

Tribal Environmental Justice: Vulnerability, Trusteeship, and Equity under NEPA

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ABSTRACT

The goal of environmental justice (EJ) is for all peoples to achieve the same degree of protection from environmental and health hazards. This suggests that impacts should be evaluated from the perspective of the affected community because only the community truly knows what is at risk from adverse impacts. If the EJ assessment is based solely on spatial analysis of demographic data with a criterion that 20% of a local community must be of a single ethnic group or below a certain income level in order to be recognized as an environmental justice community, then impacts to tribal natural resources and well-being will often be overlooked or significantly underestimated. When American Indian tribes and tribal resources are affected on or off a reservation, a proper impact assessment requires considerations of natural resource trusteeship, federal fiduciary trust obligations across ceded or usual and accustomed areas, and the spatial distribution of natural resources that are potentially impacted. This can be done within a standard National Environmental Policy Act (NEPA) format by adding tribal narratives and tribal impact measures.

INTRODUCTION

ENVIRONMENTAL JUSTICE (EJ) HAS BEEN DEFINED by the U.S. Environmental Protection Agency's (EPA) Office of Environmental Justice¹ as:

The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

The goal of this "fair treatment" is not to distribute risks evenly among populations, but to lower disproportionately

high risks and consequences. Recent draft guidance² makes great strides in emphasizing "meaningful involvement" but still needs more emphasis on improving "fair treatment" or reducing disproportional impacts. In order to accomplish this, an understanding of consequences from the perspective of the affected population is needed. Impacts of site-specific federal actions are generally evaluated through an environmental impact statement prepared under the National Environmental Policy Act (NEPA). Federal agencies are encouraged to consider environmental justice in their NEPA analysis, evaluate disproportionate impacts, and identify alternative proposals that may mitigate these impacts. The Council on Environmental Quality (CEQ)'s Guidance for Environmental Justice under NEPA³ recognized that tribes⁴ might bear disproportionate burdens (emphasis added):

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¹U.S. EPA. "Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses." (April 1998). <http://www.epa.gov/compliance/resources/policies/ej/ej_guidance_nepa_epa0498.pdf>. (Last accessed on July 30, 2010).

²U.S. EPA. "Transmittal of Interim Guidance on Considering Environmental Justice During the Development of an Action." (July 2010). <<http://www.epa.gov/environmentaljustice/resources/policy/considering-ej-in-rulemaking-guide-07-2010.pdf>>. (Last accessed on July 30, 2010).

³Council on Environmental Quality. "Environmental Justice Guidance under the National Environmental Policy Act." (December 1997). <<http://ceq.hss.doe.gov/nepa/regs/ej/justice.pdf>>. (Last accessed on July 30, 2010).

⁴The terms American Indian tribes, Native American tribes, tribes, and tribal are used interchangeably, usually in a general sense rather than being limited to governments or reservations.

Agencies should consider the composition of the affected area, to determine whether minority populations, low-income populations, or Indian tribes are present *in the area* affected by the proposed action, and if so whether there may be disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Indian tribes. Agencies should consider the potential for multiple or cumulative exposure to human health or environmental hazards in the affected population and historical *patterns of exposure* to environmental hazards; Agencies should consider these multiple, or *cumulative effects*, even if certain effects are not within the control or subject to the discretion of the agency proposing the action. Agencies should recognize the *interrelated* cultural, social, occupational, historical, or economic factors that may *amplify* the natural and physical environmental effects of the proposed agency action. These factors should include the physical sensitivity of the community or population to particular impacts; the effect of any disruption on the *community structure* associated with the proposed action; and the nature and degree of impact on the physical and social structure of the community. Agencies should be aware of the diverse constituencies within any particular community.

Agencies should seek tribal representation in the process in a manner that is consistent with the government-to-government relationship between the United States and tribal governments, the federal government's *trust responsibility* to federally-recognized tribes, and *any treaty rights*.

