indian culture into the proposed supplemental finding, at least not explicitly. To be sure, these benefits cannot be monetized, nor should such a calculation be attempted,[3] but they are certainly appropriate qualitative considerations that weigh heavily in favor of the Rule.

### C. Indian Subsistence & Fishing Economies

Mercury emissions likewise cause significant harm to Indian subsistence and fishing economies, contaminating food sources that many tribal members depend on for survival. Since time immemorial, Indians in many parts of the country have been a fishing people: fish has been a "great staple of their diet and livelihood." *Washington v. Wash. State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658, 665 n.6 (1979). Treaties with the United States reserved tribes' aboriginal rights to take fish throughout their fishing areas. *See*, *e.g.*, *Minnesota v. Mille Lacs Band of Chippewa Indians*, 526 U.S. 172, 200 (1999). The exercise of these age-old

[3] Even economists that have attempted to place a value on subsistence fishing have acknowledged that such valuation cannot capture the social and cultural aspects of subsistence fishing. For instance, while taking no position on the accuracy of the analysis, we agree with the following statement by the Army Corps: "It is recognized that the household decision to participate in subsistence activities has a number of components beyond the provision of food. There are also social elements to subsistence, including education and cultural elements, the expression of ethics and values, tribal identity, spirituality and ideology, and traditional knowledge and language, in addition to health benefits (TetraTech 2011). Valuation of subsistence production does not, however, ascribe any portion of subsistence value to any specific component of subsistence, meaning that *it is not possible to determine how much of the total valuation of subsistence activity comes from the provision of food, and how much comes from the expression of social and cultural values. Production cost is, therefore, only a partial proxy for total subsistence value, and does not measure the social and cultural aspects of subsistence*." U.S. Army Corps Engineers, Great Lakes and Mississippi River Interbasin Study Team, *Treaty Rights and Subsistence Fishing in the U.S. Waters of the Great Lakes, Upper Mississippi River, and Ohio River Basins* at 61 (June 2012), *available at* http://glmris.anl.gov/documents/docs/Subsistence_Fishing_Report.pdf (emphasis added).

fishing rights was "not much less necessary to the existence of the Indians than the atmosphere they breathed." *United States v. Winans*, 198 U.S. 371, 381 (1905). Courts have continued to uphold the vitality of Indian fishing rights to this day. *See*, *e.g.*, *Mille Lacs Band*, 526 U.S. at 200; *Grand Traverse Band of Ottawa & Chippewa Indians v. Mich. Dep't of Natural Res.*, 141 F.3d 635, 639 (6th Cir. 1998); *Lac Courte Oreille Band of Lake Superior Chippewa Indians v. Voigt*, 700 F.2d 341, 365 (7th Cir. 1983); *United States v. Adair*, 723 F.2d 1394, 1409-10, 1414 (9th Cir. 1983) (treaty-reserved right to take fish impliedly reserves water necessary to fulfill that purpose).

Today, as in the past, fishing is often critical for tribal members' survival. *See*, *e.g.*, GLIFWC MATS Comments at 2 ("*Ogaa* [walleye] and other fish represent a significant subsistence food for tribal communities. During the 2011 spring spearing and netting season alone, GLIFWC member tribes harvested nearly 70,000 *ogaa* (approximately 135,000 pounds) from inland lakes . . . ."); *United States v. Washington*, 384 F. Supp. at 406-07 ("The taking of anadromous fish from usual and accustomed places . . . constituted both the means of economic livelihood and the foundation of native culture."). Subsistence fishing endures for important cultural reasons, as described above, and also because it is frequently a matter of basic survival. Tribal members are often located in remote areas where economic opportunities are limited, but where fish is a cheap and plentiful source of protein. O'Neill, *supra*, at 510 n.71 and accompanying text. In turn, reliance on subsistence harvests (when methylmercury or other toxic contamination is not an issue) allows for a more healthful traditional diet that guards against such maladies as diabetes, heart disease, and other chronic conditions prevalent in Indian Country. *E.g.*, *id.* at 496, 535. Many tribal members engaged in subsistence activities are already under severe economic distress, so methylmercury contamination only adds to their struggles by removing self-caught fish as an inexpensive, healthy option for nourishment. *See*, *e.g.*, *id*. at 535; *United States v. Washington*, 873 F. Supp. 1422, 1446 (W.D. Wash. 1994) ("Tribes lag significantly behind other residents . . . in their overall standard of living. For example, approximately one in three Tribal members live below the poverty level."); U.S. Census Bureau, *Profile America Facts for Features* at 4-5 (Nov. 12, 2014), *available at* http://www.census.gov/content/dam/Census/newsroom/ facts-for-features/2014/cb14ff-26_aian_heritage_month.pdf (national American Indian poverty level in 2013 was 29.2%). These factors should figure in the agency's consideration of benefit and cost. *See* Resps. to Cmts. Vol. 2 at 681 (acknowledging benefits to subsistence lifeways).

In addition, fishing and tourism by non-Indians can be an important aspect of tribal economies in these remote areas, and methylmercury contamination can deprive tribes of that revenue when tourists are deterred from fishing. 76 Fed. Reg. at 25,087; Resps. to Cmts. Vol. 2 at 652; FCPC MATS Rule Comment at 6; Fond du Lac Band MATS Comments at 1; O'Neill, *supra*, at 510. Furthermore, many tribes' treaty fishing rights also protect commercial harvest, which can be undermined by fish advisories and the public's concern regarding methylmercury

contamination. *See*, *e.g. United States v. Washington*, 384 F. Supp. at 357 (Finding of Fact 27) (reserved treaty fishing rights include commercial harvest).

To summarize, EPA recognizes that it is "unable to quantify many of the health effects attributable to [mercury] emission reductions because data and methods available do not currently exist in the scientific literature," and the agency is correct to "qualitatively account[] for these benefits" in its analysis. 80 Fed. Reg. at 75,040. However, the proposed supplemental finding does not adequately account for any of the specific benefits, including the non-health benefits, of the Rule for American Indians—one of the subpopulations most affected by EGUs' mercury emissions—discussed in this section. The only allusion to such considerations within the proposed supplemental finding is in the final paragraph of section V.C., which merely indicates that the single health benefit (reduced IQ loss) that EPA monetized does not account for a host of other benefits of the Rule, such that the quantification of health benefits is a gross underestimate.[4] 80 Fed. Reg. at 75,040. Consequently, we request that EPA qualitatively address these benefits and include them in the factors weighed against the cost of compliance in the final supplemental finding. While, as EPA indicates, the benefits of the MATS Rule "are substantial and far outweigh the costs," the benefits described in this comment letter are also significant, appropriate for the agency's consideration, and further tip the balance in favor of the Rule.

## III. EPA's Duty to Protect Tribal Interests

While the benefits of the MATS Rule to tribes may, for the most part, not be pecuniary in nature, the Rule provides crucial protections for Indian health, fishing rights, and traditional cultures that help the United States fulfill its legal duties to American Indians and tribes. The United States, including its agencies, owes a trust responsibility to federally recognized tribes. *United States v. Kagama*, 118 U.S. 375, 383-84 (1886). Federal agencies must follow "the most exacting fiduciary standards" in dealing with the tribes. *Seminole Nation v. United States*, 316 U.S. 286, 296-97 (1942) (declaring that "[i]n carrying out its treaty obligations with the Indian tribes the Government is something more than a mere contracting party . . . [I]t has charged itself with moral obligations of the highest responsibility and trust"); *Parravano v. Babbitt,* 70 F.3d 539, 546 (9th Cir. 1995). Moreover, they are obligated to protect Indian health, *see, e.g.*, 25 U.S.C. § 602, and tribal rights, resources, and traditional ways of life. *See*, *e.g.*, Cohen's Handbook of Federal Indian Law § 18.02 (2012 ed.) (discussing the variety and scope of treaty-protected fishing rights); *Menominee Tribe of Indians v. United States*, 391 U.S. 404, 406 (1968) (describing the "essence" of the treaty as the protection of the tribe's ability to "maintain . . . their way of life which included hunting and fishing").

[4] The list of benefits includes many of relevance to tribal interests, for example: reducing adverse health effects on brain and nervous system development beyond IQ reduction; benefits to consumers of self-caught fish; benefits to populations most affected by mercury emissions such as children of women who consume subsistence-level amounts of fish during pregnancy; benefits to children exposed to mercury after birth; and environmental benefits from reducing adverse effects on birds and mammals that consume fish. 80 Fed. Reg. at 75,040.

EPA has long recognized these duties. *See*, *e.g.*, EPA, *Policy for the Administration of Environmental Programs on Indian Reservations* (Nov. 8, 1984), *available at* http://www.epa.gov/sites/production/files/2015-04/documents/indian-policy-84.pdf; *EPA Policy on Consultation and Coordination with Indian Tribes* at 3 (May 4, 2011), *available at* http://www.epa.gov/tp/pdf/cons-and-coord-with-indian-tribes-policy.pdf [hereinafter *EPA Consultation Policy*] ("EPA recognizes the federal government's trust responsibility, which derives from the historical relationship between the federal government and Indian tribes as expressed in certain treaties and federal Indian law."). In fact, the agency recently commemorated the 30th Anniversary of, and reaffirmed, its 1984 Indian Policy, indicating that "EPA programs should be implemented to enhance protection of tribal treaty rights and treaty-covered resources when we have discretion to do so." EPA Administrator McCarthy, *Memorandum Commemorating the 30th Anniversary of EPA's Indian Policy* at 1 (Dec. 1, 2014), *available at* http://www.epa.gov/sites/production/files/2015-05/documents/indianpolicytreatyrightsmemo2014.pdf.

EPA's role as trustee carries with it the duty and power to protect Indian tribes and tribal members from the negative effects of mercury and air toxics to their health, culture, subsistence, and economies. EPA itself has described its "fundamental objective in carrying out its responsibilities in Indian country" as "to protect human health and the environment." *EPA Consultation Policy* at 3. In a recent draft guidance document regarding how EPA should analyze the effects of agency actions on tribal treaty rights, EPA wrote:

> Some treaties explicitly state the protected rights and resources. For example, a treaty may reserve or protect the right to 'hunt,' 'fish,' or 'gather' a particular animal or plant in specific areas. Treaties also may contain necessarily implied rights. For example, an explicit treaty right to fish in a specific area may include an implied right to sufficient water quantity or water quality to ensure that fishing is possible. Similarly, an explicit treaty right to hunt, fish or gather may include an implied right to a certain level of environmental quality to maintain the activity or a guarantee of access to the activity site.

EPA, *EPA Policy on Consultation and Coordination with Indian Tribes: DRAFT Guidance for Discussing Tribal Treaty Rights* at 2, *available at* http://www.epa.gov/sites/production/files/2015-09/documents/consultation-version-guidance-discussing-treaty-rights_0.pdf. Just one year ago, the Solicitor of the Department of the Interior (DOI) sent a legal opinion detailing case law that supports and substantiates these statements, as well as EPA's duty to protect tribal resources. Attachment C, Letter from Hillary C. Tompkins, Solicitor, Department of Interior, to EPA, at 7-10 (Jan. 30, 2015). DOI's letter concludes as follows:

> [F]undamental, long-standing tenets of federal Indian law support the interpretation of tribal fishing rights to include the right to sufficient water quality to effectuate the fishing right. Case law supports the view that water quality cannot be impaired to the point that fish have trouble reproducing without violating a tribal fishing right; similarly water quality cannot be diminished to the point that consuming fish threatens human health without violating a tribal fishing

> right. A tribal right to fish depends on a subsidiary right to fish populations safe for human consumption. If third parties are free to directly and significantly pollute the waters and contaminate available fish, thereby making them inedible or edible only in small quantities, the right to fish is rendered meaningless. To satisfy a tribal fishing right to continue culturally important fishing practices, fish cannot be too contaminated for consumption at sustenance levels.

*Id.* at 10. EPA has relied on the same cases cited by DOI in concluding "the Tribes' ability to take fish for their sustenance . . . would be rendered meaningless if it were not supported by water quality sufficient to ensure that tribal members can safely eat the fish for their own sustenance." EPA Region 1, Analysis Supporting EPA's February 2, 2015 Decision to Approve, Disapprove, and Make No Decision on, Various Maine Water Quality Standards, Including Those Applied to Waters of Indian Lands in Maine, at 27-28 (Feb. 2, 2015), *available at* http://www.ecy.wa.gov/programs/wq/ruledev/wac173201A/comments/0060g.pdf; *see also* 80 Fed. Reg. at 55,066 ("[M]any tribes hold reserved rights to take fish for subsistence, ceremonial, religious, and commercial purposes, including treaty-reserved rights to fish at all usual and accustomed fishing grounds and stations . . . . Such rights include not only a right to take those fish, but necessarily include an attendant right to not be exposed to unacceptable health risks by consuming those fish.").

While the statements quoted above were made in relation to the agency's administration of the Clean Water Act, they apply equally to the agency's administration of the Clean Air Act. The manner in which EPA handles mercury and air toxics under the Clean Air Act, including whether coal- and oil-fired EGUs are listed under section 112(c) as sources that must be regulated under section 112(d), directly affects tribal trust resources and, in turn, American Indians' health, fishing opportunity, and ability to pass their culture on from one generation to the next. EPA's MATS Rule and supplemental finding that cost considerations do not alter the "necessary and appropriate" determination will help ensure that tribal rights and natural resources are protected, and it will allow American Indians to safely rely on fish for traditional, ceremonial, subsistence, commercial, cultural, and dietary purposes. The fulfilment of the United States' solemn and perpetual obligations to the tribes cannot be conceived as a mere pecuniary benefit, or even just one of many non-quantitative benefits of the Rule, that should be weighed against the economic costs that the Rule imposes on industry. Rather, quite apart from inclusion of tribal interests in the weighing of costs and benefits of the Rule, the agency is bound to protect tribal rights and resources.

We encourage you to expeditiously finalize the supplemental finding, so that any uncertainty regarding the Rule's continued existence may be resolved and the full benefits of the MATS Rule to Indian Country may be realized as swiftly as possible. Thank you for the opportunity to comment on the proposed supplemental finding.

Sincerely,

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# ATTACHMENT A

# COLUMBIA RIVER INTER-TRIBAL FISH COMMISSION

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TO: William Yallup, Chairman, Fish and Wildlife Committee
Yakima Indian Nation
Tim Weaver, Counsel, Yakima Indian Nation

FROM: Rob Lothrop, Policy Assistant
Elisabeth Jacobs, Legal Intern

SUBJECT: Federal Legislation and the Role of Economics In the Public Administration of Anadromous Fisheries

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What special considerations does recent Federal legislation create relating to the use of economics in the public administration of anadromous Fisheries? The issue statements for the National Marine Fisheries Service's "Economic Values and Evaluation Procedures for Salmon and Steelhead" workshop shares with the Economics Work Group's recommendations for the implementation of the Salmon and Steelhead Conservation and Enhancement Act, a strong preference for the use of formal cost benefit analysis to resolve environmental policy questions. Both documents describe difficulties inherent in environmental applications of cost benefit analyses, as well as problems unique to its application to the Northwest salmon and steelhead fisheries. Absent from either is a discussion of the role Congress intended for economics in the management of anadromous fisheries in the Pacific Northwest.

