



United States Department of Agriculture

Forest Service Research and Development Tribal Engagement Roadmap



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Photo credit: Forest Service

The Forest Service Research and Development Tribal Engagement Roadmap

The Forest Service, an agency of the U.S. Department of Agriculture (USDA), is dedicated to the principle of multiple-use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. The agency strives to provide increasingly greater service to a growing Nation through forestry research, management of the national forests and national grasslands, and cooperation with tribal governments, States, and private forest owners.

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Introduction

The U.S. Department of Agriculture (USDA), Forest Service is recognized as a leader among Federal land management agencies in partnering collaboratively with American Indian and Alaska Native governments and indigenous communities. The Forest Service Research and Development (R&D) Deputy Area recognizes that working with tribes and indigenous groups is vital to its mission to develop and deliver knowledge and innovative technology to improve the health and use of the Nation's forests and grasslands—both public and private.

Roadmap) encompasses a wide range of the biological, physical, and social sciences. It aims to guide collaboration across communities and tribal nations to help develop ethical and significant research partnerships. Highlighting tribal engagement opportunities will build the Forest Service R&D staff commitment to the USDA's government-to-government relationship and trust responsibilities to tribes. It will also encourage joint learning with tribes and indigenous groups on issues of common concern.



Salmon, acorns, and a basket—tribally valued resources managed on National Forest System lands.

Photo by Frank Lake, Forest Service.

According to 2010 Census data, the combined American Indian and Alaska Native population is 5.1 million. Within the United States, 566 federally recognized tribal nations currently exist as sovereign governments. In addition, numerous distinct indigenous groups exist, including those of Pacific Islanders in Hawaii, American Samoa, and Guam. These communities are linked to their local natural resources through centuries of locally relevant experiences and knowledge.

The Forest Service Research and Development Tribal Engagement Roadmap (Tribal Engagement

Forest Service R&D recognizes the importance of locally relevant research to tribes, as well as tribal desires for meaningful research collaboration and partnerships (Beatty and Leighton 2012). A commitment to cross-cultural learning, transparency, and relationship building can help revitalize tribal communities and rural America, reduce poverty, and facilitate environmental justice. Developing research relationships with American Indian, Alaska Native, and other indigenous peoples is fundamental to protecting traditional knowledge and culture and finding innovative solutions to landscape-scale challenges.

Federal Trust Responsibility



Members of Native American Tribal Nations attended the 2012 Fourth Annual White House Tribal Nations Conference in Washington, DC. Photo by Bob Nichols, U.S. Department of Agriculture.

The U.S. Government has a unique relationship with federally recognized American Indian governments as set forth in the Constitution of the United States, treaties, statutes, court decisions, Executive orders, and Presidential memoranda. These federally recognized tribal governments and Alaska Native

Corporations (collectively referenced as “tribes”) enjoy a government-to-government relationship with the United States. From 1778 to 1871, the U.S. Government ratified approximately 400 treaties with Indian nations, agreeing to preserve their ability to exercise their sovereign rights as were reserved by the signatory tribes.

Tribal Sovereignty

American Indian tribal governments have always retained sovereignty and maintained the sole right to self-determination. This sovereignty includes lawmaking and enforcement, defining territory, determining citizenship, regulating trade and property, and forming alliances with other nations through treaties and other agreements. Indian nations of North America historically exercised the powers of sovereign nations and recognized the sovereignty of one another by making treaties and trade agreements and by forming political and military alliances with other tribal nations.

On April 29, 1994, a Presidential memorandum was issued reaffirming the Federal Government's commitment to operate within a government-to-government relationship with federally recognized American Indian and Alaska Native tribes and to advance self-governance for such tribes. The Presidential memorandum directs each Executive Department and agency, to the greatest extent practicable and to the extent permitted by law, to consult with tribal governments before taking actions that have substantial direct effects on federally recognized tribal governments. To ensure that the rights of sovereign tribal governments are fully respected, all such consultations are to be open and candid so that tribal governments may evaluate for themselves the potential impact of relevant proposals.

Issued November 6, 2000, Executive Order 13175, sets forth guidelines for all Federal agencies to (1) establish regular and meaningful consultation and collaboration with Indian tribal officials in the development of Federal policies that have tribal implications, (2) strengthen the U.S. government-to-government relationships with Indian tribes, and (3) reduce the imposition of unfunded mandates on Indian tribes.

