

FY17 accomplishments for Dr. Serra Hoagland  
Liaison Officer (Biologist) Salish Kootenai College, Pablo MT

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### **Peer reviewed publications (6)**

1. **Hoagland, S.J.**, Beier, P., and D. Lee. 2017. Using MODIS NDVI phenoclasses and phenoclusters to characterize wildlife habitat: Mexican spotted owl as a case study. *Forest Ecology and Management* in press. <https://doi.org/10.1016/j.foreco.2017.12.017>
2. Dockry, M.J. and **S.J. Hoagland**. 2017. A Special Issue of the Journal of Forestry – Tribal Forest Management: Innovations for Sustainable Forest Management. *Journal of Forestry* 115(5):339-340. <https://doi.org/10.5849/JOF-2017-040>
3. **Hoagland, S.J.**, Miller, R., Waring, K. and O. Carroll. 2017. Tribal Lands provide Forest Management Laboratory for Mainstream University Students. *Journal of Forestry* 115(5): 484-490. <https://doi.org/10.5849/jof.2016-064R1>
4. Gervais, B., Voirin, C., Beatty, C., Bulltail, G., Cowherd, S., Defrance, S., Dorame, B., Gutteriez, R., Lackey, J., Lupe, C., Negrette, A., Robbins Sherman Natalya C., Swaney, R., Tso, K., Victor, M., Wilson, R., Yazzie, K., Long, J. and **S.J. Hoagland**. 2017. Native American Student Perspectives of Challenges in Natural Resource Higher Education. *Journal of Forestry* 115(5): 491-497. <https://doi.org/10.5849/jof.2016-065R1>
5. **Hoagland, S.J.** 2017. Integrating Traditional Ecological Knowledge with Western Science for Optimal Natural Resource Management. 2017. Indigenous Knowledge: Other Ways of Knowing 3(1): 1-15. <https://doi.org/10.18113/P8ik359744>
6. Co-author on two chapters in textbook “Becoming a Wildlife Professional” by John Hopkins University Press. <https://jhupbooks.press.jhu.edu/content/becoming-wildlife-professional>

### **Non-peer reviewed publications and podcasts (2):**

1. Contribution to Office of Tribal Relations newsletter Feb 2017 edition.  
Abstract or benefit/effect: Contributed short article on “18 Native American students publish a paper with help from 2 USFS R&D scientists.” What began as informal discussions among a cohort of Native American students connected through social media, jobs, and organizations turned into a Journal of Forestry (JOF) research article titled *Native American Student Perspectives of Challenges in Natural Resource Higher Education* slated for publication in the upcoming special issue on Tribal Forest Management. Partners (internal and external): Office of Tribal Relations
2. Invited podcasts for the Journal of Forestry special issue on tribal forest management. Title: Podcasts recorded for the two journal articles:

- a. Dockry, M.J. and **S.J. Hoagland**. 2017. A Special Issue of the Journal of Forestry – Tribal Forest Management: Innovations for Sustainable Forest Management. *Journal of Forestry* 115(5):339-340.
- b. **Hoagland, S.J.**, Miller, R., Waring, K. and O. Carroll. 2017. Tribal Lands provide Forest Management Laboratory for Mainstream University Students. *Journal of Forestry* 115(5): 484-490. Approximate date(s): August 16, 2017 and August 22, 2017 recording dates  
Abstract or benefit/effect: Reached broad audiences through audio recordings about two articles in the special issue of the Journal of Forestry. Web url (if applicable): <https://www.eforester.org/Main/Library/JOF/Podcasts.aspx> Partners (internal and external): Society of American Foresters

### **Invited Oral Presentations (9)**

#### **Presentation to Forest Research Advisory Committee (FRAC)**

Title: Integrating Traditional Ecological Knowledge in Forest Research and Decision Making

Approximate date(s): Oct 12, 2016

Abstract or benefit/effect: Council provides advice to the Secretary of Agriculture related to the Forest Service research program, among other things. Presented some *key recommendations* for the Secretary to be aware of and their relevance in driving forestry research. Recommendations were critical to the Council members' development of their final report to the Secretary.