Most legal commentators agree that economic factors must enter into the decisional process, and most agree that at least some values cannot or should not be monetized. Professor Rodgers divides the different perspectives into analytically useful categories: cost benefit analysis, cost effectiveness analysis, cost sensitivity analysis, and cost obliviousness. Classical, monetized analysis is labeled cost benefit analysis.[4] Cost effectiveness examines only the cost side of the equation; its purpose is to achieve a predetermined goal in the most

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[1]Northwest Power Planning Council, Columbia River Basin Fish and Wildlife Program, § 101 (1982).

[2]Confederated Tribes and Bands of the Yakima Indian Nation et al. v. Federal Energy Regulatory Commission, Nos. 82-7561,82-7562, 83-7038 slip op at 19 (9th Cir., June 7, 1984).

[3]16 U.S.C. §§ 1801 et seq.

[4]Rodgers, Benefits, Costs, and Risks: Oversight of Health and Environmental Decisionmaking, 4 H.E.L.R. 191, 210-214 (1978).

economically efficient way possible.[5] Cost sensitivity describes a subjective balancing of economic factors against all other relevant values.[6] Statutory or regulatory frameworks that mandate the use of specific means to achieve narrowly defined ends are often cost oblivious.[7]

This paper presents criticisms of economic methods that are often cited in both economics and legal literature. On the basis of these criticisms we conclude that cost-sensitive decisions are generally more pragmatic than cost-benefit decisions. Subsequent sections review recent Federal legislation to determine the role which Congress prescribed for economic considerations in the administration of these laws.

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[5] See id. at 204-206; Liroff, Statutory Requirements For Analysis of Costs and Benefits, in Cost-Benefit Analysis and Environmental Regulations: Politics, Ethics and Methods, 41 (D. Swartzman, R. Liroff & K. Croke eds. 1982).

> In the cost-effective model, Congress establishes a policy goal, and an agency is instructed to select the most efficient means of achieving that goal. Although the most efficient means is often dictated by the marketplace, Congress may prevent an agency from accepting the solution dictated by the marketplace. Congress may perceive the market's seemingly more cost-effective choice as, in fact, less effective and less reliable than a more expensive solution. For example, EPA has been prodded by Congress to require scrubbers on new power plant stacks and has been precluded from accepting the use of more inexpensive but less dependable intermittent controls. In downplaying cost considerations, Congress may believe that emphasizing cost-effectiveness may deter development of innovative technologies, whose initial costs are high and whose benefits are uncertain.

Id.

[6] See id. at 206-210; Liroff, supra note 5 at 42. "The cost-sensitive model requires that an agency take account of costs, but it does not demand a formal cost-benefit analysis. Statutory provisions in this category may refer to "feasibility" and "practicability. For example, OSHA's occupational health standards must be 'feasible', i.e. they cannot bankrupt an industry." Id.

[7] See id. at 201-204.

## COST-EFFECTIVE ANALYSES

The cost-effectiveness model generally embodies a congressionally determined goal and directs the implementing agency to attain that goal in a least-cost manner. When it uses this model Congress may have determined that the benefits it seeks to achieve will outweigh the costs that might be saved by alternative solutions.[8] Additionally, Congress may have distrusted the market to arrive at an effective solution.[9]

Whatever its reasoning, when Congress chooses to proceed by the cost-effectiveness model, the question of whether welfare economics and strict economic efficiency would produce the same result is removed from the authorized scope of duties necessary to carry Congress' policy forward. For instance, the Clean Water Act prescribes the application of uniform technologically based standards to regulate point source discharges of pollutants to the nations navigable waters.[10] Economists have argued that an ambient based system of effluent charges -- where the discharger pays to pollute -- would be more efficient and could theoretically achieve the same overall reduction in pollution emission.[11] While the Act prescribes that the technology standards must be cost-effective, the Act does not permit the Environmental Protection Agency to abandon the technology based approach, in favor of a theoretically more efficient model. In fact, Congress had tested a system of ambient controls in the Clean Water Act; predecessor legislation and found that system largely ineffective, due to problems in enforcement and biological uncertainty.[12]

The cost-effectiveness paradigm does not totally remove the market's efficiency considerations from the analyses necessary to implement the law. Rather this model confines efficiency considerations to the means and goals Congress specifies.

## COST-SENSITIVE ANALYSES

The cost sensitive model is generally less limiting than either cost-effective or cost-benefit directives. This model requires that an agency consider costs, but does not limit the agency's selection of

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[8] Rodgers, supra note 4 at 205-206.

[9] Id.

[10] 33 U.S.C. § 1311 (b).

[11] Kneese, Costs of Water Quality Improvement, Transfer Functions, and Public Policy, in Cost Benefit Analysis & Water Pollution Policy, 175-183 (1975).

[12] See generally, Zwick and Benstock, Water Wasteland 264-283 (1971).

alternatives to the least-cost alternative or an alternative meeting the economist's numeric definition of efficiency; e.g. a favorable cost

benefit ratio.[13] To temper this discretion the cost-sensitive model may require the agency to meet certain substantive and procedural obligations.[14] For instance, the Northwest Power Act requires that the Regional Council solicit fish and wildlife recommendations from certain entities, publish the recommendations and hold public hearings, and adopt a fish and wildlife program meeting certain biological standards.

## COST BENEFIT ANALYSES

The purpose of this section is to examine the use of cost-benefit analysis in environmental decisionmaking in general and in fisheries planning in particular. Critics of cost benefit analysis (CBA) have characterized it as poorly adapted for goal setting or planning in the environmental and social welfare areas, citing theoretical and practical inconsistencies that hamper its use. Some of the scholarly disagreement on the subject can be attributed to differences within the academic community regarding the definition of the term "cost-benefit analysis." "Definitions of CBA range from the narrow and technical to the broad, vague, almost metaphysical".[15] In its most abstract form, all data are assigned dollar values.

None of the legislative or administrative schemes that affect the Northwest anadromous fisheries explicitly prescribe a criteron of strict economic efficiency. Therefore, it is reasonable to consider a range of approaches before deciding which is best adapted for use in project evaluations. However, as monetized models are currently under consideration, the following discussion will focus on formal CBA.

## IDENTIFICATION OF COSTS AND BENEFITS

Implicit in CBA are judgments about the relative worths of different values, about what is good and what is important. To produce a monetary result or a mathematical ratio, perceptions of worth must be quantified. To obtain such an end values must be omitted, translated into numeric terms through subjective processes or presented in non-comparable descriptive terms.

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[13] "The cost-sensitive model also permits consideration of economic factors that might escape formal cost-benefit analyses such as restricted consumer choice, regional economic benefits, or impacts on national energy consumption." Rodgers supra note 4 at 207.

[14] See, notes 117-130 infra and accompanying text.

[15] Kasper, Cost-Benefit Analysis in Environmental Decisionmaking, 45 Geo. Wash. L. Rev. n. 1-9 and accompanying text (1977).

Many of CBA's shortcomings as a policy or decisional device stem from uncertainty or subjectivity in assigning different results the labels "cost" and "benefit." This is traceable to CBA's business accounting origin.[16] In a business setting, significant costs and benefits are identifiable as such; costs are represented by pecuniary losses, benefits by gains. The identification of either is a mechanical process. While private entities have the luxury of this black or white, "us/them" worldview, government decisionmakers are accountable to the public, members of which can be depended upon to hold conflicting opinions on which outcomes constitute benefits, costs, or both.[17] The labels that a decisionmaker assigns will depend in part upon the goals against which an action is to be measured.[18] Outcomes that are not legislatively specified as either events to be avoided or conditions to be attained will be identified as harms or amenities by a decisionmaker exercising her discretion. The goal of increasing not productivity through improved health care illustrates how far from normative cultural values the identification process can stray. Logically, any life extension benefits accruing to persons living on welfare must be charged off as a cost.[19] An even larger range of discretionary effects exists in the choice of which outcomes (positive or negative) are included in the analysis, and which are not.[20] Realistically, certain potential results are too unpredictable, or of a magnitude too uncertain to contribute useful information to a CBA. However, lines must be drawn, and their precise location is a subjective decision.

## DISTRIBUTIONAL EQUITY

Economic efficiency is the standard against which CBA analysis evaluates a proposed action.[21] A conflict develops when CBA is used to evaluate

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[16] Shaw & Wolfe, A Legal and Ethical Critique of Using Cost-Benefit Analysis in Public Law, 19 Hous. L. Rev. 899, 916 (1982).

[17] See generally R.C. Fried, Performance in American Bureaucracy, 41-48, 85-104 (1976); K.C. Davis Treaties on Administrative Law,( )
("That even where a consensus exists among scientists or professionals that one line of policy is necessary for saving humanity, the administrators responsibility is to follow the democratic will to the extent that it is discernible, even it conflicts with scientific or professional understanding.")

[18] Baram, Cost-Benefit Analysis: An Inadequate Basis for Health, Safety and Environmental Regulatory Decisionmaking, 8 Ecology L.Q. 473, 483 (1980).

[19] Rodgers, supra note 4 at 198.

[20] Lovins, Cost-Benefit Assessments in Energy Policy, 45 Geo. Wash. L. Rev. N.13-19 and accompanying text (1977).

[21] Rodgers, supra note 4 at 193-194.

legislation that represents a democratic decision to correct a market failure.[22] Environmental and social legislation is usually based upon a societal decision that health, ecological, cultural or aesthetic values shall be protected, often despite market pressure to the contrary. CBA, on the other hand, attempts to ensure that a particular undertaking is economically efficient, as defined in terms of market prices. Commentators have suggested that CBA, when used to evaluate environmental and social welfare planning, tends to substitute economic efficiency as the primary planning or project goal.[23] This undermines both the substance of the evaluated proposal and the democratic process that had initially supported the protection of intangible values.[24]

Expenditures of public funds or alteration of the environment will rarely affect all persons equally.[25] A central aspect of environmental planning is the assessment of distributional patterns that result from such changes. Actions that affect Northwest anadromous fish populations can easily cause distributional variations across temporal, geographic, and social lines. When all of the outcomes of a proposal are reduced to a single ratio, neither the decisionmaker nor the public know who is burdened, or what the magnitude of these effects might be.

## TEMPORAL DISTRIBUTION

Water projects are durable, with project lives of up to 50-100 years.[26] Associated costs and benefits cover the entire period, but are unevenly distributed. Because of high construction expenses, most project costs accrue early in a project's life. Benefits, on the other hand, accrue later but are more evenly distributed.[27] In order to include future economic activity in a current CBA, a discount rate is required to convert future costs and benefits into present values.[28]

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[22] Jaffe, Benefit-Cost Analysis and Multi-Objective Evaluation of Federal Water Projects, 4 H.E.L.R. 58, 60 (1978).

[23] Baram, supra note 18 at 474, 478.

[24] Sagoff, Economic Theory and Environmental Law, 79 Mich. L. Rev. 1393, 1395-1402 (1981).

[25] Baram, supra note 18 at 487.

[26] Jaffe, supra note 22 at 60.

[27] See id. at 62.

[28] H. Peskin & E. Seskin, Cost Benefit Analysis & Water Pollution Policy 22 (H. Peskin & E. Seskin, eds. 1975).

To choose the proper discount rate, an analyst must accurately predict the behavior of the economy over the entire life span of the project. Changes in growth rates, consumer preferences and prices are a few of the variables that contribute to uncertainty in setting a discount rate.[29] The combination of uncertainty and institutional pressures to promote a project[30] can result in an unreasonably low discount rate,[31] or what amounts to a decision to exchange current resources for future and highly speculative risks or gains.[32] If the prediction is incorrect, future generations must absorb any losses. The discount rate is best approached as a question of equitable distribution over time.[33]

## GEOGRAPHIC DISTRIBUTION

Anadromous fish must be able to successfully negotiate as much as the entire length of a river drainage in order to spawn and so preserve their runs. The geographic distribution of gains and losses within each river basin is of crucial importance both to the fish and to the tribes who depend upon them for personal and cultural survival. An impediment to fish migration at any point can destroy the fishery above it.

CBA's reductionist nature prevents it from accounting for localized inequities.[34] Equitable distribution of fishery values is of great importance to the Northwest Indian fisheries, which are location bound and often concentrated in the upper reaches of the region's river drainages.[35] For many Indians to enjoy the fishing opportunities that are both their legal and equitable right, fisheries regulation as well as any developmental activity must recognize the need to maintain open passage and habitat values throughout stream systems.[36]

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[29] Williams, infra note 34 at 786.

[30] Jaffe, supra note 22, at 60.

[31] See id. at 60; A low discount rate in combination with the differences in timing of costs and benefits results in a higher present value for benefits and a lower present value for costs. Therefore, a project with a lower discount rate will appear more attractive.

[32] Baram, supra note 18, at 486.

[33] See id, at 487.

[34] Williams, Benefit-Cost Analysis in Natural Resources Decisionmaking: An Economic and Legal Overview, 9 Nat. Resources Law. 761, 786, (1979).

[35] See eg., Treaty with the Nez Perce, June 11, 1855, 12 Stat. 957.

[36] See generally Note, United States v. Washington (Phase II): The Indian Fishing Conflict Moves Upstream, 12 Envt'l L. 469, 478, 488-489 (1982).

If planning is to take place on a systemwide basis, and CBA is used, then CBA may include a very large geographic area within its scope. A greatly expanded amount and diversity of available data may have to be compared within a single analysis. This in turn increases CBA's natural tendency to present a smoothed out picture of costs and benefits; negative and positive quantitative values cancel each other out.[37] The loss of distributional and qualitative values make the analysis less informative as its scope increases.[38] In this manner, certain sound biological objectives, based primarily on geographic considerations, could be disregarded. Thus, the geographic scope for economic decisionmaking should not necessarily be equated with the geographic area used to establish biological goals. An increase in the variety of available information types diminishes CBA's precision and so its usefulness.

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[37] Lovins, supra note 20, at 132-133 and accompanying text.

[38] Rodgers, supra note 4, at 198.

## SOCIAL DISTRIBUTIONS

Equity and the law require that the relative economic positions of those who may experience benefits and losses be considered; CBA does not.