The federal Indian trust responsibility is a legally enforceable fiduciary obligation that applies to all federal entities and that arose from Indian treaties, statutes, executive orders, and the historical relations between the United States and Indian tribes. In a broad sense, the trust responsibility "includes the protection of the sovereignty of each tribal government" (25 U.S.C. § 3601). The term "trust responsibility" is also used in a narrower sense to define the precise legal duties of the United States in managing prosperity and resources of Indian tribes, including the duty to protect tribal lands, assets, resources, and treaty rights, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.⁵

The CEQ defined effects or impacts to include "ecological ... aesthetic, historic, cultural, economic, social or health impacts, whether direct, indirect or cumulative."⁶ Recognizing that these types of impacts might disproportionately affect different communities or groups of people, President Clinton issued Executive Order 12898 in 1994,⁷ directing each federal agency to, among other things,

"Make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations,"

"Identify differential patterns of consumption of natural resources among minority populations and low-income populations,"

Evaluate differential consumption patterns by identifying "populations with differential patterns of subsistence consumption of fish and wildlife," and "Collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence."

DISCUSSION

Most of the CEQ guidance has never been incorporated into NEPA methodology,⁸ and particularly not for American Indian tribes.⁹ We believe this is due to the language in guidance directing agencies to "collect, maintain and

⁵William Bowen. "An analytical review of environmental justice research: What do we really know?" *Environmental Management* (2002) 29: 3–15. Robert Brulle and David Pellow. "Environmental Justice: Human health and environmental inequalities." *Annual Review of Public Health* (2006) 27: 103–124. Mary Northridge, Gabriel Stover, Joyce Rosenthal, and Donna Sherard. "Environmental equity and health: Understanding complexity and moving forward." *American Journal of Public Health* (2003) 93: 209–214. Robert Williams. "Essays on environmental justice: Large binocular telescopes, red squirrel pinatas, and Apache sacred mountains: Decolonizing environmental law in a multicultural world." *West Virginia Law Review* (1994) 96: 1133–1164. Ed Goodman. "Protecting habitat for off-reservation tribal hunting and fishing rights: Tribal co-management as a reserved right." *Environmental Law* (2000) 30: 279.

⁶Stuart Harris and Barbara Harper. "Environmental Justice in Indian Country: Using Equity Assessments to Evaluate Impacts to Trust Resources, Watersheds, and Eco-cultural Landscapes." Proceedings of "Environmental Justice: Strengthening the Bridge Between Tribal Governments and Indigenous Communities, Economic Development and Sustainable Communities" Conference sponsored by EPA and Medical University of South Carolina, June 1999, Hilton Head, SC. Posted at <<http://www.iiirm.org/publications/EnvJust/paper~1.pdf>>. Stuart Harris and Barbara Harper. "Environmental Justice in Indian Country: Using Equity Assessments to Evaluate Impacts to Trust Resources, Watersheds, and Eco-Cultural Landscapes." Proceedings of "Environmental Justice: Strengthening the Bridge Between Tribal Governments and Indigenous Communities, Economic Development, and Sustainable Communities." (June 1999). Posted at <<http://www.iiirm.org/publications/EnvJust/papero-1.pdf>>. Mervyn Tano. "Environmental Justice in Indian Country: The role of the national environmental policy act." Presented at *NEPA 35: Spotlight on Environmental Excellence* (Department of Energy in partnership with the Council on Environmental Quality Observance of the 35th Anniversary of the National Environmental Policy Act) Washington, D.C. November 3, 2005. Posted at <<http://www.iiirm.org/publications/Articles%20Reports%20Papers/Articles%20Dream%20Weaver%20Files/articles.htm>>. Mary Arquette, Maxine Cole, Katsi Cook, Brenda LaFrance, Margaret Peters, James Ransom, Elvera Sargent, Vivian Smoke, and Arlene Stairs. "Holistic Risk-Based environmental decision-making: a native perspective." *Environmental Health Perspectives* 10 (2002) (Supplement 2): 259–264.

⁵<<http://aspe.hhs.gov/SelfGovernance/faqs.htm>> and <<http://www.justice.gov/ag/readingroom/sovereignty.htm>>.

