Fire & TEK

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National Program Lead Tribal Research, USDA Forest Service Research & Development

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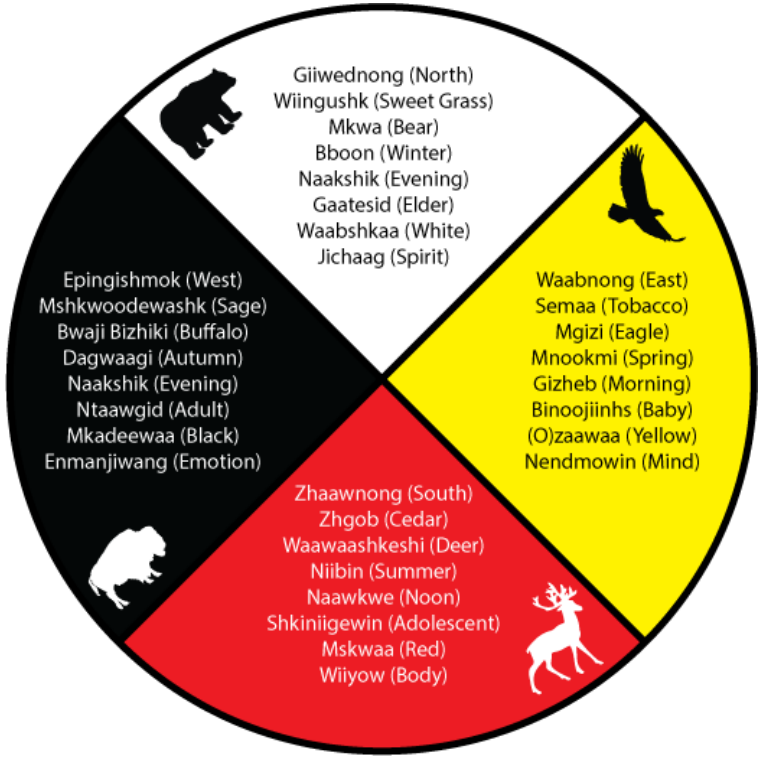
Introduction

Wildland fire incidents and tribal liaisons



IFMAT IV findings

USFS Research & Development Tribal Projects

“It is the people who belong to the mountain”

Ceremony, Leslie Marmon Silko

TEK Dark Ages

Piute Forestry vs. Forest Fire Prevention, Aldo Leopold 1920

"This theory is called 'Piute Forestry' for the alleged reason that the California Indians, in former days, deliberately 'light-burned' the forests in order to protect them against serious fires."

"It is, of course, absurd to assume that the Indians fired the forests with any idea of forest conservation in mind." Leopold

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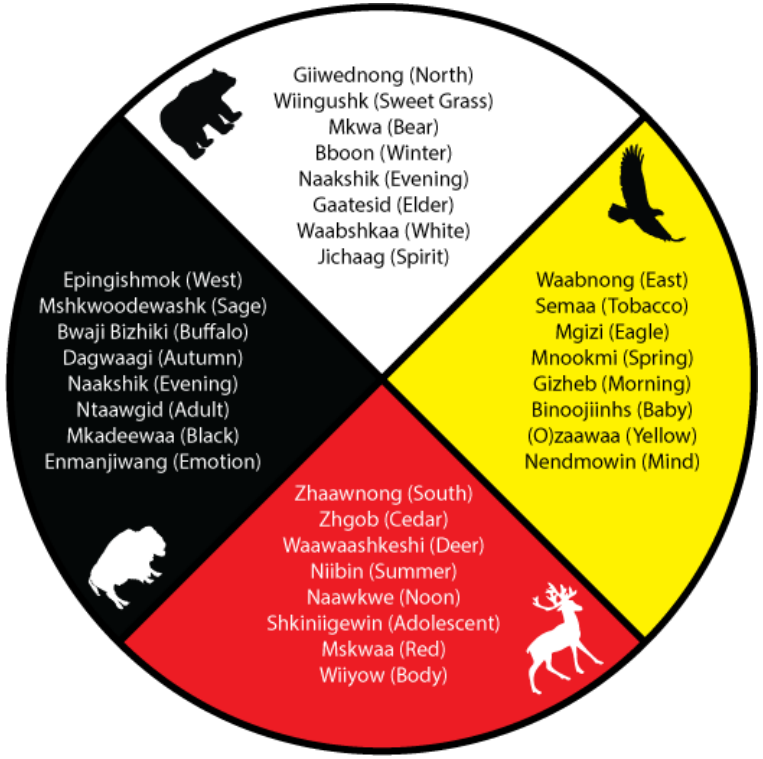