Federal agencies are directed to consult with tribes when engaging in policymaking or programs that may have implications on tribal resources. In addition to obligations in Executive Order 13175, *Consultation and Coordination With Indian Tribal Governments*, consultation obligations are included in a number of statutes, including, but not limited to, the Federal Land Policy and Management Act.

As stated in Section 2(b) of Executive Order 13175, "Our Nation, under the law of the United States, in accordance with treaties, statutes, Executive Orders, and judicial decisions, has recognized the right of Indian tribes to self-government. As domestic dependent nations, Indian tribes exercise inherent sovereign powers over their members and territory. The United States continues to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, tribal trust resources, and Indian tribal treaty and other rights."

On December 5, 2012, the 4th Annual White House Tribal Nations Summit Conference convened in Washington, DC. The conference brought together the President, eight Cabinet members, numerous Administration officials, and hundreds of tribal leaders to discuss important issues facing tribal governments. A Memorandum of Understanding was finalized between several Departments (Agriculture, the Interior, Defense, and Energy) and the Advisory Council for Historic Preservation to use a more integrated and collaborative approach for land-based management. As part of the Federal Government and responsible for implementing Federal Government programs, Forest Service R&D has responsibility for ensuring this trust responsibility is redeemed.



Understanding and Solving Natural Resource Challenges With Traditional Ecological Knowledge



Tribes and indigenous groups have centuries of locally relevant experience managing natural resources. This traditional ecological knowledge (TEK) offers a great opportunity to better understand traditional approaches to managing the complex ecosystems Forest Service R&D is tasked to address. Tribal and indigenous peoples can share many lessons about managing resources in complex forest, mountain, and dry land ecosystems (World Commission on Environment and Development 1987).

governments have lost up to 98 percent of their aboriginal land base. Today, most tribal landscapes of cultural and ecological significance are located outside American Indian reservations and Federal trust lands (Petoskey 1985). Indigenous populations throughout the United States are particularly vulnerable to climate-change impacts, confronting disproportionate risks to their culture and economies (Lynn et al. 2011).

Cherokee basketmaker.
Photo by Alfie Vick,
University of Georgia.



TEK can provide insights into how our Nation's forests and grasslands respond to human interventions and changing climate conditions. TEK can suggest new strategies to manage these areas for a variety of ecological goods and services, social and cultural uses, and economic benefits. Integrating TEK with Western science was identified as a tribal priority in a survey that represented more than 30 tribal nations (Beatty and Leighton 2012).

Since the arrival of European colonizers and the formation of the United States, Indian tribal

Tribal leaders have acknowledged that research is fundamental to tribal sovereignty. Access to data and analysis is essential to community planning, as well as program and policy development (NCAI/MSU 2012). A commitment to engaging diverse tribal groups and incorporating TEK into agency policies and programs will allow for the cross-cultural learning and relationship building needed to sustain our Nation's ecosystems and better serve the citizens of our culturally diverse Nation.



The Tribal Engagement Roadmap and Its Connection to the Forest Service Tribal Relations Program and the Tribal Relations Strategic Plan



The Tribal Relations Program of the Forest Service, consisting of the national Office of Tribal Relations and regional Tribal Relations program managers, developed the 2010–2013 Tribal Relations Strategic Plan. This agencywide strategic plan is the primary document on tribal relations for each Forest Service deputy area. The strategic plan creates expected beneficial outcomes for the agency and for American Indian and Alaska Native tribal governments and communities. Consistent with the Forest Service national strategic goals and objectives, the Tribal Relations Strategic Plan identifies specific goals,

objectives, and actions to guide the program through 2013. The actions identified in the Roadmap will accomplish or advance many of these strategic goals.

The Roadmap supports and implements the goals and objectives outlined in the agencywide Tribal Relations Strategic Plan. By taking an R&D-specific look at tribal engagement, the Roadmap helps highlight and prioritize R&D's contributions to the broader Forest Service Tribal Relations Program. This Roadmap does not imply any changes to agency policy or strategic planning, but rather serves as a path forward.



Forest Service tribal liaisons and staff from the Office of Tribal Relations at national directives planning meeting. Photo by Alicia Bell-Sheetter, Forest Service.



The agencywide Tribal Relations Strategic Plan sets forth a framework for the Forest Service's Tribal Relations Program, including the R&D deputy area. The following goals will help the agency fulfill its mission and are intended to help guide managers in developing Tribal Relations Program work plans at all levels of the agency.



