



October 24, 2024

USDA Forest Service Southwestern Region
ATTN: Objection Reviewing Officer, Regional Forester Michiko Martin
333 Broadway Blvd. SE
Albuquerque, NM 87102

Submitted electronically via online web form at
<https://cara.fs2c.usda.gov/Public//CommentInput?Project=63199>

Re: Caja del Rio Coalition's Objection to LANL EPCU Project

Dear Regional Forester Martin:

We are filing this Objection with the United States Forest Service to the draft Decision Notice ("DN"), Finding of No Significant Impact ("FONSI"), and final Environmental Assessment ("EA") issued by the Santa Fe National Forest ("SFNF"), along with the National Nuclear Security Administration ("NNSA") and the Bureau of Land Management ("BLM") ("agencies," collectively), for the Los Alamos National Laboratory ("LANL") Electrical Power Capacity Upgrade ("EPCU") Project. This objection is submitted on behalf of the following organizations, which are members of the Caja del Rio coalition: New Mexico Wilderness Alliance (New Mexico Wild), American Rivers, Conservation Lands Foundation, Conservation Voters New Mexico, EarthKeepers 360, Flower Hill Institute, National Parks Conservation Association, National Wildlife Federation, New Mexico Interfaith Power and Light, Pueblo Action Alliance, and The Wilderness Society ("Objectors," collectively).

Objectors are concerned with the management and protection of the Caja del Rio plateau ("Caja"). The draft DN proposes to amend the 2022 SFNF Land Management Plan ("LMP") with the establishment of a new management area known as the S/N Transmission Line Utility Corridor Management Area ("SNTUC") and approve issuance of a special use permit for the construction, operation, and maintenance of a new 14-mile, 115-kilovolt ("kV") power transmission line across the Caja on National Forest System lands to serve as a second redundant source of power for LANL. Across the Rio Grande from Bandelier

National Monument, at approximately 107,000 acres, the Caja is one of the most ecologically rich and culturally significant landscapes in the American Southwest. Objectors, representing millions of members, have been working for permanent land, wildlife, watershed, and cultural resource protections on the Caja for years, and have an organizational interest in projects, like this proposal, which will permanently and irreparably damage the resources present on the Caja.

We are especially concerned that the EPCU Project will cause significant adverse impacts on cultural resources, wildlife, and the Caja del Rio Wildlife and Cultural Interpretive Area (“Caja Management Area”), which the SFNF designated in the 2022 LMP to support wildlife diversity and connectivity and to maintain cultural and archeological integrity. The EPCU Project would bisect the Caja Management Area with a 100-foot-wide utility corridor, a temporary 300-foot-wide construction zone and right of way (“ROW”), and permanent transmission lines, towers, and infrastructure.

To safeguard the resources of the Caja Management Area, the 2022 LMP incorporates a mandatory standard that prohibits new utility development like the EPCU Project as follows: “Maximize use of existing utility line corridors for additional utility line needs. **New utility corridors and communication sites will not be allowed.**”¹ To accommodate the EPCU project, however, the SFNF proposes to amend the LMP by adding an exception to this standard: “except for the Los Alamos National Laboratory Electrical Power Capacity Upgrade Project, S/N transmission line.”² We strongly object to the creation of the SNTUC and the proposed LMP amendments required to proceed with the EPCU Project.

This Objection is filed pursuant to and in compliance with 36 C.F.R. Part 218, Subparts A and B (project level review) and 36 C.F.R. Part 219, Subparts A and B (forest plan amendments). All parties to this Objection have filed timely, specific, and substantive written comments in accordance with 36 C.F.R. §§ 218.5 and 219.53. Specifically, Objectors submitted scoping comments about the EPCU Project on May 21, 2021,³ and/or submitted comments on the Draft EA on February 20, 2024.⁴ The legal notice for this decision was published on September 11, 2024, and this Objection is timely if filed on or before October 28, 2024.⁵

¹ USDA Forest Service, Santa Fe National Forest, Land Management Plan, at 201 (July 2022) (emphasis added), available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd1046331.pdf [hereinafter “SFNF LMP”].

² NNSA, DOE, USFS, & BLM, Los Alamos National Laboratory Electrical Power Capacity Upgrade Project Final Environmental Assessment, DOE/EA-2199, at Appendix A, p. 3; Appendix K, p. 3 (Aug. 2024) [hereinafter EA].

³ New Mexico Wild et al., Electrical Power Capacity Upgrade Project (May 21, 2021) [hereinafter Scoping Comments].

⁴ Caja del Rio Coalition, Comments on Draft Environmental Assessment for Proposed LANL Transmission Line Across the Caja del Rio Plateau; Electrical Power Capacity Upgrade (EPCU) Project, DOE/EA-2199, LA-UR-23-325753 (Feb. 20, 2024) [hereinafter Caja Coalition Comments].

⁵ 36 C.F.R. §§ 218.6 (computation of time for project-level review); 218.7(b)(2)(iv) (providing a 45-day objection period for a project or activity implementing a land management plan); 36 C.F.R. § 219.65(a)-(b) (providing 45-day objection period and time computation rules for land management plan amendments).

I. REQUIRED INFORMATION

As required by 36 C.F.R. §§ 218.8(d) and 219.54(c), Objectors provide the following information:

1. New Mexico Wild, American Rivers, Conservation Lands Foundation, Conservation Voters New Mexico, EarthKeepers 360, Flower Hill Institute, National Parks Conservation Association, National Wildlife Federation, New Mexico Interfaith Power and Light, Pueblo Action Alliance, and The Wilderness Society are the Objectors. The Objectors' names and contact information are listed at the end of this Objection.
2. This Objection is submitted on behalf of the Objectors by Sally Paez, whose signature and contact information are below. Sally Paez is the Lead Objector for purposes of communication regarding the Objection:
Sally Paez
New Mexico Wild
P.O. Box 25464
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(505) 843-8696
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3. The project that is the subject of this Objection is the proposed LANL EPCU Project and associated SFNF LMP amendment and special use permit.
4. The Responsible Official is Shaun Sanchez, Forest Supervisor of the SFNF.
5. The Objectors submitted timely, specific, and substantive written comments during the public comment periods for scoping and the draft EA. All points and issues raised in this objection refer to issues raised in those comment letters or new information. Our previous comments include the following:
 - (a) New Mexico Wild, EarthKeepers 360, National Wildlife Federation, Pueblo Action Alliance, & The Wilderness Society, *Electrical Power Capacity Upgrade Project* (May 21, 2021) (Scoping Comments); and
 - (b) Caja del Rio Coalition, consisting of EarthKeepers 360, First Presbyterian Church of Santa Fe, New Mexico Wilderness Alliance, American Rivers, Amigos Bravos, Center for Biological Diversity, Conservation Lands Foundation, Conservation Voters New Mexico, Defenders of Wildlife, Flower Hill Institute, Interfaith Power and Light, National Parks Conservation Association, New Mexico Wildlife Federation, Partnership for Responsible Business, Seedling Innovations, Sierra Club, The Wilderness Society, Western

Environmental Law Center, & WildEarth Guardians, *Comments on Draft Environmental Assessment for Proposed LANL Transmission Line Across the Caja del Rio Plateau; Electrical Power Capacity Upgrade (EPCU) Project, DOE/EA-2199, LA-UR-23-325753* (Feb. 20, 2024) (Caja Coalition Comments).

6. Below, Objectors provide the specific issues related to the proposed project; how the Objectors believe the environmental analysis and draft decision specifically violates law, regulation, and policy; suggested remedies that would resolve the Objection; and supporting reasons for the Reviewing Officer to consider.

II. STATEMENT OF THE ISSUES

A. The Draft Decision Is Inconsistent with the National Environmental Policy Act.

The Santa Fe National Forest’s draft DN, FONSI, and EA are inconsistent with the National Environmental Policy Act of 1969 (NEPA)⁶ and its implementing regulations.⁷ Congress enacted NEPA to promote government efforts that “will prevent or eliminate damage to the environment.”⁸ The Tenth Circuit Court of Appeals has called NEPA the “centerpiece of environmental regulation in the United States.”⁹ NEPA has two primary aims. First, it obligates federal agencies “to consider every significant aspect of the environmental impact of a proposed action.”¹⁰ Second, it “ensures that an agency will inform the public that it has considered environmental concerns in its decision-making process.”¹¹ “Simply by focusing the agency’s attention on the environmental consequences of a proposed project, NEPA ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.”¹²

1. The USFS Erred by Issuing a FONSI Instead of Conducting an EIS.

The Santa Fe National Forest erred by issuing a FONSI instead of completing an Environmental Impact Statement (EIS) under NEPA. Under NEPA, an “agency shall issue an environmental impact statement with respect to a proposed agency action . . . that has a reasonably foreseeable significant effect on the quality of the human environment.”¹³

⁶ National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321 et seq.

⁷ 40 C.F.R. Part 1500 (CEQ regulations); 36 C.F.R. Part 220 et seq. (USFS regulations).

⁸ 42 U.S.C. § 4321; see also *Ecology Ctr., Inc. v. U.S. Forest Serv.*, 451 F.3d 1183, 1185 (10th Cir. 2006) (quoting same).

⁹ *N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 703 (10th Cir. 2009).

¹⁰ *Utah Shared Access All. v. U.S. Forest Serv.*, 288 F.3d 1205, 1207 (10th Cir. 2002) (quoting *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 97 (1983)).

¹¹ *Id.*

¹² *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); see also 40 C.F.R. § 1502.2(f) (“Agencies shall not commit resources prejudicing the selection of alternatives before making a decision”).

¹³ 42 U.S.C. § 4336(b)(1).

When evaluating the intensity or significance of effects, relevant factors include the “duration of the effect,” the “degree to which the action may adversely affect unique characteristics of the geographic area such as historic or cultural resources, parks, Tribal sacred sites, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas,” the “degree to which the action may adversely affect resources listed or eligible for listing in the National Register of Historic Places,” the “degree to which the action may adversely affect an endangered or threatened species or its habitat,” the “degree to which the action may adversely affect communities with environmental justice concerns,” and the degree to which the action may adversely affect “rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders.”¹⁴

Here, the EPCU Project, as described in the DN, FONSI, and EA, would have permanent adverse impacts on one of the most ecologically rich and culturally significant landscapes in the American Southwest. As described in detail in our previous comments, the EPCU Project would have significant adverse effects on the cultural, traditional, spiritual, historical, and archaeological values of the Caja¹⁵; wildlife, including federally and state-listed threatened and endangered species, wildlife habitat, and wildlife corridors on the Caja¹⁶; sensitive plants and vegetation communities on the Caja;¹⁷ geology and watersheds on the Caja;¹⁸ environmental justice communities who rely on the Caja,¹⁹ and the recreational, educational, economic, and scenic values of the Caja.²⁰

As reflected in the final EA, multiple factors identified in the NEPA regulations weigh in favor of conducting an EIS, including the presence of cultural resources, Tribal sacred sites, ecologically critical areas, resources listed and eligible for listing in the National Register of Historic Places, federally listed threatened and endangered species, communities with environmental justice concerns, and the rights of Tribal Nations. The intensity of the effects is significant because the EPCU Project could permanently destroy an array of unique and irreplaceable cultural, natural, and scenic resources.

The intensity of the significant adverse impacts on cultural resources is particularly high. As acknowledged in the draft DN, FONSI, and final EA, “the agencies were unable to establish a route [for the EPCU Project transmission corridor] that avoids all visual, atmospheric, and auditory impacts to cultural resources,”²¹ and the EPCU Project would

¹⁴ 40 C.F.R. § 1501.3(d)(1)-(2).

¹⁵ Caja Coalition Comments at pp. 3-5.

¹⁶ *Id.* at pp. 5-14.

¹⁷ *Id.* at pp. 14-18.

¹⁸ *Id.* at pp. 18-19.

¹⁹ *Id.* at pp. 37-40.

²⁰ *Id.* at pp. 19-22.

²¹ USDA Forest Service, Santa Fe National Forest, Supervisor’s Office, Santa Fe, NM, Decision Notice and Finding of No Significant Impact for the Los Alamos National Laboratory’s Electrical Power Capacity Upgrade (EPCU) Project, at p. 6 (Sept. 2024) [hereinafter DN and FONSI].

therefore “constitute an adverse effect” under the National Historic Preservation Act.²² The agencies propose to address these adverse impacts through the negotiation of a “Memorandum of Agreement developed in consultation between Tribes, the SHPO, the Advisory Council on Historic Preservation, and the agencies.”²³ The agencies state that the future MOA will impose mitigations on the EPCU Project that are “separate from and in addition to the mitigations outlined in Appendix C” of the final EA.²⁴

The agencies cannot, however, address impacts on cultural resources through an MOA without first obtaining a better understanding of those resources. Many of the most significant cultural resources on the Caja are not archaeological in nature. These non-archaeological resources, equally important for their cultural and spiritual value, include traditional cultural properties and other features that cannot be identified by archaeologists, but only by traditional Indigenous practitioners and cultural resource identification experts from affiliated Pueblos and Tribes. Importantly, the federal agencies have relied on outdated archaeological literature reviews in the EA and have failed to incorporate traditional Indigenous knowledge. A growing body of federal law, regulation, and policy dictates that federal agencies must include Indigenous knowledge as part of the best available scientific information that must be used in the decision-making process.²⁵

Due to the reasonably foreseeable significant impact on cultural resources, the All Pueblo Council of Governors and sovereign Pueblo governments have been calling for a thorough analysis through an EIS and for a Tribally led ethnographic study of the Caja del Rio Traditional Cultural Landscape.²⁶ To comply with NEPA (and the National Historic Preservation Act, discussed below), the SFNF and other agencies should support the requested Tribally led ethnographic study and use that study to inform an EIS that addresses reasonably foreseeable significant effects to cultural resources, as well as the other effects. The agencies cannot rely on separate, post-NEPA negotiations and the development of an MOA with mitigations to reach a FONSI.

²² EA, at p. 3-28.

²³ *Id.*

²⁴ *Id.*

²⁵ See, e.g., **Attachment A:** Executive Office of the President, Memorandum for the Heads of Departments and Agencies, Indigenous Traditional Ecological Knowledge and Federal Decision Making (Nov. 15, 2021); **Attachment B:** Executive Office of the President, Memorandum for the Heads of Departments and Agencies, Guidance for Federal Departments and Agencies on Indigenous Knowledge (Nov. 30, 2022). See generally 36 C.F.R. 219.19 (providing definition of “Indigenous knowledge” for purposes of U.S. Forest Service Land Management Planning); Forest Service Handbook 1909.12 – Land Management Planning Handbook, Part 07.13 (May 1, 2024) (Amendment 1909.12-2024-1 clarified “that ‘Indigenous knowledge’ and data and information from Tribal and Indigenous participation are appropriate sources of Best Available Scientific Information.”)

²⁶ See, e.g., **Attachment C:** All Pueblo Council of Governors, For Immediate Release: All Pueblo Council of Governors Call for Tribally-Led Ethnographic Study of the Caja del Rio Traditional Cultural Landscape (July 16, 2024).

In sum, the SFNF must prepare an EIS that addresses the reasonably foreseeable significant effects that the EPCU Project will have on the quality of the human environment, including cultural resources, wildlife, and other impacted resources, as described in our previous Caja Coalition Comments. Given the intensity and duration of the impacts, including the identified yet unresolved issues regarding significant adverse impacts to cultural resources, the decision to issue a FONSI, rather than proceed with an EIS, is arbitrary and capricious.

2. The SFNF Failed to Take a Hard Look at Environmental Consequences.

NEPA requires all Federal agencies to take a “hard look” at the environmental impacts of a decision before the decision is made.²⁷ Conclusory statements regarding impacts without adequate discussion do not constitute the required “hard look” under NEPA.²⁸ The agency’s “hard look” analysis must utilize “public comment and the best available scientific information.”²⁹ The agency must carefully gather and consider relevant “detailed information concerning significant environmental impacts” and share that information with the public.³⁰ The “hard look” must consider direct, indirect, and cumulative effects or impacts, including ecological, aesthetic, historic, cultural, economic, social, health, and disproportionate and adverse effects on communities with environmental justice concerns.³¹

Here, as previously described in our Caja Coalition Comments, the final EA fails to take a sufficiently hard look at the EPCU Project’s impacts on cultural resources, wildlife including threatened and endangered species and other species of conservation concern, migratory and resident avian species that use the Rio Grande flyway, wildlife habitats and corridors, large mammals and big game species, the El Camino Real de Tierra Adentro National Historical Trail (NHT), geology and watersheds, visual and scenic resources, and adverse effects on environmental justice communities.

Moreover, the Norton and Reeves transmission lines already fragment the Caja to serve LANL. The rights of way associated with these lines have caused a proliferation of illegal and unmanaged off-highway vehicle use, illegal dumping, and unmanaged recreational shooting. The Project would cut a new ROW across undeveloped portions of the Caja, including the Caja Management Area. Although the EA states in a conclusory manner that it considered cumulative impacts, the EA considers the EPCU Project in isolation and fails to take a hard look at the overall effects, including cumulative impacts that the EPCU Project would have on the Caja as a whole. The agencies’ failure to take a hard look at direct, indirect, and cumulative impacts of the EPCU Project under NEPA is arbitrary and capricious.

²⁷ See 42 U.S.C. § 4332(2)(C); *Robertson*, 490 U.S. at 349-50.

²⁸ *Davis v. Mineta*, 302 F.3d 1104, 1122-23 (10th Cir. 2002).

²⁹ *Colo. Env'tl. Coal. V. Dombeck*, 185 F.3d 1162, 1171 (10th Cir. 1999).

³⁰ See *Robertson*, 490 U.S. at 349; *Greater Yellowstone Coal. v. Flowers*, 359 F.3d 1257, 1277 (10th Cir. 2004).

³¹ 40 C.F.R. § 1508.1(i).

3. The SFNF Failed to Analyze Baseline Information.

NEPA requires federal agencies to analyze the current baseline conditions of the areas that may be affected by a project or its alternatives. The SFNF must “describe the environment of the area(s) to be affected or created by the alternatives under consideration, . . . including existing environmental conditions.”³² “Without establishing the baseline conditions . . . there is simply no way to determine what effect the [EPCU Project] will have on the environment, and consequently, no way to comply with NEPA.”³³

Here, the EA has failed to establish baseline information regarding existing environmental conditions. Regarding cultural resources, as highlighted in our previous Caja Coalition Comments, the Caja contains an abundance of irreplaceable cultural, archaeological, and historical resources.³⁴ The EA reflects that as part of the EPCU Project, cultural resource inventories were conducted along a 200-foot corridor (along the existing Reeves transmission line) and 400-foot corridor (east of the Reeves transmission line), which the agencies defined as the “area of potential effects” (APE).³⁵ These inventories identified 101 cultural resources, including 16 that have not yet been evaluated for eligibility on the National Register of Historic Places.³⁶ The agencies must do more to evaluate eligibility and potential impacts on the identified cultural resources along the planned transmission corridor.

Moreover, given the cultural importance of the Caja landscape, the APE is inadequate in size and scope. Recent inventories along a 200 or 400-foot corridor provide an inadequate baseline for evaluating the impacts of the EPCU Project. To address this, the agencies must ensure that the environmental review under NEPA incorporates the findings of a Tribally led ethnographic study.

Additionally, as described in our previous comments, the EA lacks necessary baseline information related to wildlife and plant communities.³⁷ As described in the 2022 LMP for the SFNF, “the Caja is diverse in plant and animal species, both in overall numbers (population) as well as what species are found in the area (biodiversity).”³⁸ The Caja’s habitat and biodiversity are especially “rich due to the interplay between the locally diverse environments . . . when compared to other areas of the forest, including the range from steep canyon riparian to open grassland on the south end and rugged volcanic country on the plateau above the river.”³⁹

³² 40 C.F.R. § 1502.15 (a)-(b).

³³ *Half Moon Bay Fisherman’s Mktg. Ass’n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988).

³⁴ Caja Coalition Comments at 3-5; Scoping Comments at 2, 6-7.

³⁵ EA at p. 3-27.

³⁶ *Id.*

³⁷ Caja Coalition Comments at pp. 9-13; Scoping Comments at pp. 9-10.

³⁸ SFNF LMP, at p. 200.

³⁹ *Id.*

The EA does not provide adequate baseline information about the diverse array of wildlife, plant and vegetation communities, habitats, and wildlife corridors that would be harmed by the EPCU Project, including endangered, threatened, and sensitive species; avian species that use the Rio Grande corridor for habitat and migration; declining populations of grassland birds; migratory birds protected by the Migratory Bird Act; eagles and other raptors; plants and animals that depend on riparian and cliff-side habitat; and large mammals and game species that depend on the project area for breeding and movement.

The meager wildlife and vegetation surveys considered in the EA provided very little information about the plant and animal communities that would be impacted by the EPCU Project.⁴⁰ In total, these surveys consisted of the following: (1) vegetation transect surveys in 2020, 2021, and 2022⁴¹; and (2) an avian point count survey conducted over four days in April and May of 2021.⁴² The biologists who conducted the 2020 vegetation survey also happened to observe earthen mounds and burrows, and recorded these sightings, which could indicate the presence of Gunnison prairie dogs or burrowing owls.⁴³

As argued in our previous comments,⁴⁴ the avian survey conducted over four days in a single year and season cannot provide an accurate view of the species that are utilizing the project area over the course of one or several years. These species include species protected under the Migratory Bird Act⁴⁵ and the Bald and Golden Eagle Protection Act.⁴⁶ Additionally, the vegetation surveys covered only a 300-foot strip, including the permanent 100-foot ROW and the additional 200-foot temporary ROW needed for construction, and did not consider impacts to the broader vegetative community. Moreover, none of the surveys included protocols for evaluating sensitive species such as Gunnison prairie dogs, burrowing owls, or pinyon jays. None of the surveys looked for large mammals, including game species, migratory species, or ungulates, to determine how they are using the Caja for migration corridors, seasonal usage, essential breeding, reproduction, or foraging. None of the surveys considered the array of resident and migratory avian species that use the Rio Grande corridor throughout an annual cycle, or the impacts on these birds of adding a new transmission line over the river.

The agencies have failed to obtain and present adequate baseline information in the environmental assessment, as required by NEPA.

⁴⁰ EA, Appendix F, at pp. 11-13.

⁴¹ *Id.* at p. 11.

⁴² *Id.* at p. 12.

⁴³ *Id.* at p. 13.

⁴⁴ Caja Coalition Comments at pp. 9-13.

⁴⁵ Migratory Bird Treaty Act of 1918 (MBTA), 16 U.S.C. §§ 703-712; *see also* 50 C.F.R. § 10.13 (list of birds protected by the MBTA).

⁴⁶ Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. § 668.

4. The SFNF Failed to Evaluate a Reasonable Range of Alternatives.

When conducting an environmental review, NEPA requires federal agencies to “study, develop and describe appropriate alternatives,” including a no action alternative.⁴⁷ “In general, NEPA analysis uses a no-action alternative as a baseline for measuring the effects of the proposed action.”⁴⁸ In developing a proposed action, an agency should “[r]igorously explore and objectively evaluate reasonable alternatives to the proposed action, and, for alternatives that the agency eliminated from detailed study, briefly discuss the reasons for their elimination.”⁴⁹ An agency must “act reasonably in eliminating alternatives from detailed study.”⁵⁰ An “agency need not consider every conceivable alternative to a proposed action,” but “it shall consider a reasonable range of alternatives that will foster informed decision making.”⁵¹ An “agency’s elimination of an alternative from detailed study . . . [is] arbitrary and capricious [when] its explanation for doing so [is] inconsistent with its stated purpose.”⁵²

Here, the EA states that the purpose and need for the proposed action is as follows:

DOE/NNSA requires a reliable and redundant electrical power transmission supply to support mission requirements conducted at LANL facilities that are essential to maintaining LANL’s mission. An electrical power shortfall in the carrying capacity of the two existing transmission lines that service LANL and Los Alamos County is projected before 2027.⁵³

As explained in the EA, currently “LANL owns and operates a 115 kV transmission system served by two import lines from upstream PNM substations in Santa Fe (the Norton Line) and Bernalillo (the Reeves Line).”⁵⁴ The EA includes only one action alternative,⁵⁵ i.e., the construction of new transmission poles and lines along a 14-mile path with a 100-foot permanent ROW and a 300-foot construction ROW. The new line would originate at the existing Norton substation and parallel the existing Reeves transmission line for a portion of its route.

During public comment opportunities, Objectors and other stakeholders urged NNSA to find a different transmission route and/or analyze a comprehensive approach to provide necessary power to LANL, for example, by modernizing facilities with onsite solar generation and rooftop solar, updating existing facilities for energy saving and

⁴⁷ 42 U.S.C. § 4332(C)(iii), (H) .

⁴⁸ *Biodiversity Conservation All. v. U.S. Forest Serv.*, 765 F.3d 1264, 1269 (10th Cir. 2014).

⁴⁹ 40 C.F.R. § 1502.14(a).

⁵⁰ *High Country Conservation Advocates v. U.S. Forest Serv.*, 951 F.3d 1217, 1227 (10th Cir. 2020).

⁵¹ *Id.*

⁵² *Id.* at 1225 (footnote omitted).

⁵³ EA at p. 1-6.

⁵⁴ *Id.*

⁵⁵ EA at p. 2-1.

conservation, developing grid-enhancing and microgrid technologies, partnering with neighboring Tribes for renewable energy development, and beginning the process of reconductoring existing lines.⁵⁶ NNSA declined to incorporate this input and has refused to consider a comprehensive, modern approach.