Partners (internal and external): FRAC members, Office of Tribal Relations

#### **Presentation at The Wildlife Society**

Title: A Native American perspective. What are traditional Native American female and male roles with wildlife?

Approximate date(s): Oct 17, 2016

Abstract or benefit/effect: This session will provide the audience an opportunity to watch and reflect on inappropriate behavior in the workplace. Fictitious role play will unfold using volunteers from the audience (in some case studies will be prearranged), which will provide a platform for discussion. Several case studies presented highlight inappropriate behaviors from male to female and female to male colleagues. These case studies are intended to highlight inappropriate justification for behavior based on gender, workplace harassment, and differences in communication strategies among groups. Audience members are encouraged to participate and volunteer to enhance the discussion.

Partners (internal and external): The Wildlife Society

#### **Presentation at The Wildlife Society**

Title: Handling Microaggressions

Approximate date(s): Oct 19, 2016

Abstract or benefit/effect: A recent survey of The Wildlife Society membership confirms that although the number of women in the Society has increased, females only comprised 32% of the membership in 2014. Similarly, other underrepresented groups in TWS still lag behind their representation in the U.S. population. Research indicates that a myriad of factors interact to create barriers to increasing diversity in the wildlife profession, including implicit biases, socio-economic challenges, conflict with family life, salary inequities, dual careers, and professional networking. Although numerous initiatives have been created to increase and support a diverse workforce, many aspects of identity particularly with "unseen" aspects of diversity (e.g., sexual orientation, socio-economic status) are not directly addressed. Therefore, there is a great need for the wildlife profession to create a welcoming culture that capitalizes on the wealth of ideas, knowledge, talent, and skills that coincide with increased workforce diversity.

Overt discrimination towards underrepresented groups in the workplace is less common, yet smaller, negative interactions based on stereotypes can be frequent and sometimes unintended. Smaller, negative interactions

based on stereotypes occur frequently and have significant negative consequences to the recipients. Microaggressions are defined as “everyday verbal, nonverbal, and environmental slights, snubs, or insults, whether intentional or unintentional, which communicate hostile, derogatory, or negative messages to target persons based on their marginalized group membership” (Wing Su 2010). Examples of microaggressions include that an assertive female superior is labeled bossy while a male manager is an effective leader, an Asian-American is asked what country he is from, or a black female is assumed to be from an urban city center.  
Partners (internal and external): The Wildlife Society

#### **Oral presentation at Natural Resource Career Track (NRCT) student group, NMSU**

Title: All our Relations Need You! A presentation to the Natural Resource Career Track student group at New Mexico State University

Approximate date(s): Dec 1, 2016

Abstract or benefit/effect: NRCT functions to promote and mentor students of underrepresented groups working toward professions in the broad scope of natural resources.

Web url (if applicable): <http://nrct.nmsu.edu/>

Partners (internal and external): New Mexico State University, Las Cruces

#### **Oral presentation and outreach activity to Forestry and Natural Resource Club at Salish Kootenai College**

Title or citation: USFS opportunities

Approximate date(s): Jan 25, 2017

Abstract or benefit/effect: Discussed new Tribal Liaison position at SKC and opportunities for student engagement such as connecting students to research opportunities in the Forest Service, careers and various scholarship support.

Partners (internal and external): Salish Kootenai College

#### **Presentation to Purdue University**

Title or citation: Presentation on traditional ecological knowledge and tribal forest management to Purdue University student seminar

Approximate date(s): March 3, 2017

Abstract or benefit/effect: Met with a dozen Purdue students virtually and presented on traditional ecological knowledge and tribal forest management in preparation for their field trip to Menominee Nation.

Partners (internal and external): Purdue University

#### **Oral Presentation and invited lunch-in with 12 minority grad students**

Title or citation: The value of tribal forestry to our profession

Approximate date(s): March 13, 2017

Abstract or benefit/effect: The goal of the Natural Resources Diversity Initiative (NRDI) at the University of Florida is to increase diversity in natural resource fields and improve awareness of opportunities available in the natural resources in general. NRDI brings in seminar speakers to discuss a wide array of topics to promote collaboration and diversity within their programs. The talk was a part of the Wildlife Department's seminar series.