GOAL **1** American Indian and Alaska Native Rights

Ensure the agency redeems its trust responsibility and protects American Indian and Alaska Native reserved rights as they pertain to Forest Service programs, projects, and policies.

Objective 1.1

Support Forest Service leaders' understanding and application of their legal responsibilities for treaty rights, other reserved rights, and trust responsibilities, including obligations for government-to-government consultation.

Objective 1.2

Support Forest Service leaders' engagement in substantive and meaningful consultation for agency policy, planning, and project decisions.

Objective 1.3

Evaluate—and modify if needed—policies in support of the agency's trust responsibility, tribal reserved rights on National Forest System lands, and implementation of programs and policies established to benefit tribes.



GOAL 2 Partnerships

Leverage partnerships to maximize mutual success.

Objective 2.1

Improve partnerships with American Indian and Alaska Native tribal governments, nongovernmental organizations, intertribal organizations, education institutions, and other entities.

Objective 2.2

Increase the ability of the agency and tribes to manage for sustainability on landscapes across administrative boundaries.

Objective 2.3

Encourage integration of American Indian and Alaska Native traditional knowledge, wisdom, and practices in agency land management decisions and implementation.

Objective 2.4

Collaborate with leadership and staff in Forest Service R&D to provide technical and educational assistance, pursue joint research projects, and transfer technology to American Indian and Alaska Native tribal governments and communities.

GOAL 3 Program Development

Promote integration and utility of the Tribal Relations Program throughout the agency.

Objective 3.1

Improve Forest Service leadership engagement in the Tribal Relations Program.

Objective 3.2

Implement an integrated and effective Tribal Relations Program.

Objective 3.3

Increase and advance American Indians and Alaska Natives within the Forest Service workforce.

A photograph of a wooden observation deck overlooking a dense forest. The deck is made of dark brown wood and has a railing. In the foreground, a plaque is mounted on the railing. The forest is lush with green foliage and moss-covered tree trunks. The sky is bright and slightly hazy.

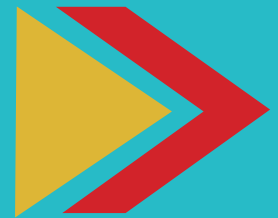
Tribal Engagement Roadmap Objectives and Actions

In support of the agencywide tribal relations goals and objectives previously outlined, the Tribal Engagement Roadmap defines six R&D-specific objectives and associated actions. Accompanying each objective are examples of actions that R&D has already undertaken and that will serve as models for

advancing similar work. Taken as whole, the breadth of Forest Service R&D engagement with tribes should provide tribal and Forest Service leaders and staff access to the best available science and other appropriate knowledge to sustain the health and productivity of our Nation's forests and grasslands for this and future generations.




The 2006 Cultural Plant Propagation Center Grand Opening, Moencopi Day School, Tuba City, AZ. Photo by Jeremiah R. Pinto, Forest Service.



Objective 1 Build new and enhance existing partnerships with tribes, indigenous and native groups, tribal colleges, tribal communities, and intertribal organizations

- Build and enhance direct government-to-government partnerships with federally recognized tribes, including consultation on activities as appropriate.
- Build new, and enhance existing, relationships with key intertribal organizations.
- Engage with tribal faculty members and tribal colleges.
- Build capacity with tribes and tribal institutions to enhance ability to engage in research partnerships.
- Enhance communication with tribes and other indigenous communities on research results that are relevant for their needs and use forms and forums that are culturally appropriate and effective.



Foresters from Menominee Tribal Enterprises and Menominee tribal members show examples of hardwood and white pine management occurring on the Menominee Indian Reservation at the Intertribal Timber Council 37th Annual Timber Symposium. The Menominee tribal forest in Wisconsin stands as a practical example of sustainable forestry that is ecologically viable, economically feasible, and socially desirable. Photo by Serra Hoagland, Forest Service.



Tribal Engagement Roadmap Objectives and Actions

- Where appropriate, develop research Memoranda of Understanding (MOUs) and Memoranda of Agreement (MOAs) to clarify procedures and responsibilities.
- Conduct joint research with tribes and indigenous communities on issues of mutual interest, including TEK.

Building Nursery Partnerships for Culturally Important Native Species

For the past 12 years, Forest Service scientists from the National Reforestation, Nurseries, and Genetics Resources team have coordinated with nearly 80 tribes while working one-on-one with more than 500 tribal professionals and 750 students across the United States. This work benefited tribal elders who now grow their own medicinal plants.