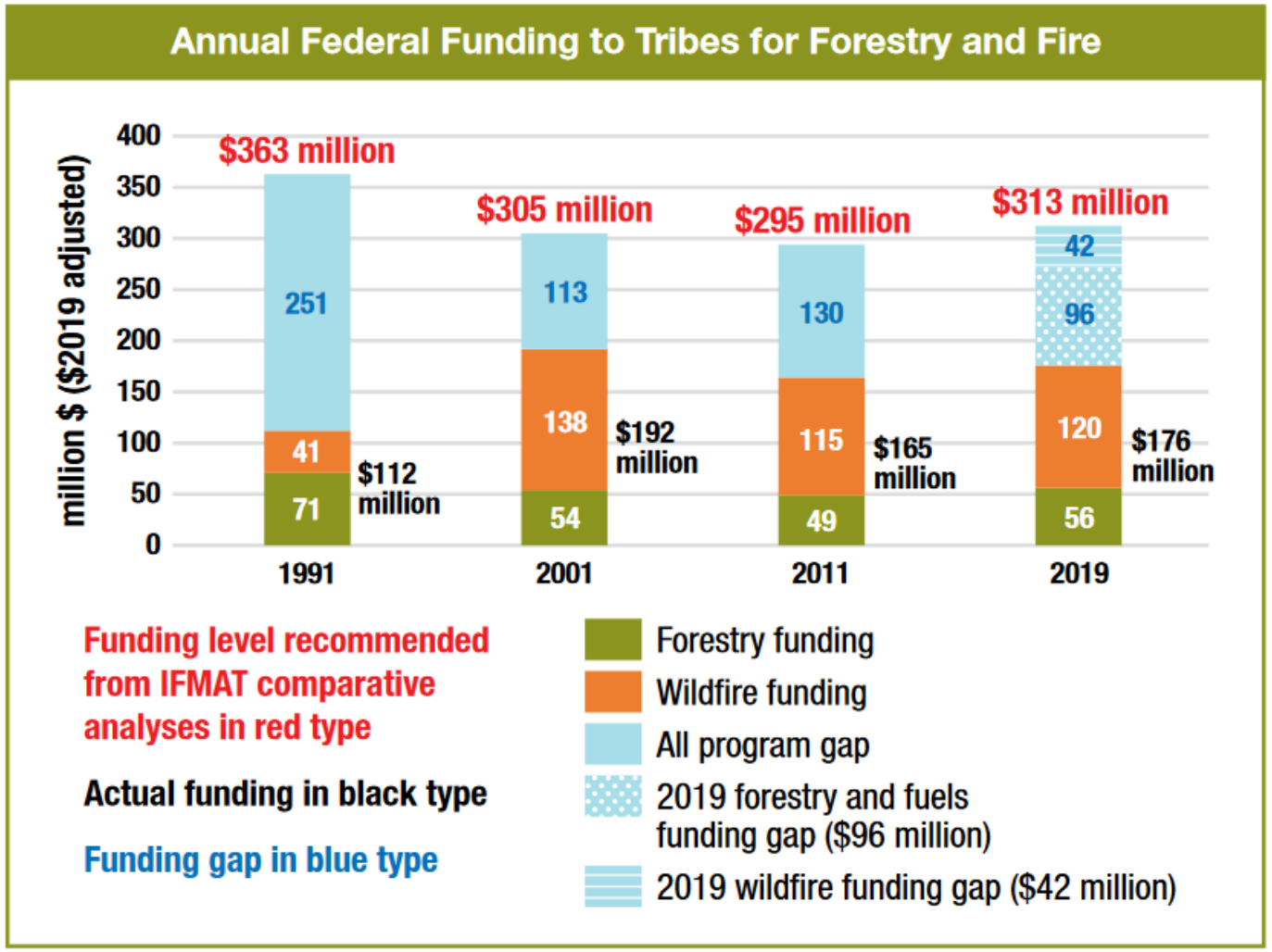
IFMAT IV findings

USFS Research & Development Tribal Projects

Indian Forest Management
IFMAT IV
Assessment Team

- National Indian Forest Resource Management Act 1990
- Required by Congress, decadal, independent assessment of tribal forests and forest management
- 8 mandated tasks, 3 identified by Intertribal Timber Council
- Goal: provide an integrated picture of Indian forests and forestry on trust lands
- IFMAT I 1993, IFMAT II 2003, IFMAT III 2013, IFMAT IV 2023
- Visited 37 tribal forests, met with BIA regional/central offices, comparative analysis, focus groups, and surveys
- Out of 74 IFMAT I-III recommendations, 65 addressed with action
- IFMAT reports available online at www.itcnet.org

Forestry funding shortfalls in Indian Country



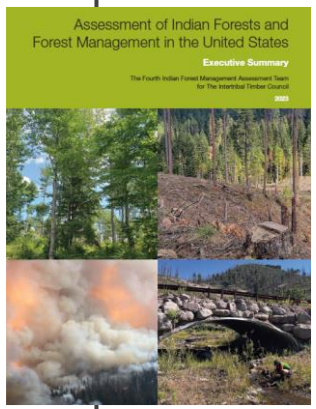
State-of-the-Art forestry cannot be achieved long term without the funding

- **Stretched by growing land base and obligations**
- **Increasing reliance on soft-money**

IFMAT IV Executive Summary

There is a unique tribal vision of forest management including a focus on stewardship and non-timber forest products as self-governance increases yet the Secretary's trust responsibility remains and is vaguely defined.

Forest based income is less important value, tribes are prioritizing stewardship and traditional uses of their forest.



Numerous threats exist to NTFP that include reduced access, decline in NTFP populations, increased human pressure, changes in forest structure, as well as loss of native language resulting in loss of traditions around gathering, preparing and processing NTFP

WILDFIRE HAZARD

Proportion of forested tribal lands in the consolidated BIA Pacific NW region ranked highest, slightly worse than USFS.