Web url (if applicable): <http://blogs.ifas.ufl.edu/wecdept/2015/02/04/how-nr-di-are-you/> and <http://www.wec.ufl.edu/seminars/>

Partners (internal and external): University of Florida, Natural Resources Diversity Initiative (NRDI)

#### **Presentation on Fire Ecology and Traditional Ecological Knowledge**

Approximate date(s): March 30, 2017

Abstract or benefit/effect: Worked with Dr. Andi Thode in the School of Forestry at Northern Arizona University

Web url (if applicable):

Partners (internal and external): Northern Arizona University

### **Keynote speaker at AISES Region 3 student conference**

Title or citation: All your relations need you

Approximate date(s): March 31, 2017

Abstract or benefit/effect: Spoke to American Indian Science & Engineering Society (AISES) student and professional chapters within the southwest about how our tribal nations need more native students in STEM.

Partners (internal and external): AISES

### **Offered Oral Presentations (4)**

#### **Oral presentation at The Wildlife Society**

Title: Multi-spatial Scale Analysis Of Mexican Spotted Owl Breeding Site Selectivity And Reproduction

Approximate date(s): Oct 17, 2016

Abstract or benefit/effect: The Mexican spotted owl (*Strix occidentalis lucida*) is listed as a threatened species and restoring and maintaining nesting habitat is the primary conservation action for recovery yet methods for monitoring and assessing Mexican spotted owl nesting habitat at multiple scales over large landscapes are poorly developed. I used 13 years of Moderate Resolution Imaging Spectroradiometer (MODIS) satellite imagery (5.3 ha resolution) to assess owl habitat at 2 spatial scales in the half-million ha Sacramento Mountains, New Mexico, which includes both tribal and US Forest Service managed lands. As in the previous analysis using MODIS imagery to characterize owl habitat, I characterized landscape phenology using national phenoclasses, where phenoclasses consisted of pixels (regardless of spatial location) sharing similar temporal patterns in Normalized Difference Vegetation Index (NDVI) values. I defined customized phenoclasses using 7 variables that summarize differences among the 13 year temporal profiles of NDVI using data specific to the study region (instead of nationally derived phenoclasses based on the full contiguous US). I characterized phenoclass composition at 2 spatial scales, circles of approximately 300 ha and 50 ha, representing the size of an owl Protected Activity Center (PAC) and core area, respectively. Mexican spotted owl nest sites were grouped into six types at the PAC scale and seven types at the core scale using cluster analysis. Using the compositional characteristics of these cluster types, I built habitat maps for the study region that delineated habitat at the two spatial scales based on the distribution of phenoclasses within the defined neighborhood surrounding each pixel. I quantified owl nesting habitat selectivity of 1) the individual phenoclass use versus availability at the two scales and 2) the proportion of used cluster sites divided by the proportion of that cluster's availability on the landscape. An index of owl occupancy and reproduction for 58 individual owl sites was compared to selectivity; no correlation between reproduction and owl selectivity was found at either spatial scale. The customized phenoclasses did not improve on the national phenoclasses in mapping owl habitat or quantifying selectivity for particular phenoclasses. However customized phenoclasses enables for finer detection and greater interpretation of specific vegetative responses to forest treatments. Both phenoclass analyses showed that owls select evergreen forests with relatively high basal area. Both types of phenoclasses may allow wildlife managers to inexpensively monitor nesting habitat and occupancy over large spatial and temporal scales however owl reproduction remains a more complex response that has yet to be described with coarse resolution remote sensing technology.

Partners (internal and external): The Wildlife Society

**USAJobs presentation for SKC students**

Title or citation: "How to navigate USAJobs" student workshop at SKC

Approximate date(s): April 26, 2017

**Presentation at Native American Fish & Wildlife Society SW regional meeting**

Title: A summary of Mexican spotted owl research on the Mescalero Apache Indian Reservation, NM

Approximate date(s): Aug 8, 2017

Abstract or benefit/effect: Research presentation to tribal wildlife managers in the southwest regarding recent research findings on the Mexican spotted owl populations and habitat on the Mescalero Apache Indian Reservation.