The operative assumption often used to justify the application of cost-benefit analysis, is that "[i]f it looks as though the benefits to the winners are a lot more than the costs to those whose interests are hurt by the project, then it should proceed."[39] What seems obvious from this simple statement, is also generally true of the technical application of CBA; who the winners are and who the losers are, is irrelevant to determining the efficiency of resource allocation.[40] While irrelevant to economic efficiency, distributional consequences are paramount in the field of law, particularly with respect to Indian treaty rights.[41] CBA assumes that each dollar of benefit or cost is worth the same regardless of either who receives it, or how evenly it is distributed.[42] Valuation errors are inherent in this assumption. Allocation of both costs and benefits will have the greatest marginal effect on the poorest segment of society. Any addition to income will constitute a larger percentage increase in a low income person's total wealth. Any loss will require the largest proportion of that individual's personal wealth to repair. On the other hand, large financial benefits effect a lesser marginal improvement in a wealthy person's standard of living. A related question is the number of people benefitted relative to the number burdened. The best policy choice

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[39] Kennedy, Cost-Benefit Analysis of Entitlement Problems: A Critique, 33 Stan L. Rev. 387, 389 (1981).

[40] Id. at 444,

> If the analysis of this article is correct, is there any role at all for the notion of efficiency in law and economics? I believe that the answer is that the concept has a limited heuristic usefulness. In the prior discussion, I have shown that the outcome of costless bargaining, with set factor shares and set definitions of entitlements, is indeterminate. This means that there will be many efficient outcomes that are consistent with any given set of assumptions about factor shares and entitlements. Once it is explicit that he is concerned with a set of outcomes rather than with the single efficient outcome of costless bargaining, the economist can retreat once again into his technician's role.

Id.

[41] The Columbia River treaty tribes have "an absolute right" to their fishery and thus are entitled to a "fair share of the fish produced by the Columbia River system." Sohappy v. Smith, 302 F. Supp. 899, 902 (D. Or 1969).

[42] Williams, supra note 34, at 771.

might be to burden many slightly for the benefit of a few whose needs are great, or to burden one entity heavily that all might benefit, or to create an irregular allocation of costs and benefits as is equitable under each set of circumstances.[43]

These issues have an unusually strong impact on Indian cultures, whose members are a numerical minority both within society as a whole and among those who wish to exploit fishery resources.[44] Tribal members tend to populate the lower end of the economic spectrum, and so are more sensitive to economic pressures. They are also uniquely dependent upon the fishery for subsistence, as well as for religious and cultural values.[45] None of these needs are adequately addressed by quantification. When a monetized evaluation process is used the natural tendency is to ignore or deemphasize non comparable values relative to quantified values.[46]

## MONETIZATION

Individual applications of CBA have resulted in a variety of valuation schemes. Which values are monetized, how this is done, and how or whether non monetized values are included are the main methodological distinctions between them. Quantified CBA generally requires that values be identified and possible accorded numeric scores for comparative purposes.[47] This section explores inherent barriers to

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[43] Jaffe, supra note 22, at 61.

[44] See generally, American Friends Service Committee, Uncommon Controversy: Fishing Rights of the Muckelshoot, Puyallup and Nisqually Indians, 121-129 (1970).

[45] Id.

[46] Lovins, supra note 20 at 155 and accompanying text.

> "This cost-benefit analysis does not eliminate subjective value judgments but rather moves them from the realm of political controversy into the expert's opaque model - a step with disquieting implications for the political process." Id. Compare Davis' statement at supra note 17.

[47] Tihansky, A Survey of Empirical Benefit Studies, in Cost Benefit Analysis & Water Pollution Policy, 142 (H. Peskin & E. Seskin eds. 1975)

> Common among earlier benefit studies was their complete reliance on dollar values. Intangible benefits were ignored, although recent approaches incorporate them as a weighting of monetary benefits. There is still an overwhelming tendency among empiricists to input pecuniary values to "nonmonetary effects," primarily to preserve a common denominator in cost-benefit analyses.

(Footnote Continued)

effective valuations and some of the constraints upon application to anadromous fisheries.

## WILLINGNESS TO PAY

CBA generally accords tangible and intangible costs and benefits dollar values based upon the public's willingness to pay for them.[48] An estimation of willingness to pay for concrete benefits and costs is often derived from market prices.[49] The quantification of intangible values requires an estimation of what people would be willing to pay to obtain a perceived benefit, or to avoid a perceived harm.[50] The validity of this approach depends upon several questionable assumptions. The use of market prices to plot consumer willingness to pay seems, at first glance a simple and reasonable valuation method. However, market prices are affected by a multitude of uncontrollable variables that reduce their predictive value. Prices are based largely on relative availability of goods and services. A major project can alter the availability of some commodities, and so their prices.[51] Consumer preference, availability, hence demand, will also change over time. This has particular import for long range planning, and will tend to increase the uncertainty of any final result.[52] Monopoly, taxation, and regulation will all affect both current and future prices.[53] Market failures and uncertainty combine to make market prices a less reliable measure of society's actual willingness to pay.

The hypothetical quality of any individual's valuation of an amenity that she has either never before experienced or never done without adds

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(Footnote Continued)

Id.

[48] J. Bishop and C. Cicchetti, Some Institutional and Conceptual Thoughts on the Management of Indirect and Intangible Benefits and Costs, in Cost Benefit Analysis & Water Pollution Policy 105-106 (H. Peskin & E. Seskin, eds. 1975).

[49] Rodgers, supra note 4 at 196.

[50] Bishop and Cicchetti, supra note 48 at 105-106.

[51] Williams, supra note 34, at 773.

[52] L. Anderson and R. Settle, Benefit-Cost Analysis: A Practical Guide, 37-42 (1977);

[53] R. Haveman and B. Weisbrod, The Concept of Benefits in Cost-Benefit Analysis: With Emphasis on Water Pollution Control Activities, 48 in Cost Benefit Analysis and Water Pollution Policy (H. Peskin & E. Seskin eds., 1973). Such imperfections as monopsony, government price support, taxes, ...prevent market prices from accurately reflecting consumer demand.

uncertainty to shadow prices. At best, this sort of inquiry might have value as a device to order a society's relative preferences. However, the speculative quality of a question like "what would you pay not to have smog in your city"? may pose a possibility so remote from the interviewee's personal experience that the individual really does not know what she is talking about.[54] Even this degree of precision is further reduced when a subject attempts to sway the results with his response.

Furthermore, an average of "society's" willingness to pay may not be reflect the actual desires of any large segment of the population. An individual's willingness to pay, as measured in dollars, incorporates that person's ability to pay as well as the subjective importance of a desired benefit.[55] Different sectors of a population have greater or lesser buying power. The preferences of wealthy consumers are overrepresented by a willingness to pay standard. This is pertinent to the Northwest tribal fisheries, which are made up of a small group of relatively low income people.[56] As this group has less purchasing power, it will exhibit less apparent "willingness to pay." This bias affects all CBA's that redistribute benefits between different economic classes.[57]

A more fundamental question is the validity of consumer sovereignty as a structural assumption. Implicit in the willingness to pay standard is a market based view of society's values.[58] This consumption oriented standard is inappropriate for the measurement of religious, philosophical or intellectual values, which are ordinarily enjoyed without engaging in market transactions.[59]

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[54]Williams supra note 34 at 776, citing Pearce, The Limits of Cost-Benefit Analysis as a Guide to Environmental Policy 29 Kyklos 97 (1976); also see Latin, Environmental Deregulation and Consumer Decisionmaking Under Uncertainty, 6 H.E.L.R. 187, 195, 207 (1982).

[55]Lovins, supra note 20, at ____.

[56]See, American Friends Service Committee supra note 44, and accompanying text.

[57]Kennedy, Cost-Benefit Analysis of Entitlement Problems: A Critique, 33 Stan. L. Rev. 387, 401-421 (1981).

[58]"Although economic transactions may promote any form of human welfare many important satisfactions are not wholly or primarily derived from market exchanges." Latin, supra note 54 at 195, citing Scitovsky, The Joyless Economy: An Inquiry Into Human Satisfaction and Consumer Dissatisfaction vii, 4-5 (1976).

[59]See generally, Boulding, Environment and Economics, in Environment: Resources, Pollution, and Society 359.360 (W. Murdoch ed. 1960).

The willingness to pay standard's basic assumption is that the public must pay in order to obtain or retain a desired end. This may be reasonable where the beneficial condition is a new one to which no entitlement exists. However, CBA does not distinguish between entitlements and windfalls, or between added benefits and avoided costs.[60] Kennedy has demonstrated some of the fallacies of the willingness to pay standard through a model that he labels the "offer-asking problem".[61] He points out that people respond differently when asked how much they would pay for something than they do when asked what amount they would demand to forego or lose a perceived good. People often demand far more as compensation for a benefit believed to be an entitlement than they are willing to pay for the same amenity.[62] The different values associated with a benefit by the same person provides insight into the subjectivity of putting prices on redistributions in social welfare. As a general rule, willingness to pay will result in the undervaluing of public benefits.[63]

These two dimensional representations of human values reveal a serious flaw in the willingness to pay standard and CBA. The same individual who buys non returnable bottles will vote to have them banned, or will sign a petition to prevent the conversion of a park into a highway, and then drive on the road once it is completed. These inconsistencies are a manifestation of private and as opposed to public preferences, both of which are often held simultaneously by the same individual. CBA ignores this tension and registers only the former.[64]

The potential tension resulting from CBA's bias against public goods is exacerbated when CBA is used in a legal setting that includes both statutory mandates for environmental protection, and treaties which set minimum levels of benefits to the signatory tribes. Aside from the cost oblivious nature of many of these requirements, they also create entitlements in those within their scope. The willingness to pay standard asks these people what they would pay to get or to keep that to which they are already entitled, which may be guaranteed in some cases by treaties with the United States.

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[60] Kennedy, Cost-Benefit Analysis of Entitlement Problems: A Critique, 33 Stan. L. Rev. 387, 401-421 (1981).

[61] See id. at 401-406.

[62] Id.

[63] Williams, supra note 34 at 777-779; Lovins supra note 20 at n. 89 and accompanying text.

[64] Sagoff, supra note 24, at 1410-1418.

SUMMARY

This obliviousness to collective welfare makes CBA a dangerous tool for use within a political system based on representative democracy. The effect of CBA has been compared to a voting system, where one dollar equals one vote.[65] This is not easily reconciled with a democratic political process where one person controls one vote. Resource allocation decisions require the balancing of popular opinion, biological and ecological data, equity, perceived human needs and beliefs, legal constraints and the financial costs of the paths taken.[66]

The inclusion of intangible values within a cost benefit system presents serious analytical and practical difficulties. For a number of previously mentioned reasons, intangibles are difficult to quantify accurately, so their inclusion in a ratio or equation increases uncertainty of the eventual result. Even those intangibles which can be estimated with a degree of accuracy require complex machinations to achieve a monetized result. This is costly, particularly when a number of such variables are present and each must be handled separately. In fact, quantification may be found not to be cost effective.[67] The application of separate valuation procedures to different variables creates the potential for further inconsistencies among as well as within the data.[68]

Despite the fact that intangibles can be impossible, difficult, or costly to measure, they must be included in the decisionmaking process Where some proportion of the data is stated in monetary terms, the analyst is faced with several choices. First, as many intangible values as possible can be monetized. In this case more of the relevant data is presented in comparable terms, but a progressively larger proportion of the monetized data is subject to uncertainties. As the final result

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[65] Williams, supra note 34 at 770, citing R. Haveman, The Economics of the Public Sector 168 (1976). "Every additional dollar a billionaire earns is assumed to give that person the same amount of utility that every additional dollar gives a person living in poverty." Virtually no commentators agree with this assumption; most in fact contend that one of government's primary purposes is to redistribute income in light of different marginal utilities of money."

[66] See generally, Rowen, The Rate of Cost-Benefit Analysis in Policy Making, in Cost Benefit Analysis and Water Pollution Policy.

[67] Comment, Cost Benefit Analysis and the Federal Water Pollution Control Act Amendments of 1972: A Proposal for Congressional Action, 67 Iowa L. Rev. 1057, 1078 (1982).

[68] See Note, The Concorde Calculus, 45 Geo. Wash. L Rev. ___ at n. 197 and accompanying text.

becomes less certain, it is both less useful and more subject to the biases of the decisionmaker.[69]

An alternative approach is to reserve monetization for only that data which is susceptible to market pricing, for example, construction and maintenance costs. Intangible values must still be considered however, and in this method may be included as text accompanying the numeric data.[70] With no common denominator for comparison purposes, the decisionmaker may not know what proportion of the positive and negative attributes of an action are attributable to intangible values. Unless carefully structured, the absence of context makes the economic data more precise yet less usable. The most common approach seems to be inclusion of as much data as seems feasible within a single monetary ratio, while non-quantified factors are more or less disregarded.[71] One of two errors result from this. With a proportional increase in the use of monetized intangibles, precision decreases. Alternatively, uncertain data can be deleted to achieve a more reliable result. However, when important intangible factors are not present, this narrows the scope of inquiry to a point where it is unrepresentative of reality. If CBA is to be helpful in the decisionmaking process, a balance must be struck between the inclusion of all data and achieving a meaningful result.[72] A valid result is of particular importance when CBA is used, because quantitative results create an impression of objectivity and conclusiveness. If these high standards cannot be met, the entity responsible for producing the analysis and publishing its results will have misled both the public and other decisionmakers.

Kennedy suggests that the role of economics in the political and legal arena is properly confined to the presentation of alternative outcomes, which fall within constraints established by a "political" decisionmaker. Such constraints would include legal rights (entitlements) and general distributive concerns (distribution of factor shares). Each alternative would consist of an allocation of resources, combined with associated welfare distributions. At this juncture the "political" decisionmaker again would intercede to select among the presented alternatives--applying his social welfare function. Once the "political" decisionmaker selected the appropriate alternative, the economist operates only to ensure that the "political" decision is implemented.[73]

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[69] Williams, supra note 34 at 778.

[70] Jaffe, supra note 22 at 78.

[71] Jaffe, supra note 22 at 64.

[72] Kasper, supra note 15, at __.

[73] Kennedy, supra note 39 at 444.

This model should not appear foreign to those schooled in the mechanics of federal environmental legislation. What Kennedy proposes is, in the terms of Rodgers, a blend of cost sensitive and cost effective decisionmaking, which are the predominant congressional models for considering costs.[74] Even the executive branch, in implementing laws requiring strict CBA, has shown a preference for costsensitive analysis.[75]

## SALMON AND STEELHEAD ENHANCEMENT ACT

The Salmon and Steelhead Conservation and Enhancement Act (SSCEA)[76] seeks to "encourage stability in and promote the economic well being of the treaty and nontreaty commercial fishing and charter fishing industries and improve the distribution of fishing power between treaty and nontreaty fisheries through"...purchase of nontreaty fishing gear and coordinated salmon and steelhead enhancement.[77] The SSCEA establishes a Salmon and Steelhead Advisory Commission,[78] which is directed to prepare a comprehensive management report[79] and a comprehensive enhancement plan.[80]

The SSCEA prescribes a number of standards that shall be included in the enhancement plan. These standards are summarized as follows:

1. assure that all fishermen and treaty tribes have a reasonable opportunity to benefit from fishery resource development;

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[74] Liroff, supra note 5 at 42.