For other regions, the BIA lands fared better, typically ranking lower than other ownerships.

Lands in hazard category has been increasing since 2010.

Tribes concerned about wildfire risk but limited by funds/staffing to treat more acres.

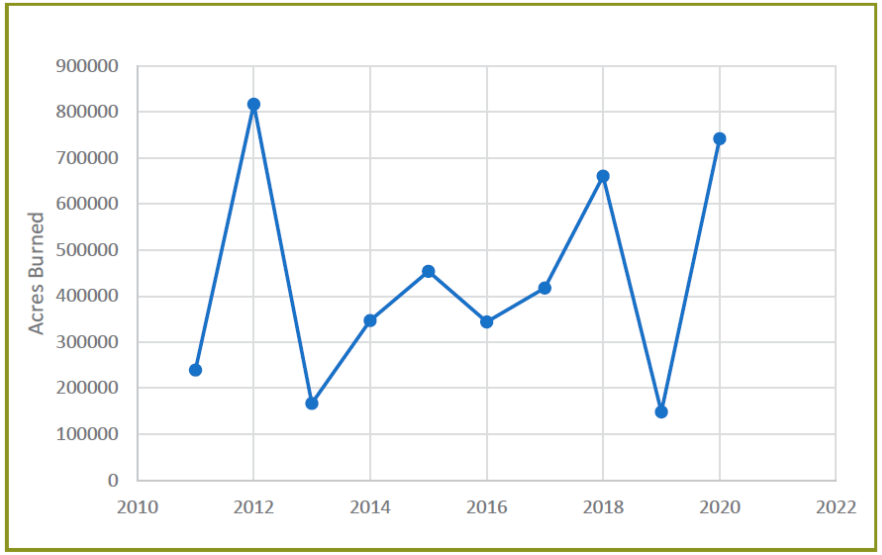


Figure B.6. Acres burned on tribal trust lands from 2010 through 2020 (BIA Central Office, Mark Jackson).

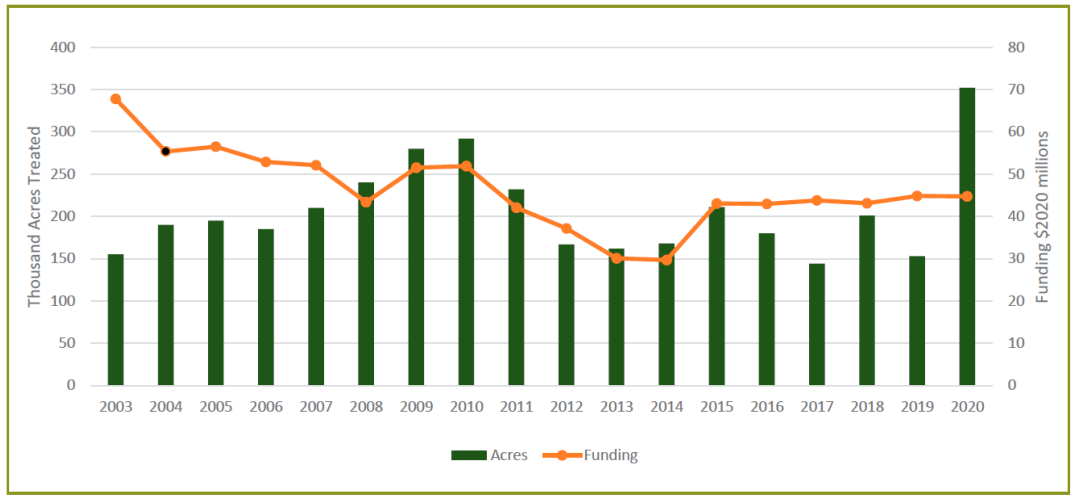


Figure B.7. Hazardous fuel accomplishments and funding ($2020) including RTRL. Source: Funding from Jeff Rupert, DOI Office of Wildland Fire, Accomplishments from Mark Jackson, BIA. Note that reporting standards changed in 2020.

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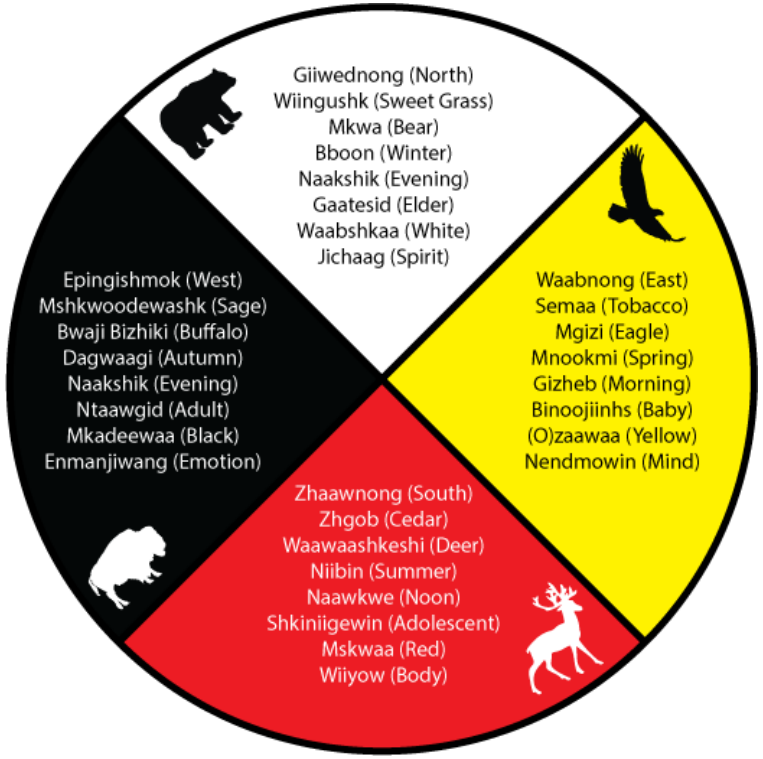
Wildland fire incidents and tribal liaisons