⁶Council on Environmental Quality. (December 1997). Op. cit.

⁷President William J. Clinton. Executive Order 12898, "Federal actions to address environmental justice in minority populations and low-income populations." (February 11, 1994), 59 FR 32: 7629–7633.

analyze information on the race, national origin, income level, and other readily accessible and appropriate information for *areas surrounding facilities or sites* expected to have substantial environmental, human health, or economic effect on the surrounding populations," which led to developing guidance and data based solely on spatial analysis of demographic data.¹⁰ Compounding this is the conventional threshold criterion that 20% of a local community must be of a single ethnic group or below a certain income level in order to be recognized as an environmental justice community.

Using this combined threshold determination (does a particular ethnic group comprise >20% of the population within a certain distance of the site?), disproportionate impacts to Native Americans are often overlooked. Further, reliance on conventional methods for economic and cumulative analysis, as well as lack of consideration of the federal trust obligations (and treaties, where they exist), makes most EJ analysis under NEPA almost completely irrelevant to American Indian tribes.

Finally, impacts to natural resources of importance to tribes, and the ripple effects throughout the community if culturally-important resources are adversely affected, is often lacking even when tribal interests are clearly involved. In traditional tribal communities, the people and their geographic place, resources, culture, health, art, religion, trade networks, social and survival activities, and their past and future are all interconnected into dynamic eco-cultural or bio-cultural systems (Harris 1998). For the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), these eco-cultural relationships form the basis for the unwritten laws or *Tamanwit* that were taught by those who came before, and are passed on through generations by oral tradition in order to protect those yet to arrive. The ancient responsibility to respect and uphold these teachings is directly connected to the culture, the religion, and the landscape. The cultural identity, survival, and sovereignty of the native nations are maintained by adhering to, respecting, and obeying these ancient unwritten laws. The elements of CTUIR *Tamanwit* include Energy, Light, Food, Dress, People/Generations, Land/Earth, Water, Speech, Air, and Dwellings. The tangible and intangible aspects of *Tamanwit* and the co-located eco-cultural system give meaning to each other through biosemiotic processes and relationships such that the distinctions between animate and inanimate, and sacred and secular, are blurred.¹¹

¹⁰Paul Mohai and Robin Saha. "Reassessing racial and socioeconomic disparities in environmental justice concerns for proposed federal actions." *Demography* 43 (2006): 383-399. Joseph Betancourt, Alexander Green, Emilio Carrillo, Owusu Ananeh-Firempong. Defining Cultural Competence: "A Practical Framework for Addressing Racial/Ethnic Disparities in Health and Health Care Public Health Reports." (2003), 118: 293-302. U.S. EPA, "Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses." (April 1998) <<http://www.epa.gov/compliance/ej/resources/reports/actionplans.html>> and <http://www.epa.gov/compliance/resources/policies/ej/ej_guidance_nepa_epa0498.pdf> (last accessed July 30, 2010).

¹¹Harris, S. G. 1998. Cultural Legacies: Challenge to the Risk Community. Plenary Address, Society for Risk Analysis Annual Meeting, December 7, 1998. Phoenix, AZ, USA.

Thus, if a cultural keystone resource such as salmon, which are an integral part of the economy and every ceremony, is altered, all of the elements of *Tamanwit* are affected beyond the simple loss of some calories and micronutrients.

The Government Accountability Office (2007)¹² recommended that EPA pay more attention to EJ, including spatial distribution,¹³ but also recognized that EPA still did not have the required data or perspectives. Further, identifying an EJ community by geospatial ethnicity is not the same as identifying a disadvantaged layer coexisting within a community.¹⁴ Distinct populations may live differently and separately, and if federal actions or pollution sources are unevenly spaced, then exposures and impacts may be unequal.¹⁵ For tribes, the evaluation of disproportionate impacts is more often a question of the effectiveness of the federal fiduciary trust obligations to protect natural resources, rather than demographic screening. Therefore, if tribal impacts are suspected, we recommend identifying the spatial distribution of affected natural resources rather than the usual ethnic demographics.¹⁶