The EA does briefly state that other alternatives were considered but were eliminated from detailed study, including reconductoring existing transmission lines, expanding onsite power generation, developing a new overhead transmission line in an alternative location or alignment, or developing a new underground transmission line.⁵⁷ The EA eliminates these alternatives with minimal explanation. The EA fails to meaningfully consider rooftop solar or the use of multiple solar arrays. Regarding microgrid technology, the NNSA states in response to a comment from the Pueblo of Tesuque that “Microgrid activities have been considered as another alternative in the Final EA,”⁵⁸ but based on our review, the final EA is devoid of any other mention of microgrid technology. Additionally, although NNSA considered several slightly different alignments for a transmission line across the Caja, NNSA failed to consider any alternative or alignment for a new transmission line that does not cross the Caja.⁵⁹

The final EA reflects that LANL has known since at least 2017 that the power demand is expected to exceed current important capacity by 2027.⁶⁰ Given the amount of time LANL has had to prepare to meet this demand, NNSA’s presentation of a single action alternative, coupled with its refusal to consider reasonable alternatives, suggests that the agency made a final decision to proceed with the EPCU Project prior to issuing the draft EA. NEPA provides that federal agencies “shall not commit resources prejudicing selection of alternatives before making a final decision.”⁶¹ An EA or EIS for a proposal must describe “any irreversible and irretrievable commitments of Federal resources which would be involved in the proposed agency action should it be implemented.”⁶² The DOE’s regulations for NEPA state that the agency “shall complete its NEPA review for each DOE proposal before making a decision on the proposal (e.g., normally in advance of, and for use in reaching, a decision to proceed with detailed design).”⁶³ Here, NNSA has put the cart before the horse by dedicating resources to its single, myopic proposal without conducting adequate analysis of impacts and alternatives.

⁵⁶ Caja Coalition Comments at pp. 46-51.

⁵⁷ EA at pp. 2-19 to 2-21.

⁵⁸ EA, Appendix D, at p. 14.

⁵⁹ EA at p. 2-22.

⁶⁰ EA at p. 1-5.

⁶¹ 40 C.F.R. § 1502.2(f); see also 40 C.F.R. § 1502.2(g) (“Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.”); § 1506.1 (stating that until an agency issues a FONSI or ROD, no action may be taken that would limit the choice of reasonable alternatives).

⁶² 43 U.S.C. § 4332(C)(v).

⁶³ 10 C.F.R. § 1021.210(b).

Moreover, the proposed action is an ineffective way to meet the stated purpose and need of the EPCU Project. The final EA emphasizes that the purpose of the EPCU Project is to have a “fully reliable and redundant electrical power supply for LANL operations”⁶⁴ and that “[d]ependence on only two transmission lines to supply LANL and Los Alamos County is inconsistent with utility industry best practices for fully redundant power line service to large, critical load areas.”⁶⁵ The EA explains that “[m]ultiple power lines are necessary to provide a contingency supply capability in case of power line failure due to an instance of uncontrollable natural forces or a scheduled shut down for maintenance.”⁶⁶ The EPCU Project will not, however, provide an effective, practical solution to the stated purpose and need because the new line will originate at the same Norton substation as the existing Norton line, and the new line will parallel the existing Reeves line. This means that a scheduled maintenance shutdown at Norton substation or a wildland fire on the Caja could easily affect two or three of the lines, eliminating the redundant, reliable contingency supply that NNSA seeks to develop.

In sum, the final EA is inconsistent with NEPA because it fails to evaluate a reasonable range of alternatives, fails to present a proposed action that will achieve the stated purpose and need, and appears to have committed resources that prejudiced the NNSA’s selection of alternatives before making a final decision.

B. The Draft Decision Is Inconsistent with the National Historic Preservation Act

The draft DN, FONSI, and EA are inconsistent with the National Historic Preservation Act (NHPA)⁶⁷ and associated regulations and policy.⁶⁸ Congress enacted the NHPA “to foster conditions under which our modern society and our historic property can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations.”⁶⁹ Similar to NEPA, the NHPA requires “government agencies to stop, look, and listen before proceeding when their action will affect national historical assets.”⁷⁰

Section 106 of the NHPA specifically “requires Federal agencies to take into account the effects of their undertakings on historic properties,” and the implementing regulations describe how agencies must meet this responsibility.⁷¹ Agencies should coordinate the Section 106 process “with other requirements of other statutes, as applicable, such as

⁶⁴ EA, Appendix D, at p. 14.

⁶⁵ EA at p. 1-6

⁶⁶ *Id.*

⁶⁷ National Historic Preservation Act of 1966 (NHPA), 54 U.S.C. § 300101 et seq.

⁶⁸ 36 C.F.R. Part 800.

⁶⁹ 54 U.S.C. § 300101(1).

⁷⁰ *Coal. of Concerned Citizens to Make Art Smart v. Fed. Transit Admin. of U.S. Dep't of Transp.*, 843 F.3d 886, 905 (10th Cir. 2016) (quoting *Presidio Historical Ass'n v. Presidio Trust*, 811 F.3d 1154, 1169 (9th Cir. 2016)).

⁷¹ See 36 C.F.R. § 800.1(a).

[NEPA],” and should “use to the extent possible existing agency procedures and mechanisms to fulfill the consultation requirements” of the NHPA.⁷² The regulations mandate that federal agencies do the following.

- “[C]omplete the section 106 process prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license.”⁷³
- Identify consulting parties, including State and Tribal Historic Preservation Officers (SHPOs/ THPOs); any Indian Tribe that attaches religious and cultural significance to historic properties that may be affected by the federal undertaking; local governments; and other “individuals and organizations with a demonstrated interest in the undertaking.”⁷⁴
- “[S]eek and consider the views of the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties.”⁷⁵
- Seek information from consulting parties about historic properties in the area and potential effects the project may have on historic properties.⁷⁶
- “Gather information from” potentially affected Tribes “to assist in identifying properties, including those located off tribal lands, which may be of religious and cultural significance to them and may be eligible for the National Register.”⁷⁷
- Evaluate historic properties for National Register eligibility, considering that Tribes have “special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to them.”⁷⁸
- Assess adverse effects to identified historic properties in consultation with the SHPO/THPO and any Tribe “that attaches religious and cultural significance to identified historic properties.”⁷⁹
- Resolve adverse effects; “develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties.”⁸⁰

The NNSA, SFNF, and BLM cannot comply with the requirements of the NHPA and the implementing regulations without a Tribally led ethnographic study, which has not yet been conducted or completed. Without this study, the agencies lack accurate information about cultural resources, and any further development decisions are not only premature but in direct violation of the federal government's legal obligations under the NHPA (and NEPA, as discussed above). The Tribally led ethnographic study would take a comprehensive approach to identifying and evaluating the cultural resources, sacred sites, and traditional practices tied to the living Caja del Rio landscape. In collaboration with affiliated Pueblos

⁷² See *id.* § 800.2(a)(4); § 800.3(b); § 800.8(a)(1).

⁷³ *Id.* § 800.1(c).

⁷⁴ *Id.* § 800.2(c); § 800.3(f).

⁷⁵ *Id.* § 800.2(d); § 800.3(e).

⁷⁶ *Id.* § 800.4(a)(3).

⁷⁷ *Id.* § 800.4(b).

⁷⁸ *Id.* § 800.4(c).

⁷⁹ *Id.* § 800.5(a).

⁸⁰ *Id.* § 800.6(a).

and Tribes, the study would: (1) identify cultural and sacred site resources; (2) recommend sites potentially eligible for addition to the National Register of Historic Places within the context of the cultural landscape in which they occur; and (3) provide information on these cultural landscapes, cultural resources, sacred sites, and traditional cultural practices to assist NNSA, SFNF, and BLM in the preparation of legally required analyses and assessments.

We strongly support the requests for a Tribally led ethnographic study and object to the agencies' proposal to resolve adverse effects to cultural resources through an MOA based on incomplete information and evaluation.

C. The Draft Decision Is Inconsistent with the Endangered Species Act.

The draft DN, FONSI, and final EA are inconsistent with the Endangered Species Act of 1973 (ESA).⁸¹ Although Objectors raised this in our previous comments,⁸² the agencies have failed to identify the federally endangered New Mexico meadow jumping mouse (*Zapus hudsonius luteus*), which is likely present in suitable riparian habitat along the Rio Grande within the project area. Although not noted as a federally listed species, the EA does include brief consideration of the species as a New Mexico-listed endangered species and species of greatest conservation concern,⁸³ but the analysis is flawed. The Wildlife Report identifies the presence of the willow-alder ecosystem along the Rio Grande⁸⁴ and states that the New Mexico meadow jumping mouse uses this habitat,⁸⁵ yet the draft EA reaches the arbitrary conclusion that the EPCU Project will not impact the species due to a lack of suitable habitat in the project area.⁸⁶ The agencies must consider the potential impacts resulting from spanning the river canyon and associated construction on either side of the canyon for this species and others. The agencies cannot discharge this obligation on their own and must initiate Section 7 consultation with the U.S. Fish and Wildlife Service or else risk placing the entire EPCU Project in violation of the ESA.

Additionally, as described in the previous Caja Coalition Comments,⁸⁷ Section 7 consultation is also needed to confirm the EA's conclusion that there would be no effect on other federally listed species, despite the possibility of transient individuals. The EA acknowledges that several listed species, including the endangered Mexican gray wolf (*Canis lupus baileyi*), endangered southwestern willow flycatcher (*Empidonax traillii extimus*), and threatened yellow-billed cuckoo (*Coccyzus americanus*), might be present in

⁸¹ Endangered Species Act of 1973 (ESA), 16 U.S.C. §§ 1531-1544.

⁸² Caja Coalition Comments at p. 6.

⁸³ EA at p. 3-21.

⁸⁴ EA, Appendix F, at p. 11.

⁸⁵ *Id.* at p. 20.

⁸⁶ EA at p. 3-21.

⁸⁷ Caja Coalition Comments at pp. 6-7.

the vicinity but would not be impacted because they “would avoid the project area.”⁸⁸ Yet the southwestern willow flycatcher has designated critical habitat along the Rio Grande both south and north of the project area, and likely uses the project area to disburse and migrate. Similarly, the project is located within the habitat range for the yellow-billed cuckoo, which has designated critical habitat only 24 miles south of the project site, and the riparian habitat along the Rio Grande meets baseline habitat requirements for the species. The recent documentation of a Mexican gray wolf in the vicinity of the project area demonstrates that the Caja could serve a vital role in the disbursement and recovery of this species.⁸⁹ Mexican gray wolves that travel outside the experimental population area, which is located south of Interstate 40, are fully protected as an endangered species under the ESA.⁹⁰

The fact that these listed species would avoid the project area is itself an effect on those species, if their avoidance of the area is in response to the Project. Rather than assume no effect on federally listed species, at a minimum the agencies should initiate informal consultation on the EPCU Project and prepare a comprehensive EIS and biological assessment.⁹¹

D. The Draft Decision Is Inconsistent with the National Forest Management Act, the 2012 Planning Rule, and the Roadless Rule.

The draft DN, FONSI, and EA would approve amendments to the 2022 SFNF LMP and would grant a special use permit for the EPCU Project across the Caja on SFNF-managed lands. The proposed LMP amendments are procedurally and substantively inconsistent with the laws and regulations that govern the land use planning process and the issuance of special use permits.

1. The SFNF Should Reject the Forest Plan Amendment Due to Procedural and Substantive Flaws.

The planning process is subject to the National Forest Management Act (NFMA) of 1976,⁹² which requires the USDA Forest Service to “develop, maintain, and, as appropriate, revise land and resource management plans for units of the National Forest System, coordinated with the land and resource management planning processes of State and local governments and other Federal agencies.”⁹³ During the planning process, NFMA mandates that the Forest Service

⁸⁸ EA, Appendix F, at pp. 15-17.

⁸⁹ Caja Coalition Comments at p. 7.

⁹⁰ *Id.*

⁹¹ See 16 U.S.C. § 1536 (a)(2), (c)(1) (providing that agencies should conduct biological assessments to determine if actions will adversely affect threatened or endangered species).

⁹² National Forest Management Act of 1976 (NFMA), 16 U.S.C. § 1600 et seq.

⁹³ *Id.* § 1604(a).

shall provide for public participation in the development, review, and revision of land management plans including, but not limited to, making the plans or revisions available to the public at convenient locations in the vicinity of the affected unit for a period of at least three months before final adoption, during which period the Secretary shall publicize and hold public meetings or comparable processes at locations that foster public participation in the review of such plans or revisions.⁹⁴

The substance of a forest plan must be based on “a systematic interdisciplinary approach to achieve integrated consideration of physical, biological, economic, and other sciences”⁹⁵ and must provide for multiple use and sustained yield in accordance with the Multiple-Use Sustained-Yield Act of 1960 (MUSYA), including “coordination of outdoor recreation, range, timber, watershed, wildlife and fish, and wilderness.”⁹⁶

Additionally, the planning process must proceed in accordance with the 2012 Planning Rule⁹⁷ and the Forest Service’s associated 2015 planning directives.⁹⁸ The express purpose of the 2012 Planning Rule is as follows:

[T]o guide the collaborative and science-based development, amendment, and revision of land management plans that promote the ecological integrity of national forests Plans will guide management of NFS lands so that they are ecologically sustainable and contribute to social and economic sustainability; consist of ecosystems and watersheds with ecological integrity and diverse plant and animal communities; and have the capacity to provide people and communities with ecosystem services and multiple uses that provide a range of social, economic, and ecological benefits for the present and into the future. These benefits include clean air and water; habitat for fish, wildlife, and plant communities; and opportunities for recreational, spiritual, educational, and cultural benefits.⁹⁹

Once a final Forest Plan has been adopted, the Forest Service may amend the Forest Plan, but amendments must be consistent with the substantive and procedural requirements of the NFMA and MUYSYA.¹⁰⁰ Important here, if an amendment “would result in a significant change” to the Forest Plan, the Forest Service must use public participation procedures comparable to those required for adoption of the plan.¹⁰¹ Additionally, amendments must be developed in accordance with the substance and procedure of the 2012 Planning Rule.

⁹⁴ *Id.* § 1604(d)(1).

⁹⁵ *Id.* § 1604(b).

⁹⁶ Multiple-Use Sustained-Yield Act of 1960 (MUSYA), 16 U.S.C. §§ 528-531.

⁹⁷ 36 C.F.R. Part 219.

⁹⁸ Forest Service Manual 1920; Forest Service Manual 1909.12.

⁹⁹ 36 C.F.R. § 219.1(c).

¹⁰⁰ 16 U.S.C. § 1604(f)(4).

¹⁰¹ *Id.* (citing the procedures in 16 U.S.C. § 1604(d)).

The SFNF finalized its LMP in 2022, in accordance with the NFMA, MUSYA, the 2012 Planning Rule, and the Forest Service's associated 2015 planning directives. In doing so, the SFNF followed a robust and lengthy process for public participation and collaboration. In 2014, the SFNF offered the first opportunities for public engagement in the planning process by conducting listening sessions and assessment meetings.¹⁰² From 2014 to 2019, when the SFNF issued its draft plan and draft environmental impact statement, the SFNF planning team held over 250 meetings, over 3100 people attended, and 3,237 unique public comments were submitted.¹⁰³ Diverse stakeholder groups that worked together to formulate the forest plan included 13 cooperating agencies, other federal agencies, state and local governments, Tribes and Pueblos, land grants, grazing permittees, private individuals, and public and private organizations.¹⁰⁴

Consistent with the 2012 Planning Rule, the 2022 LMP reflects an overarching goal of ecological integrity¹⁰⁵ and emphasizes restoration of natural resources to improve forest health.¹⁰⁶ Relevant here, the LMP contains important administrative protections and special land use designations for the Caja del Rio, including the Caja Management Area, the Arroyo Montoso Inventoried Roadless Area (IRA), and high scenic integrity standards for the viewshed associated with El Camino Real de Tierra Adentro NHT.

Now, only two years into the implementation of the 2022 LMP, due to pressure from NNSA the SFNF proposes to amend the LMP through a fundamentally unfair process that fails to provide meaningful opportunities or adequate procedures for public participation. Unlike the initial planning process, which took years, entailed a detailed environmental impact statement, and included hundreds of opportunities for public participation, for the EPCU Project the NNSA provided a truncated opportunity for public input, including two non-contiguous 30-day comment periods,¹⁰⁷ a cursory environmental assessment, and two public meetings.

The SFNF did not conduct any scoping for the proposed LMP amendment; and NNSA's scoping period for the EPCU Project occurred before the LMP went into effect. This process is inconsistent with the NFMA, which provides that when USFS considers an amendment

¹⁰² USDA SFNF, Opportunities to engage on the Santa Fe National Forest Plan Revision! (June 26, 2019), available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd643252.pdf (last visited Oct. 21, 2024).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ 36 C.F.R. §§ 219.1(c), 219.19.

¹⁰⁶ 36 C.F.R. § 219.19.

¹⁰⁷ The initial public comment period for the EPCU Project ran from December 19, 2023, through January 17, 2024. In response to public outcry and multiple requests from stakeholders, including the Caja Coalition and the New Mexico congressional delegation, the NNSA agreed to grant a second public comment period, from January 22, 2024, through February 20, 2024. The non-contiguous nature of these comment periods has caused confusion for participants and may result in the NNSA declining to consider submissions received on the four days that fell between the two comment periods.

that would result in a “significant change” to a forest plan, the USFS must “use public participation procedures comparable to those required for adoption of the plan.”¹⁰⁸

Instead of trying to amend the LMP through this hasty, rushed, non-transparent, and fundamentally unfair process, the NNSA should have participated in the SFNF’s planning process, along with the many other governmental, tribal, and public and private stakeholders that collaborated in the effort, and should have proposed incorporating the EPCU Project into the LMP during the planning process.¹⁰⁹ This would have enabled NNSA to treat the EPCU Project and the forest planning process as connected actions under NEPA, discussed in the same environmental impact statement and subject to meaningful public participation and coordinated land use planning.¹¹⁰

- a. The EPCU Project would have unacceptable impacts on the Caja del Rio Wildlife and Cultural Interpretive Management Area.

The EPCU Project would cause significant adverse impacts by bisecting the Caja Management Area with the 100-foot wide SNTUC utility corridor, a temporary 300-foot-wide construction zone and ROW, and permanent transmission lines, towers, and infrastructure. This proposal is inconsistent with the intent of the Caja Management Area, which was designated to support wildlife diversity and connectivity and to maintain cultural and archeological integrity.¹¹¹ As described in the 2022 LMP,

The Caja is diverse in plant and animal species, both in overall numbers (population) as well as what species are found in the area (biodiversity). The plateau does not conform to the typical notion of forest land: juniper grass, Colorado Plateau Great Basin, piñon-juniper shrub, piñon-juniper woodland, and piñon-juniper sagebrush ERUs [Ecological Response Units] make up the management area. Its grasslands and other ecosystems provide habitat for many sensitive species. The area is also an important bird area; declining grassland bird species can be found on the plateau, as well as other birds such as golden and bald eagles and peregrine falcons. Other habitats, such as intermittent ponds and playas, support aquatic life. The interplay between the locally diverse environments and bird and animal species is unique when compared to other areas of the forest, including the range from steep canyon riparian to open grassland on the south end and rugged volcanic country on the plateau above the river. The remote setting, limited motorized routes, and continuity with recommended and designated wilderness as well as inventoried roadless areas along the corridor of the Rio Grande River provide

¹⁰⁸ 16 U.S.C. § 1604(f)(4) (citing the procedures in 16 U.S.C. § 1604(d)).

¹⁰⁹ See 40 CFR § 1501.2 (directing agencies to apply NEPA early in process and integrate with other planning and authorization processes at the earliest reasonable time).

¹¹⁰ See 40 C.F.R. § 1501.9(e)(1).

¹¹¹ SNNF LMP, at pp. 200-202.

habitat connectivity for daily and seasonal wildlife movement along and across the river and the potential for long-distance range shifts of species.

The area also contains nationally significant cultural resources including the ancestral homes of modern Pueblo communities, numerous petroglyph localities, and the intact remains of historic roads and trails such as the original alignment of Route 66 and the El Camino Real de Tierra Adentro. The archeological integrity of these features, which consists of their location and physical environment, materials and workmanship, and design help preserve their aesthetic or historic sense that make them valuable.¹¹²

The management framework established by the 2022 LMP includes “standards,” which are “technical design constraints that must be followed when an action is being taken.”¹¹³ Standards create rules that the SFNF must follow; the SFNF cannot deviate from a standard without a forest plan amendment.¹¹⁴ The Forest Plan also includes “guidelines,” which are “required technical design features or constraints on project and activity decision making that help make progress toward desired conditions.”¹¹⁵ If deviation from a guideline will not meet the original intent of the guideline, “a plan amendment is required.”¹¹⁶ Standards and guidelines “make up the ‘rules’ that [SFNF] must follow.”¹¹⁷

To protect the resources of the Caja Management Area, the Forest Plan includes the following Standard MA-CAJA-S-1: “Maximize use of existing utility line corridors for additional utility line needs. **New utility corridors and communication sites will not be allowed.**”¹¹⁸ To accommodate the EPCU Project, the SFNF has decided to add the following exception to the standard: “except for the Los Alamos National Laboratory Electrical Power Capacity Upgrade Project, S/N transmission line.”¹¹⁹

By arbitrarily adding this exception to the current standard, the NNSA and SFNF would significantly weaken the integrity of the Caja Management Area and its ability to support cultural and ecosystem services. The EPCU Project would result in 4.2 miles of new utility corridor across the Caja Management Area.¹²⁰ Within the Caja Management Area, the new transmission line would parallel the exiting Reeves line for 2.96 miles.¹²¹ The two transmission line corridors would be separated by approximately 150 feet, and up to 3 miles of temporary spur roads will be built to facilitate access and construction.¹²² The

¹¹² *Id.* at p. 200.

¹¹³ *Id.* at p. 18.

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ *Id.* at p. 201 (standard MA-CAJA-S) (emphasis added).

¹¹⁹ EA, Appendix A, at p. 3.

¹²⁰ EA at p. 3-8.

¹²¹ *Id.* at p. 3-2.

¹²² *Id.* at p. 3-8.

remaining 1.2 miles of new transmission line and utility corridor within the Caja Management Area will not parallel any existing infrastructure and will impact undeveloped land that is currently being managed to promote the Caja's ecological and cultural values.¹²³ Once construction is complete, the EPCU Project will cover a total of 51.5 acres within the Caja Management Area.¹²⁴

The expansive transmission line corridor created by the new transmission line would result in a huge swath of development bisecting the Caja, causing significant adverse impacts to cultural resources, soils, wildlife, vegetation, watersheds, recreational uses, and scenic value. In addition to adding new roads, lines, towers, and infrastructure to the landscape, the EPCU Project would require the removal of vegetation to reduce wildfire risk and meet engineering standards.¹²⁵ We are especially concerned that the public will gain access to currently undeveloped areas of the Caja via the new roads needed for construction, operation, and maintenance, which would result in a proliferation of unauthorized and unmanaged motorized use, recreational shooting, and illegal dumping. While we appreciate the incorporation of proposed gates into the project design to control access,¹²⁶ it is not clear from the EA whether the gates are a mandatory part of the project design, and based on our experience, we are worried that gates and locks will be vandalized and removed, as has happened with grazing and other infrastructure on the Caja. Moreover, construction and ongoing maintenance and operation of the project would require the use of heavy machinery, cranes, helicopters, chain saws, and other tools, disturbing soils, vegetation, birds and wildlife, recreational use, and cultural resources during construction and throughout the life of the project.¹²⁷

Approving the proposed amendment would create a bad precedent and put the SFNF on a slippery slope for further weakening and degradation of the special land use designations in the 2022 LMP. Although the amended Standard MA-CAJA-S-1 will provide that “[a]dditional utility corridors would not be allowed,” if SFNF approves an exception for the EPCU Project, there is no reason to believe that the SFNF would deny future exceptions for project proponents that seek to deviate from existing rules, standards, and guidelines for projects that do not support the multiple use mission or ecological objectives of forest management.

Having failed to incorporate the EPCU Project into the recent forest planning process, the agencies should conduct an EIS and provide meaningful opportunities for public participation, commensurate with the public process through which the Caja Management Area was established, before moving forward with an LMP amendment.

¹²³ *Id.* at p. 3-3.

¹²⁴ *Id.* at p. 3-8.

¹²⁵ *Id.*

¹²⁶ *Id.* at p. 3-7.

¹²⁷ *Id.* at p. 3-4.

b. The EPCU Project would have unacceptable impacts on the Arroyo Montoso Inventoried Roadless Area.

The EPCU Project would include 2,290 feet of new transmission line and a 100-foot ROW within the Arroyo Montoso IRA.¹²⁸ Implementation of the EPCU Project is likely to have significant adverse impacts on this IRA in violation of the 2001 Roadless Area Conservation Rule (Roadless Rule).¹²⁹ The purpose of the Roadless Rule is to conserve “social and ecological values and characteristics” of IRAs.¹³⁰

IRAs are characterized by nine values or features: (1) high quality or undisturbed soil, water, and air; (2) sources of public drinking water; (3) diversity of plant and animal communities; (4) habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land; (5) primitive, semi-primitive non-motorized, and semi-primitive motorized classes of dispersed recreation; (6) reference landscapes; (7) natural appearing landscapes with high scenic quality; (8) traditional cultural properties and sacred sites, and (9) other locally identified unique characteristics.¹³¹

First, we are concerned about the siting of transmission poles within the IRA. We note that the draft EA and final EA provide inconsistent information about the placement of poles. The draft EA acknowledged that one or two transmission poles may be built within the IRA,¹³² and the final EA states that the “IRA would be avoided to the extent possible for pole siting. No poles would be placed within the IRA.”¹³³ The EA further states within a single paragraph that “minimal ground-disturbing activities would occur” and that “ground-disturbing activities would not occur.”¹³⁴ Given these inconsistent statements, it is unclear whether the agencies have committed to constructing no poles within the IRA or whether they will simply seek to avoid constructing poles within the IRA to the extent possible.