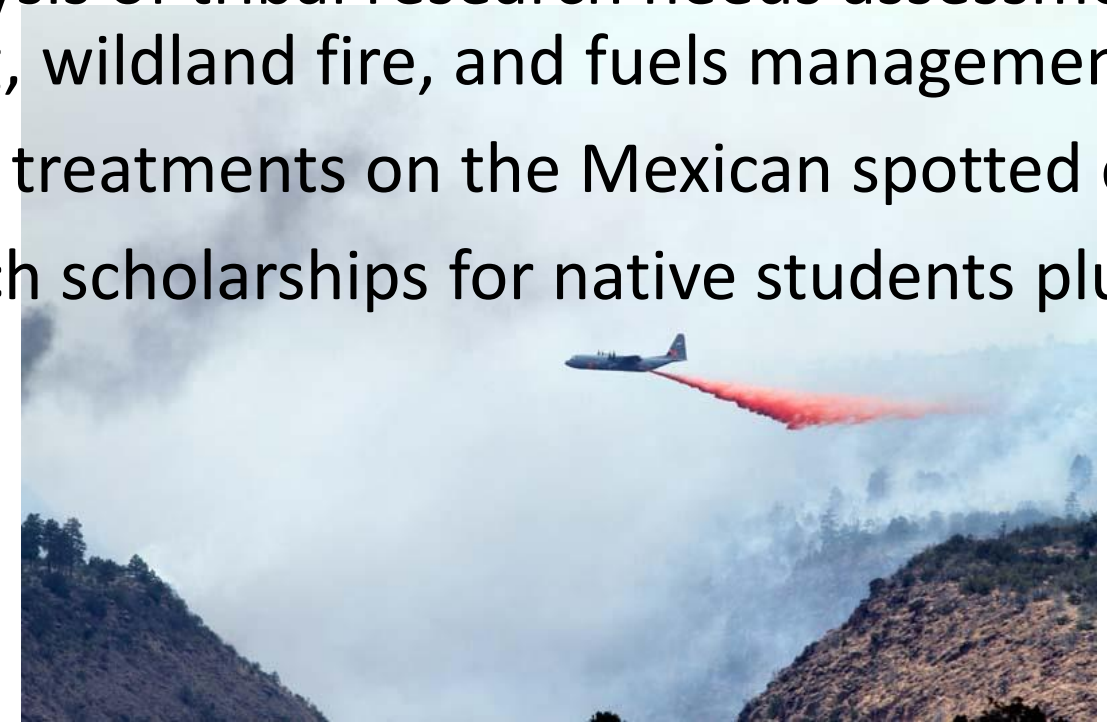


IFMAT IV findings

USFS Research & Development Tribal Projects

USFS Research & Development: tribal projects

- R&D Tribal Engagement Roadmap plus WH ITEK Memo
- Tribal Relations Specialists within each research station
- Tribal co-stewardship: lessons learned from 3 case studies
- Secondary analysis of tribal research needs assessment focusing on cultural burning, wildland fire, and fuels management
- Effects of forest treatments on the Mexican spotted owl
- Funding research scholarships for native students plus NARA program



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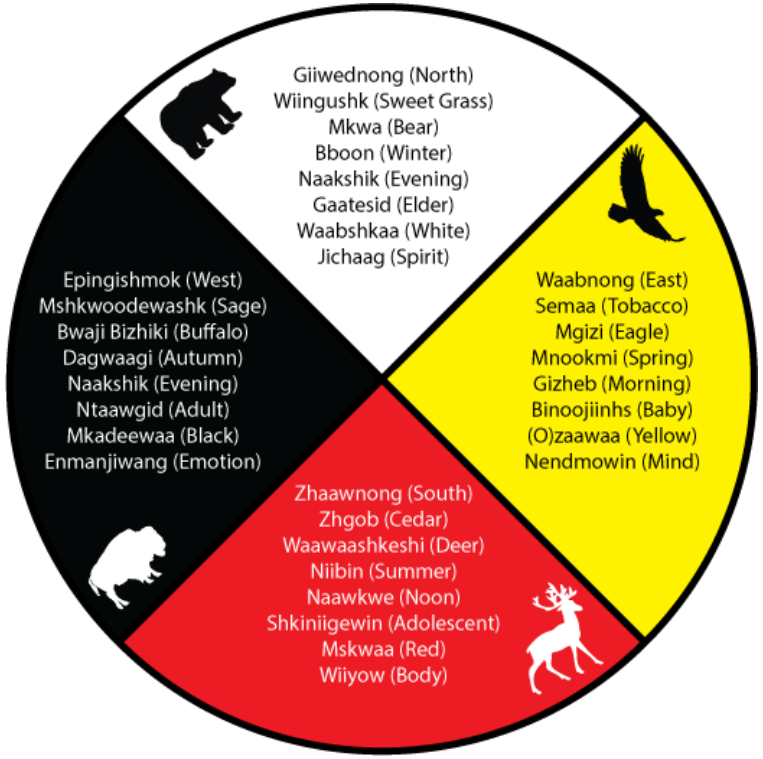