¹²Government Accountability Office. "Environmental Justice: EPA Should Devote More Attention to Environmental Justice When Developing Clean Air Rules." GAO-05-289. (July 2005). Posted at <<http://www.gao.gov/htext/d05289.html>> (last accessed July 30, 2010). Government Accountability Office. "Environmental Justice: Measureable benchmarks needed to gauge EPA progress in correcting past problems." (July 2007) GAO-07-1140T. Posted at <<http://www.gpo.gov/fdsys/pkg/GAOREPORTS-GAO-07-1140T/content-detail.html>> (last accessed July 30, 2010).

¹³Susan Cutter, Lindsey Barnes, Melissa Berry, Christopher Burton, Elijah Evans, Eric Tate, and Jennifer Webb. "A place-based model for understanding community resilience to natural disasters." *Global Environmental Change* 18 (October 2008): 598-606.

¹⁴Robert Williams, op cit. Michael Taquino, Domenico Parisi and Duane A. Gill. "Units of Analysis and the Environmental Justice Hypothesis: The Case of Industrial Hog Farms." *Social Science Quarterly* (August 2003) 83:298-316.

¹⁵Lance Waller, Thomas Louis, Bradley Carlin. "Environmental justice and statistical summaries of differences in exposure distributions." *Journal of Exposure Analysis and Environmental Epidemiology* (Jan-Feb, 1999) 9:56-65. Terre Satterfield, C. K. Mertz, and Paul Slovic. "Discrimination, Vulnerability, and Justice in the Face of Risk." *Risk Analysis* (2004) 24: 115-129. Jason Corburn. "Environmental Justice, local knowledge, and risk: The discourse of a community-based cumulative exposure assessment." *Environmental Management* 29 (2002): 451-466.

¹⁶Stuart Harris and Barbara Harper. (1998). Characterizing risks: Can DOE achieve intersite equity by 2006? *DOE's Waste Management Conference* (Waste Management '98, Albuquerque, NM). Stuart Harris and Barbara Harper. "Environmental Justice in Indian Country: Using Equity Assessments to Evaluate Impacts to Trust Resources, Watersheds, and Eco-Cultural Landscapes." *Proceedings of Environmental Justice: Strengthening the Bridge Between Tribal Governments and Indigenous Communities, Economic Development, and Sustainable Communities* (1999). Posted at <<http://www.iiirm.org/publications/EnvJust/papero-1.pdf>> (last accessed July 30, 2010). Barbara Harper and Stuart Harris. "Equity Assessment and tribal eco-cultural risk." Alaska Forum on the Environment, Anchorage (February 2001). Barbara Harper, Anna Harding, Therese Waterhouse, and Stuart Harris. *Regional Tribal Exposure Scenarios Based on Major Ecological Zones and Traditional Subsistence Lifestyles* (2007). <<http://www.hhs.oregonstate.edu/ph/tribal-grant-main-page>> (last accessed on July 30, 2010).

DISPROPORTIONATE EXPOSURES

Disproportionate exposures to tribal members from environmental contaminants can be studied from several perspectives. The spatial distribution of mines, dumps, or Superfund sites on or near Indian reservations has been addressed in several formats and is not addressed here.¹⁷ A second perspective is higher exposure to environmental contaminants due to greater ingestion rates of wild foods, especially fish. This is also a well-recognized problem and is not further discussed here.¹⁸ A third perspective is that risk assessments need to specifically address tribal members undertaking traditional practices or living traditional lifestyles. It is self-evident that tribal members often incur higher exposures to environmental contaminants because their interaction with the environment is more frequent, intense, and prolonged. Exposure scenarios developed for Superfund, NEPA applications, and standards development¹⁹ are becoming available, and should become a standard part of NEPA evaluations if the potential for release of chemicals is present.