Even if no poles are placed in the IRA, it appears from the EA that new access roads might be needed to construct, operate, or maintain the new towers and lines. But the Roadless Rule prohibits road construction and road reconstruction in IRAs, unless an exception is granted.¹³⁵ The Responsible Official (usually the regional forester) may grant an exception to this prohibition if “[a] road is needed to protect public health and safety in cases of an

¹²⁸ EA at p. 3-9. *But see* EA, Appendix I, at p. 5 (stating that the length of the line across the IRA would be 2,600 feet, not 2,290 feet).

¹²⁹ Roadless Area Conservation Rule, 66 Fed. Reg. 3244 (Jan. 12, 2001) (codified at 36 C.F.R. pt. 295) [hereinafter “Roadless Rule”].

¹³⁰ Roadless, Rule, 66 Fed. Reg. at 3247.

¹³¹ SFNF LMP, at p. 170.

¹³² Draft EA at p. H-1.

¹³³ EA, Appendix I, at p. 5.

¹³⁴ EA at 3-11.

¹³⁵ 36 C.F.R. § 294.12.

imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property.”¹³⁶ The EPCU Project does not appear to fit within this narrow exception. The draft EA fails to identify how the project will be completed in a manner that complies with the Roadless Rule’s restriction on road construction.

Second, the construction, operation, and maintenance of the new transmission line within the Arroyo Montoso IRA would require the removal of vegetation to create the ROW, reduce wildfire risk, and meet engineering standards.¹³⁷ But the Roadless Rule prohibits the cutting or removal of timber from within an IRA, subject to limited exceptions.¹³⁸ The EA fails to identify how the EPCU Project would be implemented consistent with the Roadless Rule’s prohibition on timber cutting.

Third, any ground disturbance, road construction, or vegetation removal associated with the construction and maintenance of the EPCU Project could have adverse impacts on soil and water quality. The IRA consists of deep canyons that feed directly into the Rio Grande, and the undisturbed soils within the IRA “are rated as severe for potential erosion.”¹³⁹ Construction and ongoing maintenance of towers within the IRA will cause soil erosion that will flow directly into the river, impacting water quality. This portion of the river is already classified as having impaired function,¹⁴⁰ and adding more sediment from the EPCU Project will adversely impact water quality and hinder the watershed’s ability to meet water quality standards.

Fourth, the EPCU Project will have adverse impacts on wildlife habitat used by diverse plant and animal communities and listed species. These adverse impacts contravene the purpose of the Roadless Rule to conserve these ecological values. As described in our previous comments,¹⁴¹ the IRA is used by golden and bald eagles, as well as many birds protected by the Migratory Bird Treaty Act, including pinyon jay, which is under consideration for listing under the ESA.¹⁴² The IRA is also used by large migratory mammals and other imperiled species, as discussed in our previous comments.¹⁴³

Fifth, implementation of the EPCU Project would require arbitrary changes to the desired recreation opportunity spectrum (ROS) for the IRA, as set forth in the 2022 LMP.¹⁴⁴ The USFS uses the desired ROS to identify various development levels associated with recreation activities available to visitors.¹⁴⁵ Under the 2022 LMP, the recreation opportunity

¹³⁶ *Id.* § 294.12(b)(1).

¹³⁷ EA at p. 2-14.

¹³⁸ 36 C.F.R. § 294.13.

¹³⁹ EA, Appendix I, Table 1, at p. 3.

¹⁴⁰ *Id.*

¹⁴¹ Caja Coalition Comments at pp. 7-13.

¹⁴² *Id.* (identifying protected species that occur within the IRA).

¹⁴³ *Id.*

¹⁴⁴ EA, Appendix A, at p. 3; Appendix K, at p. 2.

¹⁴⁵ EA at pp. 3-29 to 3-36.

spectrum (ROS) for the Arroyo Montoso IRA is semi-primitive nonmotorized, which means the area is closed to motorized recreation and is “characterized by a predominantly natural or natural-appearing environment of moderate-to-large size.”¹⁴⁶ If the SFNF approves the LMP amendment required for implementation of the EPCU Project, the ROS for the Arroyo Montoso IRA will be changed to semi-primitive motorized within the SNTUC, which would allow motorized recreation.¹⁴⁷ This will impact recreational users who currently enjoy primitive nonmotorized recreation within the IRA.

Finally, the Roadless Rule provides that “[n]atural appearing landscapes with high scenic quality” are an important value of IRAs and explains that “[h]igh quality scenery, especially scenery with natural-appearing landscapes, is a primary reason that people choose to recreate. In addition, quality scenery contributes directly to real estate values in nearby communities and residential areas[.]”¹⁴⁸ The SFNF currently manages the IRA for a scenic integrity objective (SIO) of “high,” consistent with the Roadless Rule.¹⁴⁹ The proposed forest plan amendment would arbitrarily change the SIO from high to low within the new transmission line corridor, contrary to the Roadless Rule.¹⁵⁰

The SFNF should reject the proposed LMP amendment and uphold the integrity of the Arroyo Montoso IRA.

c. The EPCU Project would have an unacceptable impact on El Camino Real de Tierra Adentro NHT.

The EPCU Project will have significant adverse impacts on El Camino Real de Tierra Adentro National Historic Trail (NHT), which Congress designated in 2000 pursuant to the National Trails System Act of 1968, as amended in 1978.¹⁵¹ The 2022 LMP describes NHTs as follows:

extended trails that follow the original routes of historically significant trails or roads, with the purpose of identifying and protecting the historic quality of the route and its remnants and artifacts. To qualify, a trail had to be: A route established by historic use; significant to the entire Nation as a result of that use; and possessing significant potential for recreational use or historic interest by the public due to historic interpretation and appreciation.¹⁵²

¹⁴⁶ *Id.* at pp. 3-31 to 3-32.

¹⁴⁷ EA at p. 3-34; Appendix A, at p. 3.

¹⁴⁸ Roadless Rule, 66 Fed. Reg. at 3245.

¹⁴⁹ EA, Appendix A, at 3.

¹⁵⁰ *Id.*

¹⁵¹ National Trails System Act of 1968, 16 U.S.C. §§ 1241–1249.

¹⁵² SFNF LMP, at p. 189.

The proposed transmission line would perpendicularly cross the El Camino Real de Tierra Adentro NHT.¹⁵³ To protect the values of national historic trails, the Forest Plan includes the following guideline: “Management activities in NHT corridors should be consistent with or make progress toward achieving scenic integrity objectives of high or very high within the foreground of the trail (up to .5 miles either side) or within the identical trail viewshed - the landscape area visible from the trail based on topography.”¹⁵⁴ To implement the EPCU Project, NNSA proposes to amend the Forest Plan by adding an exception to this guideline as follows: “except within the S/N Transmission Line Utility Corridor Management Area.”¹⁵⁵ This proposed amendment to the 2022 LMP would create an arbitrary exception to the NHT guideline intended to protect the viewshed and scenic integrity. Adopting this amendment would undermine years of management work intended to protect this irreplaceable cultural resource. The SFNF should reject the proposed LMP amendment and uphold the integrity of the El Camino Real de Tierra Adentro NHT.

2. **The SFNF Should Deny the NNSA’s Application for a Special Use Permit for the Project.**

The EPCU Project is a use of National Forest System lands that would require a special use permit under 36 C.F.R. Part 251, Subpart B.¹⁵⁶ The requirements and procedures that apply to special use permit applications are set forth in the Code of Federal Regulations¹⁵⁷ and the Forest Service Handbook.¹⁵⁸ If the USFS does approve an application for a special use permit, the USFS must impose terms and conditions on the special use authorization in accordance with the regulations.¹⁵⁹

Here, the NNSA’s proposed special use permit is not consistent with the 2022 LMP. The NFMA prohibits the USFS from issuing special use permits for National Forest System lands when the special use permit would be inconsistent with the Forest Plan.¹⁶⁰ If a proposed project requiring a special use permit would be inconsistent with the Forest Plan, the USFS may either deny the permit or amend the Forest Plan to accommodate the project. As discussed above, the SFNF should not approve the amendment to the 2022 LMP. If the SFNF does not approve the amendment, the SFNF must also deny the application for a special use permit. NNSA’s “proposal to obtain a special use authorization” for the EPCU Project “does not grant any right or privilege to use National Forest System lands.”¹⁶¹

¹⁵³ EA at p. 3-27.

¹⁵⁴ EA, Appendix A, at p. 3.

¹⁵⁵ *Id.*

¹⁵⁶ 36 C.F.R. § 251.50(a) (scope); § 251.53(l)(4).

¹⁵⁷ 36 C.F.R. § 251.54.

¹⁵⁸ U.S. Forest Service Handbook (FSH) 2709.11, Special Uses Handbook (Feb. 22, 2016), *available at* https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd526449.pdf.

¹⁵⁹ 36 C.F.R. § 251.56.

¹⁶⁰ 16 U.S.C. § 1604(i).

¹⁶¹ 36 C.F.R. § 251.54(c).

Additionally, when processing an application for special use permit, the SFNF “shall reject any proposal” for a special use permit if the SFNF “determines that: (i) The proposed use would be inconsistent or incompatible with the purposes for which the lands are managed, or with other uses; or (ii) The proposed use would not be in the public interest.”¹⁶² In this case, granting the special use permit would be inconsistent and incompatible with the management of the Caja Management Area, Arroyo Montoso IRA, and El Camino Real de Tierra Adentro NHT. Additionally, granting the special use permit would be contrary to the public interest because NNSA has not afforded sufficient opportunities for public participation in the proposed LMP amendment; the amendment would compromise the conservation provisions in the 2022 LMP; and the EPCU Project would have significant adverse impacts on cultural resources, wildlife including threatened and endangered species and other species of conservation concern, migratory and resident avian species that use the Rio Grande flyway, wildlife habitats and corridors, large mammals and big game species, the El Camino Real de Tierra Adentro NHT, visual and scenic resources, and environmental justice communities.

In sum, the SFNF should deny the application for a special use permit for the EPCU Project because the special use permit would require an arbitrary amendment to the 2022 LMP, NNSA’s justification for needing a special use permit is based on convenience and cost rather than actual need, the transmission line is inconsistent with the conservation purposes of the special designations on the Caja, and the special use permit is contrary to the public interest. If the SFNF does grant a special use permit, which should not occur without preparation of an EIS, completion of a Tribally led ethnographic study, consultation under Section 7 of the ESA, and a biological assessment, the SFNF must impose terms and conditions¹⁶³ to ensure that all standards and guidelines in the LMP are met and that NNSA is following all best management practices.

III. REQUESTED REMEDY

For the reasons set forth in this Objection, we urge the agencies to choose the no action alternative and consider reasonable alternatives, such as a transmission line that does not cross the Caja or a comprehensive clean energy solution, for meeting LANL’s energy and security needs.

If the agencies decline to pursue the no action alternative, we request that the agencies (1) proceed with a Tribally led ethnographic study in compliance with the NEPA and Section 106 of the NHPA; (2) conduct consultation with the USFWS under Section 7 of the ESA and prepare a biological assessment; and (3) prepare an EIS that reflects baseline conditions, takes a hard look at environmental impacts, and analyzes reasonable alternatives to

¹⁶² 36 C.F.R. § 251.54(e)(5)(i)-(ii), (g)(1).

¹⁶³ *Id.* § 251.56.

evaluate the EPCU Project's reasonably foreseeable significant impacts on the human environment.

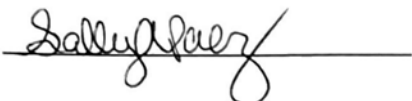
IV. MEETING REQUEST

In accordance with the 2012 Planning Rule,¹⁶⁴ we respectfully request to meet with the Reviewing Officer to discuss the issues raised in this objection and potential resolutions. We anticipate that other interested persons or organizations may wish to participate in such meetings, and we acknowledge that the Reviewing Officer must permit interested parties to participate if they file a request to participate in an objection within 10 days after publication of the notice of objection by the Responsible Official.¹⁶⁵

V. CONCLUSION

Thank you for considering our objections and requested remedies related to the provisions in the draft DN, FONSI, and final EA that would adversely affect the conservation of the cultural and natural resources and other values of the Caja del Rio plateau. We look forward to meeting with you to discuss the issues we have raised and find equitable solutions that will benefit everyone and ensure that any project to secure LANL's energy supply is developed in compliance with applicable law and the best interests of stakeholders and the community.

Sincerely,



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¹⁶⁴ *Id.* § 219.57(a).

¹⁶⁵ *Id.* § 219.56(f).

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Senator Ben Ray Luján
Representative Teresa Leger Fernández
Representative Melanie Stansbury
Representative Gabe Vasquez

Attachments:

Attachment A: Executive Office of the President, Memorandum for the Heads of Departments and Agencies, Indigenous Traditional Ecological Knowledge and Federal Decision Making (Nov. 15, 2021).

Attachment B: Executive Office of the President, Memorandum for the Heads of Departments and Agencies, Guidance for Federal Departments and Agencies on Indigenous Knowledge (Nov. 30, 2022).

Attachment C: All Pueblo Council of Governors, For Immediate Release: All Pueblo Council of Governors Call for Tribally-Led Ethnographic Study of the Caja del Rio Traditional Cultural Landscape (July 16, 2024).

Attachment A



EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF SCIENCE AND TECHNOLOGY POLICY


COUNCIL ON ENVIRONMENTAL QUALITY

WASHINGTON, D.C.



November 15, 2021

MEMORANDUM FOR THE HEADS OF DEPARTMENTS AND AGENCIES

FROM: Eric S. Lander 
President's Science Advisor and Director,
Office of Science and Technology Policy

Brenda Mallory 
Chair, Council on Environmental Quality

SUBJECT: Indigenous Traditional Ecological Knowledge and Federal Decision Making

Background

President Biden is committed to strengthening the relationship between the Federal Government and Tribal Nations and to advancing equity for Indigenous people, including Native Americans, Alaska Natives, Native Hawaiians, and Indigenous peoples of the U.S. territories.¹ These commitments include ensuring that Federal agencies conduct regular, meaningful, and robust consultation with Tribal officials in the development of federal research, policies, and decisions, especially decisions that may affect Tribal Nations and the people they represent.

Consistent with the Administration's additional commitment to scientific integrity and knowledge- and evidence-based policymaking,² the White House Office of Science and Technology Policy (OSTP) and the White House Council on Environmental Quality (CEQ) issue this memorandum to recognize Indigenous Traditional Ecological Knowledge (ITEK)—a form of Indigenous Knowledge³—as one of the many important bodies of knowledge that contributes to the scientific, technical, social, and economic advancements of the United States and to our collective understanding of the natural world.

¹ Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, 86 Fed. Reg. 7,491 (Jan. 26, 2021); Executive Order 13,985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government, 86 Fed. Reg. 7,009 (Jan. 20, 2021); Executive Order 14,031: Advancing Equity, Justice, and Opportunity for Asian Americans, Native Hawaiians, and Pacific Islanders, 86 Fed. Reg. 29,675 (May 28, 2021).

² Memorandum on Restoring Trust in Government Through Scientific Integrity and Evidence-Based Policymaking (Jan. 27, 2021), <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/memorandum-on-restoring-trust-in-government-through-scientific-integrity-and-evidence-based-policymaking/>.

³ A variety of terms and definitions are used by knowledge holders, Indigenous people, Tribal organizations, and government bodies to refer to this body of knowledge or related concepts, including "Indigenous Knowledge," "Indigenous Knowledges," and "Traditional and Indigenous Knowledge." This memorandum will use "Indigenous Traditional Ecological Knowledge," or "ITEK," to refer to Indigenous Knowledge that pertains to ecology and the environment, although OSTP and CEQ intend to seek input on the appropriate terms to use in this context.

ITEK is a body of observations, oral and written knowledge, practices, and beliefs that promote environmental sustainability and the responsible stewardship of natural resources through relationships between humans and environmental systems. It is applied to phenomena across biological, physical, cultural and spiritual systems. ITEK has evolved over millennia, continues to evolve, and includes insights based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation. ITEK is owned by Indigenous people—including, but not limited to, Tribal Nations, Native Americans, Alaska Natives, and Native Hawaiians.⁴

The Federal Government has previously received requests to develop guidance for Federal agencies on how to partner with Tribal Nations and Native organizations regarding the application of ITEK.⁵ The Administration recognizes that the Federal Government should engage with ITEK only through relationships with Tribal Nations and Native communities and in a manner that respects the rights of knowledge holders to control access to their knowledge, to grant or withhold permission, and to dictate the terms of its application. It further recognizes that, should Tribal Nations and Native communities decide to share ITEK and otherwise collaborate with the Federal Government, the Federal Government should ensure that the application of that knowledge and complementary collaborative efforts benefit Tribal Nations, Native communities, the United States, and our planet.

With these principles in mind, OSTP and CEQ are initiating a process to develop government-wide guidance for Federal agencies on ITEK, with Tribal consultation and drawing on the important work that has already occurred at a number of agencies and within Tribal Nations and Native communities. This memorandum is the first step in that process, which will be shaped by the input of Tribal Nations, ITEK holders and practitioners, Federal agency experts, and the public.

Indigenous Traditional Ecological Knowledge and Federal Decision Making

Where appropriate, ITEK can and should inform Federal decision making along with scientific inquiry. Indeed, the Fourth National Climate Assessment recognized and incorporated ITEK as an important information source for improving the understanding of climate change and environmental sustainability over time, and for developing comprehensive climate adaptation and natural resource management strategies.⁶ As the examples provided at the end of this memorandum show, Tribal Nations and Native communities have already worked effectively

⁴ U.S. Fish & Wildlife Service, *Traditional Ecological Knowledge Fact Sheet* (Feb. 2011), <https://www.fws.gov/nativeamerican/pdf/tek-fact-sheet.pdf>; Inuit Circumpolar Council, *Indigenous Knowledge*, <https://www.inuitcircumpolar.com/icc-activities/environment-sustainable-development/indigenous-knowledge/>.

⁵ National Congress of American Indians, *Request for Federal Government to Develop Guidance on Recognizing Tribal Sovereign Jurisdiction over Traditional Knowledge* (2013), <https://www.ncai.org/resources/resolutions/request-for-federal-government-to-develop-guidance-on-recognizing-tribal-sovereign-jurisdiction-over-traditional-knowledge>.

⁶ Fourth National Climate Assessment, *Tribes and Indigenous Peoples*, Volume II, Chapter 15 (2018), https://nca2018.globalchange.gov/downloads/NCA4_Ch15_Tribes-and-Indigenous-Peoples_Full.pdf.

with Federal agencies to incorporate ITEK into knowledge- and evidence-based Federal Government decision making, and such collaborations have been mutually beneficial.

The guidance that OSTP and CEQ plan to develop—with Federal agency collaboration, robust and meaningful Tribal consultation, and input from ITEK holders and practitioners and the public—will include best practices on how to collaborate with Tribal Nations and Native communities around ITEK application to achieve mutually beneficial outcomes, how to address Federal Government-wide challenges around ITEK such as navigating Federal laws and interagency processes, and how to appropriately respect the knowledge holders’ rights to decline participation in efforts to collaborate. The guidance will be designed to complement, not supplant, existing agency guidance related to ITEK and will build on past efforts to recognize and incorporate ITEK into Federal scientific and policy decisions.

Establishment of Interagency Working Group

OSTP and CEQ will begin in 2021 by developing pathways for Tribal and Native community input and convening an interagency working group to inform the development of the guidance. This “Interagency Working Group on Indigenous Traditional Ecological Knowledge” will include representatives from agencies across the Federal Government. The purpose of the working group is to enhance interagency collaboration and coordination, draw on agency experience, and address significant issues as they arise. The Interagency Working Group on Indigenous Traditional Ecological Knowledge will prepare the guidance document for planned release in 2022.

OSTP and CEQ look forward to collaborating with Tribal Nations and Native communities to apply ITEK in a way that benefits people and the planet and facilitates a holistic understanding of the world.

APPENDIX: Supporting Examples of ITEK Application and Collaboration Between Native Communities and the Federal Government, Written With Native Partners

The Administration recognizes that, for generations, Federal policies have systematically sought to assimilate and displace Indigenous people and to eradicate Indigenous cultures. The below examples are intended not to erase this history, but to illustrate the kinds of mutually beneficial collaborations that are possible. These examples include input from and reflect the perspectives of the Native organizations, individuals, and agencies involved in these particular efforts.

- Coastal Indian Tribes, including the Cowlitz Indian Tribe, have fished and traded for eulachon in tributaries of the Columbia River since time immemorial. NOAA and the Cowlitz Indian Tribe—who initiated the project—applied Tribal oral histories to reconstruct historic distributions of the eulachon, a species of fish.⁷ Those Cowlitz Tribal oral histories aided in identification of key spawning habitat, timing of eulachon runs, and run differences between tributaries and directly informed NOAA’s decision to list a population segment as threatened under the Endangered Species Act.⁸ The project facilitated joint efforts to identify and protect critical habitat, increase abundance of the species, and promote species recovery.⁹
- In Acadia National Park, the National Park Service is working with citizens of Wabanaki Tribes—the Aroostook Band of Micmacs, the Houlton Band of Maliseets, the Passamaquoddy Tribe at Sipayak, the Passamaquoddy Tribe at Indian Township, and the Penobscot Indian Nation—on shared governance and research on sweetgrass harvesting.¹⁰ Wabanaki people have harvested sweetgrass for generations. Research in Acadia, guided by Indigenous methodologies, reinforces what Wabanaki people have always known: that harvesting sweetgrass through a Wabanaki philosophy enhances sweetgrass abundance. Wabanaki knowledge, and the gatherers who generate this knowledge, are leading NPS research and management strategies that will enable restoration of Wabanaki harvesting within Acadia National Park.¹¹
- For Native Hawaiians, cultural heritage and the natural world are valued as one. At Papahānaumokuākea Marine National Monument in the Northwestern Hawaiian Islands, this ancestral, cultural, and natural significance are on an equal platform with all other

⁷ Nathan Reynolds, Marc Romano, *Traditional Ecological Knowledge: Reconstructing Historical Run Timing and Spawning Distribution of Eulachon through Tribal Oral History*, *Journal of Northwest Anthropology* (2013).

⁸ National Marine Fisheries Service, *Recovery Plan for the Southern Distinct Population Segment of Eulachon*, (Sept. 2017), <https://repository.library.noaa.gov/view/noaa/15989>.

⁹ NOAA Fisheries, National Ocean Service, *Guidance and Best Practices for Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making* (May 2019), <https://www.legislative.noaa.gov/docs/19-065933-Traditional-Knowledge-in-Decision-Making-Documents-Signed.pdf>.

¹⁰ U.S. Forest Service Southern Research Station, *Traditional Ecological Knowledge Helps Researchers Understand the Effects of Plant Harvesting* (2018), <https://srs.fs.usda.gov/research/2018-research-highlights/highlight.php?id=traditional-knowledge>.

¹¹ Abbe Museum, *Wabanaki Sweetgrass Harvesting in Acadia National Park* (June 1, 2019), <https://www.abbemuseum.org/blog/2018/6/21/a8ox8s8wxde6nenklfm77gayl60h87>.

interests.¹² The monument is co-managed by the National Oceanic and Atmospheric Administration, U.S. Fish and Wildlife Service, the State of Hawai'i Office of Hawaiian Affairs, and the Hawai'i Department of Land and Natural Resources, and Native Hawaiians have consistently led the development and governance of the monument. Its management is based on Indigenous Hawaiian Knowledge and management practices, as expressed in the recent release of *Mai Ka Pō Mai*, a historic guidance document that will help federal and state agencies further integrate Native Hawaiian culture into all aspects of management.¹³

- The Inupiat, St. Lawrence Island Yupik, Central Yup'ik and Cup'ik peoples have lived in the Northern Bering Sea region for millennia interconnected with marine and coastal ecosystems. Tribes, regional Alaska native non-profit organizations, Elders and Traditional Knowledge holders from across the northern Bering Sea region worked with the Federal government over concerns about rapid climate change and the need for solutions that take a whole-of-government approach that build equity in decision-making for the Northern Bering Sea region. The Northern Bering Sea Climate Resilience Area, established by Executive Order 13,754 in 2016, and reinstated by President Biden in 2021, provides an example of Indigenous values informing policy and the potential for including Traditional Knowledge in decision-making.¹⁴ It provides a model for bridging different value systems coming from Indigenous Knowledge and academic science through a framework that includes a federal task force and Bering Intergovernmental Tribal Advisory Council. The task force and advisory council are charged with conserving the region's ecosystem, including those natural resources that provide important food security to the people of the region. It also provides a pathway for Tribal voices that have been historically underserved in decision-making processes.

¹² Papahānaumokuākea Marine National Monument, *2020 State of the Monument Report* (2020), <https://sanctuaries.noaa.gov/science/condition/pmnm/welcome.html>

¹³ Papahānaumokuākea Marine National Monument, *Integrating Native Hawaiian Culture into Management of Papahānaumokuākea* (June 21, 2021), <https://www.papahanaumokuakea.gov/new-news/2021/06/21/maikapomai/>.

¹⁴ Executive Order 13,754: Northern Bering Sea Climate Resilience, 81 Fed. Reg. 90,669 (Dec. 9, 2016); Press Release: Biden-Harris Administration Brings Arctic Policy to the Forefront (Sept. 24, 2021), <https://www.whitehouse.gov/ostp/news-updates/2021/09/24/biden-harris-administration-brings-arctic-policy-to-the-forefront-with-reactivated-steering-committee-new-slate-of-research-commissioners/>.

Attachment B



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C.