The scope and relevance of this innovative project has been recognized by its receiving the 2007 Intertribal Timber Council's (ITC's) Earle Wilcox Memorial Individual Achievement Award. Other awards include several Forest Service awards, such as the 2005 Southern Research Station Technology Transfer Award, the 2005 Director's Partnership Award from the Southern Research Station, the 2006 Two Chiefs' Partnership Award, the 2009 Technology Transfer Award from the Rocky Mountain Research Station, and the 2011 Tribal Relations Professional Excellence Award.

Partnering for Climate Change

The Forest Service R&D Pacific Northwest Research Station's Tribal Climate Change Project, in collaboration with the University of Oregon Environmental Studies Program, focuses on building research-management networks and other resources for tribes related to climate change (<http://tribalclimate.uoregon.edu>). Their publications include—

- Tribal Climate Change Funding Guide (<http://envs.uoregon.edu/tribal-climate/>).
- A Synthesis of Literature on Traditional Ecological Knowledge and Climate Change (http://tribalclimate.uoregon.edu/files/2010/11/TEK_CC_Draft_3-13-2012.pdf).
- The Government-to-Government Relationship in a Changing Climate: A Review of Federal Consultation Policies (http://tribalclimate.uoregon.edu/files/2010/11/consultation_report_2-22-20122.pdf).
- A Guide for Tribal Leaders on U.S. Climate Change Programs (http://tribalclimate.uoregon.edu/files/2010/11/tribal_leaders_CC_guide_1-4-2012.pdf).



The Center for First Americans Forestlands

The College of Menominee Nation and Forest Service partnership is carried out through the Center for First Americans Forestlands (CFAF) and is enshrined in MOUs signed between the college and the Forest Service in 2003 and 2009. CFAF is a national leader for indigenous and American Indian forests, sustainable forest management, and sustainable forest products utilization. CFAF embodies the spirit of the land-grant tradition. CFAF is a national program working collaboratively with a broad stakeholder group that includes tribes; tribal colleges and universities; tribal organizations; students; community members; private industry; Federal, State, and local governments; and the broad community of interest to foster sustainability through forest management and forest products utilization.

CFAF projects start with the premise that sustainable forest management depends on forest products utilization, a vibrant forest products industry, and markets for forest products. To these ends, CFAF projects are locally driven but broadly applied with regional or national implications. CFAF also supports international indigenous forest management by fostering international partnerships and is based on being a leading authority on American Indian forest management. CFAF is an institute of American Indian excellence and a model for academia/Federal partnerships. CFAF serves both Indian and non-Indian communities, facilitating stewardship efforts of lands and natural resources within their jurisdictions.



Tribal Engagement Roadmap Objectives and Actions

Objective **2** Institutionalize trust responsibilities and tribal engagement within Forest Service R&D

- Include tribal considerations in Forest Service R&D directives, guidance, and policy.
- Consult with tribes on Forest Service R&D research agendas and programs (including designation of experimental forests and ranges).
- Train Forest Service R&D leadership, scientists, and staff on requirements and authorities related to trust responsibilities, such as—
 - Tribal engagement
 - Consultation
 - Protection of TEK
 - Federal Indian Law
 - Intellectual property rights
- Develop research MOUs and MOAs with tribes to clarify procedures and responsibilities.
- Include and consider tribes in all lines of research of mutual interest and keep them involved through the entire research process. This includes collaboration in setting research priorities, designing and implementing projects, and analyzing/disseminating results.



Pacific Northwest Research Station staff meets with Tlingit elders to name the Héén Latínee Experimental Forest.

Photo by Linda Kruger, Forest Service.



