

Farm to Forest

Presenter's Name: Cory Gritzmacher

Presenter's Company/Employer: Mequon Nature Preserve

Presenter's Title: Director of Restoration and Operations

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Individual Presentation

Abstract:

Farm to Forest Cory Gritzmacher Director of Restoration and Operations
coryg@mequonnaturepreserve.org Office: 262-242-8055 Mequon Nature Preserve has been doing active land restoration for over 15 years on 438 acres in southeastern Wisconsin. What began as a dream for one man has turned into a nature oasis for over 20,000 people that visit the preserve on an annual basis. MNP took its first section out of agriculture almost 15 years ago. That area today has become an environmental corridor that connects two previously existing woodlots on the property. MNP's 150 year master plan directs the transformation of 400 acres of agriculture fields into a mosaic of hardwood forests, wetlands and prairies. Over that past 15 years MNP has created with the help of its' partners and funders over 24 acres of wetlands and has 250 acres in active land restoration. MNP recently removed 65 acres from agriculture production in fall of 2016, which was the largest section taken out of agriculture at one time over the past 15 years. Once home to corn and soybeans is now home to over 10,000 native trees and shrubs. The project area has also created a 5 acre wetland systems by simply breaking drain tile that was installed in the early 1900's. The entire 65 acres project area was seeded with native prairie seed from local genotypes. The now thriving prairie will aid in soil health, prevent erosion and create habitat as the trees to continue to grow to become a forest once again. MNP is now home to 12 species of fish, 5 native crayfish species, 6 frog and 1 toad species and tiger salamanders. Bird diversity has increased from 68 species in 2007 to over 184 species in 2018, which is a great indicator of successful habitat restoration. MNP will share some of the dramatic before and after photos of restoration from over the past 15 years. Share lessons learned, challenges and success that MNP has encountered while taking on this ambitious goal.

Opportunities for shared stewardship after fire in the Carlton Ridge Research Natural Area, western Montana

Presenter's Name: Mary Manning

Presenter's Company/Employer: Forest Service

Presenter's Title: Regional Vegetation Ecologist

Co-Presenter's Name: Justin Crotteau

Co-Presenter's Company/Employer: Forest Service

Co-Presenter's Title: Research Forester

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Individual Presentation

Abstract:

The Research Natural Area (RNA) program is one of the oldest formal programs in the U.S. Forest Service (USFS). Since 1927, RNAs have been systematically established on the national forests and grasslands to represent a wide range of vegetation types in a national network of protected reference sites. These sites are designated in perpetuity for research, education, and the conservation of biological diversity. To date, 533 RNAs have been designated across the nine USFS regions, protecting approximately 600,000 acres. In the USFS Northern Region's Lolo National Forest (LNF), the Carlton Ridge RNA was established in western Montana in 1987 to protect a unique, extensive stand of alpine larch (*Larix lyallii*). This open, park-like forest community occurs at elevations from 7900 to over 8400 feet, on a subalpine ridge that escaped glaciation and has deep, well-developed soils. Such an extensive deep soil setting has not been documented elsewhere for this tree species. In 2017, the Lolo Peak wildfire burned much of the RNA and surrounding area, creating a complex burn mosaic in which some areas burned severely, killing all alpine larch trees, and others experienced little or no fire. This burn pattern has created opportunities for research and monitoring of post-fire response of this unique vegetation type, which will provide important findings to LNF resource managers and the scientific community. Alpine larch has also been identified as a tree species especially vulnerable to climate change and this burn may create opportunities for monitoring alpine larch populations after fire into the new climate future. The USFS Rocky Mountain Research Station (RMRS), along with the LNF and Northern Regional Office, is collaborating with the non-profit Friends of Lolo Peak (FOLP) to develop a citizen science research and monitoring project that will document fire effects and post-disturbance ecosystem response in this unique plant community. In particular, conifer recruitment will be monitored along biophysical, elevational and fire severity gradients. LNF and RMRS personnel are co-developing the sample design and associated site selection, and FOLP volunteers will work with RMRS on data collection. While many examples of the USFS's policy of shared stewardship preempt wildfire, this is an excellent demonstration of how shared stewardship following fire can foster collaborative conservation and research opportunities in USFS RNAs, and lead to novel methods for management of this high elevation species.