Partners (internal and external): Native American Fish & Wildlife Society

**Oral presentation at American Indian Science & Engineering Society national conference in Denver, CO**

Title or citation: An Assessment of Mexican Spotted Owl (*Strix occidentalis lucida*) Habitat on Tribal and Non-Tribal Lands in the Sacramento Mountain Range, New Mexico

Approximate date(s): Sept 22, 2017

Abstract or benefit/effect: This study characterized and compared tribal and non-tribal Mexican spotted owl nesting locations. Individual MODIS pixels were clustered into phenoclasses, where each phenoclass shares an annual profile of Normalized Difference Vegetation Index (NDVI) that differs from other phenoclasses. The compositional mix of phenoclasses around owl nest sites differed from the composition of phenoclasses around random points. Field surveys showed these phenoclasses are dominated by Douglas-fir and white fir. Owl habitat selectivity was similar on tribal and non-tribal lands, but the phenoclasses available to owls differed between tribal and non-tribal lands. An index of owl occupancy and reproduction was compared to selectivity using a customized phenoclass dataset; no correlation between reproduction and owl selectivity was found. Use of MODIS imagery expands our understanding of forest conditions that are suitable for the owl, and can provide a rapid, cost effective habitat technique to assess wildlife habitat over large temporal and spatial scales.

Partners (internal and external): AISES

**Other (collaborations, awards, etc.):****Invited congressional staff briefing with Robert MacGregor**

Title or citation: Dissertation findings at Mescalero Apache Indian Reservation, NM and the Mexican spotted owl

Approximate date(s): Nov 14, 2016

Partners (internal and external): Mescalero Apache Tribe, USFS Legislative Affairs Office

**Invited committee member for Masters of Science – Forestry thesis at Northern Arizona University**

Title: Simulating the Effects of Climate Change on a Warm/Dry Mixed Conifer Forest: Assessing Restoration Treatments and Mexican Spotted Owl Habitat Suitability in Northern Arizona

Approximate date(s): Oct – current

Abstract or benefit/effect: Executive Summary from student's prospectus: Forests in American Southwest are threatened by many factors that could result in extirpation from the area, species composition shifts, and destruction by catastrophic wildfires. To avoid these results, land management professionals must be aware of the decisions they are making and how they can influence the forest. The problem arises, however, when realizing that climate change will affect treatments and other forest operations in ways that are not yet understood. To understand the actions that we wish to take to protect the forest, we must understand how the forest will respond to these treatments and how the treatments will respond to changing climates. To do so without implementing the treatments and hoping for the best, we will simulate the treatments and multiple possible climate change scenarios. The Forest Service has multiple tools with which we can simulate these

factors, namely the Forest Vegetation Simulator (FVS) and the Climate-Forest Vegetation Simulator (Climate-FVS) extension. These tools will allow us to input data that has been collected and simulate treatments on these stands while controlling or randomizing certain factors to decide which treatments are most effective at achieving objectives. Without this analysis, natural resource managers will be unable to evaluate which treatments are likely to succeed against the threat of climate change. My project aims to address these concerns in Northern Arizona by creating models for the warm/dry mixed conifer forest type on the Mogollon Rim, and simulating the effects of treatments on the forests and the implications of climate change on the treatments under multiple climate change scenarios. The warm/dry mixed conifer forest type is an important resource in Arizona, and essential habitat for the Mexican spotted owl (*Strix occidentalis lucida*), an endangered animal species that nests, roosts, and forages in mixed conifer forest types. I will simulate 3 treatments: Evidence based restoration, Mexican spotted owl habitat improvements, and a no action treatment against the climate projections provided by the Intergovernmental Panel on Climate Change (IPCC) to evaluate which treatments will protect and preserve warm/dry mixed conifer forests in northern Arizona for many years to come.