[75] The Principles, Standards, and Procedures, predecessor to the Principles and Guidelines, effectuate the Kennedy model in certain respects by requiring the development of alternatives that maximized both economic efficiency and environmental quality, in a manner that presented information to the decision-maker within an economic, legal, and social framework for selection of among the alternatives. See, 48 Fed. Reg. 10250-10258 (March 10, 1983) (rescinding Principles, Standards, and Procedures); also see 48 Fed. Reg. 10259 (March 10, 1983) (announcing availability of Principles and Guidelines). The Principles, Standards, and Procedures were an outgrowth of Senate Document 97, which succeeded a manual commonly referred to as the Green Book. The Green Book was prepared in 1946 by the Federal Inter-Agency River Basin Committee. Jaffe, supra note 22 at 63.

[76] 16 U.S.C. §§ 3301 et seq.

[77] 16 U.S.C. § 3201(b)

[78] 16 U.S.C. § 3311(a).

[79] 16 U.S.C. § 3311(c).

[80] 16 U.S.C. § 3321(b).

2. minimize adverse interactions between natural and artificial stocks;
3. ensure all projects complement tribal, state, and federal enhancement activities;
4. ensure all projects are economically and biologically sound;
5. ensure all projects achieve significant benefits relative to the overall cost of each project;
6. consider existing and future international commitments;
7. notwithstanding any of the above measures, provide for the harvest of fish by treaty tribes in accordance with treaty rights unless otherwise agreed by the affected treaty tribes.[81]

Once developed, the enhancement plan is submitted to the Secretary of Interior for administrative approval.[82] Procedures required for such approval include publication of the plan, solicitation of comments, and biological and technical review.[83] The plan can only be approved if the Secretary of Commerce concurs that the plan meets standards 1, 6, and 7 listed above and if the States of Oregon and Washington and appropriate treaty tribes agree not to undertake any enhancement inconsistent with the plan.[84]

To implement the enhancement planning provisions of the SSCEA, an enhancement plan team was formed comprised of state, federal, and tribal technical staff. The enhancement plan team has directed the preparation of technical reports by work groups. One such report is entitled: "Recommendations for Economic Analysis of Enhancement Projects for Implementation of the Salmon and Steelhead Conservation and Enhancement Act of 1980."[85] It should be noted that this report does not necessarily reflect the position of the enhancement plan team. The following review critiques the report in the context of the foregoing criticisms of CBA and the legal framework of the SSCEA.

The Economics Work Group of the enhancement planning team bases its recommendations on the Water Resources Council's Principles and Guidelines (hereinafter P&G's).[86] The most recent version of the P &

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[81] 16 U.S.C. § 3321(d).

[82] 16 U.S.C. § 3321(b)

[83] 16 U.S.C. § 3321(e).

[84] 16 U.S.C. § 3321(e)(3).

[85] Economics Work Group of the Enhancement Plan Team, Recommendations for Economic Analysis of Enhancement Projects For Implementation of the Salmon and Steelhead Conservation and Enhancement Act of 1980, (June 6, 1984).

[86] As noted previously, the Green Book and its successors, including (Footnote Continued)

G's represents different types of project outcomes in four separate accounts: National Economic Development (NED), Environmental Quality (EQ), Regional Economic Development (RD), and other social effects (OSE).[87] Only the calculation of NED is required. Other information "material to the decisionmaking process" or "required by law"..." should be included in the other accounts, or in some other appropriate format."[88] The P&G's specify monetization as the method for calculating NED; no method or format is mentioned for representing the other accounts.[89] The work group justifies this approach as in keeping with the SSCEA's findings, which it feels emphasize economic issues.[90] However, this justification generally disregards the structure of the SSCEA. Congress does express concern for economic hardships and dislocations within the anadromous fisheries. Yet, voices equal concern for the loss of cultural and recreational values. The Senate and House reports that preceded the SSCEA are primarily concerned with the creation of a functional management structure capable of producing solutions to complex problems.

The Act represents an effort to achieve two interrelated goals: (1) an increase in the overall production of anadromous fish, and (2) assurance that these fish will be equitably distributed within the region. The first objective-increasing the overall production of anadromous fish - need not be analytically framed in monetary terms. Monetary data are only one index of progress toward a defined end goal. It is not surprising that neither the SSCEA nor its legislative history mandates or discusses a formal analytic methodology. Still, the Act does require that significant benefits be achieved in relation to expenditures, and that projects be biologically and economically sound. There is no indication in the legislative history of the SSCEA that

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the Water Resource Council's Principles have served as the dominant model for water resources planning for the last 35 years. Thus it is not surprising that the Economics Work Group seems to have grasped at this framework for Fisheries enhancement planning. However, the Principles and Guidelines only apply to the Corps of Engineers, Bureau of Reclamation, Tennessee Valley Authority and the Soil Conservation Service. There is no legal imperative that the P&G's apply to enhancement activities under the SSCEA. As discussed at infra notes 116-117 and accompanying text, Congress has specifically discouraged strict economic efficiency as a criterion for Fish and Wildlife enhancement and mitigation.

[87] Water Resources Council, Economic and Environmental Principles For Water and Related Land Resources Implementation Studies (February 3, 1983) (Appendix 1 to Work Group Report).

[88] Id.

[89] Id.

[90] Economics Work Group, supra note 85 at 1.

significance or soundness are to be defined in monetary terms. The American Heritage Dictionary defines "significant" as meaningful, important, or notable. Economic soundness implies the exercise of responsible judgment in the allocation of funds.

The P&G's provide a very general outline for the evaluation of projects. The most concrete element of the P&G's is the requirement for a monetized NED calculation. Whether and how to evaluate all other values lies with the discretion of the evaluating entity.[91] The methods section of the Work group's recommendations breaks anadromous fish values into monetary (NED) and non monetary (EQ, RD, OSE) accounts.[92] The NED section deals mainly with commercial fishing and recreational values.[93] No methodology for describing the other accounts is given; this is to be handled by a yet unhired analyst. This section does enumerate several values that should be incorporated into an evaluation.[94] It is unclear which if any of these will be represented quantitatively.

The most serious flaw revealed by an examination of this scheme goes to the basic premise of the P&G's. The P&G's place primary importance on monetized data and financial costs and benefits. Economic effects are the only ones which must be considered; the overall emphasis is on quantifying effects in monetary terms. Other values are lumped together under the general heading of "non-monetary accounts."[95] An important element missing from the work group's framework is some method for comparison between the different accounts. Without this, the process of separately identifying different types of values is meaningless. However, whatever method that is chosen must be subject to all the constraints outlined in the foregoing sections.

The P&G's also suggest a bias in favor of economic values in its plan selection criteria. "A plan recommending federal action is to be the alternative plan with the greatest net economic benefit consistent with protecting the Nation's environment" (the NED).[96] Environmental values are relegated to a vague subsidiary position; cultural values are disregarded entirely. Distributional effects are ignored.

Even without a mandate to weigh economic factors most heavily, a plan such as the P&G's that produces both monetized and descriptive values

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[91] Water Resources Council, supra note 87 at 2.

[92] Economics Work Group, supra note 85 at 4-8.

[93] Id. at 4-6.

[94] Id. at 7-8.

[95] Id.

[96] Water Resources Council, supra note 87 at 2.

invites a biased implementation. Monetary values are easier to manipulate, and facilitate comparison, both within and between projects. Their apparent precision may be appealing to a beleaguered decisionmaker. Non monetary values provide no common denominator, are complex, and result in qualitative assessments. A deemphasis on cultural and environmental values is likely to result, despite the possibility that the actual worth of all intangibles might exceed the net economic benefits and costs.[97]

The work group's report illustrates some of the possibilities for bias in the use of CBA. "Accomplishment of legal goals and standards mandated under the SSCEA, treaties with Native Americans, and other acts or agreements" is categorized under the non-monetary accounts.[98] It is difficult to understand how compliance with statutory and treaty obligations can be properly included within a body of descriptive data secondary in importance to economic considerations. Treaty rights confer upon each member of the signatory tribes property rights in the continued availability of fish.[99] Federal law supports the fact that this right requires sufficient protection of the aquatic environment to preserve the fish, and prevent treaty rights from becoming hollow formalities.[100] The same bias afflicts the section dealing with Indian ceremonial and way of life values. If these amenities will be compared with the NED, some defacto pecuniary estimation of their value be made. The fish and fishery that form a major part of Indian cultures are the Indian's legal right. Efforts to estimate these values mathematically may only intrude upon religious and cultural beliefs, possibly satisfying intellectual curiosity, but achieving no pragmatic result.

The work group's plan selection section cites the SSCEA's requirement that "all projects included within the plan achieve significant benefits relative to overall cost in each such project."[101] It construes this to require a minimum benefit to cost ratio of 1:1.[102] In so doing, the

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[97] See Williams supra note 34 at 777-779.

[98] Economics Work Group, supra note 85 at 7.

[99] Whitefoot v. United States, 293 F.2d 658, 663 (Ct. Cl. 1961), cert. denied 369 U.S. 818 (1962); Kimball v. Callahan, 590 F.2d 768, 773 (9th Cir. 1979) cert. denied 444 U.S. 826 (1979).

[100] United States v. Adair, 723 F.2d 1394, 1410-1415 (9th Cir. 1983), cert. denied, ___ U.S. ___ ( 1984) ("As limited by the "moderate living" standard enunciated in Fishing Vessel, we affirm the district court's decision that the Klamath Tribe is entitled to a reservation of water, with a priority date of immemorial use, sufficient to support exercise of treaty hunting and fishing rights.").

[101] 16 U.S.C. § 3321(d)(5).

[102] Economics Work Group supra note 85 at 10.

work group makes the major and unjustified assumption that Congress intended a strict economic threshold test to control enhancement planning. This assumption is not born out by the language of the SSCEA or its legislative history. In general the legislative history deals at great length with Indian treaty rights and the biology of the Pacific Northwest salmon and steelhead resource.[103] Except for reiteration of the specific language of the Act, relevant committee reports are largely silent as to economic considerations.[104]

The language of the SSCEA at section 120(d)(5) only requires that all projects within the plan achieve significant benefits relative to the overall cost of each project. This language does not require monetization, of benefits and costs, nor does the language require analyses intended to produce a numeric ratio by which project acceptability should be judged. The SSCEA does suggest that all projects must achieve meaningful benefits. The SSCEA does not preclude evaluation of benefits in biological and social terms, in lieu of monetized analyses. Moreover, no provision of the SSCEA makes reference to "strict economic efficiency," which the Work Group would use as the criteria to select among projects.[105] In effect, the Economic Work Group's proposal replaces Congress' social welfare judgments directed toward joint tribal, federal, state problem solving and equitable distribution of the resource, with a decisionmaking mechanism that has one criterion -- economic efficiency -- as its basis.

Section 120 (d)(7) of the SSCEA, which appears in the statute following the previously mentioned quote, requires that enhancement planning, "notwithstanding any of the above measures, provide for the harvest of fish by treaty tribes in accordance with treaty rights, unless agreed otherwise by the affected treaty tribes." The Act also requires "an analysis of supporting data for, the economic and biological integrity of (each) project, and that each project be "economically and biologically sound."[106] Nowhere is there a requirement for formal cost benefit analysis, or a suggestion that economic values and quantification enjoy greater importance.

The use of CBA where intangible values and legal requirements are as numerous and complex as they are in the Northwest anadromous fisheries is inappropriate. The legal, cultural, political, and environmental considerations are simply too weighty to permit the use of an analytic

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[103] See e.g. H.R. Rep. No. 96-1243 (Pt.I) 96th Cong., 2d Sess., 12-44, 49 (August 21, 1980).

[104] Id.; also see H.R. Rep. No. 96-1243 (Pt. II) 96th Cong., 2d Sess. (September 19, 1980); S. Rep. No. 96-667, 96th Cong., 2d Sess., 13 (Apvd.[legislative day, January 3,], 1980).

[105] Economic Work Group, supra note 85 at 10.

[106] 16 U.S.C. § 3321(d)(4).

device as potentially biased and inaccurate as CBA. Cost effectiveness evaluation, though less apt to substitute efficiency for actual policy goals, is still an efficiency device, and is subject to all of the previously discussed limitations on efficiency in policy making.[107] This is not, however, to imply that cost obliviousness is a desirable approach. Limited funding exists for fisheries enhancement and planning, and as much benefit should be extracted from such funding as is possible. Cost sensitivity analysis allows for practical evaluation of the multiple variables that must be considered an equitable result is to be achieved.

FISH AND WILDLIFE COORDINATION ACT

> Much of the decline of anadromous fish runs can be attributed to the failure of federal development agencies to take action under the authority of the Fish and Wildlife Coordination Act.... Although the law reflects the best of intentions for fish and wildlife, the discretion to protect and enhance fisheries under the Coordination Act has not been successfully translated into active maintenance and improvement of salmon and steelhead runs. Since the passage of the Coordination Act, upriver runs have continued to decline.[108]

The primary purpose of the Act is to ensure that fish and wildlife conservation receives "equal consideration" with other aspects of water resource development programs. The Act provides specific authorizations to achieve this mandate. First the Act requires that whenever a federal agency proposes a water resources project, the agency must consult with appropriate federal and state fish and wildlife agencies. Second, the Act requires that any fish and wildlife cost be treated as an integral project cost. Third, the Act authorizes the "Secretary of Interior to provide assistance to, and cooperate with, federal, state, and public or private agencies and organizations...to effectuate the purposes of the Act."[109]

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[107] See Rodgers, supra note 4 at 204-205.

[108] National Marine Fisheries Service, U.S. Fish & Wildlife Service, Columbia River Inter-Tribal Fish Commission, Washington Dep't of Fisheries, Washington Dep't of Game, Oregon Dep't of Fish and Wildlife, and Idaho Dep't of Fish & Game, Initial Recommendations for the Protection, Mitigation, and Enhancement of Anadromous Fish in the Columbia River Basin, 9 (November 1981).

[109] 16 U.S.C. § 661. While the Coordination Act may not require consultation with Indian tribes, it certainly authorizes consultation, including the provision of "assistance." In conjunction with other requirements of law, the Secretary of Interior, must recognize the trust obligations with which that office is imbued. Nance v. Environmental Protection Agency, 645 F.2d 701 (9th Cir. 1981) (upholding EPA's delegation of Clean Air Act regulatory authorities to the Northern

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Section two of the Act describes procedures by which fish and wildlife conservation recommendations become part of a mitigation plan that must be developed for projects proposed for authorization or administrative approval.[110] The Act directs that the mitigation plan "shall include such justifiable means and measures for wildlife purposes as the reporting agency finds should be adopted to obtain maximum overall project benefits."[111] Several commentators have discussed the question of whether the quoted language requires cost-benefit type justification for fish and wildlife mitigation.[112] In spite of legislative history to the contrary, federal agencies have sometimes acted as if such a requirement exists.[113]

To judge project acceptability, the analytical framework set out in the Coordination Act is most appropriately characterized as that of costsensitivity. The role of economics in implementation of the Coordination Act should differ substantially from the role economics has assumed under statutes such as the Flood Control Act, which explicitly

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Cheyenne Indian Tribe, even though not expressly authorized by the Clean Air Act). These obligations are sufficient authority for the Secretary of Interior to recognize the co-management responsibilities of Indian tribes in the development, protection, rearing, and stocking of fish and wildlife resources thereof, and their habitat. Indeed, failure to recognize these aspects of tribal sovereignty would be a prima facie violation of the Fish and Wildlife Service trust responsibility to Indian tribes. Moreover, such cooperation and assistance should be considered the minimum steps necessary to carry out the Administration's policy in favor of tribal sovereignty.