IFMAT IV findings

USFS Research & Development Tribal Projects

FIRE IN 2024…

- *Fire management, research and stewardship practices that exist today can be greatly improved by incorporating ancient traditions and practices from Native communities who have inhabited forested and grassland ecosystems for millennia.*

- *We must work with and alongside tribal communities when co-producing and integrating knowledge to achieve desired outcomes related to fire.*

FIRE ASSIGNMENT: TRIBAL LIAISON DUTIES

AGENCY ADMIN

coordinate closely with reps from land management agencies

LEAD CONTACT

coordinating communication with the Bureau of Indian Affairs (BIA)

TRIBAL POC

maintain coordination and communication with all Tribes and Tribal organizations within the footprint of the Fire Incident

CONSULTATION

Provide recommendations as to communication needs between AA and tribal govs/orgs

TRIBAL ENTITIES

NON-FEDERALLY RECOGNIZED

Tribes that may be seeking federal recognition (some for over 100+ years) or those that were possibly terminated in 1950s.

FEDERALLY RECOGNIZED

574+ tribes throughout US have federal recognition. Legally binding relationship between US.

STATE RECOGNIZED

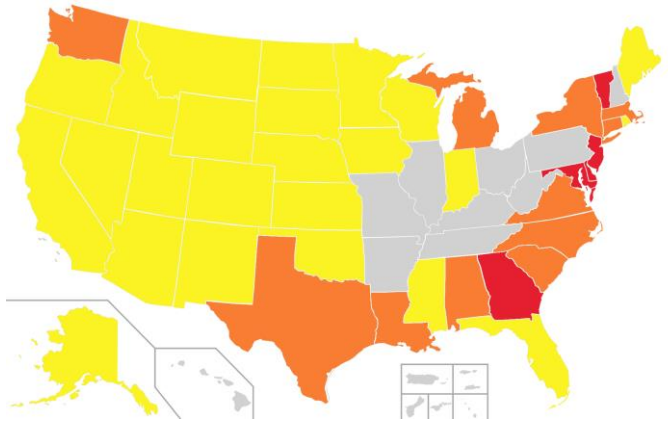
Orgs that identify as a tribe or heritage groups that do not meet the criteria for federal recognition but have been recognized by a process by states

INTERTRIBAL ORGS

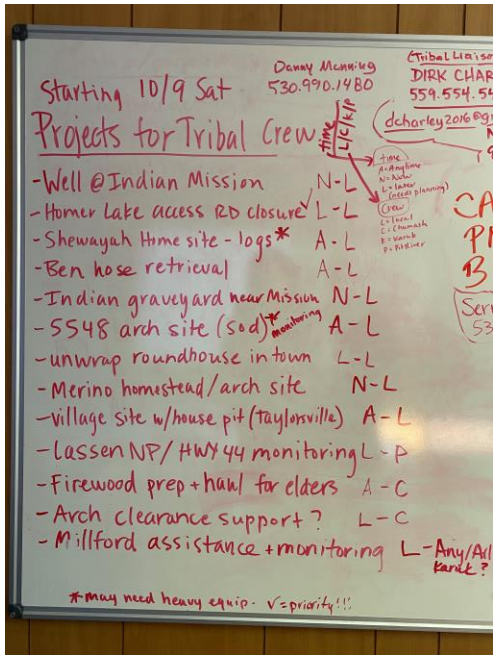
May have multiple tribes represented, with geographic scope or joint special interest (AISES, ITC, NAFWS, etc.)

INDIVIDUAL TRIBAL MEMBERS/PRACTITIONERS

Working with descendants, cultural committee individuals, tribal leadership, youth, etc.



PRIORITY WORK



- **Identify emerging issues and culturally significant areas in need of suppression repair work**
- **Educate AA and incident management teams about federal-tribal trust responsibility**
- **Liaise between all groups and submit resource orders for tribal local specialists (records management, contacts, field visits, executive briefings, meetings, etc.)**

