



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Washington, DC 20240

Bureau of Indian Affairs

Report for Tribal-Interior Budget Council; Land, Water, Natural Resources Subcommittee.

Co-Management

Managing Wildfire Risk – Assessment Methodology and Reserved Treaty Rights Lands (RTRL)

Communities and ecosystems across Indian country face serious threats from wildfire, insects, and disease. Providing for public and firefighter safety; restoring and maintaining ecosystems at risk to wildfire are the primary purposes of the BIA Wildland Fire Management program. Fuels and Forest Management programs reduce wildfire severity and support ecological restoration and maintenance of forests, woodlands, and rangeland ecosystems. Multiple sources validate that programmatically the current extent of fuels treatments cannot reduce Fire Suppression Costs; but individual fuels treatments may yield 2 to 30 times the cost of suppression^{1,2} in the form of “Avoided Cost” (a loss not yet incurred) primarily by reducing fire severity.

1 Dale, L., the Western Forestry Leadership Coalition. (2010, April). The True Cost of Wildfire in the Western U.S. Retrieved February 6, 2018, from https://www.thewflc.org/sites/default/files/324_pdf.pdf

2 Combrink, Thomas, Cheryl Cothran, Wayne Fox, Jeff Peterson, and Gary Snider. "A Full Cost Accounting of the 2010 Schultz Fire." (May 2013). <https://in.nau.edu/wp-content/uploads/sites/212/SchultzFire-CostAccounting-2013.pdf>

Conventional methods to wildfire risk assessment do not adequately represent Tribal lands, tending to focus more on developed lands within the wildland-urban interface (WUI) and watersheds for large population centers. BIA, in collaboration with USGS, has developed a project to assess the limitations of conventional risk assessment methods and produce a wildfire risk assessment methodology that equitably represents Indian country's values. With federal direction to work across ownerships and focus on areas of high wildfire risk first, it is critical to consider Indian country fire risk profiles to fairly represent our interests and priorities on and off reservation trust lands.

Tribal ancestral forest, woodlands, and rangeland priorities are essential, unique, and vital for ecosystem health and maintaining cultural values essential to the lifeblood of tribal communities. In 2015 the BIA initiated the Reserved Treaty Rights Lands (RTRL) program that recognizes and respects tribal sovereignty and advances Tribes' capabilities to initiate and engage in active management of non-trust ancestral lands. In addition, it enables Tribes to participate in collaborative projects with non-tribal landowners to enhance the health and resiliency of priority tribal natural resources at high risk to wildland fire with a focus on non-trust ownerships.

Both initiatives advance Co-Management of tribal ancestral land priorities, not just limited to hunting, fishing, gathering and water rights, but also enhancing tribal member workforce development opportunities, advancing tribal ecological knowledge and its retention.

Building Sustainable Economies

Energy – READI for Indian Country

The Division of Energy and Minerals Development (DEMD) Branch of Renewable and Distributed Generation (BRAD) is staffed with engineers and natural resource specialists to provide Federally Recognized Tribes, Native Alaskan Villages, and Individual Indian owners technical assistance and consultation in developing renewable energy and distributed generation projects on their land.

BRAD assistance is focused on front-end planning phases for both utility scale and distributed energy development, helping Tribes to bring projects to the point where they can secure financing. Commodities Served include: Solar, Wind, Biomass, Geothermal, Hydro, Microgrids, Hydrogen, and other forms of distributed generation.

<https://www.bia.gov/bia/ots/demd/renewable-energy>

BRAD, in partnership with the Indian Energy Service Center, is implementing a new initiative: the Renewable Energy Accelerated Deployment Initiative for Indian Country (READI for Indian Country). The vision for READI is to create expanded pathways for the BIA to support Tribes in harnessing the vast renewable energy potential that exists in Indian Country. With support from a professional services contractor, the scope of READI will include:

- Literature review of current federal framework for renewable energy development on Indian land.
- Extensive Tribal engagement through regional, hybrid workshops.
- Final Comprehensive Report and Recommendations.

Work is expected to kick-off in April 2023, with expectations for a final report by October. BIA will then implement recommendations in FY 2024.