#### **Invited collaboration with USGS Scientist, Dr. Tabitha Graves**

Title: USGS/USFS SKC Tribal Liaison collaboration

Approximate date(s): Jan 13, 2017

Abstract or benefit/effect: Discussed potential huckleberry research collaboration and Salish Kootenai College research technicians and project proposal with USGS collaborator. Discussion led to the development of a research grant proposal (ended up not being funded) but could possibly resubmit this proposal in the future.

Web url (if applicable):

Partners (internal and external): USGS, Salish Kootenai College

#### **Honoring presentation to Jim Hubbard at University of Montana**

Approximate date(s): Jan 31, 2017

Abstract or benefit/effect: Hosted and honored Jim Hubbard (retired S&P) with a blanket from Salish Kootenai College with Dr. Adrian Leighton, Dr. Colin Hardy and Rob Kenning during his fire presentation at University of Montana.

#### **Collaboration and meeting with University of Montana faculty and staff in natural resources**

Approximate date(s): Jan 31, 2017

Abstract or benefit/effect: Met with Tom Deluca, Ruth Swaney and Chad Bishop in the College of Forestry and Natural Resources to discuss SKC/UM collaborations for Native American students.

Partners (internal and external): University of Montana

#### **Offered outreach activity: USFS Table at Job Fair on Salish Kootenai College campus**

Approximate date(s): Feb 21, 2017

Abstract or benefit/effect: Providing employment opportunities for Native American students at Salish Kootenai College is one way to recruit talent to our agency and address our agency goals of diversity and inclusion.

Partners (internal and external): Salish Kootenai College

#### **Offered meeting with OTR staff (Estelle Bowman), R1/R4 Tribal Relations program manager (Cheryl Vandenberg), USFS Human Resources staff (Joni Packard), SKC President and SKC Natural Resource faculty at SKC to jump-start Resource Assistants Program (RAP)**

Approximate date(s): March 1, 2017

Abstract or benefit/effect: The U.S. Forest Service (USFS) and Salish Kootenai College (SKC) are collaborating to implement the Forest Service's Resource Assistant Program (RAP), an internship program for individuals interested in potential natural and cultural resource careers. This partnership with SKC will provide

opportunities for Resource Assistants (RAs) to carry out research or resource protection activities on behalf of the USFS. SKC was specifically selected as a partner to outreach to students attending 1994 Land Grant institutions, aka Tribal Colleges & Universities (TCUs). Selected Resource Assistants are motivated and capable individuals who work on Forest and Grasslands units and projects through a partner organization (SKC) to support USFS mission critical work in a developmental capacity. Hoagland has identified over 5 separate RAP positions for SKC students by coordinating USFS mentors/hosts and linking students up with FS staff (Brandon Kittson, Nizhoni, Jonathan White, Stefon Martinez and Delphine Arizona).

#### **Completion of Certification for Certified Wildlife Biologist (CWB) by The Wildlife Society**

Approximate date(s): March 2017

Abstract or benefit/effect: The Wildlife Society supports the development and advancement of wildlife professionals throughout their careers. Certification constitutes recognition by TWS that, to its best knowledge, a member meets the minimum educational, experience, and ethical standards adopted by the Society for professional wildlife biologists. TWS' membership currently consists of more than 300 Associate Wildlife Biologists® and 1,300 Certified Wildlife Biologists®. TWS' Certification Program is managed by [Council](#) via the [Certification Review Board](#). Level of certification for a CWB: An individual with the educational background and demonstrated expertise in the art and science of applying the principles of ecology to the conservation and management of wildlife and its habitats, and is judged able to represent the profession as an ethical practitioner, will be designated as a Certified Wildlife Biologist®. The CWB® certification is valid for 5 years and may be renewed.

Web url (if applicable): <http://wildlife.org/learn/professional-development-certification/certification-programs/>

Partners (internal and external): The Wildlife Society

#### **Meeting attendee at Montana Wildlife Society State Chapter Meeting**

Approximate date(s): March 9, 2017

Abstract or benefit/effect: Wildlife professionals and students within the Montana State Chapter of The Wildlife Society met in Helena, MT to discuss recent research, projects and collaborations associated with wildlife conservation.