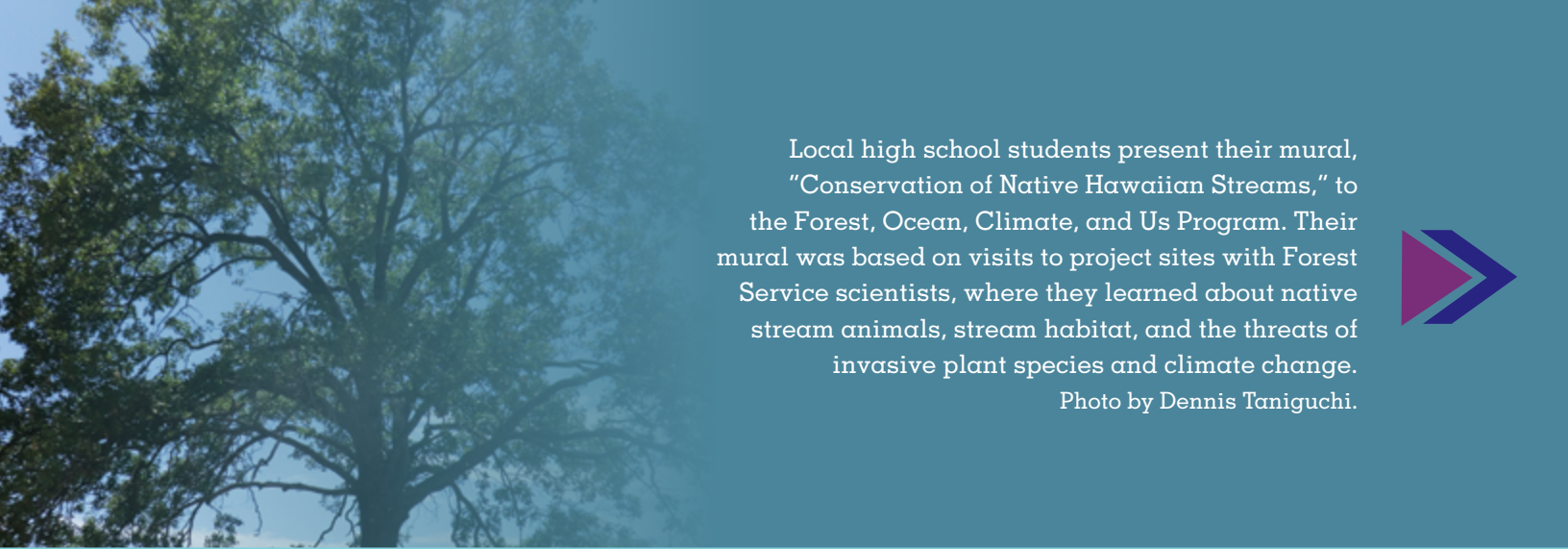
Consulting on Experimental Forests and Ranges—The Naming of Héén Latínee Experimental Forest, Juneau, AK

In June 2008, Pacific Northwest Research Station scientists from the Juneau Forestry Sciences Lab and a tribal government relations specialist with the Alaska Regional Office met with representatives from the federally recognized tribe Central Council of Tlingit and Haida Indian Tribes of Alaska (CCTHITA) and local Alaska Native corporations. They discussed opportunities for tribes, Alaska Native corporations, and the Forest Service to work together on plans for a new experimental forest in Alaska.

Because the proposed experimental forest was located on the traditional lands of the Wooshkeetaan Tlingit, the group recommended selecting a Tlingit name to honor traditional Alaska Native values for stewardship of the land. Representatives from CCTHITA and Goldbelt Incorporated worked with Forest Service employees to coordinate and host four meetings with Tlingit elders to identify an appropriate name. The group put forward the name Héén Latínee, which means “river watcher,” to reflect the experimental forest’s focus on river systems and watersheds.

In a letter dated November 18, 2008, the Pacific Northwest Research Station Director Bov Eav endorsed the name, and on June 25, 2009, former Forest Service Chief Gail Kimbell officially established the Héén Latínee Experimental Forest.

The Forest Service is honored that Tlingit elders bestowed the name Héén Latínee on the new experimental forest. The name will encourage and remind the Forest Service and partners to include traditional Alaska Native land-use practices into the research conducted at Héén Latínee. Activities, for example, may include promoting TEK by engaging youth in research involving tribal elders and scientists.



Local high school students present their mural, “Conservation of Native Hawaiian Streams,” to the Forest, Ocean, Climate, and Us Program. Their mural was based on visits to project sites with Forest Service scientists, where they learned about native stream animals, stream habitat, and the threats of invasive plant species and climate change.

Photo by Dennis Taniguchi.



Tribal Engagement Roadmap Objectives and Actions

Objective **Increase and advance tribal and indigenous values, knowledge, and perspectives within Forest Service R&D, including both operational and research activities**

- Encourage tribal and indigenous representation in the Forest Service workforce through recruitment and outreach and programs such as Pathways and other internship opportunities.
- Provide professional development opportunities and technical training to increase competencies within the Forest Service workforce and in the larger tribal community.
- Engage tribes and indigenous communities in operational and program management activities.
- Engage with tribal and indigenous students of all ages through activities, such as—
 - Mentoring
 - Educational activities
- Partner with tribal colleges and universities to engage students and tribal faculty to share perspectives and increase their capacity for research engagement.
- Promote visiting scholar programs.