[110] 16 U.S.C. § 662 (a) & (b). See generally Parenteau, Mitigation: Law and Policy, 7-12 (Jan. 6, 1979) (paper presented at the annual meeting of the American Association of Applied Sciences). Parenteau notes that the "development and submission of a mitigation plan -- as opposed to a loose collection of mitigation ideas -- is an enforceable obligation under the Coordination Act." Id. Akers v. Resor, 339 F. Supp. 1375, 1379-80 (W.D. Tenn. 1972) ("It is completely clear from a reading of the provisions of 16 U.S.C. 661 et seq., that a construction agency must consult in good faith with the ecology agencies and give their recommendations due consideration and, if mitigation is approved and funded by Congress, carry out the plan of mitigation.")

[111] 16 U.S.C. 662(b).

[112] See, Parenteau, supra note 110; Natural Resources Law Institute, Anadromous Fish Law Memo #6 (March 1980).

[113] Stuzman & Plantico, Issues in Fish and Wildlife Planning, 21 (August 1980) (paper prepared for the Eastern Energy an Land Use Team Office of Biological Services, U.S. Fish and Wildlife Service.)

requires project benefits to exceed costs.[114] The Coordination Act does not prescribe a costbenefit test and Congress intended that a cost benefit test would not be determinative of project acceptability.

> The justification for means and measures to prevent loss of and damage to fish and wildlife resources, however, is not ordinarily to be presented in monetary terms, such as by use of a cost-benefit analysis. Justification for such means and measures normally is to be presented only in nonmonetary terms because of the inherent difficulty in assigning a monetary evaluation to losses of fish and wildlife, whose value is, basically intangible. Also, the spirit of H.R. 12371 is that water projects should provide for all reasonable restitution of project-occasioned losses to fish and wildlife, without being dependent on attempted monetary evaluations.[115]

The Coordination Act's test for the acceptability of fish and wildlife measures depends primarily upon non-economic factors. In this context, the phrase "maximum overall project benefits" means that some other project purposes may not reach their full potential due to trade-offs required for fish and wildlife conservation, even when fish and wildlife benefits are not monetized.[116]

The cost-sensitivity of the Coordination Act, with respect to fish and wildlife measures, may be found in section 2(f). This provision requires that "there shall be included in any report submitted to the Congress supporting a recommendation for authorization...an estimation of...the cost of providing wildlife benefits."[117] In this manner Congress reserved to itself, for certain projects, any determination

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[114] 33 U.S.C. § 701. Passage of the Flood Control Act of 1936 marked the advent of formally required cost-benefit analysis in environmental decision-making. The Act allows the Corps of Engineers to participate in flood control projects when "the benefits to whomsoever they accrue are in excess of estimated costs." See generally, Williams, Benefit-Cost Analysis in Natural Resources Decisionmaking: An Economic and and Legal Overview, 11 Nat. Res. L. 761, 762 (1979).

[115] Hearings before the Subcommittee on Fisheries and Wildlife Conservation of the Committee on Merchant Marine and Fisheries, House of Representatives, 88th Cong. 2d Sess. 27 (June 1958).

[116] Hearings on H.R. 13138 Before the Senate Committee On Interstate an Foreign Commerce, 85th Cong., 2d Sess. 4 (1958); See generally Blumm, Hydropower v. Salmon: The Struggle of the Pacific Northwest's Anadromous Fish Resources For a Peaceful Coexistence with the Federal Columbia River System, 11 Envt'l L. 211, 271 N. 322 (1981) (herein after cited as "Hydropower v. Salmon".

[117] 16 U.S.C. § 662(f).

that fish and wildlife benefits are not justified by their cost.[118] Except for this provision, the Coordination Act is noticeably silent with respect to fish and wildlife cost considerations.[119]

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[118] See Stuzman & Plantico, supra note 113, at 21.

[119] Such silence is particularly important in light of the 1946 amendments to the original 1934 Act, which eliminated a requirement that wildlife measures be "economically practicable." Act of Aug. 14, 1946, ch. 965, 3, 60 Stat. 1081.

## PACIFIC NORTHWEST ELECTRIC POWER PLANNING AND CONSERVATION ACT

The Pacific Northwest Electric Power Planning and Conservation Act[120] signals a major change in fish and wildlife related water resources planning within the Columbia River Basin. The Northwest Act was intended by Congress to remedy inadequacies in existing legislation that failed to offset the cumulative impact of the hydroelectric dams on the Columbia River and its tributaries on fish and wildlife.[121] The Northwest Act goes beyond the Fish and Wildlife Coordination Act by imposing substantive obligations, in addition to procedural and consultative duties.[122]

Central to the mechanisms of the Northwest Act, is the creation of a Northwest Power Planning Council. The Council's function is twofold: to prepare a regional conservation and electric power plan and to develop and adopt a program to protect, mitigate, and enhance the fish and wildlife of the Columbia River Basin.[123] In effect, Congress divested from those federal agencies responsible for regulating hydroelectric activities in the Columbia Basin some of the discretion in fish and wildlife planning that they had previously exercised.

Section 4(h) of the Northwest Act, in detailed language, spells out the procedures for fish and wildlife program development,[124] substantive standards that the program must embrace,[125] and the obligations of

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[120] 16 U.S.C. § 839 et seq.

[121] H.R. Rep. No. 96-976 (Part I), 96th Cong. 2d Sess. 48, reprinted in 1980 U.S. Code Cong. & Ad News 5988.

[122] Confederated Tribes and Bands of the Yakima Indian Nation et al. v. Federal Energy Regulatory Commission, Nos. 82-7561, 82-7562, 83-7038 slip op. at 18 (9th Cir. June 7, 1984). Over time the obligations imposed by the Fish and Wildlife Coordination Act have been viewed as essentially procedural, such that satisfaction of consultative duties could relieve project sponsoring agencies from the greater obligations of adopting the substantive recommendations of fish and wildlife agencies. See id., ("equal consideration" ensured through consultation). The Northwest Act also expands on the scope of consultation previously required by the Coordination Act. Pursuant to the Northwest Act, Federal agencies, such as the Federal Energy Regulatory Commission, must consult with the appropriate Indian tribes of the Columbia River Basin. 16 U.S.C. § 839b(h)(11)(B).

[123] 16 U.S.C. § 839b(a)(4).

[124] See, 16 U.S.C. §§ 839b(h)(1)-(h)(4).

[125] See, 16 U.S.C. §§ 839b(h)(5)-(h)(8).

federal agencies to implement the program.[126] Within section 4(h), Congress directed specific degrees of economic consideration at various stages of program development and implementation. Thus one finds requirements for costsensitive, costeffective, and costoblivious decisionmaking. Key to properly understanding these requirements is an understanding of the framework in which Congress directed their use. The following points highlight the structure of section 4(h).

1. The Council must develop and adopt a program to protect, mitigate, and enhance the fish and wildlife of the Columbia Basin which, to the greatest extent possible, deals with the Basin as a system.[127]
2. The Council must request, in writing, recommendations for the fish and wildlife program from the region's state and federal fish and wildlife agencies and appropriate Indian tribes. The Council is not required to solicit any recommendations from other entities, including the region's water management and electric power producing agencies.[128]
3. The Council must publish the recommendations and provide for public participation and comment regarding the recommendations.[129]
4. The program shall consist of measures to protect, mitigate, and enhance fish and wildlife, while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply.[130]
5. The Council shall include in the program measures that:
   a. Complement existing and future fish and wildlife activities;[131]
   b. are supported by best available scientific knowledge;[132]
   c. utilize, where equally effective alternative means of achieving the same sound biological objective exist, the alternative with the minimum economic cost;[133]
   d. are consistent with the legal rights of Indian tribes;[134] and

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[126] See, 16 U.S.C. §§ 839b(h)(10)-(h)(11).

[127] 16 U.S.C. § 839b(h)(1)(A).

[128] 16 U.S.C. § 839b(h)(2).

[129] 16 U.S.C. § 839b(h)(4).

[130] 16 U.S. § 839b(h)(5).

[131] 16 U.S.C. § 839b(h)(6)(A).

[132] 16 U.S.C. § 839b(h)(6)(B).

[133] 16 U.S.C. § 839b(h)(6)(C).

[134] 16 U.S.C. § 839b(h)(6)(D).
At present the program is a blueprint for action to restore the fish and wildlife of the Columbia River Basin. Whether or not this
(Footnote Continued)

e. in the case of anadromous fish (1) provide for their improved survival at hydroelectric facilities and (2) provide flows as necessary to meet sound biological objectives.[135]

6. The Council must determine whether each recommendation is consistent with the purposes of the Act. If the Council rejects any recommendation from a fish and wildlife agency or appropriate Indian tribe it must explain in writing why adoption of the recommendation would be inconsistent with the Act or is less effective than the adopted recommendation.[136]

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(Footnote Continued)

blueprint will be an effective remedy to offset the effects of hydroelectric development in the Columbia Basin cannot be judged at present. Likewise, because of the pervasive continuing involvement of the Council, and program elements requiring further study of specific measures prior to Council approval, we cannot say that such a program is consistent with treaty rights. The Columbia River Treaty tribes have been plagued with "paper fish." Columbia River Treaty tribes were secured more than the right to dip their nets into empty waters..... See generally, United States v. Washington 506 F. Supp. 187 (W.D. Wash. 1980), Washington v. Washington State Commercial Passenger Fishing Vessel Association, 443 U.S. 658 (1979).

The most we can say is that currently implemented measures to the extent endorsed and fully supported are likely to be not inconsistent with Indian treaty rights. As to those measures which will not be implemented pending further study, it is impossible to ascertain whether those measures will or will not be consistent with Indian treaty rights.

Columbia River Inter-Tribal Fish Commission, Comments on Draft Columbia River Basin Fish and Wildlife Program (September, 1982).

[135] 16 U.S.C. § 839b(h)(6)(E).

[136] 16 U.S.C. § 739b(h)(7). This provision of the Act, as much as any other, displays the differential relationship that Congress intended to exist between the Northwest Power Planning Council and the region's state and federal fish and wildlife agencies and appropriate Indian tribes. Congress recognized that these entities harbor the fish and wildlife expertise in the region and thus required the Northwest Power Planning Council to solicit their recommendations, and further mandated that their recommendations would enjoy a rebuttable presumption of consistency with the Act. The Act does not afford similar treatment to the Bonneville Power Administration, the Corps of Engineers, or any other entity.

7. With respect to compensation for losses arising from the Basin's hydroelectric facilities, enhancement may be used as a means of achieving offsite protection and mitigation.[137]
8. The Bonneville Power Administration must, using its fund and authorities, protect, mitigate, and enhance fish and wildlife consistent with the program.[138]
9. Federal agencies responsible for managing a regulating hydroelectric facilities within the basin shall (1) provide equitable treatment for fish and wildlife[139] and (2) implement the program's measures unless there is clear statutory conflict.[140]

The fisheries provisions of the Northwest Act remedy the deficiencies of Fish and Wildlife Coordination Act implementation. As previously noted, a principal failing of the Coordination Act resulted from allocating too much discretion to agencies which often perceived fish and wildlife as conflicting with their mission.[141] Often this discretion was exercised by using cost-benefit analysis as the test for acceptability of any mitigation activity.[142] Thus, the implementing (project regulatory)

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[137] 16 U.S.C. § 739b(h)(8)(A). This provision is key to achieving the Congressional directive that "the program, to the greatest extent possible, shall be designed to deal with [the Columbia] river and its tributaries as a system." 16 U.S.C. § 839b(h)(1)(A). In this context, enhancement should be considered to be the same as mitigation or protection for the purposes of program implementation. Notably section 4(h)(8)(A) does not differentiate between federal and non-federal hydroelectric development.

[138] 16 U.S.C. § 839b(h)(10)(A).

[139] 16 U.S.C. § 839b(h)(11)(A)(i). This provision of the Act, unlike the "equal consideration" language of the Fish and Wildlife Coordination Act, imposes substantive as well as procedural obligations upon the Bonneville Power Administration, Corps of Engineers, Bureau of Reclamation, and Federal Energy Regulatory Commission. Confederated Tribes and Bands of the Yakima Indian Nation et al v. FERC, supra note 3.

[140] 16 U.S.C. § 839b(h)(11)(A)(ii). Literally this section reads: "exercise such responsibilities, taking into account at each relevant stage of decisionmaking processes to the fullest extent practicable, the program adopted by the Council under this subsection." In effect, this language directs full compliance unless prohibited by existing statutory requirements. Blumm, Fulfilling the Parity Promise: A Perspective on Scientific Proof, Economic Cost, and Indian Treaty Rights In The Approval Of The Columbia Basin Fish and Wildlife Program, 13 Envt'l L. 103, 153 N. 222 (1982) (hereinafter cited as "Parity Promise").

[141] Blumm, Parity Promise, supra note 140 at 109-111.

[142] Id, Stuzman & Plantico, supra note 114 at 22.

agencies transmuted the Coordination's Act directive in favor of congressional cost-sensitive decision-making to cost-benefit decisionmaking, which they carried out. The Northwest Power Act, through its fisheries provisions, redirects fish and wildlife decisionmaking to more closely parallel congressional intent that fish and wildlife mitigation should be justified by cost-sensitive, not cost-benefit decisions.

The Northwest Act accomplishes its remedy of the Coordination Act in two principal ways. First, the Northwest Act shifts primary fish and wildlife decision-making responsibility from federal implementing agencies to the Northwest Power Planning Council,[143] which owes substantial deference to the region's state and federal fish and wildlife agencies and appropriate Indian tribes.[144] Second, with regard to the fish and wildlife program, the Council's decisions must be both costsensitive and costeffective, but not costbenefit justified. Under the Northwest Act, the Council's costeffectiveness considerations are subordinate to achieving sound biological objectives and consistency with Indian treaty rights.[145]

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[143]Congress was acutely aware of the broad dissatisfaction with the way the Federal Columbia River Power System (FCRPS) had been operated and managed, and the resulting disastrous consequences to the fish and wildlife of the Columbia River Basin. The House Committee on Interstate and Foreign Commerce pointedly noted numerous complaints that "Fish and Wildlife resources and their protection are ignored or treated with disdain by the power interests of the region." H.R. Rep. No. 976 Pt. I, 96th Cong. 2d Sess. 46-49 (1980). The Council, not BPA or the Corps, was assigned the task of formulating a Columbia River Basin Fish and Wildlife Program, 16 U.S.C. § 839b (a)(1). Congress ensured that at no point would the Council's role be vacant. Thus, the Northwest Act provides for the creation of a federally-appointed Council if there is some unlawful defect in the state-appointed Council. 16 U.S.C. § 839(b)(1). If this federally-appointed Council is terminated, the function of the Council will be assumed jointly by the Bonneville Power Administration, the Secretary of the Interior and the Administrator of the National Marine Fisheries Service. At no time do the federal water project agencies have the discretion in which they once luxuriated. 16 U.S.C. § 839b(b)(5)(B).