November 30, 2022

MEMORANDUM FOR HEADS OF FEDERAL DEPARTMENTS AND AGENCIES

FROM: Arati Prabhakar, Ph.D. *Arati Prabhakar*
Assistant to the President and Director
Office of Science and Technology Policy
Brenda Mallory *Brenda Mallory*
Chair, Council on Environmental Quality

SUBJECT: Guidance for Federal Departments and Agencies on Indigenous Knowledge

I. Introduction

The Federal Government recognizes the valuable contributions of the Indigenous Knowledge¹ that Tribal Nations² and Indigenous Peoples³ have gained and passed down from generation to generation and the critical importance of ensuring that Federal departments and agencies' (Agencies) consideration and inclusion of Indigenous Knowledge is guided by respect for the sovereignty and self-determination of Tribal Nations; the Nation-to-Nation relationship between the United States and Tribal Nations and the United States' trust responsibility; and the need for the consent of and honest engagement with Tribal Nations and Indigenous Peoples. The White House Office of Science and Technology Policy (OSTP) and the Council on Environmental Quality (CEQ) issue this guidance to assist Agencies in (1) understanding Indigenous Knowledge, (2) growing and maintaining the mutually beneficial relationships with Tribal Nations and Indigenous Peoples needed to appropriately include Indigenous Knowledge, and (3) considering, including, and applying Indigenous Knowledge in Federal research, policies, and

¹ This guidance generally uses the phrase "Indigenous Knowledge," but recognizes that a variety of terms, including Traditional Ecological Knowledge, Traditional Knowledge, Indigenous Traditional Knowledge, Native Science, and related formulations, which are preferred by different Tribes and Indigenous Peoples. Those terms are used when referencing specific situations in which the relevant Tribes, Indigenous Peoples, or Federal decisionmaker has selected a different term.

² "Tribal Nation" or "Tribe" means an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of the Interior acknowledges as a Federally recognized Tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. § 5130.

³ "Indigenous Peoples" refers to Native Americans, Alaska Natives, Native Hawaiians, Pacific Islanders, and Indigenous Peoples whose ancestors have occupied what is now known as the United States since time immemorial, including members of Tribal Nations.

decision making. This guidance also identifies promising practices—based on agency experience and Tribal and Indigenous input—for collaborating with Tribal Nations and Indigenous Peoples, considering and applying Indigenous Knowledge in implementing statutory and regulatory requirements, and respecting the decisions of Tribal Nations and Indigenous Peoples to engage or decline to participate in Federal processes, on their terms.

Since Indigenous Knowledge is often unique and specific to a Tribe or Indigenous People, and may exist in a variety of forms, Agencies often lack the expertise to appropriately consider and apply Indigenous Knowledge. As a result, consultation and collaboration with Tribal Nations and Indigenous Peoples is critical to ensuring that Indigenous Knowledge is considered and applied in a manner that respects Tribal sovereignty and achieves mutually beneficial outcomes for Tribal and Indigenous communities.

This guidance builds on other recent Federal efforts related to Indigenous Knowledge. Through Executive Order 14072 on *Strengthening the Nation’s Forests, Communities, and Local Economies*, President Biden established a policy to support indigenous traditional ecological knowledge and cultural and subsistence practices in our Nation’s forests. Through Executive Order 14049 on the *White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Native Americans and Strengthening Tribal Colleges and Universities*, President Biden committed to promoting Indigenous learning through the use of traditional ecological knowledge. Through Executive Order 13990 on *Protecting Public Health and the Environment and Restoring Science To Tackle the Climate Crisis*, President Biden reestablished the Northern Bering Sea Climate Resilience Area and its associated Federal Task Force and Tribal Advisory Council, and recognized the value of traditional knowledge and participation by Alaska Native Tribal governments in decisions affecting the Northern Bering Sea Climate Resilience Area.⁴

Similarly, in the proclamation establishing the Bears Ears National Monument, former President Obama recognized that traditional ecological knowledge “offers critical insight into the historic and scientific significance of the area,” and is itself a resource to be protected.⁵ The proclamation also established a first-of-its-kind commission of Tribal Leaders to provide guidance to the Federal Government to ensure that “management decisions affecting the monument reflect Tribal expertise and traditional and historical knowledge.” When President Biden confirmed and restored the Bears Ears National Monument, he reestablished the Bears Ears Commission and reaffirmed the critical importance of traditional knowledge for managing the monument.

A number of Agencies have also recognized the importance of Indigenous Knowledge for their work. The Departments of Agriculture and the Interior and some of their individual bureaus and services, the U.S. Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the Advisory Council on Historic Preservation have issued agency-specific

⁴ See Appendix A (providing examples of Indigenous Knowledge application and collaboration between the Federal Government and tribes and indigenous peoples).

⁵ Presidential Proclamation 9558, Establishment of the Bears Ears National Monument, 82 Fed. Reg. 1139 (Jan. 5, 2017).

guidance on Indigenous Knowledge.⁶ The Fourth National Climate Assessment, prepared by the U.S. Global Change Research Program, also included Indigenous Knowledge.⁷ A number of Agencies have also co-managed a variety of natural resources with Tribes, and Indigenous Knowledge has shaped those processes as well.⁸ Recent efforts have been taken at the highest levels of the Federal Government to highlight the importance of Indigenous Knowledge to inform Federal decision making, improve outcomes, and foster collaboration with Tribal Nations. However, efforts to include Indigenous Knowledge in Federal work and to collaborate with Tribal Nations and Indigenous Peoples on Indigenous Knowledge have been uneven. This important work is too often dependent on the willingness, capacity, and Agency support of individual Federal employees.

To that end, and in response to the Biden-Harris Administration policies and initiatives referenced above, OSTP and CEQ issued a memorandum on November 15, 2021, recognizing Indigenous Knowledge as one of the many important bodies of knowledge that contributes to the scientific, technical, social, and economic advancements of the United States, and to our collective understanding of the natural world. OSTP and CEQ then convened an Interagency Working Group with representatives from more than 25 Federal departments and agencies.⁹ OSTP and CEQ also sought input from Tribal Nations and Indigenous Peoples through Tribal consultation and listening sessions,¹⁰ and engaged with more than a thousand individuals, organizations, and Tribal Nations.

This guidance builds upon that memorandum and is intended to promote and enable a Government-wide effort to improve the recognition and inclusion of Indigenous Knowledge. It reaffirms that Agencies should recognize and, as appropriate, apply Indigenous Knowledge in decision making, research, and policies across the Federal Government. This guidance is founded on the understanding that multiple lines of evidence or ways of knowing can lead to better-informed decision making. Agencies should use this guidance to develop an approach to Indigenous Knowledge that is appropriate for the contexts and legal frameworks in which they operate, the Tribes and Indigenous Peoples with whom they partner, and the communities that they serve.

⁶ See Appendix B (providing a selection of Federal agency guidance documents on Indigenous Knowledge).

⁷ USGCRP, 2018. *Tribes and Indigenous Peoples*. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment*. D. R. Reidmiller et al., eds. [hereafter “Fourth National Climate Assessment”], pp. 572–603, available at <https://nca2018.globalchange.gov/chapter/15/> (explaining how indigenous peoples can also be affected uniquely and disproportionately by climate change); see also Bharat H. Desai et al., 2021. *Role of Climate Change in Exacerbating Sexual and Gender-Based Violence against Women: A New Challenge for International Law*, Environmental Policy and Law 51, p. 142, available at https://www.un.org/sexualviolenceinconflict/wp-content/uploads/2021/10/report/role-of-climate-change-in-exacerbating-sexual-and-gender-based-violence-against-women-a-new-challenge-for-international-law/epl_2021_51-3_epl-51-3-epl210055_epl-51-epl210055.pdf;

⁸ See Appendix A (providing examples of Indigenous Knowledge application and collaboration between the Federal Government and tribes and indigenous peoples).

⁹ See Appendix D (providing a list of Federal departments and agencies that participated in the IWG).

¹⁰ See OSTP, CEQ (June 27, 2022). Press Release, Readout: OSTP and CEQ Initial Engagement on White House Indigenous Knowledge Effort, <https://www.whitehouse.gov/ostp/news-updates/2022/06/27/readout-ostp-and-ceq-initial-engagement-on-white-house-indigenous-knowledge-effort/> (providing a summary of consultation and engagement activities).

II. Overview of Indigenous Knowledge

This Section provides an overview of Indigenous Knowledge as a system of knowledge and its relationship to other systems of knowledge.

A. Understanding Indigenous Knowledge

Indigenous Knowledge is a body of observations, oral and written knowledge, innovations, practices, and beliefs developed by Tribes and Indigenous Peoples through interaction and experience with the environment.¹¹ It is applied to phenomena across biological, physical, social, cultural, and spiritual systems.¹² Indigenous Knowledge can be developed over millennia, continues to develop, and includes understanding based on evidence acquired through direct contact with the environment and long-term experiences, as well as extensive observations, lessons, and skills passed from generation to generation.¹³ Indigenous Knowledge is developed by Indigenous Peoples including, but not limited to, Tribal Nations, Native Americans, Alaska Natives, and Native Hawaiians. Each Tribe or Indigenous community has its own place-based body of knowledge that may overlap with that of other Tribes.

Indigenous Knowledge is based in ethical foundations often grounded in social, spiritual, cultural, and natural systems that are frequently intertwined and inseparable, offering a holistic perspective. Indigenous Knowledge is inherently heterogeneous due to the cultural, geographic, and socioeconomic differences from which it is derived, and is shaped by the Indigenous Peoples' understanding of their history and the surrounding environment. Indigenous Knowledge is unique to each group of Indigenous Peoples and each may elect to utilize different terminology or express it in different ways. Indigenous Knowledge is deeply connected to the Indigenous Peoples holding that knowledge.

B. Indigenous Knowledge as Evidence

Indigenous Knowledge is a valid form of evidence for inclusion in Federal policy, research and decision making. Indigenous Knowledge and other forms of knowledge do not depend on each other for validation, and each system can support the insights of the other. Indigenous Knowledge and non-Indigenous scientific methodologies share many common features. For example, they: (1) systematically understand and explain ways of knowing; (2) share attributes such as use of systematic observation, innovation, and verification through repetition; (3) are derived from direct contact with the environment and evolve over time in response to new inputs; (4) share the need to make sense of the world and the desire to conduct practical and curiosity-driven investigations; and (5) can use empirical approaches. Indigenous Knowledge can provide accurate information, valuable insights, and effective practices that complement practices and knowledge derived from other approaches. For example,

¹¹ U.S. Fish & Wildlife Services, (Feb. 2011), *Traditional Ecological Knowledge for Application by Service Scientists*, <https://www.fws.gov/sites/default/files/documents/TEK-Fact-Sheet.pdf>; see also Inuit Circumpolar Council (2022). *Indigenous Knowledge*, <https://www.inuitcircumpolar.com/icc-activities/environment-sustainable-development/Indigenous-knowledge>.

¹² U.S. Fish & Wildlife Services (Feb. 2011), *Traditional Ecological Knowledge for Application by Service Scientists*, <https://www.fws.gov/sites/default/files/documents/TEK-Fact-Sheet.pdf>.

¹³ Id.

at times Indigenous Knowledge holders have observed early and accurate detection of environmental changes, such as interconnected patterns of species, signs of drought, or impacted water quality.¹⁴ Indigenous Knowledge and other forms of knowledge often provide complementary data and information. In some instances, discrepancies or contradictory data and information may arise. These conflicts do not necessarily indicate that the Indigenous Knowledge or other form of knowledge is in error. Rather, such instances should prompt Agencies to consider opening avenues of inquiry and understanding that would otherwise remain unexplored. Multiple ways of knowing or lines of evidence can improve research outcomes and improve decision making.

At times, Western science has been used as a tool to oppress Tribal Nations and Indigenous Peoples. Indigenous Peoples in the United States have experienced significant unethical health research abuses, including the use of genetic data and health records without their knowledge or consent.¹⁵ For example, the pseudoscience embodied in the eugenics movement, with the collaboration of scientists and medical providers, resulted in the forced sterilization of Indigenous women across the Nation.¹⁶ Indigenous Knowledge has also been historically marginalized in scientific communities and excluded from research and academic resources, funding, and other opportunities. Federal decisionmakers have also excluded Indigenous Knowledge from research and policy decisions. This marginalization has resulted from a lack of awareness, unfamiliarity and methodological dogma, and, too often, racism and imperialism.

Some Federal decisionmakers have taken strides to address these historical wrongs and elevate Indigenous Knowledge, but more work remains. This guidance provides considerations and practices to further the important work of ensuring that Agencies appropriately include Indigenous Knowledge, while respectfully working with the Tribes and Indigenous Peoples who hold it.

III. Illustrative List of Federal Statutes where Indigenous Knowledge May be Relevant

Where Federal statutes require Agencies to consider information and make informed decisions, Agencies should consult and collaborate with Tribal Nations and Indigenous Peoples to include Indigenous Knowledge in decision making. The following non-exhaustive list includes examples drawn from environmental and natural resources law, contexts in which Agencies make decisions with Tribal or Indigenous implications, and have opportunities to include Indigenous Knowledge to inform those decisions. Section V of this guidance discusses other Federal statutes focused on vetting the quality of information that may inform Federal decision making in these statutory contexts.

¹⁴ E.g., Fourth National Climate Assessment, 383-84; Karletta Chief et al., (2016). *Engaging Southwestern Tribes in Sustainable Water Resources Topics and Management*, 8 Water 1; George Noongwook et al., (2007). *Traditional Knowledge of the Bowhead Whale (Balaena Mysticus) Around St. Lawrence Island, Alaska*, 60 Arctic 47.

¹⁵ Malcolm B. Bowekaty & Dena S. Davis, (2003). *Cultural Issues in Genetic Research with American Indian and Alaskan Native People*, 25 Ethics & Res. 12; Max Liboiron, (2021). *Decolonizing Geoscience Requires More than Equity and Inclusion*, 14 Nature Geoscience 876; Nanibaa' A. Garrison, (2010). *Genomic Justice for Native Americans: Impacts of the Havasupai Case on Genetic Research*, 38 Am. J. Of Med. Genetics 7; Kim Tallbear (2013). *Native American DNA: Tribal Belonging and the False Promise of Genetic Science*, U Minnesota Press.

¹⁶ Gregory W. Ruteck (2011). *Forced Sterilization of Native Americans: Later Twentieth Century Physician Cooperation with National Eugenic Policies?*, 27 Ethics & Med. 33, 34-35.

*Endangered Species Act.*¹⁷ The Endangered Species Act requires Agencies to use science and evidence to make decisions such as listing and delisting endangered species, developing biological opinions, and designating critical habitat for species protection. Specifically, the Act requires that Secretaries of the Interior and Commerce make critical habitat and listing determinations based on the “best scientific and commercial data available.”¹⁸ In many instances, Tribes and Indigenous Peoples may have relevant information about species locations, behaviors, habitats, and changes over time that can be applied.

*National Environmental Policy Act.*¹⁹ The National Environmental Policy Act (NEPA) requires Agencies to analyze, consider, and disclose the effects of major Federal actions on the human environment. CEQ’s implementing regulations also direct Agencies to “make use of any reliable data sources” in carrying out their responsibilities under NEPA.²⁰ Through the NEPA process, Agencies often engage with affected communities to inform the assessment of environmental effects. Agencies should recognize that Tribes and Indigenous Peoples hold relevant information and perspectives regarding the environment, and Indigenous Knowledge can inform Agencies’ environmental analysis. Tribes and Indigenous communities may have special expertise with respect to environmental and community impacts, informed by Indigenous Knowledge. Tribes can play a key role in the NEPA process as a cooperating or participating agency. Common circumstances in which Indigenous Knowledge may arise include environmental reviews of resource management plans, forest plans, energy resource lease sales, and other Federal authorizations regarding the use of public lands.

*Marine Mammal Protection Act.*²¹ The Marine Mammal Protection Act (MMPA) establishes a national policy to prevent marine mammal species and population stocks from declining to the point where they cease to be significant functioning parts of healthy and stable ecosystems.²² Section 119 of the MMPA authorizes the Departments of the Interior and Commerce to enter into cooperative agreements with Alaska Native Organizations, to conserve marine mammal populations, and to allow for the co-management of subsistence uses.²³ Through these agreements, Agencies can work with Tribal Nations and Indigenous Peoples to include Indigenous Knowledge in Federal policy decisions regarding conservation and management of marine mammals.

*Magnuson-Stevens Fishery Conservation and Management Act.*²⁴ The Magnuson-Stevens Fishery Conservation and Management Act (MSA) is the primary law governing marine fisheries management in United States Federal waters. Under the MSA, fishery conservation and management measures must, among other things, prevent overfishing while allowing use of and

¹⁷ 16 U.S.C. §§ 1531-44.

¹⁸ 16 U.S.C. §§ 1533(b)(1), (2).

¹⁹ 42 U.S.C. §§ 4321, *et seq.*

²⁰ 40 C.F.R. § 1502.23.

²¹ Pub L. No. 92-522, 86 Stat. 1027 (codified in Title 16 of the U.S. Code).

²² 16 U.S.C. § 1361.

²³ 16 U.S.C. § 1388(a).

²⁴ Pub. L. No. 94-265, 90 Stat. 331 (codified in Title 16 of the U.S. Code).

access to fishery resources.²⁵ These measures must be based upon the best scientific information available., Management measures must also account for the importance of fishery resources to fishing communities and provide for their sustained access to those resources.²⁶ The MSA allows for many sources of information, including Indigenous Knowledge, to be considered in fisheries management through various opportunities for public engagement, including from Indigenous Peoples and Tribes.²⁷ The MSA also establishes eight regional fishery management councils,²⁸ and the National Marine Fisheries Service (NMFS) manages fisheries in coordination with these councils.²⁹ The MSA explicitly reserves a seat for Tribes on one of the eight regional councils, the Pacific Fishery Management Council (Pacific Council).³⁰ Tribal representatives are appointed to the Pacific Council by the Secretary of Commerce from submissions by Tribal governments.³¹

*National Historic Preservation Act.*³² The National Historic Preservation Act (NHPA) acknowledges the importance of preserving our Nation’s diverse heritage and directs Agencies to act as responsible stewards of historic properties, including those of religious and cultural significance to Tribal Nations and Native Hawaiian organizations (NHO). Section 106 of the NHPA establishes a process to ensure that Agencies take into account the effects of projects they carry out, license, or assist on historic properties. This section also requires Agencies to consult with any Tribal Nation or NHO that may attach religious and cultural significance to a property within the undertaking’s area of potential effects. The NHPA directs Agencies to recognize the special expertise of Tribal Nations and NHOs, including Indigenous Knowledge, in the Section 106 process.³³

*Native American Graves Protection and Repatriation Act.*³⁴ The Native American Graves Protection and Repatriation Act (NAGPRA) requires Agencies and institutions that receive Federal funding to repatriate Native American human remains and cultural items to lineal descendants, Indian Tribes, and NHOs.³⁵ Consultation is a critical component for addressing identification, treatment, and return of Native American human remains and cultural items. The

²⁵ 16 U.S.C. § 1801.

²⁶ 16 U.S.C. §§ 1851(a)(1)-(10); *see* Julie Raymond-Yakoubian et al., (2017). *The Incorporation of Traditional Knowledge into Alaska Federal Fisheries Management*, 78 Marine Pol’y 132 (recommending processes for recognition and application of Indigenous Knowledge to western Alaska Federal fisheries management).

²⁷ *E.g.*, 16 U.S.C. § 1852(i)(2) (establishing public fishery council meetings unless subject to limited exceptions); 16 U.S.C. §§ 1854(a)(1)(B), (b)(1)(A) & (c) (requiring public notice and comment for fishery management plans, plan amendments, and regulations).

²⁸ 16 U.S.C. § 1852.

²⁹ 16 U.S.C. § 1852(a)(3) (granting Department of Commerce authority to manage certain highly migratory species fisheries).

³⁰ 16 U.S.C. §§ 1852(a)(1)(F) & (b)(5).

³¹ 16 U.S.C. § 1852(b)(5); *see also* 50 C.F.R. § 600.215(a)(2)(ii).

³² Pub. L. No. 89-665, 80 Stat. 915 (codified in scattered sections of 54 U.S.C.).

³³ 36 C.F.R. § 800.2(c)(2); 36 C.F.R. § 800.4(c)(1); Advisory Council on Historic Preservation, (2021). *Traditional Knowledge and the Section 106 Process: Information for Federal Agencies and Other Participants*; *see also* 54 U.S.C. § 302706 (requiring Federal agencies to consult with Tribes or Native Hawaiian Organizations regarding eligibility of property for the National Register of Historic Places).

³⁴ 25 U.S.C. §§ 3001-3013.

³⁵ 25 U.S.C. §§ 3001(8) & 3005.

law encourages a continuing dialogue between museums or Agencies and Indian Tribes and NHOs, which promotes a greater understanding between those groups.³⁶ NAGPRA expressly specifies forms of Indigenous Knowledge, such as linguistic, folkloric, oral traditional evidence, and tribal expert opinion, as necessary information for determining the affiliation and repatriation of Native American human remains and cultural items.³⁷

IV. Growing and Maintaining Relationships to Support Indigenous Knowledge

Appropriately recognizing, considering, and applying Indigenous Knowledge requires growing and maintaining strong and mutually beneficial relationships between Agencies and Tribes and Indigenous Peoples. Such relationships provide opportunities to identify shared values and goals, build trust and common understanding, and facilitate the exchange of information. These relationships can also help Agencies identify and pursue actions to support Tribes in protecting and enhancing Indigenous Knowledge, develop better approaches to scientific research informed by and inclusive of Indigenous Knowledge, and make better-informed and more effective decisions. These approaches may include pursuing co-management of resources and co-production of knowledge. Agencies should also pursue opportunities to provide direct funding or other support to Tribes and Indigenous Peoples organizations to build capacity to fully participate in and, as appropriate, lead research, initiatives, and other actions that include Indigenous Knowledge.³⁸

In light of the injustice and marginalization of Indigenous Peoples, it is incumbent on Agencies to make sustained efforts to build and maintain trust to support Indigenous Knowledge. Agencies should include the following principles and practices:

1. Acknowledge Historical Context and Past Injustice. Understanding the different experiences of Tribal and Indigenous Peoples is critical for Agencies to work with them and engage effectively with Indigenous Knowledge. Agencies should acknowledge the history of the department or agency they represent, and the Federal Government broadly, when working with Tribes and Indigenous Peoples. Recognizing past injustice, while upholding Tribal treaty and reserved rights, and respecting Tribal and Indigenous communities, cultures, and values will assist Agencies in developing collaborative processes that are more equitable and inclusive of Indigenous Peoples and their knowledge systems.

The genocide and ethnocide of Indigenous Peoples in the United States is well documented.³⁹ Historically, Federal policies have resulted in the separation (both physically and intellectually)

³⁶ *E.g.*, 25 U.S.C. § 3004(b)(1)(B); 25 U.S.C. § 3005.

³⁷ 25 U.S.C. § 3005(a)(4).

³⁸ *E.g.*, National Oceanic and Atmospheric Administration (NOAA) (Aug. 18, 2022). *Pilot project to support Tribal climate resilience in Alaska*, <https://www.noaa.gov/news-release/pilot-project-to-support-tribal-climate-resilience-in-alaska> (NOAA directly funded a climate resilience position at the Alaska Native Tribal Health Consortium to build capacity and coordination of Indigenous-led climate resilience and preparedness); *see generally* Alaska Native Tribal Health Consortium, <https://www.anthc.org>.

³⁹ *See* Roxanne Dunbar-Ortiz, (2015). *An Indigenous Peoples' History of the United States*; Delight E. Satter et al. (2021). *American Indian and Alaska Native Knowledge and Public Health for the Primary Prevention of Missing or Murdered Indigenous Persons*, 69 Dep. Justice J. Fed. Law Prac. 149, <https://pubmed.ncbi.nlm.nih.gov/34734212>;

of Indigenous Peoples from the places they are connected to, severing relationships with lands, waters, and social systems, which are all critical elements of Indigenous Knowledge.⁴⁰ These policies systematically served to assimilate and displace Native people and eradicate Native cultures.⁴¹

Today, Tribes and Indigenous communities continue to experience the impacts of intergenerational trauma resulting from the legacies of these Federal policies.⁴² However, Tribes and Indigenous communities have demonstrated remarkable resiliency in maintaining and continuing to develop Indigenous Knowledge, which has existed since time immemorial and remains strong today.

2. *Practice Early and Sustained Engagement.* When Agencies pursue policies that have Tribal implications, they must engage in regular, meaningful, and robust consultation with Tribal Nations consistent with the agency's Tribal consultation action plan, the Presidential Memorandum on *Tribal Consultation and Strengthening Nation-to-Nation Relationships*,⁴³ and Executive Order 13175 on *Consultation and Coordination with Indian Tribal Governments*.⁴⁴ Consultation is a cornerstone of building and maintaining trust with Tribal Nations. Consultation may also provide opportunities to discuss Indigenous Knowledge with Tribal Nations, and understand from Tribal Nations, how Indigenous Knowledge could inform the Agency's decision-making process. Agencies should not initiate consultation with an assumption that the Tribal Nation will share its knowledge with the agency, but rather with an inclusive process that empowers the Tribal Nation to determine if, and how, Indigenous Knowledge may be included in the agency's process.

Agencies should also consider opportunities to engage with Indigenous Peoples, including Native Hawaiians and other Indigenous Peoples unaffiliated with Federally Recognized Tribes, on Indigenous Knowledge beyond the formal consultation process. Agencies should collaboratively shape these engagement activities and consider, as appropriate, Federal regulations and policies, relevant Tribal regulations and protocols, the context and nature of the proposed Federal action, and any prior efforts to collaborate. These engagement activities may include listening sessions, public meetings, or other outreach with Indigenous communities, Indigenous knowledge holders, Elders, and youth around Indigenous Knowledge in Federal

Bryan Newland (May 2022). *Federal Indian Boarding School Initiative, Investigative Report*, Department of the Interior 102, https://www.bia.gov/sites/default/files/dup/inline-files/bsi_investigative_report_may_2022_508.pdf.

⁴⁰ See Roxanne Dunbar-Ortiz, (2015). *An Indigenous Peoples' History of the United States*; Dina Gilio-Whitaker, (2019). *As Long As the Grass Grows: The Indigenous Fight for Environmental Justice, from Colonization to Standing Rock*; Delight E. Satter et al. (2021). *American Indian and Alaska Native Knowledge and Public Health for the Primary Prevention of Missing or Murdered Indigenous Persons*, 69 Dep. Justice J. Fed. Law Prac. 149, <https://pubmed.ncbi.nlm.nih.gov/34734212/>.