VULNERABILITY

In addition to the requirement to identify populations who are more highly exposed (Executive Order 12898), EPA is also required to protect sensitive populations.²⁰ In addition to obvious sensitivities in children or elders, tribal communities may also experience a wide range of stressors or co-risk factors, such as poverty, disproportionate job hazards, existing health disparities and comorbidities, limited access to health care, later diagnosis and less access to advanced care, pervasive discrimination, overburdened or aged infrastructure, dependence on subsistence resources with increasing legal threats to hunters and fishers, loss of access to fishing, hunting, and gathering grounds, contamination of subsistence resources (fish toxics in particular), genetic polymorphisms that may increase sensitivity to environmental toxicants, rural dumps, lower quality of utilities and communication

capabilities, poorer schools, increased domestic violence, loss of religion, loss of language, increased mental health issues, greater jail time than non-natives, higher smoking and substance abuse rates, poorer housing (mold, lead, asbestos, crowded, not handicap-accessible), lack of homeowner loans and higher interest rates, and lack of money to get technical and legal expertise needed for equal participation to decision processes. As recommended by CEQ guidance, this cluster of co-risk factors should be described because it can amplify the impacts. This information could be used as a multiplier during impact quantification; the magnitude of the multiplier might depend on the number and severity of the existing deficit(s).

SCREENING FOR DISPROPORTIONATE IMPACTS

In order to identify whether an EJ situation exists, a tribal perspective would direct a federal agency to include evaluation of natural resource usage patterns, perform a tribal health risk assessment that considers traditional uses of natural resources, and consider preexisting stressors that may cluster in tribal communities in the cumulative assessment. Asking the following questions may help identify potential tribal EJ situations.²¹

Step 1. Are the affected natural resources important to tribes?

- Do tribes use the resources from the impacted zone?
- What eco-cultural attributes of the resource or system does the tribal community value?
- Is the affected area linked ecologically, culturally, nutritionally, visually, or hydrologically to other tribal resources or areas?
- Is the affected area within a tribal historic area (usual and accustomed area, ceded area, archaeological district), a traditional cultural property, a viewshed, or a tribally important landscape?
- Is a tribe a Natural Resource Trustee of the affected resource or lands?

Step 2. Is there a potential for causing an adverse change in functions or service flows?

- What goods and services flow from the system under baseline conditions of environmental quality? For convenience, these may be grouped in various ways, such as (a) ecological, cultural, recreational and general impact categories, (b) health, ecological, socio-

¹⁷U.S. EPA. OSWER: FY 2010 Tribal Solid Waste Management Assistance Project. <<http://www.epa.gov/oswer/docs/grants/epa-oswer-orcr-10-02.pdf>>(last accessed August 1, 2010); and several predecessor programs.

¹⁸Jamie Donatuto and Barbara Harper. "Issues in Evaluating Fish Consumption Rates for Native American Tribes." *Risk Analysis* (2008) 28: 1497–1506. Catherine O'Neill. "Variable Justice: Environmental Standards, Contaminated Fish, and Acceptable Risk to Native Peoples." *Stanford Environmental Law Journal*. (January 2000) 1–118.

¹⁹Stuart Harris and Barbara Harper. "A Native American Exposure Scenario." *Risk Analysis* (1997) 17: 789–795. Stuart Harris and Barbara Harper. "Exposure Scenario for CTUIR Traditional Subsistence Lifeways." (October 2004). <<http://www.hhs.oregonstate.edu/ph/tribal-grant/index.html>> (last accessed August 1, 2010). Barbara Harper and Darren Ranco. "Wabanaki Traditional Cultural Lifeways Exposure Scenario." <<http://www.epa.gov/boston/govt/tribes/pdfs/DITCA.pdf>>(last accessed August 1, 2010).

²⁰1996 Safe Drinking Water Act Amendments (section 1458(a)); <http://www.epa.gov/aging/press/epanews/2010/2010_0223_1.htm>.