[144]Blumm, Promising A Process For Parity: The Pacific Northwest Electric Power Planning and Conservation Act And Anadromous Fish Protection, 11 Envt'l L. 497, 525-528 (1981); See note 16a supra.

[145]16 U.S.C. § 839b(h)(6)(C) & (h)(6)(D).

These provisions respectively read: "utilize, where equally effective alternative means of achieving the same sound biological objective exist, the alternative with the minimum economic cost; ...be consistent with the legal rights of appropriate Indian tribes in the

(Footnote Continued)

The Council, in effect, found a directive for programmatic cost-sensitivity in the language of section 4(h)(5) that states: "The program shall consist of measures to protect, mitigate, and enhance fish and wildlife affected by the development, operation, and management of such facilities while assuring the Pacific Northwest an adequate, efficient, economical, and reliable power supply."[146]

This language does not suggest that Congress envisioned a statutory cost-benefit test by which the overall program would be judged.[147] On

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(Footnote Continued)
region."

According to section 4(h)(6)(C), cost-effectiveness is subordinate to achieving the same sound biological objective. Obviously, it makes sense to most efficiently use available resources to achieve the same desired end. However, the converse is not true -- comparative economic efficiencies of resource use should not determine the desired end, particularly when the law and sound public policy declare that distributional equity must be reflected in the outcome of the decision-making process. The law of Indian treaties is very clear upon the equity of distributing harvestable anadromous fish between Indian and non-Indians. "The purport of the [Supreme Court's] cases is clear. Non-treaty fishermen may not rely on property law concepts, devices such as the fish wheel, license fees, or general regulations to deprive the Indians of a fair share of the relevant runs of anadromous fish in the case area." Washington v. Washington State Commercial Passenger Fishing Vessel Assn, 443 U.S. 658, 685 (1979) ("We also agree with the Government that an equitable measure of the common right should initially divide the harvestable portion of each run that passes through a "usual and accustomed" place into approximately equal treaty and non-treaty shares...."). Id.

[146]Northwest Power Planning Council, Columbia River Basin Fish and Wildlife Program, §§ 105, 108 (1982). The Council specifically addressed the question of whether its program is consistent with Indian treaty rights. To the limits of its authority the Council believes the program is consistent with treaty rights. However, the Council also suggested that due to several limitations the program may not satisfy the full scope of Indian fishing, hunting and related water rights. The Council perceived such limitations to include its lack of authority or position to address impacts resulting from nonhydroelectric activity, and its obligation preventing it from creating a program that would not assure the Pacific Northwest an adequate, economical reliable power supply. Id., §106. Whether or not the program fulfills the full scope of treaty obligations, the Northwest Act is clear that nothing within it affects or modifies Indian rights. 16 U.S.C. § 839g(e).

[147]When Congress intends to require cost-benefit analysis, it chooses to do so explicitly. American Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490, 511-512 (1981); Blumm, Parity Promise, supra, note 141 at 136.

the contrary, Congress indicated that "cost should not be a deterrent if a fish and wildlife need might be sacrificed to save dollars."[148] While Congress did not intend that economic considerations would be totally ignored, such considerations are clearly subordinate to meeting fish and wildlife needs.[149] The only limit on the Council's program obligations is characterized by Congress as unreasonable power shortages or loss of power revenues that would burden the consumers of the region.[150] Professor Blumm suggests that this threshold would only be transgressed by a program which "drove an entire class of power customers out of business or undermined the self-financing requirements under which BPA must operate."[151]

The Act does not limit protection, mitigation, and enhancement of fish and wildlife by an economic test. Indeed, Congress itself determined the importance of anadromous fish to the region and the nation as a whole.[152] This determination is reflected in the Act's focus upon sound biological objectives and the expertise of the region's state and federal fish and wildlife agencies and appropriate Indian tribes.

In this manner, Congress redirected fish and wildlife planning to a system based primarily on biological tests rather than economic tests. Interestingly enough, the U.S. Fish and Wildlife Service has suggested that a habitat based approach, rather than costbenefit analysis, would provide an improved basis for the justification of mitigation measures.[153] This should not be surprising since the objective of

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[148] H.R. Rep. No. 96-976, (Part I), 96 Cong., 2d Sess., 48 reprinted in 1980 U.S. Code Cong. & Ad. News 5988.

[149] Id.

[150] Id.

[151] Blumm, Parity Promise, supra, note 141 at 138.

[152] 16 U.S.C. § 839 2(6).

2.(6) to protect, mitigate and enhance the fish and wildlife, including related spawning grounds and habitat, of the Columbia River and its tributaries, particularly anadromous fish which are of significant importance to the social and economic well-being of the Pacific Northwest and the Nation and which are dependent on suitable environmental conditions substantially obtainable from the management and operation of the Federal Columbia River Power System and other power generating facilities on the Columbia River and its tributaries.

[153] Stutzman & Plantico, supra, note 114 at 21.

Despite admonitions against the use of b-c analyses to justify mitigation measures, construction agencies have used such analyses and on that basis have rejected many such proposals, particularly

(Footnote Continued)

mitigation is to preserve fish and wildlife values that would exist but for the project, in this case the development and operation of hydroelectric facilities.[154] "Unavoidable damage to fish and wildlife resources -- principally habitat destruction -- should be compensated at a level which leaves affected species with essentially the same life-support systems as existed before project implementation."[155]

Equally significant as a remedy of the Coordination Act's failings is the severe limitation of discretion now imposed upon federal agencies that must implement the program.[156] Without such limitations, there is no reason to believe that the frustrations which attended the Coordination Act will not similarly thwart fish and wildlife restoration pursuant to the Northwest Act. Program implementing provisions of the Act are found at sections 4(h)(10) and 4(h)(11). These sections respectively require:

> 4(h)(10)(A) The Administrator shall use the Bonneville Power Administration fund and the authorities available to the Administrator under this Act and other laws administered by the Administrator to protect, mitigate, and enhance fish and wildlife to the extent affected by the development and operation of any hydroelectric project of the Columbia River and its tributaries in a manner consistent with the plan, if in existence, the program adopted by the Council under this subsection, and the purposes of this Act.[157]

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(Footnote Continued)

when land acquisition was involved. The Habitat Evaluation Procedures, as noted elsewhere, are believed to provide an improved basis for justification of mitigation measures.

Id. Parenteau, supra, note 111 at 12-15 ("HEP is a biologically based mitigation method.").

[154] Id. at 18.

[155] Parenteau, supra, note 111 at 7.

[156] 16 U.S.C. § 839f(e)(5). Suits challenging the fish and wildlife program or amendments thereto must be filed within sixty days of publication of notice of final action in the Federal Register. "The plan and program, as finally adopted or portions thereof, or amendments thereto, shall not thereafter be reviewable as a part of any other action under this Act or any other law." Id. "Fish and wildlife protection, mitigation, and enhancement will never take place if each agency tries to substitute its judgment for the scientific knowledge, expertise, and judgment of those who went before." Northwest Power Planning Council, Columbia River Basin Fish and Wildlife Program, §104 (1982).

[157] 16 U.S.C. § 839b(h)(10)(A).

> 4(h)(11)(A) The Administrator and other Federal agencies responsible for managing, operating, or regulating Federal or non-Federal hydroelectric facilities located on the Columbia River or its tributaries shall---
>
> 4(h)(11)(A)(i) exercise such responsibilities consistent with the purposes of this Act and other applicable laws, to adequately protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, affected by such projects or facilities in a manner that provides equitable treatment for such fish and wildlife with the other purposes for which such system and facilities are managed and operated;
>
> 4(h)(11)(A)(ii) exercise such responsibilities, taking into account at each relevant stage of decisionmaking processes to the fullest extent practicable, the program adopted by the Council under this subsection.[158]

These provisions are noteworthy because they are largely cost-oblivious. They do not permit the Bonneville Power Administration, Corps of Engineers, and others to second-guess the program on the basis of economic considerations, nor do they provide any mechanism for such entities to override the Council's directives.[159] Congress directed these agencies to follow the narrowly defined end of implementing the fish and wildlife program, which presumptively embodies the cost-sensitive and cost-effective decisions of the Council. However, Congress did provide a safety net that subjects program directed capital facilities construction, where such facilities have an estimated life of

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[158] 16 U.S.C. § 839b (h)(11).

[159] See, note 157, supra. Section 9(b) of the Northwest Act requires the Council and the Bonneville Power Administration to "take such steps as necessary to assure the timely implementation of this Act in a sound and business-like manner." 16 U.S.C. § 839f (b). An interpretation of this provision that permitted Bonneville to second-guess the Council's program would ill serve the remedial purposes of the Act. United States v. City of Redwood City, 640 F.2d 963, 968 (9th Cir. 1981) (act to be charitably interpreted to serve remedial purposes). While Bonneville should implement program measures in a business-like manner, it does not have the discretion to substitute its judgment for the Council's merely to effectuate a business-like manner of program implementation. For example, it may be appropriate for Bonneville, through competitive bidding processes, to minimize the cost of implementing a specific program measure. However, it would be inappropriate for Bonneville to alter a program measure to satisfy its own perception of business-like considerations, particularly since the Council has already made the determination of what is sound and business-like.

greater than 15 years and a cost of at least $1,000,000, to its own review and approval.[160]

The courts have not had an opportunity to interpret sections 4(h)(10)(A) and 4(h)(11)(A)(ii). While the directive of section 4(h)(10) is relatively clear, the language of section 4(h)(11)(A)(ii) is less so. Several arguments could be developed that ascribe varying levels of administrative discretion to the phrase "taking into account at each relevant stage of decisionmaking processes to the fullest extent practicable, the program adopted by the Council."[161] However, to remedy the Coordination Act, which the Northwest Act does, this phrase cannot permit administrative second-guessing solely on the basis of economic considerations or cost-benefit analysis. Consistent with this reasoning is the judicial interpretation of similar language found in the National Environmental Policy Act.[162] Congress' use of such language indicates an intention in favor of unrestricted program implementation unless there is "a clear and unavoidable conflict with (other) statutory authority."[163] In the face of such commands, an agency may not use a narrow construction of statutory language as a means of avoiding its obligations.[164]

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[160] 16 U.S.C. § 839b (h)(10)(B).

> The Committee understands that the annual budget of Bonneville Power Administration will hereafter be submitted to Congress as provided by the Government Corporations Control Act. Except for approval of major new facility construction no affirmative action by Congress is required. However, Congressional approval of such major new starts will be required to be included in the Appropriation Act. Expenditures for construction in subsequent years will not require Congressional approval.
> H.R. Rep. No. 93-1375, 93rd Cong. 2nd Sess., reprinted in 1974 U.S. Code Cong. and Ad. News 5810, 5813. Indeed, BPA has typically obtained such approvals through the appropriations process.

130 Cong. Rec. ____ (daily ed. May 3, 1984) (remarks of Rep. Wyden).

[161] 16 U.S.C. § 839b (h)(11)(A)(ii).

[162] See, Flint Ridge Development Co. v. Scenic Rivers Association, 426 U.S. 776, 787-788 rehearing denied, 429 U.S. 875 (1976); Southeast Alaska Conservation Council v. Watson, 697 F. 2d 1305, 1310 (9th Cir. 1983) (construing Alaska Lands Act provision requiring compatibility with environmental provisions "to the maximum extent feasible"); Lathan v. Brinegar, 506 F. 2d 677 687-88 (9th Cir. 1974) (en banc) (construing NEPA's "fullest extent possible: and CEQ regulation's "maximum extent practicable"language).

[163] Id.

[164] Id.

In summary, the Northwest Act prescribes costsensitive, costeffective, and costoblivious decisions. However, to remedy the Coordination Act, Congress avoided imposing any costbenefit requirement on program development or implementation. Moreover, an interpretation of the Northwest Act that makes program implementation costoblivious, should remedy prior misapplication of the Coordination Act. To this end Congress allocated considerations of economic cost to the Council and in certain circumstances reserved those considerations to itself. Once the program is adopted, the Council's economic judgments are subject to modification only by the legislative and judicial branches, not the executive.

## MAGNUSON FISHERY CONSERVATION AND MANAGEMENT ACT

The Magnuson Fishery Conservation and Management Act (MFCMA)[165] has as its chief purpose the conservation and management of ocean fisheries. The MFCMA provides for establishment of eight regional councils including the Pacific Fisheries Management Council. Each regional council is required to prepare and submit fishery management plans for the geographical area for which it is responsible.[166] The Secretary of Commerce must review each plan to determine whether it is consistent with the national standards under the Act and with other applicable provisions of law, which include Indian treaty rights.[167]

The regional councils' harvest regulations are required to be consistent with, among others, the following national standards:

(1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

(2) Conservation and management measures shall be based upon the best scientific information available.

(3) [I]nterrelated stocks of fish shall be managed as a unit or in close coordination.

(4) Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishery privileges among various United States fishermen, such allocation shall be (a) fair and equitable to all such fishermen; (b) reasonably calculated to promote conservation; and (c) carried out in such a manner that no particular individual, corporation or other entity acquires an excessive share of such privileges.

(5) Conservation and management measures shall, where practical, promote efficiency in the utilization of fishery resources, except that no such measure shall have economic allocation as its sole purpose.

(6) Conservation and management measures shall take into account and allow for variations among and contingencies in, fisheries, fishery resources and catches.[168]

Clearly economic considerations are part of the national standards to which management plans must conform. However, economic considerations are a few among many other factors, and efficient economic allocation

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[165] 16 U.S.C. §§ 1801 et seq.

[166] 16 U.S.C. § 1852(h); Washington Trollers Assn., v. Kreps, 466 F. Supp. 309, 311(W.D. Wash. 1979).

[167] Hoh Tribe v. Baldridge, 522 F. Supp. 683, 688-89 (W.D. Wash. 1981).

[168] 16 U.S.C. § 1851(a).

(greatest benefit to cost ratio) is clearly a subordinate consideration to the other purposes of the Act, insofar as no conservation or management measure can have economic allocation as its sole purpose.