⁴¹ E.g., Bryan Newland, (May 2022). *Federal Indian Boarding School Initiative, Investigative Report*, Department of the Interior 102, https://www.bia.gov/sites/default/files/dup/inlinefiles/bsi_investigative_report_may_2022_508.pdf.

⁴² Delight E. Satter et al., (2021). *American Indian and Alaska Native Knowledge and Public Health for the Primary Prevention of Missing or Murdered Indigenous Persons*, 69 Dep. Justice J. Fed. Law Prac. 149, <https://pubmed.ncbi.nlm.nih.gov/34734212/>.

⁴³ Presidential Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, 86 Fed. Reg. 7,491 (Jan. 29, 2021).

⁴⁴ Exec. Order No. 13,175, 65 Fed. Reg. 67,249 (Nov. 9, 2000).

decision making, policy or research. In designing and carrying out engagement, Agencies must respect the sovereignty of Tribal Nations and conduct outreach through the appropriate forums and with respect for the Nation-to-Nation relationship and the United States' trust responsibilities. Agencies should discuss plans for direct engagement with Tribal Nations or Indigenous Peoples and ensure sustained engagement throughout the development or implementation of the activity. When engaging with Indigenous Knowledge holders who are members of Federally-recognized Tribes, Agencies should be mindful of Tribal sovereignty and recognize that Tribal leaders grant consent for the sharing of Indigenous Knowledge. Agencies should engage only with such individual knowledge holders designated by Tribal leadership.

When Agencies engage with different partners and potential collaborators, including agency contractors, state and local governments, and non-governmental organizations, on Federal policies or actions that may affect Tribes, Agencies should ensure that such collaboration respects Tribal sovereignty and upholds the Federal Government's trust responsibilities. For example, Agencies may collaborate with:

- Tribal Government Agencies and Staff: Agencies should foster relationships with Tribal agencies and staff to discuss Federal policies that have Tribal implications and Indigenous Knowledge and to explore opportunities for collaboration. Agencies must be aware, however, that engagement with Tribal agencies and staff is not a substitute for consultation with Tribal leaders, and only Tribal leaders or their designated representatives can give consent on behalf of a Tribe to the sharing of Indigenous Knowledge with Agencies.
- Inter-Tribal Organizations and Non-profit Organizations: Inter-Tribal organizations and Tribal non-profit organizations are important partners within the domains in which they operate. They can span jurisdictions and serve as clearinghouses of information for Tribal Nations. Urban Indian Organizations also work to address concerns of Indigenous Peoples living in urban areas outside of the boundaries of Tribal Nations who may or may not be members of a Tribe. Agencies must be aware, however, that engagement with Inter-Tribal organizations and Tribal non-profit organizations does not satisfy the obligation to consult with Tribal Nations on a Nation-to-Nation basis, and only Tribal leaders or their designated representatives can consent on behalf of a Tribe to the sharing of Indigenous Knowledge with Agencies.
- Indigenous Knowledge Holders: The Tribal members and Indigenous People who hold Indigenous Knowledge may be Elders, cultural practitioners, and/or spiritual leaders. Agencies must ensure that any engagement with knowledge holders is respectful of Tribal sovereignty and self-governance.
- Local and State Governments: State and local governments also engage with Tribal Nations and Indigenous Peoples and may have policies to guide the consideration of Indigenous Knowledge. Agencies should strive to align policies where possible and to clearly communicate any differences to Tribal Nations and Indigenous Peoples to avoid confusion.
- Academics and Scholars: Academic and scholarly communities can serve as an additional network to create partnerships, co-produce knowledge, and increase collaboration to

include Indigenous Knowledge in Federal contexts. Agencies must ensure that such partnerships are consistent with the Federal trust responsibility to Tribal Nations and is respectful of Tribal sovereignty and self-governance and that academic collaborators also recognize and abide by the principal that consent is required before Indigenous Knowledge can be included in any research.

3. Earn and Maintain Trust. Building relationships with Tribes and Indigenous Peoples requires establishing (or rebuilding) and maintaining trust, which may be difficult because of the Federal Government's history of breaking promises to Tribes and policies that served to assimilate, marginalize, and oppress Tribal Nations and Indigenous Peoples. Agencies should proceed with patient and respectful persistence, and honest and transparent communication, to demonstrate that the desire to collaborate with and listen to Tribes and Indigenous Peoples is genuine. Agencies can also build trust by committing agency resources to training staff to develop cultural competency and respect for the traditional values, beliefs, and cultural practices of Tribes and Indigenous Peoples.

4. Respect Different Processes and World Views. Tribes and Indigenous Peoples may use decision-making processes substantially different from those used by Agencies and may approach issues from a different perspective, including considering the effects of current actions on future generations prior to making major decisions affecting their communities. For example, Haudenosaunee Chiefs rely on extensive deliberation and consensus-building to consider the ways in which decisions can impact the wellbeing of the next seven generations.⁴⁵ This Seventh Generation Principle, shared among many Tribes, reflects a holistic understanding of the world and the human place within it, and is embedded in songs and prayers, ceremonies, dances, storytelling, arts and technologies, and language, among other practices and cultural expressions.

Agencies should also be cognizant of the unique connection that many Tribes and Indigenous Peoples have with the lands, waters, plants, and animals within their traditional homelands. Agencies should be cognizant that many Tribes and Indigenous Peoples were forcibly removed from their traditional homelands but still retain cultural connections and interests in these areas. These resources may be necessary to Tribal and community health and wellbeing in ways that Agencies may not fully understand.⁴⁶ Agencies should also understand that Tribes and Indigenous Peoples may carefully guard information about their homelands and cultural connections to them.⁴⁷ Recognizing and respecting divergent processes and world views, and the sensitivity of Tribes about sharing certain information about them, is important for relationship building and understanding how to appropriately engage with Indigenous Knowledge.

5. Recognize Challenges. Agencies should recognize that Tribes and Indigenous Peoples face obstacles to equitable collaboration, including: (1) mistrust or skepticism; (2) lack of funding,

⁴⁵ *Values*, Haudenosaunee Confederacy, <https://www.haudenosauneeconfederacy.com/values>.

⁴⁶ See Symma Finn, Mose Herne, & Dorothy Castille, (2017). *The Value of Traditional Ecological Knowledge for the Environmental Health Sciences and Biomedical Research*, 125(8) *Env't Health Perspectives*, 085006-1, <https://doi.org/10.1289/EHP858>.

⁴⁷ ACHP (May 3, 2021). Traditional Knowledge and the Section 106 Process: Information for Agencies and Other Participants, <https://www.achp.gov/sites/default/files/2021-05/TraditionalKnowledgePaper5-3-21.pdf>.

personnel, and capacity among Tribes and Indigenous Peoples to respond to Federal requests to engage; (3) lack of coordination and communication between Agencies may result in duplicate requests, causing frustration and extra work for Tribes and Indigenous Peoples; (4) changes in political administrations, budgets, and leadership priorities may affect relationship continuity and collaborative efforts; and (5) telecommunications infrastructure and lack of broadband or internet in rural areas. Agencies should consider actions outlined in this guidance to address these challenges as part of their work to implement this guidance and include Indigenous Knowledge in decision making.

6. Consider Co-management and Co-stewardship Structures. Where available, Agencies should consider co-management, collaborative management, and co-stewardship of lands and waters as opportunities to include Tribal Nations, Indigenous Peoples, and Indigenous Knowledge in Federal actions. These approaches bring Tribal Nations directly into Federal decision making and such collaborations may help avoid challenges around and breaches of confidentiality or data, and imbalances in power and resources. While co-management may not be possible in all scenarios, and must be consistent with relevant Federal authorities, several Agencies already have in place co-management or shared governance structures for lands and waters.⁴⁸

7. Pursue Co-Production of Knowledge. Similarly, Federal researchers should look for opportunities to work with Indigenous Knowledge holders to co-produce scientific information and propose solutions to inform decision making. Knowledge co-production is a research framework based on equity and the inclusion of multiple knowledge systems. It requires the full partnership of Tribes and Indigenous Peoples in all aspects of a research endeavor from the outset, including ensuring that Tribal and Indigenous collaborators are compensated for the work that they do and understand up front if funding is unavailable.

Federal scientists working in a knowledge co-production framework must navigate sharing power and decision-making authority with collaborating Tribes and Indigenous Peoples, and be honest and transparent about any limitations on their ability to share such power.⁴⁹ When developing methods and data collection protocols, Federal scientists should consider using Indigenous methodologies and incorporating Indigenous metrics and indicators in order to fully include Indigenous Knowledge in the research results. At the conclusion of the research, the results should be reviewed by the collaborating Tribe or Indigenous Peoples, and shared in ways that are meaningful and useful to them as well as to the broader scientific community.⁵⁰ As

⁴⁸ Department of the Interior, Policy Memorandum 22-03, Fulfilling the National Park Service Trust Responsibility to Indian Tribes, Alaska Natives, and Native Hawaiians in the Stewardship of Federal Lands and Waters (Sept. 13, 2022), available at https://www.nps.gov/subjects/policy/upload/PM_22-03.pdf.

⁴⁹ This may necessitate expanded scientific integrity practices and expectations, such as granting communities more autonomy over research questions, respecting data and Indigenous Peoples and Tribes' decisions, and elevating qualitative data gathering and inclusion of different forms of evidence.

⁵⁰ See, e.g., R.L. Kelly, and Craig M. Lee (co-pis) (September 2017). Final Report to Glacier National Park: Ice Patches as Sources of Archeological and Paleoecological Data in Climate Change Research. RMCESU Cooperative Agreement Number: H1200090004 (IMR), https://files.cfc.umt.edu/cesu/NPS/CU/2010/10_11Lee_GLAC_ice%20patch%20archo_rpt.pdf.

members of the research team, Tribal or Indigenous collaborators should be co-authors of publications describing the results.

V. Applying Indigenous Knowledge

This section identifies and discusses promising practices that Agencies should consider when working with Tribal Nations and Indigenous Peoples to include Indigenous Knowledge in Federal policy, research, or other decision making.⁵¹ Agencies should be mindful and clear in communicating to Tribal Nations and Indigenous Peoples the specific factual and legal contexts in which they operate, and should consider developing agency-specific policy or guidance or revising existing consultation policies to include processes for including Indigenous Knowledge in decision making.

While this guidance focuses on opportunities for Agencies to appropriately engage with Indigenous Knowledge and intentionally promote opportunities to include Indigenous Knowledge in Federal decision making, there may be circumstances in which Agencies encounter Indigenous Knowledge unexpectedly. In both of these circumstances, to the extent practicable, the agency should consider adopting the following promising practices.

A. Promising Practices to Apply When Considering Indigenous Knowledge in Federal Processes

This section provides promising practices to guide the manner in which Agencies engage with Indigenous Knowledge to ensure that this engagement respects the interests of Tribes and Indigenous Peoples, and considers Indigenous Knowledge where relevant and appropriate in Federal decisions. In implementing these practices, Agencies should be aware that different Tribes and Indigenous Peoples use different terminology to reflect their distinct histories and interests, including Traditional Ecological Knowledge, Traditional Knowledge, Indigenous Traditional Knowledge, and Native Science. Agencies are encouraged to use the term preferred by the communities with which they are engaging and to continue to learn more about the historic, legal, and cultural contexts related to their work with Indigenous Peoples and Indigenous Knowledge.⁵² It is the decision of the Tribal Nation or Indigenous People involved whether their Indigenous Knowledge should be applied in Federal contexts and Agencies should respect this decision.

These promising practices are grounded in a wealth of experience among Tribes, Indigenous Peoples, and Agencies and include:

⁵¹ See Appendix E (providing additional references and resources for promising practices to apply when considering Indigenous Knowledge in Federal processes).

⁵² ACHP (May 3, 2021). Traditional Knowledge and the Section 106 Process: Information for Agencies and Other Participants, <https://www.achp.gov/sites/default/files/2021-05/TraditionalKnowledgePaper5-3-21.pdf> (“Each Indian tribe or NHO may have their own information about a specific place that differs from that of another Tribe or NHO, because each has a unique culture and history. In many cases, different Tribes or NHOs may have different views or beliefs about the same place. The fact that each may hold different traditional knowledge about the same place does not invalidate that knowledge. Additional outreach and consultation may be required for a Federal agency to engage with multiple Tribes to better understand a single place; such additional efforts enrich the process and better inform decision-making.”).

1. Identify Project Areas and Relevant Staff. Agencies should identify those areas where Indigenous Knowledge is most likely to be offered or sought out. These areas should include those of particular interest to Tribes, like land and resource management decisions affecting traditional homelands. While Agencies should remain receptive to engaging with Tribes and Indigenous Peoples on Indigenous Knowledge across all missions, developing a list of key issue areas will help Agencies to most effectively deploy resources to train staff, identify actions that should be subject to the practices described below, and recognize opportunities to collaborate with Tribes. Where resources are available, Agencies should train staff in these project areas to develop and maintain skills and practices relevant to working with Indigenous Knowledge, Tribal Nations, and Indigenous Peoples. Several Tribal organizations and other external Indigenous-led groups have developed guidance documents and trainings for decisionmakers⁵³ and Agencies should look for opportunities for Tribes and Indigenous Peoples to lead and participate in training for Agencies.

2. Plan Ahead and Consider Developing an Indigenous Knowledge Plan. Where an agency identifies a decision-making process or research project in which Indigenous Knowledge may be relevant, the agency should develop an Indigenous Knowledge plan as early as possible. Agencies may need to consult and collaborate with Tribal Nations and Indigenous Peoples initially to determine if, and how, Indigenous Knowledge could be relevant to the agency's decision-making process. The plan should describe engagement between the Federal agency and Tribes and Indigenous Peoples, including early and sustained engagement to ensure that Indigenous Knowledge shared with the agency is considered throughout, consistent with the expectations of the applicable Tribal Nations and Indigenous Peoples. Agencies should develop a schedule and identify resources to support each phase, and should assign staff the appropriate qualifications, experience, and training to participate in the process. Additionally, Agencies should communicate the plan and timelines for engagement so that all parties understand expectations. Planning should also be sensitive to culturally appropriate norms, including meaningful inclusion of youth and Elders, honoring and respecting Indigenous languages, and meeting on Tribes' or Indigenous Peoples' lands. For Federally recognized Tribes, Nation-to-Nation consultation may be the most appropriate venue for engagement.

In developing Indigenous Knowledge plans, Agencies should also be aware that Tribes and Indigenous Peoples may possess Indigenous Knowledge that is sensitive, sacred, or belongs to certain families or clans. To the extent possible, Agencies should identify and adopt mechanisms to address the concerns of Tribes and Indigenous Peoples about privacy or potential threats to natural or cultural resources, or they may fear loss of access or desecration of lands and waters if certain information is shared with others.⁵⁴ Tribal leaders or designated representatives are best

⁵³ E.g., Ellam yua et al., (2022). *A Framework for Co-production of Knowledge in the Context of Arctic Research*, 27 *Ecology and Soc'y* 34, <https://doi.org/10.5751/ES-12960-270134>; Minn. Dep't of Transportation (2022). *Tribal-State Relations Training*, <http://www.dot.state.mn.us/tribaltraining>.

⁵⁴ First Archivist Circle (Apr. 9, 2007). *Protocols for Native American Archival Materials*, <https://www2.nau.edu/libnap-p/protocols.html> ("For Native American communities, the public release of or access to specialized information or knowledge—gathered with and without informed consent—can cause irreparable harm. . . Each community will understand and use the term 'culturally sensitive' differently, although there are

positioned to identify what Indigenous Knowledge is sensitive or sacred, and Agencies should recognize that Indigenous Knowledge freely shared by one community may be closely guarded by another.⁵⁵

Therefore, during the planning process, Agencies should consult with Federal agency legal counsel regarding the agency's obligations under the Freedom of Information Act (FOIA)⁵⁶ and other public disclosure laws, and legal authorities that may apply to inclusion of Indigenous Knowledge.

3. *Conduct Initial Meetings.* Prior to any discussion on sharing Indigenous Knowledge, Agencies should set clear expectations for how the information will be conveyed to the agency and included in the agency's decision-making process. Agencies should discuss and make clear the potential benefits and risks of sharing Indigenous Knowledge, including the potential for public release under FOIA and other public disclosure obligations.⁵⁷ This should be an ongoing discussion and Agencies should account for personnel turnover to ensure any information provided is provided with a full understanding of the implications of FOIA and other public disclosure obligations. Agencies should also collaborate with Tribal Nations and Indigenous Peoples to develop alternative means for information sharing that reduces the risk of disclosure and results in mutually beneficial process for the agency and Tribal Nations and Indigenous Peoples. Agencies should also provide information to Tribes and Indigenous Peoples to facilitate informed decision making as to whether Indigenous Knowledge should be shared with the agency and discuss approaches that may be available to protect Tribal or Indigenous interests. Such information includes a description of the Federal action or policy, relevant legal authorities and any limitations arising from those authorities, and potential impacts to Tribal or Indigenous interests foreseeable to the agency.

An initial meeting should be reciprocal. It is also an opportunity for the Tribe or Indigenous Peoples to identify additional considerations or interests important to them. Together, Agencies, Tribes, and Indigenous Peoples can explore what specific aspect of Indigenous Knowledge could inform or contribute to the Federal policy or action.

broad areas of common agreement for Native Americans about this issue Indigenous Knowledge may need to be protected to prevent against unauthorized use, commercial misuse, cultural misappropriation, or inadvertent disclosure. There have been many cases of misrepresentation and exploitation of sacred and secret information.”).⁵⁵ ACHP (May 3, 2021). Traditional Knowledge and the Section 106 Process: Information for Agencies and Other Participants, <https://www.achp.gov/sites/default/files/2021-05/TraditionalKnowledgePaper5-3-21.pdf> (“Each Indian tribe or NHO may have their own information about a specific place that differs from that of another Tribe or NHO, because each has a unique culture and history. In many cases, different Tribes or NHOs may have different views or beliefs about the same place. The fact that each may hold different traditional knowledge about the same place does not invalidate that knowledge. Additional outreach and consultation may be required for a Federal agency to engage with multiple Tribes to better understand a single place; such additional efforts enrich the process and better inform decision-making.”).

⁵⁶ 5 U.S.C. § 552.

⁵⁷ See U.S. Department of Justice (2022). Risk Management and Tribal Consultation Report, at 4 and 11, https://www.justice.gov/d9/fieldable-panel-panes/basic-panes/attachments/2022/06/08/risk_management_tribal_consultation_final_report_march_2022.pdf.

An initial meeting is also a forum for Agencies to communicate Federal agency legal obligations associated with the application of Indigenous Knowledge with Tribes and Indigenous Peoples, including the potential for public disclosure of Indigenous Knowledge. Tribes and Indigenous Peoples need to understand Federal legal obligations to make informed decisions about whether, when, and how to share information. Federal agency legal obligations should be made clear, including the extent to which the agency will be able to maintain the confidentiality of Indigenous Knowledge if it is shared and what protocols the agency will use to store, share, and access sensitive documents, information, or data. This information should be disclosed by Agencies before Tribes and Indigenous Peoples share Indigenous Knowledge. Any information about the Tribe or Indigenous Peoples' relevant protocols, laws, or resolutions related to the sharing of Indigenous Knowledge should also be discussed by Agencies, Tribes, and Indigenous Peoples. For long-term or more complex projects, Agencies may consider whether a written document could be effective to document agreements about the process and partnership.

4. Include Indigenous Knowledge into Federal Decision Making and Research. Agencies should obtain consent from Tribal Nations and Indigenous Peoples prior to including Indigenous Knowledge in Federal policy, research, or decision making. After securing consent to access Indigenous Knowledge, Agencies should ensure that Indigenous Knowledge is appropriately included in the Federal action. Inclusion of Indigenous Knowledge in Federal decision making and research starts with the recognition that Indigenous practices and methodologies underlie Indigenous Knowledge. Accordingly, Indigenous Knowledge should guide metrics and evaluation; Agencies do not need to judge, validate, or evaluate Indigenous Knowledge using other forms of knowledge in order to include Indigenous Knowledge in Federal policy, research, or decision making.

In documenting research and decision making, Agencies should prepare documents that recognize Indigenous Knowledge genealogy and credit ideas, insights, and other forms of Indigenous Knowledge as applied. Additionally, documents should describe how Indigenous Knowledge was applied to reach the final product or decision. When possible and appropriate, Agencies should work with Tribes and Indigenous Peoples to present the decision or research including Indigenous Knowledge in Indigenous voice and style.⁵⁸

Agencies should follow up with Tribes and Indigenous Peoples to describe how Indigenous Knowledge was included in the final Federal action and share outcomes. The nature of subsequent communications will vary. Agencies should recognize the specific context of the Federal action, such as the relationship between the parties, the parties' desires, and the specific characteristics of the final decision or product.

5. Regularly Coordinate with other Agencies to Facilitate Information Sharing. Many Agencies have deep experience in the above promising practices and can serve as resources for other agencies. Interagency information sharing and coordination may enhance practices for including Indigenous Knowledge in Federal processes across the Government.

⁵⁸ See e.g., ACHP (May 3, 2021). Traditional Knowledge and the Section 106 Process: Information for Federal Agencies and Other Participants, which that lists indigenous perspectives of Indigenous Knowledge in their own words, Appendices A and B.

B. Opportunities to Include Indigenous Knowledge in Federal Contexts

Agencies may find Indigenous Knowledge provides valuable insights across various programs and missions. This section provides common contexts in which Agencies may encounter Indigenous Knowledge and specific practices that Agencies should employ when considering whether and how to include Indigenous Knowledge in decision-making processes⁵⁹:

1. Federal Research Design and Implementation. Agencies should respect that Tribes and Indigenous Peoples may have different preferences for their involvement in research and that the same Tribe or Indigenous Peoples may have varying preferences depending on the issue or project. While respecting this diversity of preference, there are promising practices from literature, listening sessions, and researchers' experiences, which should be considered when developing research policy, planning, and implementation.⁶⁰

The following practices based on Indigenous research methodologies may be of particular use to Agencies in this context:⁶¹ Additional references are included in Appendix F.

- **Responsibility:** It is the responsibility of the research team to understand the sociopolitical landscape of a research site and research questions and to follow ethical best practices *whether or not* the research is considered human subject research. Honestly and clearly identify the purpose and motivation for the research.
- **Research Approach:** Select appropriate research methods and parameters for the problem, the cultural context, and weaving together knowledge systems, as well as for the use of data and dissemination of results.
- **Relevance:** When working in or with Indigenous communities, ensure research is relevant to the experiences, perspectives, priorities, and ways of knowing and living in these communities.
- **Representation:** Indigenous communities should lead in the research process by sharing what is important to their community.
- **Respect:** Have respect for Indigenous communities and cultures, multiple ways of knowing, and Indigenous Knowledge holders.
- **Relationship:** Invest time and resources in engagement necessary to understand the issues, concerns, and needs from the perspective of partners. Acknowledge the nature of

⁵⁹ Internationally, the Department of State, in concert with Federal agencies, works to ensure the rights of Indigenous Peoples are protected and respected. When international issues are implicated, it may be appropriate for agencies to coordinate with the Department of State, and ensure that positions and language are consistent with U.S. international commitments. Indigenous Knowledge can make significant contributions to the United States' diplomatic activities and to partner countries' development goals, as well as to broader global health, agriculture, climate stability and food and water security. Federal employees engaged in foreign relations or foreign development programs should invite Indigenous Peoples to be partners in the diplomatic or development process, and strengthen consultations to ensure that Indigenous Knowledge informs agreements, impact analyses, strategies, program design, implementation, and monitoring and evaluation.

⁶⁰ See Ranalda L. Tsosie et al. (2022). *The Six Rs of Indigenous Research*, 33(4) Tribal Coll. J. Of Am. Indian Higher Educ, <https://tribalcollegejournal.org/the-six-rs-of-indigenous-research>.

⁶¹ Id.

relationships (people-to-people and people-to-environment) as they relate to Indigenous Knowledge.

2. *Federal Grants and Other Funding Opportunities.* Agencies should ensure that Indigenous Knowledge is recognized, valued, and included in Federal grant making and other funding opportunities, which can improve the accessibility of funding to Tribes and Indigenous Peoples and facilitate exploration of new lines of research and development. Agencies should review the range of phases of Federal grant making, including solicitation, review and selection, administration, and closeout and reporting. Agencies may provide technical assistance to Tribes and Indigenous Peoples to clearly establish expectations for financial assistance and other funding opportunities. In addition, Agencies should be cognizant of burdensome requirements during pre- and post-selection award phases and collaborate with Tribes and Indigenous Peoples to ensure Federal requirements are achieved through a process that is accessible for Tribes and Indigenous Peoples and allows for Indigenous Knowledge to be included.

In developing Requests for Proposals (RFP), as appropriate, Agencies should account for the following: (1) that the RFP language, frame, and requirements for the research project or funding opportunity do not exclude the potential for Indigenous Knowledge and other forms of evidence to be included; (2) that the RFP language regarding professional qualifications includes Indigenous Knowledge and Indigenous Peoples, who are the experts in their culture and lifeways; and (3) that the RFP language does not unnecessarily treat natural and cultural resources as separate entities or exclude one while including the other. Regarding the latter, Indigenous Peoples' cultural practices are informed by Indigenous Knowledge and frequently incorporate plant and animal communities, mineral sources, landforms, water bodies, and other tangible elements of the natural environment. Thus, Agencies should be aware that certain natural resources are frequently valued as cultural resources by many Indigenous Peoples. For RFPs that include requests for engagement and planning with Tribes and Indigenous Peoples, Agencies should recognize relationship building needs, such as longer timeframes. When appropriate, Tribes and Indigenous Peoples should also be included in the creation of RFPs and Indigenous Knowledge holders should be included in the proposal review process. When possible, Knowledge holders should be appropriately compensated for the participation at rates equal to those of agency and academic scientists and other technical experts.