Partners (internal and external): Montana Chapter of The Wildlife Society

#### **Collaboration and invited by Butch Blazer to Special meeting of Tribal Leaders with Yellowstone Forever**

Approximate date(s): April 11, 2017

Abstract or benefit/effect: Met with various organizations, tribal entities and conservation groups in Bozeman, MT about how Yellowstone Foundation should move forward on youth initiatives within the park.

Partners (internal and external): Yellowstone Forever

#### **Secured \$4k through the RMRS Conservation Education program funding to support 2 Native American students for the Native Student Professional Development grant program for The Wildlife Society**

Title or citation: Conservation Education Funds Native American students' professional development

Approximate date(s): June 2017

Abstract or benefit/effect: The Native American Student Professional Development program (NSPD) provides opportunities for Native American high school seniors, undergraduates, graduate students and post grads (within 6 months of graduation) with interests in the wildlife profession to attend The Wildlife Society (TWS) conference and participate in professional development activities both leading up to and while in attendance at the conference. This program has been organized by the Native Peoples Wildlife Management Working Group since 2006 and has funded over 70 Native American students within the natural resource fields. Many of the previous graduates of the program have stayed active in TWS, serving as plenary speakers, working group executive board members, symposia organizers and student chapter leaders. Involving underrepresented groups

in TWS is one way to diversify the wildlife profession and the NSPD also functions to identify, recruit, retain and aid in the development of early career Native Americans as wildlife professionals. Each student receives (depending on distance traveled and total funding available) \$1500-\$2000 to cover the costs of their registration, hotels, and transportation.

Partners (internal and external): Rocky Mountain Research Station Conservation Education Committee

### **Native American high school and junior high school student engagement at tribal hatchery**

Title or citation: Youth seminar event at the Native American Fish & Wildlife Society SW regional meeting

Approximate date(s): August 8, 2017

Abstract or benefit/effect: A dozen Native American high school and junior high students attended the Native American Fish & Wildlife Society SW regional meeting to participate in a day long activity located at the Mescalero tribal fish hatchery. Students sampled fish lengths in the runs and learned how to calculate an average length. Students also participated in stocking a local pond on the reservation.

Partners (internal and external): Native American Fish & Wildlife Society SW region

### **Engagement at USFS booth during AISES Career Fair**

Approximate date(s): Sept 22, 2017

Abstract or benefit/effect: The American Indian Science and Engineering Society held it's 40th anniversary in recognition and support of American Indian, Alaska Native and Native Hawai'ian students and professionals engaged in the science, technology, engineering and mathematics fields. This year the national conference was held in Denver, Colorado at the Convention Center, September 21-23, 2017 with a focus on "40 Years of AISES: Embracing Our Past, Celebrating Our Future". The Forest Service, Rocky Mountain Region, Tribal Relations and the National Federal Women's Program Co-Hosted a Forest Service informational and outreach booth during the event.

Web url (if applicable): [www.aises.org](http://www.aises.org)

Partners (internal and external): AISES

### **Organized and hosted half-day workshop at The Wildlife Society annual conference in ABQ, NM**

Title or citation: Mapping and Monitoring Wildlife Habitat Using Remotely Sensed Vegetation Phenology Measures

Approximate date(s): Sept 23, 2017

Abstract or benefit/effect: Monitoring wildlife habitat at large spatial scales in near-real time is a large challenge facing land managers. We will introduce user-friendly advanced remote sensing technology to monitor wildlife habitat at landscape scales. The Landscape Dynamics Assessment Tool (LanDAT) and ForWarn are annually-updated set of spatial data products used to monitor broad patterns in vegetation change on the basis of data derived from MODIS (Moderate Resolution Imaging Spectroradiometer) satellite imagery. LanDAT and ForWarn were developed through a joint partnership between the US Forest Service, Oak Ridge National Laboratory and NASA. Both are designed to help natural resource conservation practitioners monitor and assess impacts on a variety of ecological services and to broadly assess landscape resilience, and it has also proven useful for assessing habitat quality. LanDAT and ForWarn use characteristics of vegetation phenology to detect multiple aspects of inter-annual change, and the resulting data products can be used in applications from basic mapping to more intensive spatial modeling with ancillary wildlife data. In this workshop, US Forest Service scientists will introduce the essential products and demonstrate how they may be used to map a variety of landscape properties and dynamics in any terrestrial habitat in the conterminous US. The introductory workshop is targeted broadly for natural resource managers, planners, spatial data analysts and habitat modelers—no GIS expertise is required.