Like the Coordination Act and the Northwest Act, the MFCMA economic framework is most appropriately characterized to direct costsensitive decisionmaking. The Act's emphasis on distributional equity and biological considerations clearly limit the efficacy of CBA analysis as a decision-rule.[169]

The priority of economics in the legal framework of the MFCMA is plainly demonstrated by statements of Judge Craig and Judge Schwarzer:

> Maybe everybody is going to have to suffer for awhile like the Yakimas have suffered....As I've said before, this Court is concerned with the fundamental law of the land and that is Indian fishing rights under the treaties of Governor Stevens; and secondly, the conservation of the salmon fishery, whatever may be the species.
>
> Whatever happens economically is down the ladder as far as the Court is concerned and I have a firm belief, at least at this stage, that if the parties work together to adequately conserve the fish [and] fulfill the terms of the Stevens Treaty, the economics will take care of themselves because under an adequate conservation program you are going to increase the number of fish instead of decrease them.[170]

In another case brought by the tribes against the Secretary of Commerce's ocean management regulations, Judge Schwarzer stated:

> The whole approach of the Secretary...was to arrive at a reasonable compromise...I think [the Secretary] has been under a lot of pressure to accommodate a lot of interests, and [the Secretary] has tried to do that, but that is not compliance with what the Supreme Court has required...[Y]ou can't subordinate the United States treaty obligations to management considerations. Specifically...the treaty obligations are a legal obligation that takes precedence.[171]

Clearly economic considerations can be and are subordinate to Indian treaty rights under various laws of the United States. This should not be surprising. "it hardly needs restatement that Indian treaties, like

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[169] See, notes 18-76 supra, and accompanying text.

[170] Confederated Tribes and Bands of the Yakima Indian Nation v. Baldrige, No. c80-342T at 506 (W.D. Wash. oral ruling Aug. 4, 1981).

[171] Confederated Tribes v. Kreps, No. 79-541 (D. OR. oral ruling July 11, 1979).

international treaties, entered into by the United States are part of the supreme law of the land which the states and their officials are bound to observe."[172]

## CONCLUSION

This paper does not address economics in the context of the federal common law of Indian treaties. The absence of such a discussion clearly limits the paper's usefulness to anadromous fisheries management in the Pacific Northwest. For instance, the SSCEA is virtually grounded upon Indian treaty rights concerns and Congress' desire to minimize conflicts between treaty and non treaty fisheries while shifting harvest capability an increasing anadromous fish runs. However, this paper does not specifically address provisions of the SSCEA that have special pertinence to Indian treaty rights. Were this paper to have addressed Indian treaty obligations, the problematic use of strict economic criteria in fisheries management would be increasingly apparent.

Each of the federal statutes addressed in the paper embodies Congress' judgment as to the institutions and actions it perceives necessary to increase social welfare. This judgment is not subject to defeasance by arbitrary application of economic criteria.

The importance of adhering to Congress' instructions is most clearly demonstrated by the failings that attended Fish and Wildlife Coordination Act implementation, where an economic efficiency standard frequently supplanted sound biological objectives. Economics in public administration is legally subject to various confinements. For instance, the Northwest Power Act subordinates minimum economic cost to achieving sound biological objectives. In this manner Congress is the arbiter of social welfare, not the economist.

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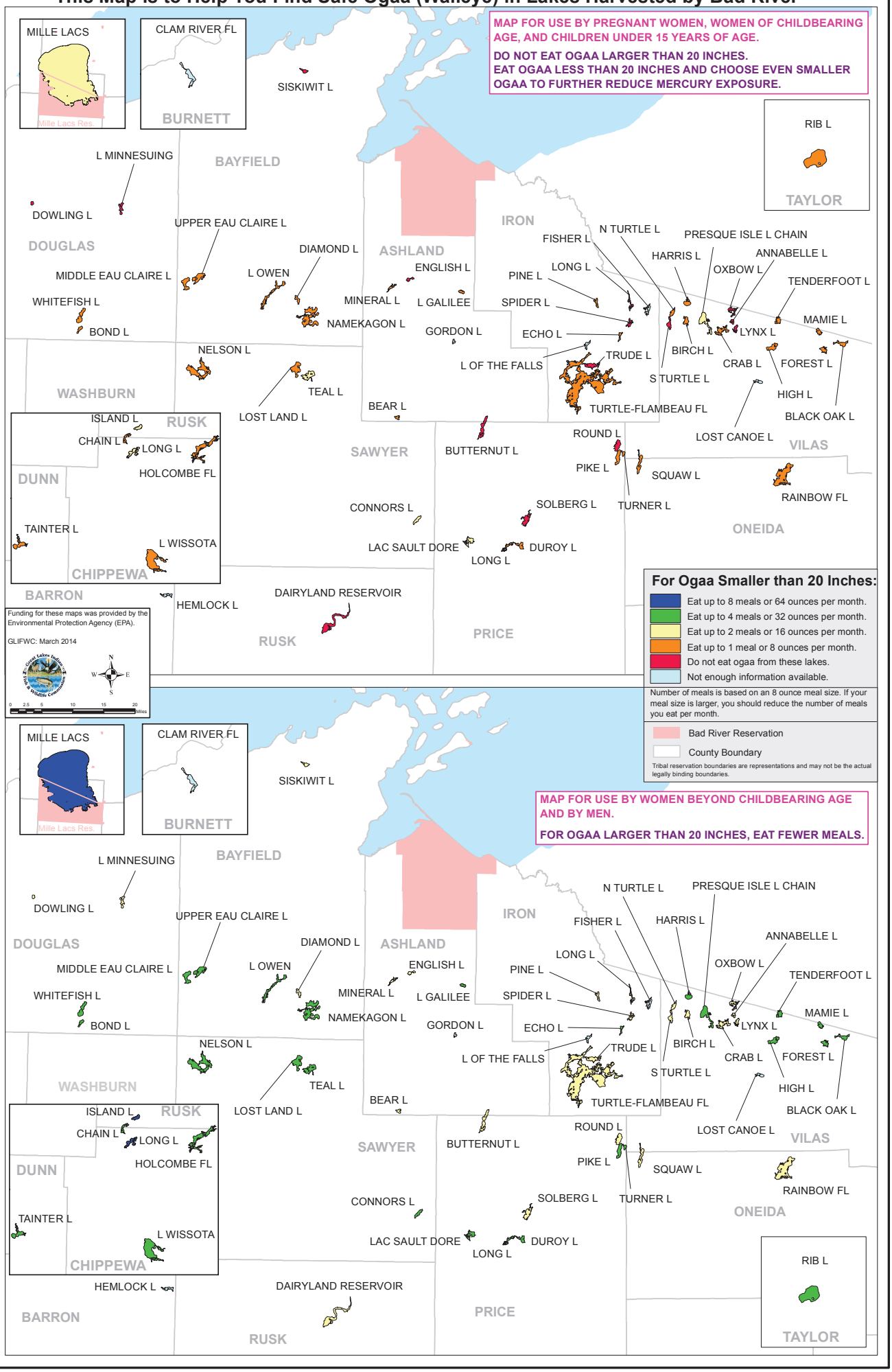
[172] Sohappy v. Smith, 302 F. Supp. 899, 905 (D. Or. 1969).

# ATTACHMENT B

# Appendix

Mercury Fish Advisory for Bad River Band
of Lake Superior Chippewa Tribe

# This Map is to Help You Find Safe Ogaa (Walleye) in Lakes Harvested by Bad River



# Recommended Maximum Number of Ogaa Meals per Month for Lakes Harvested by Bad River

## SORTING AND LABELING *OGAA* PRIOR TO FREEZING

When Cleaning *Ogaa*:

- Put *ogaa* under 20 inches in bags labeled "under 20 inches."
- Put *ogaa* over 20 inches in bags labeled "over 20 inches."
- Label bags with the lake name.
- Follow the advice below for maximum number of meals per month.

## USING THIS CHART TO FIND SAFER *GIIGOONH*

MAXIMUM NUMBER OF MEALS PER MONTH

Advice is for all lakes combined. For example, if you eat four meals in a month from green lakes you should not eat any other meals of *ogaa* in that month.

MEAL SIZE

Meal size is based on 8 ounces. An average 19 inch *ogaa* will have 8 ounces of meat. If your meal size is larger you should eat fewer meals of *ogaa*. If it is smaller you can eat more meals of *ogaa*.

OTHER *GIIGOONH*

*Giigoonh* such as muskellunge, largemouth bass, smallmouth bass, and northern pike will have more mercury than *giigoonh* such as lake whitefish, herring, bluegill, sunfish, crappie or perch. Try to choose safer *giigoonh*.

| LAKE | COUNTY | Women of childbearing age and children less than 15: Maximum number of meals per month | Women beyond childbearing years and men 15 and older: Maximum number of meals per month |
|---|---|---|---|
| ANNABELLE L | VILAS | 0 | 2 |
| BEAR L | ASHLAND | 1 | 2 |
| BIRCH L | VILAS | 1 | 2 |
| BLACK OAK L | VILAS | 1 | 4 |
| BOND L | DOUGLAS | 1 | 4 |
| BUTTERNUT L | PRICE | 0 | 2 |
| CHAIN L | RUSK | 1 | 4 |
| CLAM R FL | BURNETT | Not Enough Information | |
| CONNORS L | SAWYER | 2 | 4 |
| CRAB L | VILAS | 1 | 2 |
| DAIRYLAND RESERVOIR | RUSK | 0 | 2 |
| DIAMOND L | BAYFIELD | 1 | 2 |
| DOWLING L | DOUGLAS | 0 | 2 |
| DUROY L | PRICE | 1 | 4 |
| ECHO L | IRON | 1 | 4 |
| ENGLISH L | ASHLAND | 0 | 2 |
| FISHER L | IRON | Not Enough Information | |
| FOREST L | VILAS | 1 | 4 |
| GORDON L | ASHLAND | Not Enough Information | |
| HARRIS L | VILAS | 1 | 4 |
| HEMLOCK L | BARRON | Not Enough Information | |
| HIGH L | VILAS | 1 | 4 |
| HOLCOMBE FL | CHIPPEWA | 1 | 4 |
| ISLAND L | RUSK | 2 | 8 |
| L GALILEE | ASHLAND | 1 | 4 |
| L MINNESUING | DOUGLAS | 0 | 2 |
| L OF THE FALLS | IRON | Not Enough Information | |
| L OWEN | BAYFIELD | 1 | 4 |
| L WISSOTA | CHIPPEWA | 1 | 4 |
| LAC SAULT DORE | PRICE | 2 | 4 |
| LONG L | CHIPPEWA | 2 | 8 |
| LONG L | IRON | 0 | 2 |

| LAKE | COUNTY | Women of childbearing age and children less than 15: Maximum number of meals per month | Women beyond childbearing years and men 15 and older: Maximum number of meals per month |
|---|---|---|---|
| LONG L | PRICE | 1 | 4 |
| LOST CANOE L | VILAS | Not Enough Information | |
| LOST LAND L | SAWYER | 1 | 4 |
| LYNX L | VILAS | 0 | 2 |
| MAMIE L | VILAS | 1 | 4 |
| MIDDLE EAU CLAIRE L | BAYFIELD | 1 | 4 |
| MILLE LACS | MILLE LACS | 2 | 8 |
| MINERAL L | ASHLAND | 1 | 2 |
| N TURTLE L | VILAS | 1 | 2 |
| NAMEKAGON L | BAYFIELD | 1 | 4 |
| NELSON L | SAWYER | 1 | 4 |
| OXBOW L | VILAS | 0 | 2 |
| PIKE L | PRICE | 1 | 4 |
| PINE L | IRON | 1 | 2 |
| PRESQUE ISLE L CHAIN | VILAS | 2 | 4 |
| RAINBOW FL | ONEIDA | 1 | 2 |
| RIB L | TAYLOR | 1 | 4 |
| ROUND L | PRICE | 0 | 2 |
| S TURTLE L | VILAS | 0 | 2 |
| SISKIWIT L | BAYFIELD | 0 | 2 |
| SOLBERG L | PRICE | 0 | 2 |
| SPIDER L | IRON | 0 | 2 |
| SQUAW L | VILAS | 1 | 2 |
| TAINTER L | DUNN | 1 | 4 |
| TEAL L | SAWYER | 2 | 4 |
| TENDERFOOT L | VILAS | 1 | 4 |
| TRUDE L | IRON | 0 | 2 |
| TURNER L | PRICE | 1 | 4 |
| TURTLE-FLAMBEAU FL | IRON | 1 | 2 |
| UPPER EAU CLAIRE L | BAYFIELD | 1 | 4 |
| WHITEFISH L | DOUGLAS | 1 | 4 |

For many native people, *giigoonh* are part of a traditional and healthy diet. If you rely on *giigoonh*, choose safer *giigoonh* with lower levels of mercury by following the advice on this map.

RISKS AND BENEFITS

Risk: Mercury can damage the nervous system, especially the brain. Fetuses and babies are the most at risk because their nervous systems are rapidly developing. Children exposed to unsafe levels while in the womb have been found to experience delayed development in walking and talking, even though the mother was not affected. Mercury cannot be removed by trimming or cooking.

Benefit: Eating even as few as two to three meals of *giigoonh* a month may reduce your risk of death due to heart disease.

**If you have questions about finding safer ogaa, call GLIFWC at 1-715-682-6619.**
**To learn more about mercury in ogaa, visit GLIFWC's website at www.glifwc.org/Mercury/mercury.html**

# ATTACHMENT C

United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240

IN REPLY REFER TO

JAN 30 2015

Avi S. Garbow
General Counsel
United States Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, D.C. 20460

Re: Maine's WQS and Tribal Fishing Rights of Maine Tribes

Dear Mr. Garbow:

The State of Maine has submitted proposals to the Environmental Protection Agency (EPA) to implement Water Quality Standards (WQS) within waters set aside for federally recognized tribes under applicable state and Federal law for uses including sustenance fishing (hereinafter described as Maine Indian Waters).[1] To assist in your review of Maine's proposals, you have asked for the Department of the Interior's views regarding tribal fishing rights in Maine and particularly the relationship between tribal fishing rights and water quality. We have reviewed applicable law and, for the reasons explained below, conclude that all four of the Maine tribes—the Penobscot Nation, the Passamaquoddy Tribe, the Houlton Band of Maliseet Indians, and the Aroostook Band of Micmacs—have federally-protected tribal fishing rights. These fishing rights should be taken into account in evaluating the adequacy of WQS in Maine.

1. Overview of Tribal Fishing Rights in Maine Indian Waters

As you are well aware, the four federally recognized Indian tribes in the State of Maine are subject to a unique statutory framework established by the state-law Act to Implement the Maine Indian Claims Settlement ("Maine Implementing Act"),[2] the state-law Micmac Settlement Act,[3] the federal Maine Indian Claims Settlement Act ("MICSA"),[4] and the

[1] We note that the exact boundaries of at least some Indian lands and territories in Maine remain in dispute. For example, the United States has intervened in a lawsuit filed by the Penobscot Nation against Maine claiming that the Penobscot Reservation includes waters in the Main Stem of the Penobscot River. *See* Order on Pending Motions in *Penobscot Nation v. Mills*, 1:12-cv-00254-GZS (D. Maine Feb. 4, 2014) (granting US motion to intervene) . It is beyond the scope of this letter to precisely identify all Maine Indian Waters. The location of Maine Indian Waters for each Tribe would have to be defined based on all applicable law, including statutory language, applicable property law doctrine, and lands reserved by treaty and retained by the tribes pursuant to statute. We do not elaborate here on the question of whether the Maine tribes have additional fishing rights outside of Indian lands and territories.