When funding is awarded, especially through competitive grant processes, Agencies should ensure that the methods, people, and grant assessment process are not biased against proposals that include Indigenous Knowledge. To guard against such biases, Agencies can ensure that Indigenous Knowledge holders are included in funding allocation decisions, and can ensure that merit-based funding decisions involve scoring rubrics that value Indigenous Knowledge on par with other forms of evidence and methods of inquiry. Agencies should also develop evaluation criteria that includes Indigenous methodologies and approaches to ensure that Indigenous Knowledge is not inappropriately disadvantaged in the review process.

Finally, Agencies are encouraged to offer funding for co-production of knowledge whenever feasible, to ensure that Indigenous Knowledge and multiple perspectives are included in all

stages of the research process, and to ensure that research results are relevant to decisions made by Agencies, Tribes, and Indigenous Peoples.⁶²

3. *Federal Rulemaking.* Agencies should consider Indigenous Knowledge in promulgating regulations, issuing guidance, or adopting policies with Tribal or Indigenous implications, consistent with legal authorities. There are a number of opportunities for Indigenous Knowledge to potentially inform Federal rulemaking. Indigenous Knowledge can serve as a source of evidence that explains why a rule is necessary, an approach has been selected, or alternative approaches have been rejected. For example, rules covering species protection and land use could include Indigenous Knowledge to explain why certain protections are necessary.

Additionally, Agencies often prepare a benefit-cost analysis to analyze proposed regulations, which may include intangible or difficult-to-monetize benefits and costs, distributional effects, and an analysis of environmental justice impacts. Indigenous Knowledge also may provide relevant insights in these analyses in describing a particular rule's costs and benefits based on the expertise of Tribes and Indigenous Peoples. The White House Office of Management and Budget (OMB)'s guidance on regulatory analysis⁶³ notes that Agencies should seek out opinions of those who may be affected by regulation or who have special knowledge or insight into the regulatory issues. In addition, Indigenous Knowledge can be a source of original information that Agencies may use to conduct benefit-cost analyses, consistent with OMB's guidance.

For example, many regulatory impact analyses of Federal rules include an analysis of the rule's distributional effects and/or an environmental justice assessment. These analyses discuss how benefits or adverse impacts of the Federal action affect different communities. Indigenous Knowledge may be relevant to include in such analyses. For example, including Indigenous Knowledge may more accurately capture the impact of a rule on culturally or ecologically significant land.

Agencies should also include Indigenous Knowledge as an aspect of best available science. A number of legal standards requiring the consideration of scientific information can also permit the consideration of Indigenous Knowledge. Agencies should consider evaluating the standards applicable to their work to decide whether the consideration of Indigenous Knowledge should be referenced explicitly in agency regulations or policies. Indeed, several Agencies have already included Indigenous Knowledge in their definitions of best available science or expanded their understanding of what can be included as evidence in agency decision making.⁶⁴ For example, the U.S. Forest Service allows "Native knowledge" to be considered during the National Forest System land management planning process.⁶⁵ The National Marine Fisheries Service's (NMFS)

⁶² Ellam yua et al. (2022). *A Framework for Co-production of Knowledge in the Context of Arctic Research*, 27 *Ecology & Soc'y* 34, <https://doi.org/10.5751/ES-12960-270134>; see also discussion *infra* Section 3 (providing additional information and recommendations on co-production of knowledge).

⁶³ OMB Circular A-4, (Sept. 17, 2003). *Regulatory Analysis*, https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf.

⁶⁴ NOAA Fisheries & National Ocean Service (2019). *Guidance and Best Practices for Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making*, 3, https://media.fisheries.noaa.gov/dam-migration/traditional_knowledge_in_decision_making_508_compliant.pdf.

⁶⁵ 36 C.F.R. §§ 219.4(a)(3) & 219.19 (defining "Native Knowledge").

efforts around Ecosystem-Based Fisheries Management is another example of Indigenous Knowledge being applied as best available science;⁶⁶ the Alaska Fisheries Science Center produces annual Ecosystem Status Reports informed by local knowledge and observations.⁶⁷

4. *Federal Use of Science and Evidence*. Agencies can also include Indigenous Knowledge in Federal contexts governed by the following evidence and information quality statutes:

- *Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)*.⁶⁸ The Evidence Act calls on Agencies to strategically plan and organize evidence building, data management, and data access functions to ensure an integrated and direct connection to data and evidence needs.⁶⁹ As relevant and appropriate, Agencies should include Indigenous Knowledge as a form of evidence and consider Indigenous Knowledge throughout evidence life cycles, including in developing priority questions on agency Learning Agendas, in building evidence through inclusive methodologies, such as community-engaged research, and when using evidence to improve government effectiveness.⁷⁰
- *Information Quality Act*.⁷¹ The Information Quality Act (IQA) is designed to ensure that the Federal Government relies on information of appropriate quality for the decision being made. Under the IQA and OMB's associated guidance documents,⁷² influential information, including Highly Influential Scientific Assessments (HISAs), is required to provide sufficient transparency about data and methods to allow reproducibility of the results.⁷³ Indigenous Knowledge can be relevant to and may be used in HISA

⁶⁶ Nat'l Oceanic & Atmospheric Admin. Fisheries, (June 15, 2022). *Human Integrated Ecosystem Based Fishery Management, Research Strategy 2021-2025: Executive Summary*, <https://www.fisheries.noaa.gov/human-integrated-ecosystem-based-fishery-management-research-strategy-2021-2025-executive-summary>.

⁶⁷ E.g., North Pacific Fishery Management Council (2021). *Ecosystem Status Report 2021, Eastern Bering Sea*, 238-39 (Elizabeth Siddon), <https://apps-afsc.fisheries.noaa.gov/refm/docs/2021/ebsecosys.pdf>.

⁶⁸ Pub. L. No. 115-435, 132 Stat. 5529 (codified in Titles 5 and 44 of the U.S. Code).

⁶⁹ Office of Mgm't & Budget, Exec. Office of the President (June 10, 2019). *OMB Circular M-19-23, Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018*, 13, <https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf>; Office of Mgm't & Budget, Exec. Office of the President, *OMB Circular M-21-27*, (June 30, 2021). *Evidence-Based Policymaking: Learning Agendas and Annual Evaluation Plans*, 19, <https://www.whitehouse.gov/wp-content/uploads/2021/06/M-21-27.pdf>.

⁷⁰ See e.g., Melanie Nind (2020). *Inclusive Research: Research Methods*; Melanie Nind (2014). *What is Inclusive Research?*; Kristine Andrews, Jenita Parekh, & Shantai Peckoo (2019). *How to Embed a Racial and Ethnic Equity Perspective in Research: Practical Guidance for the Research Process*, Child Trends, https://www.childtrends.org/wpcontent/uploads/2019/09/racialethnicequityperspective_childtrends_October2019.pdf.

⁷¹ Pub. L. No. 106-554, 114 Stat 2763, § 515 (codified at 44 U.S.C. §§ 3504(d)(1), 3516).

⁷² E.g., OMB, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies*; Republication, 67 Fed. Reg. 8452, (Feb. 22, 2002); OMB, *Final Information Quality Bulletin for Peer Review*, 70 Fed. Reg. 2664, (Jan. 14, 2005); OMB (April 24, 2019). *Memorandum to the Heads of Executive Departments and Agencies, Improving Implementation of the Information Quality Act*, M-19-15.

⁷³ OMB (2001). *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies*, § 3(b)(2); OMB (April 24, 2019). *Memorandum to the Heads of Executive Departments and Agencies, Improving Implementation of the Information Quality Act*, M-19-15.

documents.⁷⁴ As relevant and appropriate, Indigenous Knowledge should be evaluated during review processes to ensure that conclusions are supported by evidence of appropriate quality.⁷⁵

VI. Conclusion

Agencies should apply this guidance as a foundation for Agencies to consult and collaborate with Tribal Nations and Indigenous Peoples on the inclusion of Indigenous Knowledge in Federal decision making and research and consider whether agency-specific policies are appropriate.

In addition, the Appendices that follow provide a wealth of information, operational recommendations, and additional resources to support Agencies in implementing this guidance.

⁷⁴ See OMB (April 24, 2019). Memorandum to the Heads of Executive Departments and Agencies, Improving Implementation of the Information Quality Act, M-19-15.

⁷⁵ See Appendix C (providing a draft survey on inclusion of Indigenous Knowledge in the National Climate Assessments).

Appendix A. Examples of Indigenous Knowledge Application and Collaboration Between the Federal Government and Tribes and Indigenous Peoples

The below examples illustrate mutually beneficial collaborations that are possible between Agencies and Tribal Nations and Indigenous Peoples. These examples include input from and reflect the perspectives of the Indigenous organizations, individuals, and Agencies involved in these particular efforts.

Indigenous Knowledge Informs Federal Climate Change Research, Policy, and Resilience
Climate change is affecting human and natural environments around the world. Tribes and Indigenous Peoples face disproportionate and unique climate-related risks, as climate change threatens cultural and ceremonial practices, place-based identities, sources of traditional food and medicine, and sovereignty and security. Climate impacts, such as increased frequency and severity of certain extreme weather events, ocean acidification, sea level rise, and changes in the timing of ice melt or spring thaw, disrupt subsistence hunting, gathering, fishing, and traditional agricultural practices by threatening culturally important ecosystems. Indigenous Peoples may have disproportionately high levels of pre-existing health conditions, such as asthma, diabetes, or cardiovascular disease, and many still experience physical and mental health impacts of historical trauma. Climate change exacerbates these health disparities and can create new threats to human health and safety.⁷⁶ For example, recent evidence suggests that Indigenous women and children may bear the brunt of climate-related stressors and economic and food insecurities, and that climate impacts can exacerbate sexual and gender-based violence.⁷⁷

The Federal Government has a key role to play in understanding, mitigating, and adapting to climate-related risks and impacts. Recognizing that Tribes and Indigenous Peoples are often the first to observe or anticipate climate-related changes to ecosystems and the environment, and this knowledge contributes to better understanding, prediction, and adaptation to climate change, the Fourth National Climate Assessment included Indigenous Knowledge in its assessment of the impacts of climate change on the Nation and described the role Indigenous Knowledge systems can play in developing comprehensive climate adaptation strategies.⁷⁸ Further, each of the 10 regional chapters in the Fourth National Climate Assessment includes at least one example of climate impacts or adaptation practices unique to Tribes and Indigenous peoples, many of which are based on Indigenous Knowledge local to that region. Other examples of the application of

⁷⁶ See Fourth National Climate Assessment, 572–603 (explaining how indigenous peoples can also be affected uniquely and disproportionately by climate change); see also Bharat H. Desai et al. (2021). *Role of Climate Change in Exacerbating Sexual and Gender-Based Violence against Women: A New Challenge for International Law*, Environmental Policy and Law 51, p. 142, available at https://www.un.org/sexualviolenceinconflict/wp-content/uploads/2021/10/report/role-of-climate-change-in-exacerbating-sexual-and-gender-based-violence-against-women-a-new-challenge-for-international-law/epl_2021_51-3_epl-51-3-epl210055_epl-51-epl210055.pdf; see also Kristen Vinyeta, Kyle Powys Whyte, & Kathy Lynn (2015). Climate Change Through an Intersectional Lens: Gendered Vulnerability and Resilience in Indigenous Communities in the United States. Gen. Tech. Rep. PNW-GTR-923. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 72 p. DOI: 10.2737/PNW-GTR-923.

⁷⁸ See generally, Fourth National Climate Assessment (providing an example, where indigenous knowledge was included in the assessment of the impacts of climate change on the nation and describes the role indigenous knowledge systems can play in developing comprehensive climate adaptation strategies).

Indigenous Knowledge in Federal climate-related decision making include the listing of species under the Endangered Species Act, habitat designation decisions made by USFWS and NOAA, and consideration of Indigenous Knowledge in the Bureau of Indian Affairs' climate resilience investments.

Bears Ears National Monument Co-Management

Bears Ears National Monument has a rich cultural heritage and is sacred to many Tribal Nations who rely on these lands for traditional and ceremonial uses. Recognizing this history and the expertise of Tribal Nations, the Bureau of Land Management (BLM) and U.S. Forest Service (USFS) have entered into a cooperative agreement with five Tribes—the Hopi Tribe, Navajo Nation, Ute Mountain Ute Tribe, Ute Indian Tribe of the Uintah and Ouray Reservation, and the Pueblo of Zuni—to collaborate on the management of the 1.36 million acre monument. This agreement outlines a common vision for managing Bear Ears National Monument and protecting these sacred lands, giving Tribes the opportunity to participate in the management of their ancestral lands. The Tribes are applying their knowledge to a variety of management challenges facing the monument including drought, erosion, and visitation to protect and restore the monument objects and values. Honoring the Nation-to-Nation relationship, this model ensures that Indigenous Knowledge and Tribal perspectives are at the forefront of joint decision-making for the monument.

The Northern Bering Sea Climate Resilience Area

The Inupiat, St. Lawrence Island Yupik, Central Yup'ik and Cup'ik peoples have lived interconnected with marine and coastal ecosystems in the Northern Bering Sea region for millennia. The Northern Bering Sea Climate Resilience Area, established by Executive Order 13754 in 2016 and reinstated by President Biden in 2021 through Executive Order 13990, provides an example of Indigenous values informing policy and the potential for including Traditional Knowledge in decision making.⁷⁹ The Northern Bering Sea Climate Resilience Area provides a model for bridging different value systems coming from Indigenous Knowledge and other forms of knowledge through a framework that includes a Federal Bering Task Force and a Bering Intergovernmental Tribal Advisory Council. The Task Force and Advisory Council are charged with conserving the region's ecosystem, including those natural resources that provide important food security to the people of the region. Tribes, regional Alaska native non-profit organizations, Elders, and Traditional Knowledge holders from across the northern Bering Sea region are working with the Federal Government to address concerns about rapid climate change and the need for solutions that take a whole-of-government approach to build equity into decision making for the Northern Bering Sea region. This process also provides a pathway for Tribal voices that have been historically underserved in decision-making processes.

⁷⁹ Executive Order 13,754: Northern Bering Sea Climate Resilience, 81 Fed. Reg. 90,669 (Dec. 9. 2016); Press Release: Biden-Harris Administration Brings Arctic Policy to the Forefront (Sept. 24, 2021), <https://www.whitehouse.gov/ostp/news-updates/2021/09/24/biden-harris-administration-brings-arctic-policy-to-the-forefront-with-reactivated-steering-committee-new-slate-of-research-commissioners/>.

Sweetgrass Shared Governance in Acadia National Park

In Acadia National Park, the National Park Service is working with citizens of Wabanaki Tribes—the Aroostook Band of Mi'kmaq, the Houlton Band of Maliseets (Wolastogiyik), the Passamaquoddy (Peskotomuhkati) Tribe at Sipayik, the Passamaquoddy Tribe at Indian Township, and the Penobscot Indian Nation—on shared governance and research on sweetgrass harvesting.⁸⁰ Wabanaki people have harvested sweetgrass for generations. Research in Acadia, guided by Indigenous methodologies, reinforces what Wabanaki people have always known: that harvesting sweetgrass through a Wabanaki philosophy enhances sweetgrass abundance. Wabanaki knowledge, and the gatherers who generate this knowledge, are leading National Park Service research and management strategies that will enable restoration of Wabanaki harvesting within Acadia National Park.⁸¹

ACHP Advances Indigenous Knowledge in Policy on Burial Sites, Human Remains, and Funerary Objects

The Advisory Council on Historic Preservation (ACHP) strives to ensure Agencies implement their work in harmony with the National Historic Preservation Act. The ACHP is incorporating Indigenous Knowledge into its updated *Policy Statement on Burial Sites, Human Remains, and Funerary Objects*⁸² to elevate consideration of Indigenous Knowledge in Federal historic preservation decisions. Incorporating Indigenous Knowledge into the policy statement will help Indigenous People elevate their concerns during the Section 106 process, which requires Agencies to consider the effects of projects they carry out, approve, or fund, on historic properties throughout the country. The policy statement was developed through a series of nationwide listening sessions, presentations, and Nation-to-Nation consultation. ACHP policy statements dictate how ACHP staff advise Agencies, state and local preservation officials, Indian Tribes, and Native Hawaiian organizations, among others, regarding the Section 106 process. By updating its *Policy Statement on Burial Sites, Human Remains, and Funerary Objects* the ACHP will advance how Indigenous Knowledge is considered in the Section 106 consultation process in a manner that can positively effectuate Federal decision making around historic preservation in projects all around the country.

⁸⁰ U.S. Forest Service, Southern Research Station (2018). *Traditional Ecological Knowledge Helps Researchers Understand the Effects of Plant Harvesting*, <https://srs.fs.usda.gov/research/2018-research-highlights/highlight.php?Id=traditional-knowledge>.

⁸¹ See e.g., Abbe Museum, (June 1, 2019). *Wabanaki Sweetgrass Harvesting in Acadia National Park*, [Blog], <https://www.abbemuseum.org/blog/2018/6/21/a8ox8s8wxde6nenklfm77gayl60h87>.

⁸² See ACHP (2022). *Updating ACHP's Policy Statement on Burial Sites, Human Remains, and Funerary Objects*, <https://www.achp.gov/treatment-burial-sites>.

USAID Supports Community-led Preservation of Indigenous Genetic Resources

USAID's Feed the Future project, Buena Milpa,⁸³ was a sustainable intensification project that leveraged the potential of the Indigenous Three Sisters method of companion planting.⁸⁴ Through Buena Milpa, USAID's partners worked with mostly Indigenous Mayan farmers in the highlands of Guatemala to set crop improvement priorities based on community needs, conserve and improve agrobiodiversity, and promote other sustainable agriculture techniques. Buena Milpa participated in yearly agrobiodiversity fairs where farmers traded varieties of maize, potatoes, beans, yam, and other crops, and children learned about the importance of protecting and conserving nature as well as native maize varieties.⁸⁵ Buena Milpa leveraged Indigenous Knowledge to improve community resilience and productivity, and it enabled Indigenous People to lead the strategic design and implementation of development programs to meet their needs. Through established community seed banks, the maize genetic resources, which are Indigenous intellectual property, were preserved and maintained within the communities where they originated. These local community seed banks serve as a sustainable base of biodiversity conservation and participative breeding efforts to foster innovation, reduce food insecurity and malnutrition, and increase sustainability of maize-based food systems. Farmers affiliated with the Buena Milpa project participated in a study of the relationship between intercropping and nutritional productivity which found that this style of agriculture is not only more productive than mono-cropped maize in terms of food produced per hectare, but also produces maize that is of higher nutritional value.⁸⁶ Buena Milpa was implemented by the International Maize and Wheat Improvement Center which, like other large seed banks of its kind, makes germplasm

⁸³ See generally CIMMYT (2022). [Webpage]. <https://www.cimmyt.org/projects/buena-milpa/> (providing background information regarding the Buena Milpa Project managed in collaboration with the U.S. Agency for International Development's Feed the Future program).

⁸⁴ See Robin Wall Kimmerer (2013). Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants. The Three Sisters is an example of a story that transmits Indigenous Knowledge across millennia related to feeding a community and thriving in a landscape. The intercropping or companion method of planting corn, beans, and squash together, commonly called the Three Sisters, has been studied and described by scholars in anthropology, history, and agriculture studies for many years. Planted as a triad, the corn stalks offer climbing bean vines support as they reach for sunlight from the earth. The beans pump beneficial nitrogen from the air back into the soil, fertilizing the corn and squash. The squash's broad, spiny leaves protect the bean plants from predatory animals and shade the ground from the heat of the sun. The story offers a tangible example of the application of Indigenous Knowledge in agriculture that was unfamiliar to the colonists arriving on the shores of Massachusetts who knew only straight rows of single species, and thus, wrongly characterized Indigenous agriculture as inefficient farming. In fact, the companion method provides more abundance than monocropping, which is the norm in modern agriculture. The Three Sisters also offer a metaphor for understanding how Indigenous Knowledge and western science may be woven together. This metaphor highlights that, when woven together in a space of ethical and equitable knowledge production, Indigenous Knowledge and western science mutually support each other while retaining their distinct characteristics. In this space, Tribes and Indigenous Peoples and Federal scientists and staff can collaborate to solve problems and answer questions of mutual concern.

⁸⁵ See CIMMYT (November 30, 2015). Press Release, Buena Milpa participates in the lamb and agrobiodiversity fairs in Guatemala, <https://www.cimmyt.org/news/buena-milpa-participates-in-the-lamb-and-agrobiodiversity-fairs-in-guatemala/>.

⁸⁶ Lopez-Ridaura, Santiago, Luis Barba-Escoto, Cristian A. Reyna-Ramirez, Carlos Sum, Natalia Palacios-Rojas and Bruno Gerard (2021). "Maize intercropping in the milpa system. Diversity, extent and importance for nutritional security in the Western Highlands of Guatemala." *Scientific Reports* (2021)11:3696. <https://doi.org/10.1038/s41598-021-82784-2>.

(seed) available for both farmers and Western scientific researchers. In some cases, germplasm developed by smallholder farmers has been the source material for important crop-saving and agronomic improvement technologies deployed by bioscience firms and redistributed to farmers worldwide.⁸⁷ Such collaborative innovations highlight the need to track the provenance of seeds and genetic resources and to respect and reward the intellectual and creative contributions of Indigenous and local peoples on par with that of Western bioscience.

Papahānaumokuākea Marine National Monument

The Papahānaumokuākea Marine National Monument, located in the Northwestern Hawaiian Islands, was established to protect the inextricable link between nature and culture. The legal underpinnings of the monument establish the tangible and intangible ancestral, cultural, and biophysical values of place as equally significant, integral, and important, and require the co-management agencies to cooperate to protect them. The Monument is co-managed by four co-trustee agencies: the Department of Commerce (via NOAA), The Department of the Interior (via USFWS), the State of Hawai`i (via the Hawai`i Department of Land and Natural Resources) and the Office of Hawaiian Affairs.

The Monument, established in 2006, and its predecessor, the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve established in 2000, offers many lessons for place-based and knowledge-based engagement of Indigenous and local communities to achieve effective management that can be applied elsewhere. The success is based on engagement of the knowledge holders and communities from which the knowledge has been generated. Native Hawaiians have consistently led, and continue to lead, the development and governance of the Monument. The Monument's founding management values, principles, and approaches are based both in Native Hawaiian knowledge and practices, and in contemporary conservation and management. The inclusion of Indigenous Peoples at the decision-making table from the start of the process allowed for the successful structure for establishment and management of the Monument.

Federal Research Engagement to Support Tribal Climate Adaptation Indigenous Fire Stewardship, and Eco-cultural Revitalization

The USDA Forest Service Pacific Southwest Research Station (PSWRS) is a cooperative research partner with the Karuk and other tribes of northwestern California. The Karuk Tribe develops and pursues research partnerships with other Tribal entities, Federal, state, academic, and non-governmental organizations regarding the inclusion of Indigenous Knowledge in the full cycle of research. These partnerships are to guide, inform, and document natural resources management and co-management strategies. The Karuk Tribe initially formed a research

⁸⁷ Muleta, Kebede T., Terry Felderhoff, Noah Winans, Rachel Walstead, Jean Rigaud Charles, J. Scott Armstrong, Sujana Mamidi, Chris Plott, John P. Vogel, Peggy G. Lemaux, Todd C. Mockler, Jane Grimwood, Jeremy Schmutz, Gael Pressoir, and Geoffrey P. Morris. (2022) "The recent evolutionary rescue of a staple crop depended on over half a century of global germplasm exchange." *Science Advances* 8, eabj4633.

collaborative, the Karuk-University of California, Berkeley Collaborative,⁸⁸ and then its own research program, which is now managed by the Karuk Department of Natural Resources' Pikyav Field Institute. Through the Institute's *Practicing Pikyav Process for Collaborative Research Projects*,⁸⁹ the Tribe invites, solicits, considers, accepts, approves, directs, and oversees the methods and conditions of the research that involves their Indigenous Knowledge, beliefs, practices and other cultural properties and interests. Research topics have focused on Tribal agroforestry, food security, wildland fire, Indigenous fire stewardship, and climate adaptation as landscape restoration strategies across jurisdictions that cover Karuk Aboriginal Territory and include both natural and social sciences as well as socio-ecological systems that integrate the two. As these research collaborations have evolved, the Tribe is increasingly identifying and conducting research based on its identified stewardship and co-management needs and priorities and collaborating with the USDA Forest Service and other Federal and state agencies, university, and non-governmental organization partners.

PSWRS developed an agreement in 2006 with the Karuk Tribe to support the development of the Karuk Eco-Cultural Resources Management plan,⁹⁰ which lays out a long-term adaptive management strategy for the lands, waters, and cultural/natural resources within and adjacent to Karuk Aboriginal Territory, 95% of which is occupied by the Six Rivers and Klamath National Forests. PSWRS conducts research with the Karuk Tribe and other partners to help fulfill the US Forest Service's trust responsibility towards Federally recognized Tribes. These research products develop, synthesize, and document the Best Available Scientific Information—which includes both Western and Indigenous sciences—for lands, water, and resources management decisions.

In 2013, the Karuk Tribe and U.C. Berkeley, along with the Yurok and Klamath Tribes, scaled up their collaboration, conducting research focused on food security and the ways in which the Tribal community accesses food resources, including traditional foods derived off land concurrent with Tribal and National Forest System jurisdictions.⁹¹ A significant finding was that the Tribal community faces substantial challenges in accessing, securing, and having conditions in place to steward traditional foods.⁹² To enhance their Tribal food security and sovereignty, the Karuk and other Tribes conduct forestry and wildland fire management that foster opportunities

⁸⁸ See generally, Karuk – UC Berkeley Collaborative, [Home Page] (2022), available at <https://nature.berkeley.edu/karuk-collaborative/> (including links to projects, news, publications and other resources).