Partners (internal and external): Southern Research Station, The Wildlife Society

### **Received Diversity Award through The Wildlife Society**

Approximate date(s): Sept 24, 2017

Abstract or benefit/effect: The Diversity Award recognizes an individual or organization for outstanding efforts in promoting ethnic and gender diversity in the natural resource professions, especially wildlife conservation and education. Recognized activities may focus on encouraging ethnic and gender diversity in the workforce, academic enrollment, or organizational membership.

Web url (if applicable): <http://wildlife.org/diversity-award/>

Partners (internal and external): The Wildlife Society, Ethnic and Gender Diversity Working Group

### **Co-organized two half-day symposiums on Tribal Wildlife Management in the Southwest**

Title or citation: Tribal Wildlife Management in the Southwest

Approximate date(s): Sept 24, 2017 and Sept 25, 2017

Abstract or benefit/effect: The principal mission of the Native Peoples' Wildlife Management Working Group is to promote improved relationships and understanding between state, federal, academic, tribal wildlife managers, and students and policy makers. We strive to accomplish this through improved communication, education and information dissemination. Further, one of TWS' goals is to increase the representation of Native American and indigenous people within TWS membership. One way to recruit more indigenous people is through workshops and symposiums that directly invite their active participation; and that will also help to increase the collective TWS membership's understanding about the unique issues surrounding tribal natural resource management. This full-day proposed symposium, *Tribal Wildlife Management and Conservation in the Southwest*, is designed to highlight some of the many cultural, financial, political, biological and social aspects surrounding the conservation issues facing tribes in the southwest.

Web url (if applicable): <http://twsconference.org/sessions/tribal-wildlife-management-and-conservation-in-the-southwest-ii/> and <http://twsconference.org/sessions/tribal-wildlife-management-and-conservation-in-the-southwest-i/>

Partners (internal and external): The Wildlife Society, Ethnic and Gender Diversity Working Group, Native Peoples Wildlife Management Working Group

### **Co-organized full day symposium on fire and spotted owls at The Wildlife Society Annual Conference**

Title or citation: Fire and spotted owls: It's a burning issue

Approximate date(s): Sept 25, 2017

Abstract or benefit/effect: Integrating protection of late-seral nesting habitat for spotted owls with forest restoration and fuels-reduction goals is a topic of great interest to scientists and managers. Studies reveal mixed responses by owls to high-severity fires, with some researchers concluding that such fire is beneficial for spotted owls, whereas others concluding that severe fire may pose a serious risk. Information presented will increase our understanding on how wildfire affects owls and their habitats, and explore potential strategies to reduce risk of high-severity fires to owls and forests. This information will represent a needed advance toward resolving a controversial issue of considerable complexity.

Web url (if applicable): <http://twsconference.org/sessions/wildfire-and-spotted-owls-its-a-burning-issue/>

Partners (internal and external): The Wildlife Society, Ethnic and Gender Diversity Working Group, Native Peoples Wildlife Management Working Group

### **Co-Guest Editor for Journal of Forestry special issue on tribal forestry**

Title: Tribal forest management volume 115(5) by Society of American Foresters.