INCREASED UNDERSTANDING OF TRUST RESPONSIBILITY

and tribal sovereignty by fire management personnel and incident commanders

INCREASED REPRESENTATION

and decision making by tribal community members

AGREEMENTS

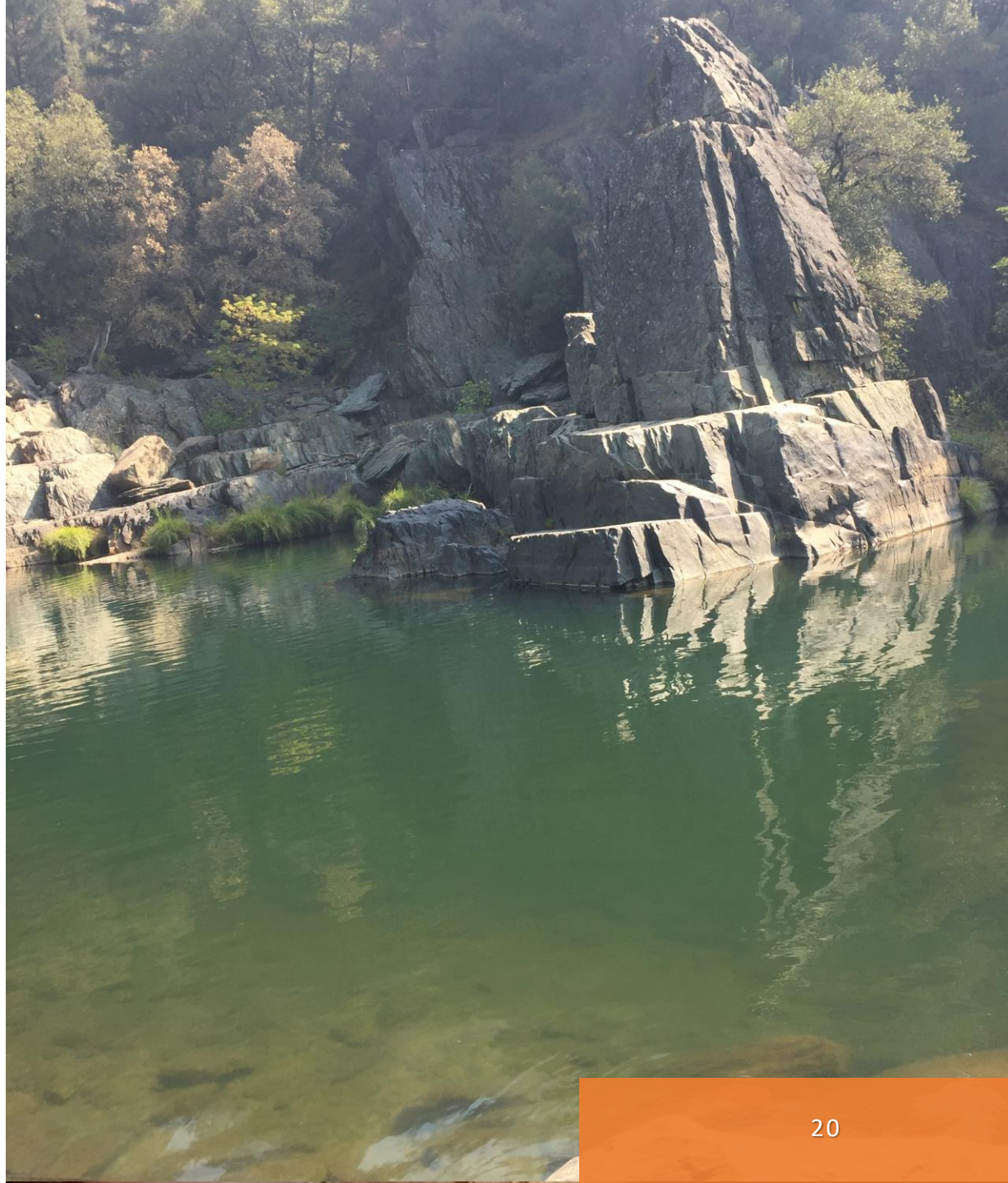
Developed MOUs to promote regular and consistent dialogue with fed agency line officers and tribal leaders

LESSONS LEARNED

Support tribal fire departments in the off season to get red card certs. Increased USFS OTR and RTRPM fire quals

Communication, communication, Communication – ICS formally involve tribal liaisons on large incidents

Flexibility in submitting resource orders for tribal crews for monitoring. Tribal monitor/READ training for local tribes and rancherias.



Da’wa’eh

Other resources

- TWS NPWMWG
- Tribal Colleges and Universities
- AISES
- SACNAS
- State Indian Ed programs and local resources
- BIA Pathways program