⁸⁹ Karuk Tribe and University of California at Berkeley, (Oct. 12, 2017). *Practicing Pikyav: A Guiding Policy for Collaborative Projects and Research Initiatives with the Karuk Tribe*, Karuk-UC Berkeley Collaborative. Berkeley, CA: University of California at Berkeley, https://nature.berkeley.edu/karuk-collaborative/?page_id=165 (noting that as of 2021 the policy is under revision).

⁹⁰ Karuk Tribe Department of Natural Resources, (June 15, 2010), *Eco-Cultural Resources Management Plan*, draft web posting available at https://www.karuk.us/images/docs/dnr/ECRMP_6-15-10_doc.pdf.

⁹¹ Sowerwine, J., Sama-Wojcicki, D., Mucioki, M., Hillman, L., Lake, F. And Friedman, E. (2019). *Enhancing Food Sovereignty: A Five-Year Collaborative Tribal-University Research and Extension Project in California and Oregon*. Journal of Agriculture, Food Systems, and Community Development, 9(B), pp.167-190, https://www.karuk.us/images/docs/hr-files/Tribal%20Constitution%207_19_2008.pdf.

⁹² Karuk Tribe and University of California at Berkeley (2019). Klamath Basin Food System Assessment: Karuk Tribe Data. Karuk-UC Berkeley Collaborative. Berkeley, CA: University of California at Berkeley. <https://nature.berkeley.edu/karuk-collaborative/wp-content/uploads/2019/05/Food-Security-Assessment-Web-5.20.pdf>

for Indigenous fire stewardship and cultural burning.⁹³ Such efforts promote Tribally valued habitats for food, medicinal, fiber, and basketry resources and relations. Tribal-led landscape restoration strategies that promote drought-tolerant and fire-adapted vegetation, coupled with beneficial fire use, are regionally applicable climate adaptation strategies that increase the resistance of socio-cultural and ecological systems, and resilience of local communities and environments to climate-related stressors.⁹⁴ Aspects of these efforts are embodied in the Western Klamath Restoration Partnership, which the Karuk and the U.S. Forest Service co-lead with two other local non-governmental organizations.⁹⁵

Tribal-led Research and Conservation of Eulachon

Coastal Indian Tribes, including the Cowlitz Indian Tribe, have fished and traded for eulachon (*Thaleichthys pacificus*) in tributaries of the Columbia River since time immemorial. NOAA and the Cowlitz Indian Tribe—who initiated the project—applied Tribal oral histories to reconstruct historic distributions of the eulachon.⁹⁶ The Cowlitz Tribal oral histories aided in identifying key spawning habitat, timing of eulachon runs, and run differences between tributaries, and directly informed NOAA’s decision to list a population segment as threatened under the Endangered Species Act.⁹⁷ The project facilitated joint efforts to identify and protect critical habitat, increase abundance of the species, and promote species recovery.⁹⁸

Indigenous Knowledge in the USDA Tribal Climate Adaptation Menu

The Tribal Climate Adaptation Menu, which was developed by a diverse group of collaborators representing USDA and Tribal, academic, InterTribal, and government entities in Minnesota, Wisconsin, and Michigan, provides a framework to integrate Indigenous and Traditional knowledge, culture, language, and history into the climate adaptation planning process.⁹⁹ Developed as part of the Climate Change Response Framework, the Tribal Climate Adaptation Menu is designed to work with the Northern Institute of Applied Climate Science Adaptation

⁹³ Lake, Frank K. (2021). *Indigenous Fire Stewardship: Federal/Tribal Partnerships For Wildland Fire Research and Management*. Fire Management Today. 79(1): 30-39, <https://www.fs.usda.gov/treearch/pubs/62060>.

⁹⁴ Mucioki, M., Sowerwine, J., Sarna-Wojcicki, D., Lake, F.K. and Bourque, S. (2021). *Conceptualizing Indigenous Cultural Ecosystem Services (ICES) and Benefits Under Changing Climate Conditions in the Klamath River Basin and Their Implications For Land Management and Governance*. Journal of Ethnobiology, 41(3), pp. 313-330.

⁹⁵ Lake, F.K., Parrotta, J., Giardina, C.P., Davidson-Hunt, I. And Uprety, Y. (2018). *Integration of Traditional and Western Knowledge In Forest Landscape Restoration*. Forest Landscape Restoration, pp. 198-226; Routledge. Hessburg, P.F., Prichard, S.J., Haggmann, R.K., Povak, N.A. and Lake, F.K. (2021). *Wildfire and Climate Change Adaptation of Western North American Forests: A Case For Intentional Management*. Ecological Applications, 31(8), p.e02432.

⁹⁶ Nathan Reynolds & Marc Romano, (2013). *Traditional Ecological Knowledge: Reconstructing Historical Run Timing and Spawning Distribution of Eulachon through Tribal Oral History*, J. Of NW. Anthropology.

⁹⁷ National Marine Fisheries Services (Sept. 2017). *Recovery Plan for the Southern Distinct Population Segment of Eulachon*, <https://repository.library.noaa.gov/view/noaa/15989>.

⁹⁸ NOAA Fisheries (May 2019). *Guidance and Best Practices for Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making*, <https://www.legislative.noaa.gov/docs/19-065933-Traditional-Knowledge-in-Decision-Making-Documents-Signed.pdf>.

⁹⁹ Tribal Adaptation Menu Team (2019). *Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu*. Great Lakes Indian Fish and Wildlife Commission, Odonah, Wisconsin, <https://forestadaptation.org/sites/default/files/Tribal%20Climate%20Adaptation%20Menu%2011-2020%20v2.pdf>.

Workbook, and as a stand-alone resource. The Menu is an extensive collection of climate change adaptation actions for forest planning, organized into tiers of general and more specific ideas. The Menu also includes a companion Guiding Principles document, which describes detailed considerations for working with Tribes and Indigenous Peoples. While this first version of the Menu was created based on Ojibwe and Menominee perspectives, languages, concepts, and values, it was intentionally designed to be adaptable to other Indigenous communities, allowing for the incorporation of their language, knowledge, and culture. Primarily developed for the use of Indigenous communities, Tribal natural resource agencies, and their non-Indigenous partners, this Tribal Climate Adaptation Menu may be useful in bridging communication barriers for non-Tribal persons or organizations interested in Indigenous approaches to climate adaptation and the needs and values of Tribal communities.

Including Indigenous Knowledge in Rivercane Restoration

The U.S. Army Corps of Engineers (USACE) Tribal Nations Technical Center of Expertise (TNTCX) has facilitated the formation of a Rivercane Restoration Alliance with support from the USACE Sustainable Rivers Program and The Nature Conservancy. The Alliance is a network of Tribal community members, artisans, academics, and state and Federal land managers with a shared vision of combining Traditional Indigenous Ecological Knowledge and other forms of knowledge to achieve successful rivercane recovery throughout the historic range (mostly within the southeastern United States, ranging from Florida to eastern Texas in the south, parts of the Midwest, and north to New York). In October 2021, nearly 200 of the Alliance members participated in a virtual workshop designed to explore the relationship that the participants have with rivercane, draft conceptual ecological models to educate others, and create a network for rivercane devotees to share information and opportunities. Through the workshop, Tribal communities shared the role rivercane plays in their language and cultural heritage preservation, as well as insights into how the Traditional Knowledge surrounding rivercane and its relationship with the environment has been ignored. The success of this project is directly attributable to co-developing the workshop agenda and strategy with Tribal partners. The Rivercane Restoration Alliance project has provided a model for forming alliances for other culturally significant species. For example, the TNTCX is leading a similar project for tule. The intent is to share the importance of these species, have land managers begin actively managing the species, and provide Tribal partners with access to the species.

Understanding Climate Impacts and Adaptation Around Arctic Rivers

The Arctic Rivers Project is a collaboration between researchers from the U. S. Geological Survey, University of Colorado, Boulder, National Center for Atmospheric Research, Yukon River Inter-Tribal Watershed Council, Institute for Tribal Environmental Professionals at Northern Arizona University, University of Saskatchewan, and University of Waterloo funded by the National Science Foundation's Navigating the New Arctic Program.¹⁰⁰ The goal of the

¹⁰⁰ See generally, University of Colorado, Boulder, (2022). [Website], <https://www.colorado.edu/research/arctic-rivers/about> (providing background information on the National Science Foundation's Navigating the New Arctic Program).

project is to weave together Indigenous Knowledge, monitoring, and the modeling of climate, rivers (flows, temperature, ice), and fish to improve understanding of how Arctic rivers, ice transportation corridors, fish, and communities might be impacted by and adapt to climate change. The project started January 1, 2020 and runs through December 31, 2024. The project team has diverse experience in water quality monitoring, river ice prediction, streamflow, climate change, fish, and Tribal environmental issues. Working with the Yukon River Inter-Tribal Watershed Council, a non-profit group representing 74 Tribes & First Nations dedicated to the preservation of the Yukon River Watershed, USGS developed initial research questions, guided by the executive board of directors and by Tribal and First Nations representatives. The overarching research question is: *How will societally important fish habitat and river-ice transportation corridors along Arctic rivers be impacted by climate change including permafrost degradation, transformed groundwater dynamics, shifts in streamflow, and altered river temperatures?* This question is intentionally broad to allow the research team to co-develop more specific research questions with the project's Indigenous Advisory Council and ultimately the communities that the project team works with. The project will host an Arctic Rivers Summit in Anchorage, Alaska in December 2022 to convene up to 150 Tribal, Indigenous, and First Nation leaders, community members, managers, and knowledge holders, western scientists, Federal, state, and provincial agency representatives, academic partners, non-governmental organizations, and others. This workshop will facilitate discussion of the current and potential future states of Alaskan and Yukon rivers and fish and how we can adapt.

Accelerating Indigenous-Led Climate Adaptation in California Through USGS

Indigenous Peoples and Tribal Nations are on the front lines of climate change, and are also leading in the implementation of adaptation strategies. Traditional, or cultural, burning has been recognized as a robust adaptation strategy, increasing the resilience of ecosystems and the local communities that depend on them for economic and social well-being. Indigenous Peoples have stewarded their ancestral homelands for millennia using cultural burning, which is practiced primarily for maintaining the abundance of culturally-significant plants and animals for food, livelihoods, ceremonial, medicinal, and other purposes. These approaches can be complementary to other ecosystem restoration based on other forms of knowledge, such as thinning and prescribed burning and management treatments, practices that themselves often originate from traditional land stewardship. Across California, Indigenous Peoples continue to steward lands in a variety of jurisdictions, including public domain allotments, private land, homesteads, and other protected lands or conservation covenants.

In collaboration with the North Fork Mono Tribe, the Southwest Climate Adaptation Science Center (SW CASC), a collaborative Federal-university partnership between USGS and seven academic institutions from across the Southwest, affiliated researchers are engaging in a series of multi-stakeholder, hands-on traditional burning efforts that include pre- and post-burn vegetation monitoring to improve understanding of the efficacy of these treatments. They also are assessing the climate vulnerability of Indigenous-stewarded lands in California, while participating in a resilience planning effort with Indigenous agricultural producers. The project seeks to better understand the condition of and climate risks to these lands so that Indigenous Knowledge

systems can be more effectively applied and sustained for future generations. Products from this project include modeling tools to assess climate vulnerability, comprehensive accounting of Indigenous producers across jurisdictions, and resilience planning documents to better support Indigenous land stewards in decision making.

This work fosters Tribal-university-government knowledge exchange, as well as Tribal Nation-to-Nation exchange on environmental stewardship and climate adaptation. Ultimately, the project aims to cultivate a decision and policy-making environment that accelerates Indigenous-led climate adaptation, particularly in the form of cultural burning. The project advances partnerships between the USGS, Southwest CASC and affiliated universities, and Tribal Nations and communities, particularly the North Fork Mono Tribe, while strengthening relationships between Tribal citizens, the public, and state and Agencies in California and across the Southwest.

Indigenous Data Sovereignty and Public Accessibility in the Arctic

The Exchange for Local Observations and Knowledge of the Arctic (ELOKA) is a repository for Indigenous data and Knowledge built upon principles of Indigenous data sovereignty.¹⁰¹ Funded by the National Science Foundation, ELOKA responds to twin imperatives: The Federal mandate to make data collected with Federal dollars public and broadly accessible, and the right of Tribes and Indigenous Peoples to control their own knowledge. ELOKA fosters collaboration between scientists and Indigenous Arctic residents to record, preserve, and share Indigenous Knowledge in ways that are ethical, equitable, and community-driven. An Indigenous Advisory Committee ensures that ELOKA is responsive to community needs for data management and visualization.

ELOKA is an example of data infrastructure and capacity building that simultaneously serves the needs of Indigenous communities and Agencies. In partnership with communities, ELOKA creates a variety of products to share and display data, including transcripts of interviews with Alaska Native Elders, audio files, photographs, quantitative environmental data, and Indigenous place names linked to digital maps. The Yup'ik Environmental Knowledge Project, hosted by ELOKA, is a web-based atlas of Indigenous place names from Southwest Alaska.¹⁰² The geolocated names have associated sound files as well as photos, videos, and narratives. Access to the atlas was originally restricted to protect sensitive data, but community representatives voted unanimously to make the data publicly accessible.¹⁰³ ELOKA is built upon a foundation of trust and mutual respect, and demonstrates how Agencies can support open data policies while respecting Indigenous data sovereignty.

¹⁰¹ See generally, ELOKA, University of Colorado, Boulder.2022. [Website], <https://eloka-arctic.org/about-eloka> (providing background information on ELOKA).

¹⁰² ELOKA, University of Colorado, Boulder (2022). Yup'ik Atlas [Mapping Tool], <https://eloka-arctic.org/communities/yupik/atlas/index.html>.

¹⁰³ Noor Johnson, Colleen Strawhacker, and Peter Pulsifer (2022). Data Infrastructures, Indigenous Knowledge, and Environmental Observing in the Arctic. In *The Nature of Data: Infrastructures, Environments, Politics*, edited by Jenny Goldstein and Eric Nost. University of Nebraska Press.

The National Institutes of Health Tribal Health Research Programs

The National Institutes of Health (NIH) Native American Research Centers for Health (NARCH) program supports research projects through awarding of grants directly to Tribes and Tribal organizations, who then can choose to partner with research-intensive academic institutions to conduct health research important to Tribal communities. For more than 20 years, the program has funded Tribally driven research, including on environmental health and climate change, as well as Indigenous student and faculty development with the aim of developing a cadre of scientists actively researching health challenges facing these populations.¹⁰⁴

NIH also funds the Intervention Research to Improve Native American Health (IRINAH) program. The program was created to develop, adapt, and test the effectiveness of health-promotion and disease-prevention interventions in populations. The long-term goal of the program is to reduce mortality and morbidity in Native American communities and provides a forum for discussions on the challenges and opportunities to improve health in Native American populations across the United States. Research conducted with the Blackfeet and Nez Perce Tribes, supported by this program, applied Indigenous Knowledge by exploring the efficacy of woodstove filters and education as interventions to reduce respiratory disease among Tribal Elders. Instead of focusing on avoiding the health risks associated with the burning of poorly seasoned wood, investigators used storytelling to highlight important culturally-based use of fire coupled with public health messaging.¹⁰⁵

Traditional Wisdom Helps Shape CDC Health Promotion and Disease Prevention Programs

Tribal Leaders have expressed that traditional teaching and culturally grounded health promotion are not widely understood by Agencies, and often are not supported with financial and technical resources. To address this concern, Centers for Disease Control and Prevention (CDC) seeks to actively include Indigenous Tribal Ecological Knowledge, or Traditional Wisdom, into all areas of its mission. Below are several successful examples of these efforts. The Native Diabetes Wellness Program Traditional Foods Project¹⁰⁶ was a community-designed program sponsored by the CDC and the Indian Health Service advised by the Tribal Leaders Diabetes Committee,¹⁰⁷ a committee of Tribal Leaders that recommends funding priorities in support of Tribally driven programs to address chronic disease prevention. The Native Diabetes Wellness Program Traditional Foods Project was effective at including traditional approaches, values, education,

¹⁰⁴ See generally, National Institute of General Medical Science (2022). Native American Research Centers for Health (NARCH), [https://nigms.nih.gov/capacity-building/division-for-research-capacity-building/native-american-research-centers-for-health-\(narch\)](https://nigms.nih.gov/capacity-building/division-for-research-capacity-building/native-american-research-centers-for-health-(narch)) (providing background information on the NARCH program).

¹⁰⁵ Ward TJ, Semmens EO, Weiler E, Harrar S, Noonan CW. (2017). Efficacy of Interventions Targeting Household Air Pollution From Residential Woodstoves. *J Expo Sci Environ Epidemiol* 27(1):64–71, PMID: 26555475, <https://doi.org/10.1038/jes.2015.73> (detailing an example of a project under this program).

¹⁰⁶ See generally, Centers for Disease Control and Prevention (Aug. 16, 2021). Traditional Foods: Traditional Food Project, 2008-2014, available at <https://www.cdc.gov/diabetes/ndwp/traditional-foods/index.html> (providing background information on the Native Diabetes Wellness Program Traditional Foods Project).

¹⁰⁷ See generally, Indian Health Service (2022). Tribal Leaders Diabetes Committee, available at <https://www.ihs.gov/sdpi/tldc/> (providing background information on the Tribal Leaders Diabetes Committee).

and experiences in its health promotion in communities.¹⁰⁸ For example, Tribal Leaders suggested creating stories for children about preventing diabetes, since there were few stories. Diabetes had been largely unknown until recent decades, and incorporating traditional knowledge and culture alongside Western medicine led the CDC to develop the children’s Eagle Book Series.¹⁰⁹ The Project ultimately led to significant work by Tribes across the continent to support food sovereignty and reclaim traditional foods.¹¹⁰ One specific example of CDC work with Tribes on this project includes the book *Qaqamiigux*, which offers stories, experiences, recipes, and wisdom shared by Indigenous elders, food preparers, and hunters from the Aleutian and Pribilof Islands Region of Alaska about the use of traditional and local foods, from the land and sea. In another example of CDC inclusion of traditional wisdom, the CDC followed the advice of its Tribal Advisory Committee, which recommended convening a group of knowledgeable cultural advisors to increase understanding of the role of Tribal practices and culturally grounded strategies and activities in health promotion. This advice helped the CDC craft program strategies to reach the desired public health capacity and health outcomes in Indigenous communities and led the CDC to provide grants for Tribal Practices for Wellness in Indian Country.¹¹¹

¹⁰⁸ Satterfield D, Debruyne L, Santos M, Alonso L, Frank M. (2016). Health Promotion and Diabetes Prevention in American Indian and Alaska Native Communities — Traditional Foods Project 2008-2014. *MMWR Suppl*;65place_holder_for_early_release:4–10. DOI: <http://dx.doi.org/10.15585/mmwr.su6501a3external> icon.

¹⁰⁹ Satterfield D, Debruyne L, Dodge Francis C, Allen A. (2014). A Stream is Always Giving Life: Communities Reclaim Traditional Ways to Prevent Diabetes and Promote Health. *Am Indian Culture Research J.*, 38:157–90; *see generally*, Centers for Disease Control and Prevention (Aug. 3, 2021). Native Diabetes Wellness Program, Eagle Books, available at <https://www.cdc.gov/diabetes/ndwp/eagle-books/index.html> (providing background information on Eagle Books).

¹¹⁰ *See generally*, Centers for Disease Control and Prevention (Aug. 16, 2021). Traditional Foods: Traditional Food Project, 2008-2014, available at <https://www.cdc.gov/diabetes/ndwp/traditional-foods/index.html> (providing background information on the Native Diabetes Wellness Program Traditional Foods Project).

¹¹¹ *See e.g.*, Centers for Disease Control (2022). Tribal Practices for Wellness in Indian Country Notice of Funding Opportunity – CDC – RFA – DP22-2201, <https://www.cdc.gov/healthytribes/tpwic/funding-opportunities/TPWIC-NOFO-2201.htm>.

Appendix B: Select Federal Agency Guidance Documents on Indigenous Knowledge

Agency	Title
U.S. Department of Agriculture	<p>Indigenous Stewardship Methods and NRCS Conservation Practices (2010) https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/plantsanimals/plants/?cid=stelprdb1045246</p> <p>Traditional Ecological Knowledge: An Important Facet of Natural Resources Conservation (2004) https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045244.pdf</p>
U.S. Forest Service	<p>Traditional and Local Ecological Knowledge About Forest Biodiversity in the Pacific Northwest (2008) https://www.fs.usda.gov/treearch/pubs/29926</p> <p>Exploring the Role of Traditional Ecological Knowledge in Climate Change Initiatives (2013) https://www.fs.fed.us/pnw/pubs/pnw_gtr879.pdf</p>
Department of the Interior	<p>Guidelines for Considering Traditional Knowledges in Climate Change Initiatives (2014) https://toolkit.climate.gov/tool/guidelines-considering-traditional-knowledges-climate-change-initiatives</p>
Bureau of Ocean Energy Management	<p>Traditional Knowledge webpage and infographic https://www.boem.gov/about-boem/traditional-knowledge</p>
National Park Service	<p>Introduction to Traditional Ecological Knowledge in Wildlife Conservation (2016) https://irma.nps.gov/DataStore/DownloadFile/554622</p>
U.S. Fish and Wildlife Service	<p>Traditional Ecological Knowledge for Application by Service Scientists (2011) https://www.fws.gov/media/traditional-ecological-knowledge-fact-sheet</p>
National Oceanic and Atmospheric Administration	<p>Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making (2019) https://media.fisheries.noaa.gov/dam-migration/traditional knowledge in decision making 508 compliant.pdf</p> <p>Traditional & Local Knowledge: A vision for the Sea Grant Network (2018) https://seagrant.noaa.gov/Portals/1/Network%20Visioing%20Traditional%26Local_110118.pdf</p>

<p>U.S. Environmental Protection Agency</p>	<p>Considering Traditional Ecological Knowledge (TEK) During the Cleanup Process (2017) https://www.epa.gov/tribal-lands/considering-traditional-ecological-knowledge-tek-during-cleanup-process</p> <p>Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples (2014) https://www.epa.gov/environmentaljustice/epa-policy-environmental-justice-working-Federally-recognized-tribes-and</p>
<p>Advisory Council on Historic Preservation</p>	<p>Traditional Knowledge and the Section 106 Process: Information for Agencies and Other Participants (2021) https://www.achp.gov/sites/default/files/2021-05/TraditionalKnowledgePaper5-3-21.pdf</p> <p>The Advisory Council on Historic Preservation's Statement On Its Trust Responsibility https://www.achp.gov/sites/default/files/2018-06/TheACHPsStatementOnItsTrustResponsibility.pdf</p> <p>Consultation with Native Hawaiian Organizations In The Section 106 Review Process: A Handbook https://www.achp.gov/sites/default/files/2021-06/ConsultationwithIndianTribesHandbook6-11-21Final.pdf</p>

Appendix C. Example of Approach to Indigenous Knowledge as Source Materials in Highly Influential Scientific Assessments Under the Information Quality Act

The Information Quality Act (IQA) requires Agencies to verify that data and information used in Federal products and reports are of a sufficient quality for the purposes they are being used, with quality defined as utility, transparency, objectivity, and integrity. This includes the requirement for information to demonstrate a capability of being reproduced by independent assessment or analysis using similar methods. The Office of Management and Budget (OMB) requires that products that are characterized as Influential Scientific Information (ISI) or Highly Influential Scientific Assessments (HISA) are consistent with more specific standards of peer review and reproducibility, including full documentation and public transparency into their development process. When a HISA draws conclusions that are based on the synthesis of evidence (including Indigenous Knowledge), all evidence presented should have qualities that are consistent with the principles of the Information Quality Act and OMB’s associated guidance.¹¹²

The draft survey provided below is an example of how one Federal program seeks to ensure that Indigenous Knowledge can be considered consistent with the IQA. The survey was developed by the U.S. Global Change Research Program as an update to guidance for the authors of the National Climate Assessment. An author considering Indigenous Knowledge will answer the questions on the survey. If the answer to each survey item is “yes,” the Indigenous Knowledge may be considered as a source of information for the National Climate Assessment.

Indigenous Knowledge Information Quality Act Checklist

Transparency & Traceability

Relationality

- Ability to substantiate that the information is part of a relationship or kinship of people across generations interconnected to social, spiritual, cultural, and natural environmental or ecological systems
- The information is tied to a specific location or a specific type of habitat, environmental media, or biological species

Clarity

- Theories, scope, approach, methods, and context is clearly described and any differences in outcomes from those developed using other approaches are discussed, including assumptions and limitations

Objectivity

Context

- The information is understood and applied in a way that is respectful to and consistent

¹¹² OMB (2001). Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, § 3(b)(2) (2001); OMB (Apr. 24, 2019). Circular M-19-15, Improving Implementation of the Information Quality Act, <https://www.cdo.gov/assets/documents/OMB-Improving-Implementation-of-Info-Quality-Act-M-19-15.pdf>.

with the cultural, spiritual, and environmental context of the Indigenous Peoples who own it

- The knowledge is used or applied in the assessment in an objective, accurate, clear, complete, and unbiased manner
- There was meaningful engagement, communication, collaboration, or co-production between the assessment author and the knowledge holder(s)

Valuation

- The inherent use and value of the information and expertise of the knowledge holders, including lived experience, is retained and respected
- Language and names within the information, in which Indigenous Knowledge and values may be nested, are preserved
- The Indigenous Knowledge is considered through an Indigenous lens, voice, or style and weaved together with other forms of evidence without converting or forcing the knowledge into non-Indigenous frameworks

Purpose

- The original purpose for creation of this information is understood, considered, and respected when used in the assessment
- The interpretation of the information is consistent with the intent

Integrity & Security

Consent

- Information owners granted free, prior, informed consent for including this information in assessment, and maintain control over collection, ownership, and use of data derived from sources
- Reference in the assessment is free of any culturally sensitive information that the knowledge holders do not want made public, including consideration of how documentation may be subject to or released under the Freedom of Information Act

Respect

- The author made clear how the information will be protected to prevent against unauthorized use, cultural misappropriation, or inadvertent disclosure, including how data and knowledge sovereignty and governance are being respected and not disclosed in contexts outside the assessment

Reproducibility

Continuity

- Ability to substantiate that the information consists of repeated observations or understandings built and maintained over time and shared or passed down through generations while maintaining continuous formats (e.g., oral, written, song, dance, visual formats, etc.)