Approximate dates: September 2017

Partners (internal and external): Society of American Foresters, Northern Research Station

**Leadership (2):****Invited Collaboration Intertribal Timber Council Feb Board Meetings**

Approximate date(s): Feb 7-9, 2017; April 18, 2017; September 12, 2017

Abstract or benefit/effect: Native Americans have vital interests in promoting forest management decisions based upon sound science and consistent with cultural values to sustain and conserve tribal natural resources. Part of the liaison position is focused on collaborations with the Intertribal Timber Council (ITC) and the ITC Research Subcommittee. The ITC is the largest organization of tribes with significant forest lands that supports the coordination and development of tribal forestry professionals. Hoagland organized and ran the Sept 2017 Research subcommittee meeting. Draft and finalize Timber Notes newsletter items, organize research subcommittee membership database, identify action items/strategy for the group, etc.

**Invited Collaboration on Research & Development Wildlife Program TEAM: Strategic Vision and Course**

Approximate date(s): Feb 14-16, 2017; April 27, 2017; June 22, 2017; August 24, 2017; Sept 29-30, 2017

Abstract or benefit/effect: Team Task: There is a need to more effectively communicate R&D's contributions to meeting the Agency's mission to Agency and Departmental leadership, Stations, partners, and Congress. The USFS WO R&D NPLs have been asked by the Acting Deputy Chief, on behalf of FSRET, to develop and share options for enhancing the effectiveness of the National Program Leader (NPL) positions as part of meeting that need. The intended approach is to: (1) describe NPL functions and the various means by which they can be fulfilled; (2) help identify NPL best practices; and (3) suggest enabling organizational behaviors and resources that will support NPLs in making recognizable and meaningful contributions to the success and relevance of Forest Service R&D. The team described the context of this effort as the current and potential future relevance of R&D research for wildlife management and biodiversity conservation. The group identified the science of wildlife ecology as essential to accomplishing the agency mission and wildlife conservation as a valuable measure of success in achieving the mission. These meetings are the beginning of a strategic thinking process that will result in a "roadmap" document for anyone in the agency, and particularly R&D research managers, to utilize, hopefully by the end of calendar year 2017, through continued engagement of the team members.

Serra Hoagland was identified to serve as the contact/team member to represent Tribal Relations and Early Career Scientists. Other primary contacts include Pat Manley (PSW), Damon Lesmeister (PNW), Bill Block (RMRS), Frank Thompson (NRS), Monica Schwalbach (SRS), Joe Wunderle (IITF), Sandy Boyce (NFS) and Brian Logan (NFS).

**Supervision (3):****Hired two Native American students as field techs for research on tribal lands in the Southwest**

Approximate date(s): March 2017 (field work conducted March 18-March 28, 2017)

Abstract or benefit/effect: Providing employment opportunities for Native American students in wildlife at Salish Kootenai College is one way to provide professional development opportunities and advance their knowledge in the field of research and tribal forestry/wildlife management. Brandon Kittson and Brett Stevenson were hired to assist in Mexican spotted owl occupancy surveys on the Mescalero Apache Indian Reservation in south-central New Mexico.

Partners (internal and external): Salish Kootenai College; Mescalero Apache tribe

**Collaborated and proposal accepted by The Wildlife Society to host a Native American Research Assistant**

Title or citation: Native American Research Assistantship Program

Approximate date(s): May through June 2017

Abstract or benefit/effect: The U.S. Forest Service (USFS), Premier Partner of The Wildlife Society, is sponsoring a research assistantship program for Native American students. This will be the fourth year for the program, which

will facilitate mentoring opportunities for USFS Research & Development (R&D) scientists with the students and promote student advancement and training for careers in natural resource and conservation-related fields. The USFS uses an ecological science-based approach to make informed decisions on the multiple-use management of the National Forests and Grasslands. Short-term assistantships are available for Native American students interested in wildlife and forest resources and excited to learn and work with an interdisciplinary team of researchers. Applicants must be a member of an American Indian or Alaska Native tribe, First Nations, or a Native Hawaiian or Pacific Islander, or have some other indigenous identification, and be currently enrolled in an undergraduate or graduate program from an accredited academic institution. A bachelor's or master's degree in wildlife biology, ecology, forestry or other closely related natural resource discipline is preferred. Students with Associates degrees from TCUs or other community colleges will be considered.

Web url (if applicable): <http://wildlife.org/apply-now-for-native-american-research-assistantships-2/>

Partners (internal and external): The Wildlife Society