²¹Harper, B. and Harris, S. (2001) An Integrated Framework for Characterizing Cumulative Tribal Risks. Posted at <<http://www.iiirm.org>>; Harper, B.L. and Harris, S.G., "Measuring Risks to Tribal Community Health and Culture," *Environmental Toxicology and Risk Assessment: Recent Achievements in Environmental Fate and Transport, Ninth Volume, ASTM STP 1381*, F. T. Price, K. V. Brix, and N. K. Lane, Eds., American Society for Testing and Materials, West Conshohocken, PA, 1999. Stuart Harris and Barbara Harper. "Using Eco-Cultural Dependency Webs in Risk Assessment and Characterization." *Environmental Science and Pollution Research* (2000) 7(Special 2): 91–100.

cultural, and socio-economic endpoints, or (c) natural, human, built, and economic systems.

Is there a potential for resource injury due to physical disturbance, contamination, desecration, or aesthetic degradation?

Are there existing stressors in the resource or community (a measure of vulnerability)?

Step 3. What are the potential consequences?

Is there a potential for injury in one or more categories of impacts (e.g., health risk, impacts to the subsistence or socio-economic system, cumulative health risks and impacts, or socio-cultural impacts), at local, eco-system, or regional scales?

Are the impacts likely to be quickly reversible? Is there a likelihood of acceptable replacement or other opportunity to rectify the impacts?

Is there a potential for disparities between populations across all consequences?

IMPACT ANALYSIS

If the answers to the above questions suggest that there might be disproportionate impacts, then a more detailed examination of impacts to Native Americans can include the following evaluations (more detail is provided in the companion article by Harris and Harper, this volume):

Affected Resources. Are the natural resources of tribal interest impacted by the action? Are there resources of tribal concern that are not important to the non-tribal population? Are resources important for more reasons or different reasons to a tribe? Are there resources of recreational (and replaceable) interest to the non-tribal population but of cultural (and irreplaceable) interest to tribes? How important are those resources or places? How many ways are those resources or places important? How large is the impacted area from a tribal perspective? If a medicinal/spiritual resource is contaminated or destroyed, is the entire community affected even if only a small number of people or a small but crucial area is affected (the answer is often yes)?

Health risk. Are the exposures to contaminants higher when a tribal subsistence scenario is used as compared to the rural residential or other non-native scenario? Are there existing disparities in health status?

Socio-cultural impacts. What impacts to the heritage or culture (social, educational, and other systems) could occur? What proportion of tribal members is affected (rather than absolute numbers of people)? Is cultural awareness and respect shown equitably to

the affected tribes as to the local civic entities? Is adverse medicinal/spiritual impact to the whole tribe given as much weight as economic benefit to a small portion of the non-tribal population?

Socio-economic impacts. Have subsistence economic attributes been evaluated? Is a subsistence cost-benefit analysis or lifecycle impact profile included? How is spiritual value compared to economic value?

Do disparities in impact accumulate over many generations, and do they accumulate at a higher rate in the EJ community? Have the next seven or more generations been taken into consideration?

Is the tribe already vulnerable (at risk) due to existing health disparities, economic disadvantages, higher exposure to other toxics, or other co-risk factors?

Is the federal fiduciary trust obligation being met?

CONCLUSION

The goal of meaningful involvement is to engage early with tribes in making decisions together. This includes a requirement for government-to-government consultation (Executive Order 13175), and not just providing early information or allowing participation in a public process. Consultation does not mean simply informing a tribe about looming impacts so they can make preparations to absorb the consequences. Consultation does not mean simply allowing a tribe to submit comments on documents in an attempt to change a decision that is already essentially made. The definition of consultation is a work in progress. Agencies spend hundreds of pages describing what consultation might be. Tribes tend to be more succinct in defining consultation: "Ask the Tribe what it wants you to do, then do it, then ask if you got it right." If tribes are engaged early in the process, relevant evaluation of risks and impacts to tribes can be performed early enough to make a difference in the decision process (see companion article, this volume). The real challenge is then to reduce impacts and achieve fair treatment.

AUTHOR DISCLOSURE STATEMENT

The authors have no conflicts of interest or financial ties to disclose.

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