[2] 30 M.R.S. §§ 6201 *et seq.*

[3] 30 M.R.S. §§ 7201 *et seq.*

[4] 25 U.S.C. §§ 1721 *et seq.*

practices, which fosters tribal self-determination.[29] The legislative history for MICSA supports the view that one of Congress's purposes in providing Maine tribes with a land base was to preserve their culture.[30] The connection between fishing rights and land ownership is particularly emphasized in the Settlement Acts: the Maine Implementing Act defines the "land or other natural resources" to be purchased with federal funds and placed into trust as "any real property or other natural resources, or any interest in or right involving any real property or other natural resources, including, but without limitation, minerals and mineral rights, timber and timber rights, water and water rights and hunting and *fishing rights*."[31] The exercise of these fishing rights by Tribes is fully consistent with the Settlement Acts.[32]

In sum, the Federal Government as the owner of the trust lands for the benefit of the Tribes has a substantial interest in providing all Maine tribes, including the Northern Tribes, with a functional land base that ensures the continuation of their sustenance practices and cultural activities.[33]

2. Tribal Fishing Rights Include the Subsidiary Right to Sufficient Water Quality to Render the Rights Meaningful.

In Maine, EPA must determine how tribal fishing rights intersect with EPA's authority under the Clean Water Act to approve or disapprove State WQS. We are not aware of any case law addressing an identical situation to the one raised by Maine's proposed WQS. However, Federal courts have acknowledged the importance of permanent, enforceable fishing rights for tribes and have interpreted these rights expansively.

Tribal fishing rights encompass subsidiary rights that are not explicitly included in treaty or statutory language but are nonetheless necessary to render them meaningful. For example, in the 1905 case *United States v. Winans*, the Supreme Court held that a tribe must be allowed to cross private property to access traditional fishing grounds.[34]

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[29] *See* Final Rule, Acquisitions: Appeals of Land Acquisition Decisions, 78 Fed. Reg. 67928, 67929 (November 13, 2013) (noting in Background section that taking land into trust serves the "goals of protecting and restoring tribal homelands and promoting tribal self-determination" and "reaches the core of the Federal trust responsibility").

[30] Sen. Rep. No. 96-957, at 17 ("Nothing in the settlement provides for acculturation, nor is it the intent of Congress to disturb the cultural integrity of the Indian people of Maine."). Several of the Maine tribes submitted comments to the EPA about Maine's WQS describing the centrality of fishing to their cultures.

[31] 30 M.R.S. § 6203(3) (Emphasis added). MICSA includes this definition almost verbatim at 25 U.S.C. § 1722(b). 25 U.S.C. § 1724(d) authorizes the Secretary to "expend . . . the land acquisition fund for the purpose of acquiring land or *natural resources* for the . . . . Houlton Band of Maliseet Indians." Emphasis added. Section 5(a) of the Aroostook Band of Micmacs Settlement Act, P.L. 102-171, provides similarly that the Secretary is authorized "to expend . . . the Land Acquisition Fund for the purposes of acquiring land or natural resources for the Band" and defines natural resources to include fishing rights at section 3(4).

[32] Recognizing that Maine tribes have a tribal fishing right would not impinge upon Maine's right to regulate such a fishing right. The existence of a tribal fishing right does not affect or preempt Maine's regulatory jurisdiction as described in 25 U.S.C. § 1725(h).

[33] See *supra* note 30 and accompanying text.

[34] 198 U.S. 371, 384 (1905).

Similarly in *Kittitas Reclamation District v. Sunnyside Valley Irrigation District*, the Ninth Circuit held that a tribe's fishing right could be protected by enjoining water withdrawals that would destroy salmon eggs before they could hatch.[35] In *Grand Traverse Band of Ottawa and Chippewa Indians v. Director, Michigan Department of Natural Resources*, the Sixth Circuit found that the treaty right to fish commercially in the Great Lakes includes a right to temporary mooring of treaty fishing vessels at municipal marinas because without such mooring the Indians could not fish commercially.[36] While the issues presented by diminished water quality in Maine are different from the issues presented by inadequate access to fishing places or the need to protect fish populations, the result for tribes if water quality in Maine Indian Waters is not protected is the same: Indian tribes will not be able to fish for their sustenance healthfully.

The rules in the cases identified above are all variations on the fundamental holding of *Washington v. Washington State Commercial Passenger Fishing Vessel Association* that tribes with reserved fishing rights are entitled to something more tangible then "merely the chance . . . occasionally to dip their nets into the territorial waters."[37] The holding of *Washington*, while specific to the treaty language at issue in that case, is consistent with similar holdings from other courts examining the question of whether a tribal fishing right implicitly contains within it the right to additional protections to render the fishing right meaningful. For example, in holding that a Tribe's hunting and fishing rights persisted, the Minnesota Supreme Court explained that "[c]ertainly, it would be incongruous to construe the treaty as denying the Indians their very means of existence while purporting to grant them a home."[38]

In the context of water quantity, courts have recognized that tribal fishing rights include the subsidiary right to water flow sufficient to maintain fish health and reproduction in order to effectuate the fishing right. In *United States v. Adair*, the Ninth Circuit held that the tribe's fishing right implicitly reserved sufficient waters to "secure to the Tribe a continuation of its traditional . . . fishing lifestyle."[39] The logic that supports the tribe's right to water quantity adequate to support a lifestyle based on fishing in *Adair* supports a conclusion that EPA should take tribal fishing rights into account when reviewing Maine's water quality standards. If water quality diminishes to the point where the fish are no longer safe to eat or able to reproduce, tribal fishing rights will suffer a diminution just as surely as they suffer from inadequate quantity of water to support fish.[40]

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[35] 763 F.2d 1032, 1034-35 (9th Cir. 1985).
[36] 141 F.3d 635, 639-40 (6th Cir. 1989).
[37] 443 U.S. 658, 679 (1979).
[38] *Minnesota v. Clark*, 282 N.W.2d 902, 909 (Minn. 1979).
[39] 723 F.2d 1394, 1409-10 (9th Cir. 1983). *See also Colville Confederated Tribes v. Walton*, 647 F.2d 42, 47-48 (9th Cir. 1981) (implying reservation of water to preserve tribe's replacement fishing grounds); *Winters v. United States*, 207 U.S. 564, 576 (1908) (express reservation of land for reservation impliedly reserved sufficient water from the river to fulfill the purposes of the reservation); *Arizona v. California*, 373 U.S. 546, 598-601 (1963) (creation of reservation implied intent to reserve sufficient water to satisfy present and future needs).
[40] The leading federal Indian law treatise explains:

Ongoing litigation in Washington State involving questions about the extent to which tribal fishing rights encompass associated rights to protection for fish habitat also informs our analysis.[41] The tribes and the United States have argued that tribal fishing rights impose a duty on the state of Washington to refrain from building or maintaining road culverts that directly block fish passage both to and from breeding areas and therefore significantly and directly kill fish, diminish fish populations, and diminish habitat.[42] In 2013, the court adopted this analysis, concluding that the tribes' treaty based fishing right had been "impermissibly infringed" through the construction and operation of culverts that "has reduced the quantity of quality of salmon habitat, prevented access to spawning grounds, reduced salmon production . . . and diminished the number of salmon available for harvest."[43] The court issued a permanent injunction forcing the State to renovate its culvert system.[44] The decision is currently on appeal, but the district court's reasoning is consistent with the view that tribal fishing rights can be protected under the Clean Water Act.

When diminished water quality has hindered tribal uses of water outside the fishing context, courts have held for tribes and found that a right to put water to use for a particular purpose must include a subsidiary right to water quality sufficient to permit the protected water use to continue. In an Arizona case, *United States v. Gila Valley Irrigation District*, farmers with a more junior right whose properties were located upstream from a reservation were required to take steps to decrease the salinity of the tribe's water so that "the Tribe receives water sufficient for cultivating moderately salt-sensitive crops."[45] Other courts have noted that in some situations protecting water

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> Fulfilling the purposes of Indian reservations depends on the tribes receiving water of adequate quality as well as sufficient quantity. . . . . [H]abitat protection is an integral component of the reserved [fishing] right. In order to protect the fishery habitat, tribes should have a right not only to a sufficient amount of water, but also to water that is of adequate quality.

COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[9], at 1236 (Nell Jessup Newton ed., 2012) (footnotes and citations omitted).

[41] The United States District Court for the Western District of Washington court held that several Washington State tribes' treaty fishing rights "implicitly incorporated the right to have the fishery habitat protected from manmade despoliation." *United States v. Washington*, 506 F. Supp. 187, 203 (W.D. Wash. 1980) (Phase II). The court explained that "the existence of an environmentally-acceptable habitat is essential to the survival of the fish, without which the expressly-reserved right to take fish would be meaningless and valueless." *Id.* at 205. That decision was vacated on procedural grounds. *United States v. Washington*, 759 F.2d 1353, 1357 (9th Cir. 1985) (en banc) (requiring plaintiffs to allege specific environmental harms before any declaratory judgment could issue, noting that "[i]t serves neither the needs of the parties . . . nor the interests of the public for the judiciary to employ the declaratory judgment procedure to announce legal rules imprecise in definition and uncertain in dimension").

[42] In *United States v. Washington*, 2007 U.S. Dist. LEXIS 61850, 37-38 (W.D. Wash. Aug. 22, 2007), the district court held in favor of the federal and tribal plaintiffs.

[43] *United States v. Washington*, 2013 U.S. Dist. LEXIS 48850, 75 (W.D. Wash. 2013).

[44] *Id.* at 78-79.

[45] 920 F. Supp. 1444, 1454-56 (D. Ariz. 1996), aff'd, 117 F. 3d 425 (9th Cir. 1997).

quality is fundamental to the protection of tribal rights to self-determination.[46] Given the importance of fishing to Maine tribes, protection of water quality sufficient to enable the tribes to continue to fish and to consume the fish they are able to catch is comparable to protecting water quality to allow the tribe in the *Gila Valley* case to continue to grow crops.

In summary, fundamental, long-standing tenets of federal Indian law support the interpretation of tribal fishing rights to include the right to sufficient water quality to effectuate the fishing right. Case law supports the view that water quality cannot be impaired to the point that fish have trouble reproducing without violating a tribal fishing right; similarly water quality cannot be diminished to the point that consuming fish threatens human health without violating a tribal fishing right. A tribal right to fish depends on a subsidiary right to fish populations safe for human consumption. If third parties are free to directly and significantly pollute the waters and contaminate available fish, thereby making them inedible or edible only in small quantities, the right to fish is rendered meaningless. To satisfy a tribal fishing right to continue culturally important fishing practices, fish cannot be too contaminated for consumption at sustenance levels.

3. The Trust Relationship Counsels Protection of Tribal Fishing Rights in Maine

EPA has already recognized that Maine tribes' fishing rights should be considered in regulating water quality in a 2003 decision regarding Maine's authority to issue permits under the Clean Water Act.[47] As EPA noted in that decision, the First Circuit has held that the Indian law canons of construction obliging courts to construe statutes which diminish the "the sovereign rights of Indian tribes . . . strictly" apply to the Maine tribes and that the requirement that ambiguity be interpreted in favor of tribes is "rooted in the unique trust relationship between the United States and Indians."[48]

In its decision, EPA announced that when reviewing proposed permits under the Clean Water Act[49] it would "require the state to address the tribes' uses [for sustenance fishing] consistent with the requirements of the CWA."[50] EPA's 2003 analysis of tribal fishing rights and federal review authority under the Clean Water Act was cogent and the agency should follow through on this policy in reviewing Maine's WQS.[51]

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[46] *See Bugenig v. Hoopa Valley Tribe*, 229 F.3d 1210, 1222 (9th Cir. 2000) ("[I]t is difficult to imagine how serious threats to water quality could not have profound implications for tribal self-government."); *City of Albuquerque v. Browner*, 97 F.3d. 415, 423 (10th Cir. 1996) (upholding tribal water quality standards that were more stringent than federal standards and observing that the authority to establish such high standards "is in accord with powers inherent in Indian tribal sovereignty").

[47] 68 Fed. Reg. 65052, 65068 (Nov. 18, 2003).

[48] *Penobscot Nation v. Fellencer*, 164 F.3d 706, 709 (1st Cir. 1999) (internal quotation marks omitted).

[49] The EPA specifically cited the provision codified at 33 U.S.C. § 1342(d).

[50] 68 Fed. Reg. at 65,068.

[51] The First Circuit, reviewing this EPA decision in *Maine v. Johnson,* found that EPA's analysis of the relationship between fishing rights and water quality was not ripe for consideration. 498 F.3d 37, 48 (1st Cir. 2007) ("The current relationship of the United States to [Maine] tribes, and the EPA's continued authority under the Clean Water Act to review Maine's exercise of ceded powers, present quite different

Secretary Jewell has recently reaffirmed the federal trust responsibility to tribes. Consistent with the principles of Secretarial Order 3335 on Reaffirmation of the Federal Trust Responsibility to Federally Recognized Indian Tribes, federal agencies should "[e]nsure to the maximum extent possible that trust and restricted fee lands, trust resources, and treaty and similarly recognized rights are protected."[52] In addition, consultation is a critically important part of the United States' government to government relationship with tribes, and the EPA should continue to fully consult with tribes regarding decisions that have implications for trust resources, including fishing rights.[53]

4. Conclusion

The Maine tribes rely on clean water, and in particular, on water of a quality sufficient to allow the tribes to engage meaningfully in fishing in Maine Indian Waters. Maine tribes rely on fish as a dietary staple and vital component of their cultures, and a diminution in their ability to take fish at sustenance levels results in a loss of food as well as a threat to their ability to carry on their traditions.

The Maine tribes have fishing rights connected to the lands set aside for them under federal and state statutes. Further, these fishing rights would be rendered meaningless if they did not also imply a right to water quality of a sufficient level to keep the fish edible so that tribal members can safely take the fish for their sustenance. The right of all four tribes to take fish is well-founded under State as well as Federal law as discussed in this letter.

Thank you for your attention to these matters of great importance to the Maine tribes. I appreciate the opportunity to submit these views for your consideration.

Sincerely,

Hilary C. Tompkins
Solicitor

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questions [from the ones decided in the case]. . . . [W]e take no view today as to the ultimate resolution of these potential issues.").

[52] Secretarial Order 3335 (August 20, 2014), Sec. 5, Principle 2, *available at* http://www.usbr.gov/native/policy/SO-3335_trustresponsibility_August2014.pdf.

[53] *See generally,* Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments (Nov. 6, 2000).