Coal to Hydrogen

Coal is an abundant resource in Indian Country (over 20 billion tons) and has long been the source of revenue that drives the economic engine on every Tribe that possesses large surface minable coal reserves. Demand for coal mainly for power generation has dropped 50% from 2006 to 2021, so these Tribes are in desperate need of replacement revenue streams.

Solid Minerals Branch has been working diligently to help Tribes mitigate the economic downturn on these reservations by investigating a variety of coal utilization techniques and products that can be put in place to utilize coal in ways other than burning it to generate electricity. Promising opportunities exist for the environmentally benign conversion of inexpensive coal to value-added products. All these opportunities begin with the process of gasifying coal rather than burning it to produce non-carbon fuels, specifically hydrogen and ammonia. One of the environmental benefits of coal gasification processing to Hydrogen is that the carbon footprint is about 1/8 that of green Hydrogen processing. The Great Plains Synfuels Plant in North Dakota, which was opened in 1984, is a model of how coal can be used to produce energy in an efficient and environmentally responsible manner. Solid Minerals Branch will

continue to assist coal producing Tribes to evolve toward environmentally sound methods to produce power and generate sustainable revenues using their immense resources.

Aggregate

Aggregate (sand & gravel, crushed stone) is a valuable and abundant natural resource that can be developed rapidly to generate sustainable jobs and economic growth for Tribes. Solid Minerals Branch is working with several Tribes nationwide to help them move from concept through feasibility and on to revenue generating operations. This includes analysis of geology, quantity and quality assessments, identification of internal and external markets, optimization of capital and operating costs, and transportation to external markets. Over the first half of FY2023, Solid Minerals evaluated specific economic costs for several different development scenarios for Tribes.

Construction aggregate development is vital for a robust local economy and can support Tribal economic development: 1) aggregate is required in all construction projects, 2) aggregate development provides good-paying Tribal jobs, revenues, and cost-savings to the tribal administration, and 3) developing aggregate resources retains money in the local economy, helping to generate a robust, diversified local economy. Local aggregate production meets many Tribes' desire to strengthen their sovereignty, to utilize local materials for the benefit of their own people, and to strengthen local economies.



Laying down aggregate road base

Solid Minerals Branch is working on a new outreach program beginning with Tribes in the State of Wisconsin using local aggregate demand reports customized for each Tribe. This allows the Tribe to visualize aggregate development opportunities via maps and easily digestible reports demonstrating potential revenue streams they might be able to access.

Water Quality and Water Conservation

Water and Sanitation

The Offices of Facilities, Property and Safety Management (OFPSM) is utilizing BIL funds and annual appropriations to address vital repairs and upgrades to Indian Affairs owned water systems; Address U.S. EPA notice of violations, contamination Issues, and critical risks of system failure; And ensure safe water systems that serve tribal communities in Indian Affairs workplaces, schools, detention centers, and others.

In FY2022, a total of \$10.65 million was used by OFPSM to fund infrastructure upgrades to connect Indian Affairs owned water system with the Hopi Arsenic Mitigation Project water system (\$8.72 million); Design, construction and connection of a new well house to the distribution system for the Nez Perce Northern Idaho Water System (\$1.05 million); And implement infrastructure upgrades to the Columbia River In-Lieu Fishing Sites to address water sanitation and contribute to the progress made on projects authorized under the Columbia River In-Lieu and Treaty Fishing Access Sites Improvement Act (\$880,000)

OFPSM also utilized annual appropriations to address Indian Affairs owned public water systems to assess all 79 Indian Affairs-owned public water systems; Identify future water sanitation projects at IA owned facilities; Identify and remove any sources of lead in drinking water at IA facilities and water systems; and complete a Lead Service Line inventory and perform preliminary sampling for PFAS to assist our water systems with future compliance needs.

Flooding

For over 75 years flooding is consistently the costliest natural disaster in the U.S. For over 80 years, national level studies have been conducted by many diverse groups of professionals to identify best practices to mitigate flooding and better manage levee systems. To date, there may not yet be a unified approach to floodplain management that had always been envisioned for this country, but the high-level recommendations from these studies have been very unified and fall into four themes:

- The need to develop a national approach for managing flood losses while protecting/restoring natural benefits of floodplains.
- The need to improve public awareness and understanding of flood risk.
- The need to consolidate and make available timely and accurate data about flood risk and infrastructure performance.
- The need to better articulate roles and responsibilities at each level of government to ensure decisions are made within a commonly understood framework and programs are implemented to be complementary.