Incorporating American Indian Traditional Ecological Knowledge and Values Into Fire Management

The Rocky Mountain Research Station published a technical report about the effects of fire on cultural resources and archaeology (Ryan et. al. 2012) featuring a pathway model conceptualizing fire impacts to cultural resources. A Pacific Southwest Research Station research ecologist contributed to this report with presenting the concept of third-order fire effects, describing how fire affects tangible and intangible aspects of the human environment. As a result of the Pacific Southwest Research Station’s research ecologist’s work as a resource advisor with American Indian tribes and incident management teams on wildfires, a lessons-learned framework was published in a fire management journal (Lake 2011). The article describes management issues regarding the protection of cultural and heritage resources from undesired effects of wildland fires and associated management practices.



Frank Lake (research ecologist, Fire and Fuels Program, Forest Service Pacific Research Station) and Bill Tripp (deputy director of Eco-Cultural Revitalization for the Karuk Tribe) on the 2008 Ukonom Complex in northwestern California. The excessive falling of culturally important oak trees results in damage to tribal food, spiritual values, and site archaeological resources. Photo by LeRoy Cyr, Forest Service.




▶▶▶ Tribal Engagement Roadmap Objectives and Actions

Evergreen huckleberries and California hazel (used in the making of baskets) require wildfire. Photo by Frank Lake, Forest Service.




Objective **4** Network and coordinate within R&D and across deputy areas to increase agency and R&D program efficacy

- Establish points of contact and positions of authority for implementing and communicating Forest Service R&D tribal activities.
- Develop a process for coordinating and sharing research activities and findings between and among stations.
- Engage with regional Tribal Relations program managers to share networks and coordinate activities more efficiently.
- Coordinate effectively across deputy areas to ensure Forest Service R&D is integrated with Tribal Relations Program objectives.
- Provide research support to other government-to-government consultations conducted by the agency line officers as necessary.
- Leverage R&D knowledge and relationships in support of tribal and agency decisionmaking and land management outcomes.



Traditional Food—“Good” tanoak acorns dropped after a prescribed burn that reduces acorn insect pests. The Pacific Southwest Research Station is conducting research with California tribes regarding Sudden Oak Death impacts to forests and associated cultural use plants. Photo by Frank Lake, Forest Service.



Changes in phenology for cultural practices like basswood bark harvesting may provide early indicators of fine-scale effects of climate change. Photo by Natasha Duarte, International Society of Ethnobiology.

Coordinating Around Climate Change and Tribal Research Needs

The All-Station Climate Change and Tribes project is an interstation collaboration to better understand tribal research needs and learn from tribal observations and experiences related to managing land and natural resources under changing climate conditions. The all-station coordinated approach to tribes and climate-change research works in partnership with tribes and intertribal organizations to address climate-change vulnerabilities and support sharing of insights in ways that are driven by tribes themselves.

The effort has identified key tribal climate-change research and information needs, shared research results, hosted workshops, provided training, and contributed to the National Climate Assessment. In addition, some research scientists participate with and serve as committee members of Landscape Conservation Cooperatives, supporting the integration of science and tribal TEK with Federal Government climate-change strategies.



Tribal Engagement Roadmap Objectives and Actions

Objective **5** Through a collaborative and participatory approach with tribes and tribal organizations, advance research on topics of joint interest, such as—

- Climate change
- Fire science and management
- Fish and wildlife
- Forest management
- Forest products and utilization
- Nontimber forest products
- Restoration
- Social vulnerability
- Sustainability
- TEK
- Water and watershed protection

Informing Restoration Activities

A two-decade-long collaborative research partnership with the White Mountain Apache Tribe of Arizona has resulted in the restoration of dozens of culturally and ecologically significant wetland and spring ecosystems on tribal lands. This partnership has enhanced capacity within the tribal community to assess site conditions and design and implement restoration treatments. The partnership received the Tribe's National Fire Plan Award for Excellence in Rehabilitation and Restoration.