The Wildlife Society

Native Peoples' Wildlife Management Working Group

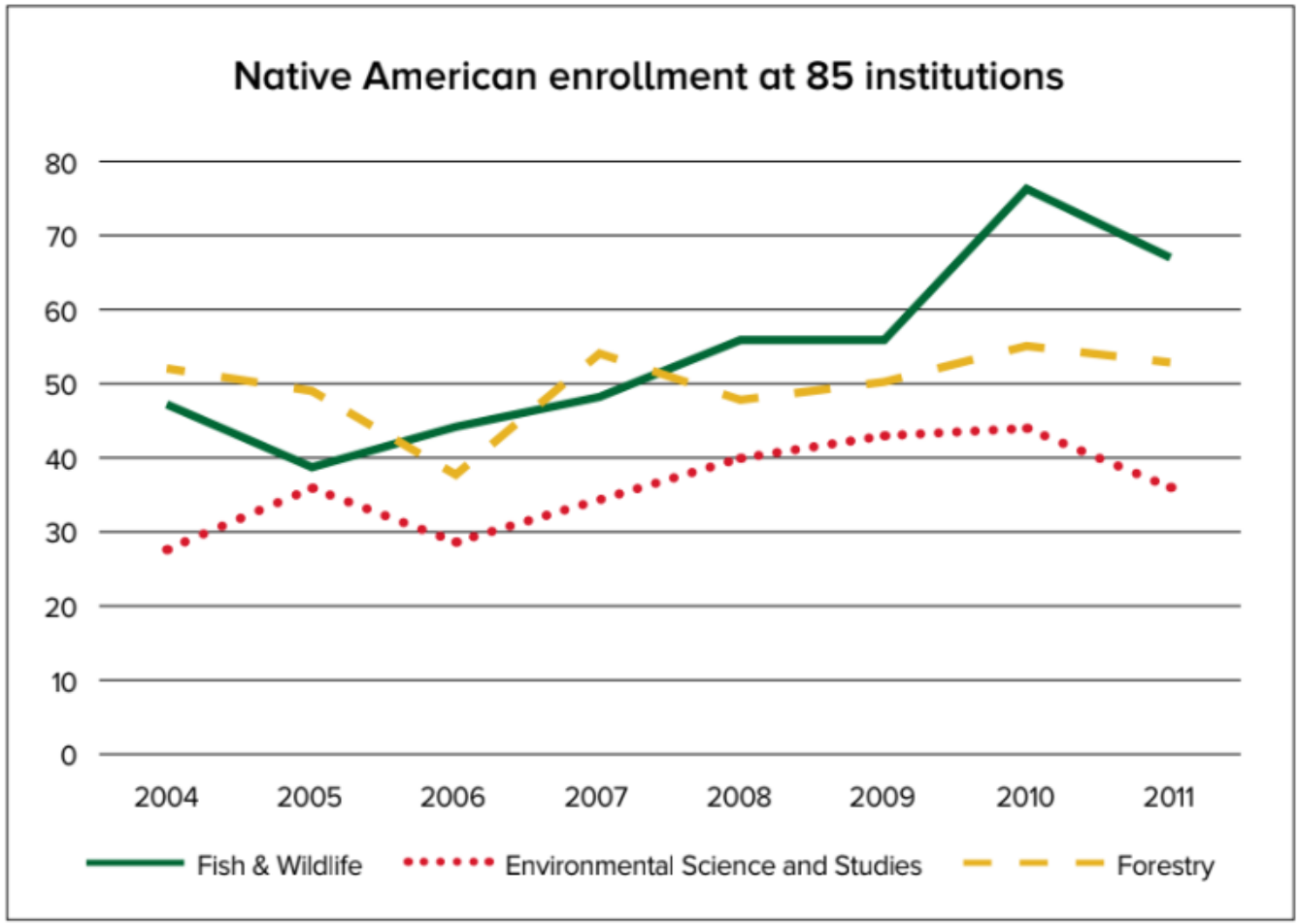
Underfunded AND understaffed

800 additional staff needed to support tribal forestry programs IFMAT III (2013)

Representation matters

Vision of Natives ≠ Vision of non-natives

Limited accounting but possibly increasing numbers….



Credit: Adapted from Gordon et al. 2013

https://www.zippia.com/fish-and-wildlife-biologist-jobs/demographics/

Journal of Forestry Publications

INTRODUCTION

J. For. 115(5):339–340
https://doi.org/10.5849/JOF-2017-040

A Special Issue of the Journal of Forestry—Tribal Forest Management: Innovations for Sustainable Forest Management

Michael J. Dockry and Serra J. Hoagland

Native American forests and tribal forest management practices have sustained indigenous communities, economies, and resources for millennia. These systems provide a wealth of knowledge and successful applications of long-term environmental stewardship and integrated, sustainable forest management. Tribal forestry has received an increasing amount of attention from forest managers, academics, and tribal communities in recent years. Tribal forestry is seen as a way to provide approaches for solving our most complex social, economic, and environmental issues facing natural resource managers today. It is also considered as an important approach to build landscape-level partnerships and leverage funding for landscape-scale management. Tribal forest management provides numerous examples of balancing complex, multiple objectives in an era of shrinking budgets, novel ecologic interactions, and increasing human demands on our natural resources. This special issue of the *Journal of Forestry* seeks to capture a broad range of forest management practices occurring in Indian Country and beyond; to increase general recognition of the role that tribal forest plays in the greater landscape; and to engage broad audiences regarding the value of tribal forests and how they can serve as models for sustainability, integrated management, resilience, and restoration.

Tribal forest and natural resource management is multifaceted. Forests are managed for timber production that supplies tribal and nontribal sawmills. Forests are managed for spiritual and cultural values, but they are also managed using cutting-edge and novel management techniques. Tribal forests are managed to maintain diversity of species, respect culturally important landscapes, mitigate the negative effects of wildland fire, and protect water resources.

Every tribe is unique, has a different history, holds multiple levels of cultural perspectives, and is internally diverse. Tribes also vary in how their forests are managed; in some cases, tribes manage their forests with minimal involvement from the Bureau of Indian Affairs Division of Forestry and Wildland Fire Management (BIA Forestry). In other cases, BIA Forestry provides the majority of staff and funding for forestry operations. Other tribes are somewhere in the middle with a mix of BIA Forestry and tribal employees and resources. BIA Forestry is the US government agency responsible for the federal trust responsibility to sustainably and productively manage tribal forests (US Congress 1994) whereas other federal land management agencies have trust responsibilities and treaty obligations on lands they manage. These relationships have sometimes led to differences in perspectives among tribes, BIA Forestry, and other federal agencies as to what is sustainable and what is the best productive use. The papers in this special issue are written with this as a backdrop.