The Indian Dam Safety Act of 1994 established the BIA Safety of Dams Program to address flooding risks associated with dams. However, no programs currently exist within the BIA to aid tribes in addressing flooding risks associated with floodplains and levees. Establishment of Floodplain Management and Levee Safety programs within the BIA (similar to the BIA SOD Program) would enable the BIA to aid Tribes in understanding and addressing the flooding risk associated with floodplains and levees.

Floodplain Management

Flooding is one of the most common and destructive natural hazards confronting tribal communities. Despite this, natural flood risks throughout most tribal lands are poorly understood. In 2013, the Government Accountability Office published a report to Congressional Committees titled, “Flood Insurance: Participation of Indian Tribes in Federal and Private Programs.”^[1] This report stated that “as of August 2012, just 37 of 566 federally recognized Tribes (7 percent) were participating in the National Flood Insurance Program.” The report continued, “Without flood-hazard maps, tribal communities may be unaware of their flood risk, even in high-risk areas.” To further illustrate the scale and frequency of this issue, Figure 1 provides a depiction of the number of major flood disaster declarations by county and U.S. Indian Reservation from 1980-2005.

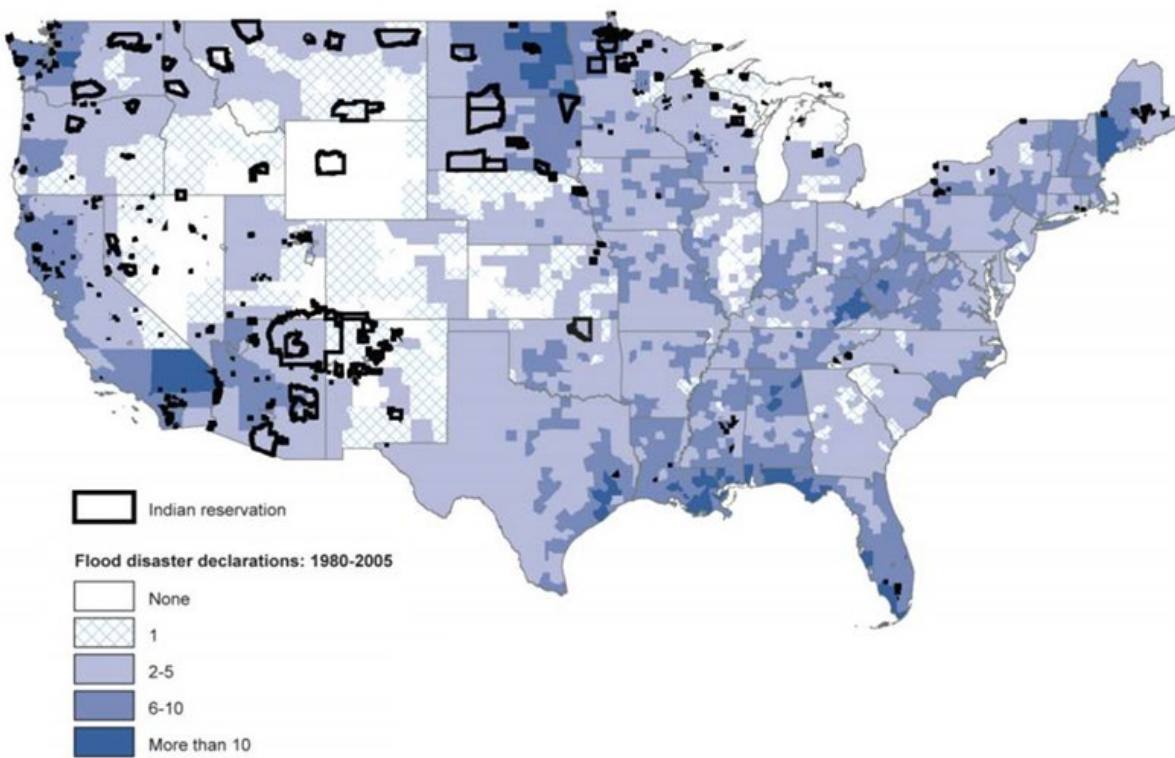


Figure 1. The major flood disaster declarations by county from 1980-2005 with U.S. Indian Reservations outlined. Source: GAO-13-226 Report.