Collaborating on Wildland Fire

Tribal elders, Federal and tribal resource managers, and scientists convened a workshop on the Flathead Indian Reservation of the Confederated Salish Kootenai Tribes in western Montana. A grant from the Joint Fire Science Program funded the workshop, which enabled



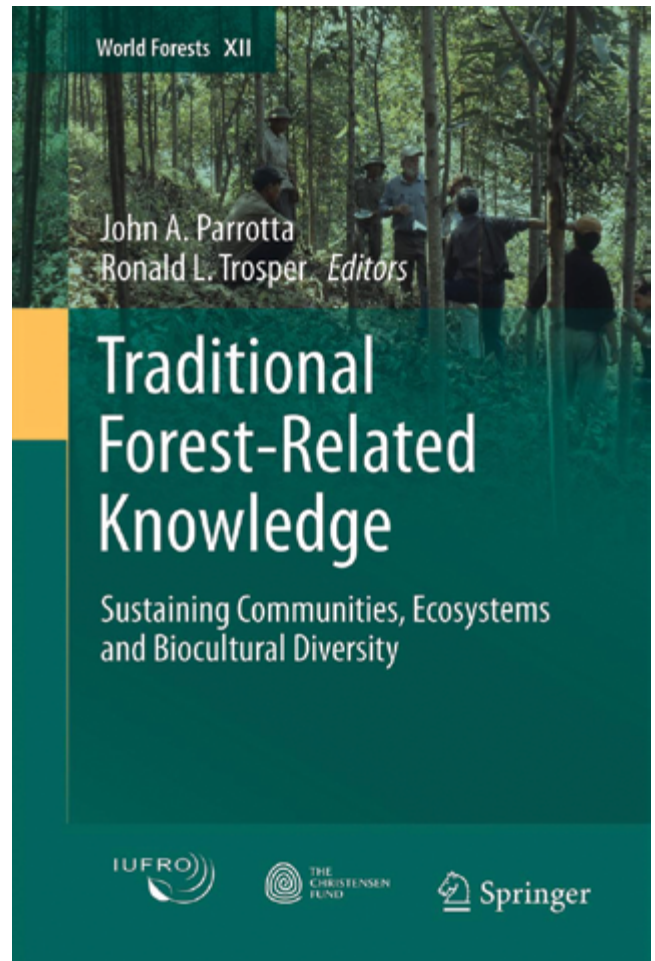
participants to discuss the integration of tribal stewardship and traditional knowledge in wildland fire activities.

The results of this workshop were instrumental in the 2011 formation of the ITC research sub-committee, and 27 workshop participants co-authored an article about traditional knowledge and Western science and their part in the dialogue on the contemporary challenges of forest health and wildfire, published in the *Journal of Forestry* (Mason et al. 2012).

Encouraging the Use of Traditional Ecological Knowledge Internationally

Forest Service scientists are working with the International Union of Forest Research Organizations (IUFRO) to help the global community engage indigenous people. Their efforts involve incorporating indigenous rights and TEK into national and international policies.

IUFRO recently published this work in a book that highlights traditional forest-related knowledge regarding how to sustain communities, ecosystems, and biocultural diversity (Parrotta and Trosper 2012).





A Forest Service scientist presents the ForWarn tool to the Intertribal Timber Council, June 2013. Photo by Serra Hoagland, Forest Service.



Tribal Engagement Roadmap Objectives and Actions

Forest Service scientists have also contributed expertise to U.S. State Department and U.S. Agency for International Development projects that assist indigenous groups in Africa, Australia, China, Latin America, and Russia.

Facilitating Dialogue With Indigenous Groups Worldwide

The Forest Service and the Menominee Sustainable Development Institute organize visits to Menominee Nation for indigenous community members. Participants discuss sustainable forest management and share experiences. Visitors have included members of the Sarstoon-Temash Institute for Indigenous Management in Belize; the Coordination of the Indigenous Organizations of the Brazilian Amazon; Kallari, an Ecuadorian cooperative; the Krikati people of East Timor; the San Andres Yatuni Zapotec Community in Mexico; the Mayan people from El Salvador and Guatemala; the Maori from New Zealand; the Terena people of Mato Grosso do Sul; the Tukano indigenous people; and the Sateré-Mawé people from the Brazilian Amazon.

Objective Develop and deploy research and technologies to support tribal decisionmaking on natural resources issues

- Develop and deploy Web-based decision-support tools that can be used by tribal decision-makers to inform their management choices.
- Strengthen and clarify contact information for Forest Service R&D scientists and institutions such that tribal questions can be asked and answered in a timely fashion.
- Improve tribal access to research results and science literature.
- Develop methodologies that are sensitive to tribal concerns and, when possible, incorporate TEK into existing Forest Service management tools.
- Proactively address scientific needs of tribal communities by reaching out to tribes and tribal professionals with new tools, important research findings, and science syntheses/analyses.