Validation

- Practices for ensuring quality control and validation are appropriate to the nature of the source information, as determined by the Indigenous knowledge holders from which the information comes, such as through iterative, equitable dialogue on the

interpretation of findings by community members, co-researchers, or collective knowledge systems



Appendix D: Federal Departments and Agencies Contributing to the Interagency Working Group on Indigenous Knowledge

- Department of Agriculture
 - U.S. Forest Service
- Department of Commerce
 - National Oceanic and Atmospheric Administration
- Department of Defense
 - Army Corps of Engineers
- Department of Education
- Department of Energy
- Department of Health and Human Services
 - Centers for Disease Control and Prevention
 - National Institutes of Health
 - Indian Health Service
- Department of Homeland Security
 - Federal Emergency Management Agency
- Department of Housing and Urban Development
- Department of the Interior
 - Bureau of Indian Affairs
 - U.S. Fish and Wildlife Service
 - U.S. Geological Survey
 - National Park Service
- Department of Justice
- Department of Labor
- Department of State
- Department of Transportation
- Department of Veterans Affairs
- U.S. Agency for International Development
- U.S. Environmental Protection Agency
- Advisory Council on Historic Preservation
- National Archives and Records Administration
- National Science Foundation
- Smithsonian Institution
- White House
 - Office of Management and Budget
 - Domestic Policy Council
 - Office of Domestic Climate Policy
 - White House Council on Native American Affairs

Appendix E: Additional References and Resources for Promising Practices to Apply When Considering Indigenous Knowledge in Federal Processes

This appendix was developed with input from the Interagency Working Group on Indigenous Knowledge and provides additional resources and examples of how Agencies have partnered with Tribes to apply promising practices consistent with this guidance to include Indigenous Knowledge in Federal decision making. This Appendix is not intended to be an exhaustive list, but rather provide additional resources and examples for Agencies to consider when implementing the guidance.

Planning Ahead

- Traditional & Local Knowledge: A vision for the Sea Grant Network. August 31, 2018, 31pp.
https://seagrants.noaa.gov/Portals/1/Network%20Visioning/Traditional%26Local_110118.pdf
- The BIA Tribal Resilience Program in 2021 planned for feedback from Tribes and Indigenous Peoples that included partners that have relationships in the climate space. They also included culturally important practices in the agenda, such as an Elder opening.
<https://www.bia.gov/news/tribal-listening-sessions-climate-discretionary-grants>

Engaging Youth and Elders

- Inuit Circumpolar Council Alaska. 2019. The Role of Providing-Inuit Management Practices: Youth, Elders, Active Hunters and Gatherers Workshop Report, Anchorage, AK. <https://iccalaska.org/wp-icc/wp-content/uploads/2022/03/YEAH-Workshop-Report.pdf>
- Alaska Native Knowledge Network. 2000. Guidelines for Respecting Cultural Knowledge. Assembly of Alaska Native Educators, adopted February 1, 2000, Anchorage, AK. <http://ankn.uaf.edu/publications/knowledge.html>
- Inuit Circumpolar Council Alaska. 2019. The Role of Providing-Inuit Management Practices: Youth, Elders, Active Hunters and Gatherers Workshop Report, Anchorage, AK. <https://iccalaska.org/wp-icc/wp-content/uploads/2022/03/YEAH-Workshop-Report.pdf>

Including Indigenous Knowledge in Federal Decision Making

- EPA. 2012. Environmental Justice Analysis in support of the National Pollutant Discharge Elimination System (NPDES) General permits for Oil and Gas Exploration on the Outer Continental Shelf and Contiguous State waters in the Beaufort Sea, Alaska and oil and gas exploration facilities on the Outer Continental Shelf in the Chukchi Sea, Alaska. EPA, Region 10, Alaska Operations Office. Final October 2012. 52pp.
- In 2019, USFS executed an Integrated Fire Management Memorandum of Understanding (MOU) with the Karuk Tribe and BIA to document cooperation between the parties concerning wildland fire incidents and clearly define roles and responsibilities. This MOU demonstrates how Agencies can integrate Indigenous Knowledge into fire

management strategies to better protect tribal values.

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd637505.pdf.

- USFWS hosted a two-day workshop with Indigenous Knowledge holders during the ESA process for walrus. This knowledge was included within a Bayesian Belief Network model that analyzed the various relationships between walruses and factors that influenced their growth and abundance. Gregor, R., C. Beaudrie, and N. Kaechele. Appendix D. Alaskan Native Ecological Knowledge Workshop Report in MacCracken, J.G, et. al. 2017. Final species status assessment for the Pacific walrus (*Odobenus rosmarus divergens*), May 2017 (Version 1.0). USFWS Anchorage, Alaska. pages 251-275. <https://polarbearsience.files.wordpress.com/2019/04/maccracken-et-al-2017-walrus-species-status-assessment-final-usfws-may-2017.pdf>
- The BIA Tribal Resilience Program hosts a yearly camp focused on building capacity for Tribes and Indigenous Peoples by bringing youth from around the country together to learn and share about practices and approaches for resilience planning that includes both western science and Indigenous Knowledge. <https://www.bia.gov/bia/ots/tribal-resilience-program/youth>

Considering Shared Management Structures

- U.S. Department of the Interior Secretarial Order No. 3342 https://www.doi.gov/sites/doi.gov/files/uploads/so3342_partnerships.pdf
- Washburn, K.K. 2022. Facilitating Tribal co-management of Federal public lands. Wisconsin Law Review 263:263-328 <https://wlr.law.wisc.edu/wp-content/uploads/sites/1263/2022/04/14-Washburn-Camera-Ready.pdf>
- Papahānaumokuākea Marine National Monument (see Appendix D)
- Inuit Circumpolar Council-Alaska.2020. Food Sovereignty and Self-Governance: Inuit Role in Managing Arctic Marine Resources, Anchorage, AK. <https://www.inuitcircumpolar.com/project/food-sovereignty-and-self-governance-inuit-role-in-managing-arctic-marine-resources/>
- Cape Breton University, <http://www.integrativescience.ca/Principles/TwoEyedSeeing/>; Bartlett, C., M. Marshall, and A. Marshall. 2012. Two-eyed seeing and other lessons learned within a co-learning journey of bringing together Indigenous and mainstream knowledges and ways of knowing. Journal of Environmental Studies and Sciences 2:331-
- Ellam Yua, J. Raymond-Yakoubian, R. Aluaq Daniel. and C. Behe. 2022. A framework for co-production of knowledge in the context of Arctic research. Ecology and Society 27(1):34. <https://doi.org/10.5751/ES-12960-270134>
- Kutz, S., and M. Tomaselli. 2019. “Two-eyed seeing” supports wildlife health: bridging Indigenous and scientific knowledge improves wildlife surveillance and fosters reconciliation. Science 364(6446):1135-1137. <https://doi.org/10.1126/science.aau6170>
- Tribal-led Research and Conservation of Eulachon (see Appendix D)

Recognizing Indigenous Methodologies

- L.D. Harris and J. Wasilewski, Indigeneity, an alternative worldview: Four R's (relationship, responsibility, reciprocity, redistribution) vs Two P's (power and profit), *Systems Research and Behavioral Science*, 21(5), pp. 498-503.
- Smith, L.T., 2021. *Decolonizing methodologies: Research and indigenous peoples*. Bloomsbury Publishing.
- Wilson, S., 2008. *Research is ceremony: Indigenous research methods*. Fernwood Publishing
- Whyte, K.P., Brewer, J.P. & Johnson, J.T. 2016. Weaving Indigenous science, protocols and sustainability science. *Sustainability Science*. 11, 25–32.
- Haring, C. P., Altmann, G. L., Suedel, B. C., & Brown, S. W. (2021). Using Engineering With Nature®(EWN®) principles to manage erosion of watersheds damaged by large-scale wildfires. *Integrated Environmental Assessment and Management*, 17(6), 1194-1202. <https://setac.onlinelibrary.wiley.com/doi/full/10.1002/ieam.4453>

Honoring Indigenous Languages

- Ayaprun Elitnaurvik, Bethel, Alaska is an example of a Yup'ik immersion school that meets state and Federal requirements for education and provides the education that includes Yupiit Piciryarait. Western approaches and Yup'ik ways of being are included across the K-8 learning environment. https://ayaprun.lksd.org/about/ayaprun_elitnaurvik
- Departments of the Interior, Education, and Health and Human Services launch multi-agency initiative to protect and preserve Native languages, aligning efforts for language preservation programs. <https://nativelanguagesummit.org>
- Memorandum of Agreement on Native Languages, signed November 10, 2021, <https://www.doi.gov/sites/doi.gov/files/native-american-language-moa-11-15-2021.pdf>
- Name changes reflected in the Geographic Names System, some recent examples include changing McKinley to Denali and Wade Hampton County to Kusilvak County, and Barrow to Utqiagvik <https://edits.nationalmap.gov/apps/gaz-domestic/public/summary/1414314>

Applying Indigenous Voice and Style

- Younging, G. 2018. *Elements of Indigenous Style: A Guide for Writing By and About Indigenous Peoples*. Brush Education Inc. 151pp.
- ACHP style guide
- Field Museum in Chicago exhibit “Native Truths: Our Voices, Our Stories” co-created through contribution of many knowledge systems taking a collaborative approach. *Indian Country Today report: Indian Country Today report:* <https://indiancountrytoday.com/news/native-truths-our-voices-our-stories-exhibition-opens>

Citing Indigenous Knowledge

- Jantarasami, L.C., R. Novak, R. Delgado, E. Marino, S. McNeeley, C. Narducci, J. Raymond-Yakoubian, L. Singletary, and K. Powys Whyte, 2018: *Tribes and Indigenous*

Peoples. In *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, pp. 572–603. doi: 10.7930/NCA4.2018.CH15

- MacLeod, Lorisia. 2021. “More Than Personal Communication: Templates For Citing Indigenous Elders and Knowledge Keepers”. *KULA: Knowledge Creation, Dissemination, and Preservation Studies* 5 (1). <https://doi.org/10.18357/kula.13>
- Kornei, K. (2021), Academic citations evolve to include Indigenous oral teachings, *Eos*, 102, <https://doi.org/10.1029/2021EO210595>. Published on 9 November 2021.

Building Capacity and Providing Direct Funding to Tribes and Indigenous Organizations

- Kawerak, Inc. (2021) *Knowledge & Research Sovereignty Workshop May 18-21, 2021 Workshop Report*. Prepared by Sandhill.Culture.Craft and Kawerak Inc. Social Science Program. Nome, Alaska.
- In August 2022, the National Oceanic and Atmospheric Administration (NOAA) awarded a grant to the Alaska Native Tribal Health Consortium and jointly launched a pilot project to support Alaska Native communities’ resilience to climate change. This effort demonstrates how Agencies can include expertise from Tribes and Indigenous Peoples in developing effective approaches to address burdens on tribal communities. <https://www.noaa.gov/news-release/pilot-project-to-support-tribal-climate-resilience-in-alaska>

Appendix F: Additional Resources for Considering Indigenous Knowledge in Federal Research Design and Implementation Contexts

Although a non-exhaustive list, the following resources may guide Federal researchers as they work to establish relationships with Tribes and Indigenous Peoples, acknowledging that each Tribe and research situation is unique. Many of these resources relate to *The Six Rs of Indigenous Research*, which are based on Indigenous Research Methodologies.¹¹³

Responsibility

It is the responsibility of the research team to understand the socio-political landscape of a research site and research question and to follow ethical best practices, whether or not the research is considered human subjects research.

- Wong et al., Towards Reconciliation: 10 Calls to Action to Natural Scientists Working in Canada, 5(1) FACETS 769–783 (2020), <https://doi.org/10.1139/facets-2020-0005>.
- Kūlana Noi‘i Working Group, Kūlana Noi‘i, 2 UNIV. OF HAW. SEA GRANT COLL. PROGRAM (2021), https://seagrant.soest.hawaii.edu/wp-content/uploads/2021/09/Kulana-Noii-2.0_LowRes.pdf.; Wong et al., *supra* note 104.
- Nicole S. Khun, Myra Parker, & Clarita Lefthand-Begay, Indigenous Research Ethics Requirements: An Examination of Six Tribal Institutional Review Board Applications and Processes in the United States, 15(4) J. OF EMPIRICAL RSCH. ON HUM. RSCH. ETHICS, 279 (2020).

Research Approach

Select appropriate research methods and parameters for the problem, the cultural context, and weaving together knowledge systems, as well as for the use of data and dissemination of results.

- Jennifer Sepez, Introduction to Traditional Environmental Knowledge in Federal Natural Resource Management Agencies, 27(1) PRACTICING ANTHROPOLOGY 2 (2005), <https://doi.org/10.17730/praa.27.1.01m318334845k392>.
- Kūlana Noi‘i Working Group, *supra* note 105.
- STACC Working Grp., Status of Tribes and Climate Change Report, INST. FOR TRIBAL ENV’T PROS., [D. Marks-Marino ed. 2021), <http://nau.edu/stacc2021>.
- Nicholas-Figueroa, Linda & Wall, Daniel & Muelken, Mary & Duffy, Lawrence, 2017. Implementing Indigenous Knowledge in Western Science Education Systems and Scientific Research on Alaska’s North Slope. *International Journal of Education*. 9(4):15. DOI:10.5296/ije.v9i4.12148.

Relevance

When working in or with Tribes and Indigenous communities, ensure research is relevant to the experiences, perspectives, priorities, and ways of knowing, and living in the community.

- U.S. Interagency Arctic Rsch. Pol’y Comm., Principles for Conducting Research in the Arctic, (2018),

¹¹³ Tsosie et al., *supra* note 59.

https://www.iarpccollaborations.org/uploads/cms/documents/principles_for_conducting_research_in_the_arctic_final_2018.pdf.

Representation

Empower Indigenous Peoples communities should lead in the research process by sharing to identify and share what is important to their people and contribute to the research process.

Community.

- Wong et al., supra note 104.

Respect

Have respect for Indigenous Peoples communities and cultures, multiple ways of knowing, and Indigenous knowledge holders.

- Interagency Artic Rsch. Policy Comm., Principles for Conducting Research in the Arctic (2018), https://www.iarpccollaborations.org/uploads/cms/documents/principles_for_conducting_research_in_the_arctic_final_2018.pdf [hereinafter "IARPC"].
- Climate & Traditional Knowledges Workgroup, Guidelines of Considering Traditional Knowledges in Climate Change Initiatives (2014), <https://toolkit.climate.gov/tool/guidelines-considering-traditional-knowledges-climate-change-initiatives>.
- Wong et al., supra note 104.
- IARPC, supra note 113; Kūlana Noi'i Working Group, supra note 105.
- Saima May Sidik, Weaving Indigenous Knowledge into the Scientific Method Nature NATURE (Jan 11, 2022), <https://www.nature.com/articles/d41586-022-00029-2>; Kūlana Noi'i Working Group, supra note 105.

Relationship

Invest time and resources in engagement necessary to understand the issues, concerns, and needs from the perspective of partners. Acknowledge the relationality nature of relationships (people-to-people and people-to-environment) as they relate to Indigenous Knowledge. Honestly and clearly identify the purpose and motivation of the research.

- IARPC, supra note 113.
- Kristen A. Goodrich, et al., Who are Boundary Spanners and how can we Support Them in Making Knowledge More Actionable in Sustainability Fields?, 42 ENV'L SUSTAINABILITY 45 (2020), <https://doi.org/10.1016/j.cosust.2020.01.001>.

Knowledge sharing and data dissemination

Establish and follow clear guidelines and expectations of knowledge sharing and data dissemination that take into consideration Tribal and Indigenous Peoples' data and knowledge sovereignty, as well as Federal policies related to data releases, publications, and funding.

- Mark D. Wilkinson, et al. The FAIR Guiding Principles for Scientific Data Management and Stewardship, 3 SCI. DATA 160018 (2016), <https://doi.org/10.1038/sdata.2016.18>; Carroll et al., supra note 13.
- IARPC, supra note 113.
- Inuit Circumpolar Couns., supra note 3.
- Kūlana Noi'i Working Group, supra note 105.

Reciprocity

Establish practices that allow both Tribes and Indigenous Peoples and the scientific community to benefit from the research.

- ICC, 2022
- Kūlana Noi'i Working Group, supra note 105.

Attachment C



All Pueblo
Council of
Governors

Officers:
James R. Mountain, Chairman
Dominic Gachupin, Vice-Chairman
Governor Arden Kucate, Secretary

RESOLUTION

ALL PUEBLO COUNCIL OF GOVERNORS RESOLUTION NO. APCG 2024 – 01

SUPPORTING A TRIBALLY-LED ETHNOGRAPHIC STUDY OF THE CAJA DEL RIO TRADITIONAL CULTURAL LANDSCAPE AS NECESSARY TO ENSURE THE PRESERVATION OF PUEBLO TRADITIONAL CULTURAL PROPERTIES, CULTURAL RESOURCES, SACRED SITES, AND ONGOING USE BY PUEBLOS

WHEREAS, the All Pueblo Council of Governors (APCG) is comprised of the Pueblos of Acoma, Cochiti, Isleta, Jemez, Laguna, Nambe, Ohkay Owingeh, Picuris, Pojoaque, San Felipe, San Ildefonso, Sandia, Santa Ana, Santa Clara, Santo Domingo, Taos, Tesuque, Zia and Zuni, and one Pueblo in Texas, Ysleta Del Sur, each having the sovereign authority to govern their own affairs; and

WHEREAS, the purpose of the APCG is to advocate, foster, protect, and encourage the social, cultural, and traditional well-being of the Pueblo Nations; and,

WHEREAS, the All Pueblo Council of Governors promotes the language, health, economic and cultural resources, and educational advancement of all Pueblo people; and

WHEREAS, each Pueblo possesses its own cultural territory and sovereign right to protect its traditional cultural properties and sacred sites, including their traditional cultural properties and sacred sites, whether or not these cultural resources are located within each Pueblo's current exterior boundaries; and

WHEREAS, the protection of each Pueblos' traditional cultural properties and sacred sites are necessary to each Pueblos' cultural preservation now and into the future; and

WHEREAS, the All Pueblo Council of Governors via APCG Resolution 2021–13 established support for the preservation of the Caja del Rio Traditional Cultural Landscape and have urged the United States Forest Service (“USFS”) and Department of Energy (“DOE”) to fully assess the cultural and environmental impacts under the National Environmental Policy Act (“NEPA”) and National Historic Preservation Act (“NHPA”); and

WHEREAS, DOE NNSA, USFS, and Bureau of Land Management (BLM) paused the completion of their draft environmental analysis (EA) December of 2023 due to the New Mexico Delegation, a coalition of public stakeholders, and Pueblos request for an extension to afford Pueblos an opportunity to review and provide feedback; and



All Pueblo Council of Governors

Officers:
James R. Mountain, Chairman
Dominic Gachupin, Vice-Chairman
Governor Arden Kucate, Secretary

WHEREAS, member Pueblos submitted technical comments finding that the draft EA violates numerous laws and policies of the federal government that exist to protect Public Lands of the United States and the natural, cultural and historic resources located on those public lands, including specifically that the draft EA: 1) Violates the Fiscal Responsibility Act of 2023 in exceeding the 75-page limit; 2) Mischaracterizes the extent of Tribal consultation efforts; 3) Inadequately analyzes indirect and cumulative impacts and mitigations for cultural resources; 4) Inadequately analyzes energy and siting alternatives; 5) Bifurcates the EPCU and Los Alamos National Laboratory Site-Wide Environmental Impact Statement (“LANL SWEIS”) analyses; and 6) Supports amendments to the Santa Fe National Forest Management Plan without adequate Tribal consultation, public comment, and analysis; and

WHEREAS, over 20,000 submitted public comments join the All Pueblo Council of Governors and member Pueblos’ concerns urging for greater environmental and cultural analysis including a thorough and full environmental impact statement; and

WHEREAS, on May 24th, DOE NNSA transmitted to Tribes a NHPA Section 106 determination of adverse impacts to cultural resources and updated cultural resource report, providing for a 30-day period for Tribes to respond to the invitation to consult on resolving adverse impacts; and

WHEREAS, as evidenced by USFS’s EPCU Cultural Resource Inventories there is almost no history of federal agencies, through the USFS or otherwise, coordinating directly with the Pueblos or supporting any Pueblo-led cultural resource surveys or studies in the Caja del Rio and as a result, there is a lack of federal ethnographic information pertaining to the Pueblos’ shared and individual unique cultural resources and ties to the Caja del Rio; and

WHEREAS, due to the lack of this information, literature reviews and archeological field surveys informed by limited Pueblo cultural monitoring are not sufficient to evaluate cultural resources and landscapes eligible for inclusion into the National Register of Historic Places, given the significance of the Caja del Rio as a living traditional cultural landscape for Pueblos; and

WHEREAS, to support sufficient environmental analysis and Tribal consultation, the Pueblo of Tesuque has proposed a tribally-led ethnographic study (Exhibit A) to support a baseline ethnography of the Caja del Rio that incorporates the Acoma and Chaco Heritage Tribal Association model; and

Acoma

Cochiti

Isleta

Jemez

Laguna

Nambe

Ohkay Owingeh

Picuris

Pojoaque

Sandia

San Felipe

San Ildefonso

Santa Ana

Santa Clara

Santo Domingo

Taos

Tesuque

Ysleta del Sur

Zia

Zuni



All Pueblo
Council of
Governors

Officers:
James R. Mountain, Chairman
Dominic Gachupin, Vice-Chairman
Governor Arden Kucate, Secretary

WHEREAS, there is an urgent need to conduct a tribally-led ethnographic study on the Caja del Rio that adequately and appropriately informs a landscape-scale approach in management of the region as a traditional cultural landscape to mitigate impacts to cultural resources caused by ongoing desecrations, illegal poaching, dumping of refuse, unsupervised shooting, illegal removal of trees, destruction of critical habitat for endangered and threatened species who migrate through the Caja del Rio and contains nesting and breeding areas for wildlife, the destruction of medicinal plants used today by Pueblo communities for traditional cultural purposes; and

WHEREAS, there is urgent need to conduct a tribally-led ethnographic study to determine whether proposed federal projects having potential to adversely impact the Caja del Rio such as the DOE NNSA EPCU project, DOE NNSA LANL SWEIS, BLM Santa Fe County Shooting Range, and others are compatible with the prescribed use of these public lands and its historical, cultural and educational value to the public and Tribes; and

WHEREAS, the Eight Northern Indian Pueblos Council via letter dated April 30th, 2024 (Exhibit B), formally supports a tribally-led ethnographic study of the Caja del Rio Traditional Cultural Landscape; and

WHEREAS, Senator Martin Heinrich supports seeking federal funds for a tribally-led ethnographic study of the Caja del Rio; and

WHEREAS, the development of this ethnographic information will support federal agency review demonstrating individual Pueblos' ties to Caja del Rio Traditional Cultural Landscape is essential for the protection of Pueblos' cultural resources, traditional cultural properties, and sacred sites; and

WHEREAS, the Pueblo of Tesuque is currently engaged with the United States Forest Service and the Bureau of Land Management to develop a co-stewardship agreement with both federal agencies that will help protect the critical habitat and living cultural landscape of the Caja del Rio and with provisions for access and use by other Pueblos; and

NOW, THEREFORE, BE IT RESOLVED, the All Pueblo Council of Governors supports a tribally-led ethnographic study of the Caja del Rio Traditional Cultural Landscape, substantially similar to the proposal attached to this resolution, which identifies and develops baseline Pueblo ethnographic information; and

BE IT FURTHER RESOLVED, the All Pueblo Council of Governors recommends that interested Pueblos work with the Pueblo of Tesuque to participate in a tribally-led ethnographic study to support protection of the Caja del Rio Traditional Cultural Landscape; and



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Acoma

Cochiti

Isleta

Jemez

Laguna

Nambe

Ohkay Owingeh

Picuris

Pojoaque

Sandia

San Felipe

San Ildefonso

Santa Ana

Santa Clara

Santo Domingo

Taos

Tesuque

Ysleta del Sur

Zia

Zuni

BE IT FURTHER RESOLVED, the All Pueblo Council of Governors requests federal agencies pause administrative processes under NEPA and NHPA for the proposed federal projects having the potential to impact the Caja del Rio including the EPCU Project and BLM Santa Fe County Shooting Range to provide for completion of the tribally-led ethnographic study and its results incorporated to support agency compliance with statutory requirements under NEPA and NHPA to ensure environmental and cultural impacts are fully considered in project decision-making in consultation with Pueblos; and

BE IT FURTHER RESOLVED, the All Pueblo Council of Governors requests federal agencies utilize the results of the tribally-led ethnographic study to guide and support management and preservation of Pueblo cultural resources on the Caja del Rio Traditional Cultural Landscape in consultation with Pueblos; and

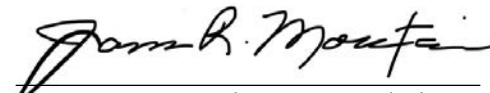
BE IT FINALLY RESOLVED, the All Pueblo Council of Governors authorizes the distribution of this Resolution to New Mexico's Congressional delegation.

CERTIFICATION


We, the undersigned officials of the All Pueblo Council of Governors hereby certify that the foregoing Resolution No. APCG 2024-01 was considered and adopted at a duly called council meeting held on 27th day of June 2024, and at which time a quorum was present and the same was approved by a vote of 18 in favor, 0 against, 0 abstain, and 2 absent.

ALL PUEBLO COUNCIL OF GOVERNORS

By:


James R. Mountain, APCG Chairman

ATTEST:


Governor Arden Kucate, APCG Secretary