In accordance with Public Law 114-322 The Water Infrastructure Improvements for the Nation (WIIN) Act of 2016, included a floodplain management pilot program to provide, at the request of an Indian Tribe, guidance to the Indian Tribe relating to best practices for the mitigation and prevention of floods, including consultation with the Indian Tribe on floodplain mapping, or new construction planning. However, to date, no funding has been appropriated for the pilot program.

Levees

Following the Hurricane Katrina overtopping and resultant failure of the levees protecting New Orleans in Aug 2005, the U.S. Congress passed the National Levee Safety Act in 2007. This law

established a system of managing levees which closely mirrors the National Dam Safety Program. Currently, the lead agency named in the Levee Safety Act (U.S. Army Corps of Engineers) is developing their levee safety guidelines. According to information in the United States Army Corps of Engineers National Levee Database, there are 296 levee segments totaling ~1208 miles of levees located entirely or partially on Indian lands belonging to 63 Tribes.

Estimates from the National Levee Database indicate that these levee systems protect about 630,000 people and \$104 Billion in property. The National Levee Safety Program aims to fundamentally improve the way levees are managed in the Nation. Through meaningful stakeholder engagement and dialogue with Tribes and all levels of government, the Program is focusing on developing tools and resources to support all stakeholders across the Nation in promoting consistent levee management, reducing flooding impacts, and increasing community resilience in areas behind levees. A BIA Levee Safety Program could work with Tribes and the U.S. Army Corps of Engineers to assure that the best practices developed by the National Levee Safety Program are implemented on Indian Lands.

Forest Restoration, Ecosystem Restoration

Bison and Fire

The use of fire can be one of many tools to restore Bison to Indian lands. Over the past seven years, the BIA Division of Wildland Fire Management has provided Tribes with Reserved Treaty Rights Lands (RTRL) funding to use fire in various ways to support bison restoration. The RTRL program's intent is to provide Tribes the opportunities to conduct tribally determined project work on ancestral lands regardless of ownership to enhance the health and resiliency of priority Tribal natural resources with high risks of wildland fire. For example, the Confederated Salish and Kootenai Tribes partnered with U.S. Fish and Wildlife Service to restore a National Bison Range on the 1.3-million-acre Flathead Indian Reservation in northwest Montana. The project used \$480,000 of RTRL funds to create work for Tribal crews to monitor, research, and administer mechanical and burn out treatments to the land for forest restoration. In total, 920 acres of under burning, 320 acres of thinning, 60 acres of pile burning, and 611 acres of noxious weed treatments were completed to enhance Bison habitat.

Bison Program

The Bison Program supports Tribes' Bison development and introduction efforts by supporting self-determination of Tribal management of Bison on Tribal Trust Lands. The Bison Program's scope of service encompasses cultural, historic, and educational uses of Bison, including religious, spiritual and subsistence uses.

As part of this effort, the Division of Natural Resources branches are tasked with expanding Bison technical assistance efforts for Bison to foster Tribes seeking to increase Bison and expand new herds for genetic diversity and to increase Indigenous healthy food initiative efforts. DNR is working to stand up the Bison Management Apprenticeship Program to develop a pipeline of talent and build capacity within Tribal communities as Tribes work to expand their bison herds and enter into co-stewardship agreements for bison management. The apprenticeship program will include opportunities for Tribal youth to work at Fish and Wildlife Service and National Park Service units. Program development will include Tribal engagement.