Forest Service Science Tool Delivery to USET and ITC

Getting information for short- and long-term natural resources management is paramount to effectively plan for and respond to natural disturbances. ForWarn and Template for Assessing Climate Change Impacts and Management Options (TACCIMO) are two tools developed by the Forest Service in partnership with other Federal agencies to aid natural resource managers as they respond to different types of disturbances. Beginning in October 2012, Southern Research Station scientists recognized the opportunity to deliver ForWarn and TACCIMO technology to the United Southern and Eastern Tribes, Inc. (USET), and the ITC organization.

At the ITC Annual Timber Symposium, hosted by the Menominee Indian Tribe of Wisconsin, in June 2013, the Forest Service presented an overview of the ForWarn disturbance monitoring system. ForWarn, a monitoring tool for the conterminous United States, shows maps of near real-time forest change caused by the effect of disturbances such as insect pests, wildfires, wind and ice storms, flooding, logging, and land-use conversions. Tribal managers can use ForWarn to view past and current forest conditions to detect the presence and spread of forest pathogens and invasive species; measure the location, extent, severity, and recovery of forests from wild-land fires and various storms; and assess the effectiveness of forest management operations.

In addition, Forest Service scientists from the Eastern Forest Environmental Threat Center demonstrated the TACCIMO tool and led a 3-hour virtual workshop for the USET Natural Resources Committee during a semiannual meeting held in Niagara Falls, NY. TACCIMO is a Web-based tool to assist natural resource managers to plan for and adapt to climate change. The tool has two components that (1) enable managers to rapidly retrieve current climate change literature as it applies to their management needs and (2) provide access to management plans and temperature and precipitation forecasts specific to forest location. Representatives from the Houlton Band of Maliseet Indians, Alabama-Coushatta Tribe of Texas, Eastern Band of Cherokee Indians, Seneca Nation of Indians, Poarch Band of Creek Indians, and the Seminole Tribe of Florida attended the TACCIMO workshop, and the training is available on line for all USET member tribes.



Tribal Engagement Roadmap Objectives and Actions

Exploring Means for Tribal Partners To Access Scientific Journals

The need and desire for tribes to access natural resource journals and search engines has been a standing topic of the ITC's Research Subcommittee for several years. Forest Service R&D has made a commitment to pursue various options to help solve this problem. These options have ranged in scope and scale from modifying national contracts and developing national MOUs with tribal entities (such as ITC) to establishing local agreements between R&D units and tribal colleges. Through discussions with the program manager for the National Forest Service Library, it became clear that formally adding nonagency partners and clients to the dozens of annual journal and online contracts was challenging.

As an alternative solution, volunteer agreements were established with each of the two ITC research subcommittee co-chairs located at Salish Kootenai College and the University of Washington. The agreements are intended to support collaboration by Forest Service scientists with the volunteer(s), and stipulate authorized access by the volunteers to agency computer resources. Before gaining access, each volunteer is required to complete the full suite of security and information technology training and clearances. This online access and also numerous goals and objectives for collaborations are formally addressed in an MOU between the Rocky Mountain Research Station and the Salish Kootenai College.

These approaches—both the volunteer agreement and the MOU between “local” parties—are designed as potential models that other stations and tribal natural resource institutions (e.g., Haskell Indian Nations University, College of Menominee Nation) could adopt.

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The *Forest Service Research and Development Tribal Engagement Roadmap* communicates a program of action for the U.S. Department of Agriculture (USDA), Forest Service Research and Development (R&D) Deputy Area regarding services to, and engagement with, American Indians, Alaskan Natives, Hawaiian Natives, Pacific Islanders, and other indigenous peoples. The roadmap will provide assistance to more than 500 researchers and R&D personnel in accomplishing the R&D mission and will be adapted and updated as needed.

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Forest Service researcher working with Native American high school students on a greenhouse research project. Photo by Janelle Meier.

Evergreen huckleberries and California hazel (used in the making of baskets) require wildfire. Photo by Frank Lake, Forest Service.

The 2006 Cultural Plant Propagation Center Grand Opening, Moencopi Day School, Tuba City, AZ. Photo by Thomas D. Landis.

Forest Service Pacific Southwest Research Station research ecologist and Tribe Heritage Consultant on the 2008 Ukonom Complex in northwestern California. Photo by LeRoy Cyr, Forest Service.