Readers of the *Journal of Forestry* will appreciate this special issue for several reasons. First, there is an increasing desire to manage forests at a landscape scale. This necessitates working with multiple land management entities including American Indian tribes. There are 567 federally recognized tribes in the United States (Bureau of Indian Affairs 2017) and more than 300 tribes manage more than 18 million acres of forestland (Gordon et al. 2013). There are also nearly 4,000 miles of shared boarders with US Forest Service lands alone (US Forest Service 2014). In addition, federal land managers have legal requirements to consult with tribes in their management.

We received an incredible response from foresters and academics across the country to our call for papers and received several dozen submissions, of which 24 were accepted and compiled into this special issue. Although it is not possible to have articles on every project, innovation, and aspect of tribal forest management, we believe that this special issue provides a range of papers that will be useful for foresters, land managers, and individuals interested in tribal natural resource management. We grouped papers into subsections, but given the holistic perspective of tribal forestry programs, we recognize that there is great overlap among each article's themes, ideas, and research. Subsections include tribal forests and management, silviculture and forest management techniques, collaboration and partnership, cultural keystone species management, and education.

Tribal forest management is developing innovative solutions to shared land management problems such as fire risks, invasive species, and models for sustainable forest management. Articles by Corrao and Andringa, Lake and colleagues, Morishima and Mason, Motanic, and Sessions and colleagues each highlight that tribal forests, tribal forest management, and tribal perspectives can serve as exam-

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BRIEF COMMUNICATION

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education & communication

Tribal Lands Provide Forest Management Laboratory for Mainstream University Students

Serra J. Hoagland, Ronald Miller, Kristen M. Waring, and Orlando Carroll

Northern Arizona University (NAU) faculty and Bureau of Indian Affairs (BIA) foresters initiated a partnership to expose NAU School of Forestry (SoF) graduate students to tribal forest management practices by incorporating field trips to the 1.68-million acre Fort Apache Indian Reservation as part of their silviculture curriculum. Tribal field trips were contrasted and coconvened with field trips to national forests to allow students to gain a unique perspective of the specific differences, challenges, and diversity of management and silvicultural practices ongoing in Indian Country. Field trips were intended to educate students beyond the dominant paradigm of forest management and to consider the broad diversity of management and forest types that exist on tribal lands. This article presents perspectives from the White Mountain Apache Tribe, BIA Fort Apache Agency staff, and faculty and graduate students in the SoF on the value of incorporating tribal lands as part of graduate students' forestry curriculum.

Keywords: Indian forest management, forestry education

Forest science education in the United States focuses on teaching a mixture of both technical and professional skills to students (Sample et al. 2015), often in a traditional classroom or field setting. However, forestry education also has the opportunity to provide experienced-based learning by exposing students to forestry concepts not normally covered in forestry curricula. Exposing university students to Indian forestry practices can provide them with a better understanding of the role that tribal vision and culture plays in guiding forest practices and the overall importance of natural resources to tribal communities.

Indian forestry has a unique mission that has been recognized since the first Chief Forester for the Bureau of Indian Affairs (BIA) formulated the program. J.P. Kinney served from 1910 to 1933 and established BIA forestry guidelines to ensure that forest management would meet tribal landowner goals and perspectives. Kinney argued that the overall objective of managing Indian forestlands was not the same as the objective for the US Department of Agriculture (USDA) Forest Service (Gomez and Tiller 1990). In more recent years, others have also noted unique forest management practices ongoing throughout tribal forestry programs (Gordon et al. 1993, 2003, 2013, Trosper 2007, Stan et al. 2014), including but not limited to the use of long rotations, active prescribed fire and balancing the triple bottom line of sustainability where social, ecological, and environmental benefits are valued equally.

A foundational understanding of how different entities and cultures view natural resources will help students balance multiple or conflicting social objectives, which will enable them to sustain forests and other valued natural resources in perpetuity (McIntire-Stennis Strategic Plan 2007). There is also a critical need to increase students' capacity and understanding of the social dynamics of natural resource management. On graduation, forestry students possess enough technical skills and abilities to become professional foresters but often lack the expertise in human dimensions and concepts such as cultural competency and social dynamics (i.e., managing conflict and cross-cultural communication) that is critical for sound forest management (Sample et al. 2015). Forestry education has shown a continuing need for improving Bachelor of Science in Forestry curricula to include human dimensions (Bullard et al. 2014). Thus, producing "society-ready" foresters has been the focus of a revised forestry curriculum that fosters student's people skills (Bullard et al. 2014). Further, forestry curricula for the 21st century are emphasizing human relationships and working with different cultures to increase students' sensitivity and concern for ethical issues (Bullard 2015, Verma et al. 2016).

The large amount of tribal land within Arizona is another critical factor in exposing NAU forestry graduate students to Indian forestry. More than one-quarter (28%) of the state is tribal land; thus, tribes have a

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