Reforestation and Tribal Greenhouses

BIA Forestry developed a project proposal for tribal greenhouses and received \$800,000 in Ecosystem Restoration funding for FY2022, and an additional \$660,000 in FY2023. Tribal greenhouses grow conifer trees and native plants to supply growing stock that is used in reforestation and restoration projects. Greenhouse upgrades will increase tribal capacity to meet the growing need for tree seedlings and native plants due to catastrophic wildland fires, insect infestations and disease outbreaks, and invasive species encroachment. Operations improvements are necessary to incorporate technology advancements, improved irrigation systems (both inside and outside), environmental controls such as vents and heaters, solar energy, upgraded polycarbonate siding, high intensity grow lights, seed labs for seed germination rates and studies. These upgrades will not only help the Tribes with the increased need for tree seedlings but will also reduce operational cost, water usage, and increase tribal employment. Greenhouses employ tribal members and support families and local tribal economies. These greenhouses are an important contributor to ecosystem restoration and the sustainability of healthy Indian forest lands into the future.



Tree Seedling Grown at Colville



Outdoor Seedling Production at Colville

Restoring Ecological Health on Federal Lands, Including Indian Forest Lands.

BIA Forestry received \$1.2 million in FY2023 from Ecosystem Restoration to conduct precommercial thinning and tree planting on tribal forest lands. The intent of the project is to restore ecological health by improving forest health and reducing the risk of resource loss to environmental factors such as insects, disease, and wildfire. The project also aims to provide employment opportunities for tribal and local community members. Precommercial thinning, tree planting, and commercial harvesting are labor-intensive activities that employ thousands of full-time and seasonal positions, through direct service or contracts, to perform on-the-ground activities. This project is critical to ecosystem restoration and sustainability of healthy Indian forest lands. The precommercial thinning of small-diameter trees to create growing space for the more vigorous, healthy trees that remain, and tree planting to make optimum use of non-stocked

or understocked forest land, helps ensure the long-term viability of Indian forest lands and increases the storage of carbon over time. The proposed project also helps reduce the impacts of climate change and other forest health factors, including wildland fires, insect and disease infestations, and invasive species encroachment.

Collaborative Ecosystem Restoration

The Ecosystem Restoration portion of the Bipartisan Infrastructure Law (BIL) provides funding for Tribes to implement restoration projects on Federal land pursuant to Good Neighbor agreements (16 USC 2113a) and agreements under the Tribal Forest Protection Act (25 USC 3115a). BIA Forestry and the Bureau of Land Management (BLM) sent out a joint announcement in FY2022 for Portable Infrastructure, GNA, and TFPA project proposals. The intent was to provide interested Tribes an opportunity to accomplish important work on Federal and adjacent lands, but to also process forest products biomass from GNA or TFPA projects utilizing Portable Infrastructure equipment. In FY2023, BIA Forestry received \$1.7 million to fund GNA and TFPA projects for Tribes. The FY2023 funding was only recently received but we expect to fund projects before the end of the fiscal year.

Light Detection and Ranging (Lidar), Utility for Restoration

A northwest Arizona Tribe with a land base that encompasses over a million acres is now using Lidar as a tool for restoration efforts. The land has four primary fuel types: timber – Ponderosa Pine, woodland – Pinyon and Juniper, grassland – sage, and riparian – Cottonwood and Salt Cedar. In FY2022, \$1.898 million of the Bipartisan Infrastructure Law (BIL) funding, amounting to approximately \$1.85 per acre, was granted to the Tribe for a 5-year project. The project is using Light Detection and Ranging (Lidar) technology to capture 3D imagery of the Tribe's vegetation, infrastructure, watersheds, and overall land to help the Tribe with numerous current and future land management and use projects. Projects identified by the Tribe include range unit restorations to increase grazeland for cattle, recreational use for Tribal members, and road development within the reservation.

Invasive Noxious Weeds

The Bureau of Indian Affairs Office of Trust Services Branch of Agriculture supported and funded 134 projects for the prevention, control, and eradication of invasive noxious weed species on Indian Reservations and Treaty ceded territories in agriculture and rangeland settings. The program focused on damages caused to Tribal Trust Resources and left it to the discretion of landowners to manage whether species were invasive or represented an instance in which a native species is behaving as an invasive species due to altered environmental conditions.

Before
mulching



After
mulching



Cow Creek NWRO, 26 Acres – Blackberry treatment Mowing/Mulched