CREEQ: A Public Perceptions of Recreational Water-Quality Citizen-Science Initiative

Presenter's Name: Delaney Demro

Presenter's Company/Employer: SUNY ESF

Presenter's Title: Master's Student and Research Assistant

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Poster Presentation

Abstract:

The application of citizen science in formal research has become increasingly utilized by professionals across disciplines. This approach has the potential to be highly valuable in stream ecosystem conservation in the face of recurring nutrient over-enrichment of surface waters. Achieving accurate monitoring of stream water quality statewide at a high enough spatial and temporal resolution to maintain protected uses is highly resource-intensive. The NY State Department of Environmental Conservation (DEC) with a research team at the SUNY College of Environmental Science and Forestry (ESF), applied this collaborative approach to conservation to supplement the existing network of stream monitoring efforts performed by the agency. This poster presentation outlines the supporting theory, methods, and preliminary results of the Citizen Recreational Evaluation of Environmental Quality (CREEQ) initiative. Through an online survey, the CREEQ initiative asks citizen-science volunteers to perform a visual evaluation of water quality and recreational usability of publicly-accessible stream locations. In response to volunteer surveys, the research team traveled to evaluated locations to validate submitted reports and collect water column samples. These samples were then analyzed for physical and chemical water quality-indicating parameters to relate volunteer observations to traditional monitoring practices. Validating this relationship and approach is crucial to reliably use public-reported data to inform stream monitoring efforts across New York state and other landscapes.

Rapid 'Ōhi'a lehua Death: A Multi-agency Effort to Detect, Contain and Monitor an Emerging Threat to Native Hawaiian Fores

Presenter's Name: Christine Flauta

Presenter's Company/Employer: Hawaii Department of Land and Natural Resources

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Poster Presentation

Abstract:

'Ōhi'a (*Metrosideros polymorpha*) is a keystone plant species in Hawai'i's native ecosystems, making up about 1,000,000 acres of forest across the state. Ranging in altitude 0 – 10,000 ft it can thrive in intense geological conditions and can be found from dry lava beds to the wettest Hawaiian rainforest. On O'ahu, Hawaii's most populated island, 'ōhi'a is essential to forest health but limited to areas with remnant native and intact ecosystems. In 2014, a new fungal disease in the genus *Ceratocystis* began decimating populations of 'Ōhi'a on Hawaii Island. In 2018 the pathogen referred to as Rapid 'Ōhi'a Death (ROD) was identified as two strains, *Ceratocystis lukuohia* (destroyer of 'ōhi'a) and *Ceratocystis huliohia* (disrupter of 'ōhi'a). ROD quickly spread through 30% of Hawai'i Island's 'ōhi'a populations and 90% of the trees sampled were infected with the more aggressive strain, *C. lukuohia*. The intense spread of this pathogen prompted the creation of the O'ahu ROD working group. This group focused on dividing work loads between private, residential, military and state managed lands. It coordinated multiagency ground and aerial surveying with sampling while developing new methodologies to detect potentially infected trees. Learning from partnerships created on Hawaii island, O'ahu was able to create an action plan to respond to this ecological disaster. To date over 174,000 acres have been surveyed on O'ahu resulting in 5 detections of *C. huliohia*. This collaboration between agencies, landowners, and residents made it possible for the early detection and suppression of ROD. The ROD working group will continue to make strides to delineate and manage the growing threat of ROD and will be crucial in planning efforts to secure funding to mitigate the impact on native forests.

Shared Stewardship: working together to make decisions and take actions on the land

Presenter's Name: William Carromero

Presenter's Company/Employer: USDA Forest Service

Presenter's Title: National Botanist

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Symposium Description:

Managers and owners of forests across the nation face urgent challenges, among them catastrophic wildfires, invasive species, drought, and epidemics of forest insects and disease. Of particular concern are longer fire seasons and the rising size and severity of wildfires, along with the expanding risk to communities, natural resources, and the safety of firefighters. Through shared stewardship, the Forest Service and State and other partners have unprecedented opportunities to co-manage fire risk and achieve positive outcomes at the most appropriate scales. This session will discuss the progress and results of the Shared Stewardship strategy.

Tahoe Central Sierra Initiative: Ecosystem Management Decision Support Tool to guide a Blueprint for Restoration

Presenter's Name: Patricia Manley

Presenter's Company/Employer: US Forest Service Pacific Southwest Research Station

Co-Presenter's Name: Nicholas Povak

Co-Presenter's Company/Employer: US Forest Service Pacific Southwest Research Station

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Abstract:

The Tahoe Central Sierra Initiative (TCSI) is developing and demonstrating innovative planning, investment, and governance tools across a 1 million hectare landscape, which can also be adapted to forested landscapes throughout the Sierra Nevada region. Specifically, the TCSI will provide information and tools needed for effectively restoring region-wide forest health and resilience by: 1) defining the desired outcomes for the Sierra Nevada in terms of ecosystem resilience from ecological, social, and economic perspectives; 2) assessing current conditions of the TCSI landscape; and 3) identifying the types, locations, and timing of treatments that can transition the landscape toward a more resilient, healthy, and diverse condition. TCSI was structured to address eight pillars of resilience that represent the range of desired landscape outcomes and social benefits that motivate resilience restoration investments: forest resilience, fire dynamics, carbon sequestration, biodiversity conservation, water reliability, air quality, fire-adapted communities, and economic diversity and social well-being. To meet evaluate means by which to achieve desired outcomes, we developed a variety of spatially explicit data on current and future conditions associated with eight pillars. Current conditions were represented by spatially explicit high resolution maps of 25 metrics that spanned the eight pillars of resilience. Future conditions were derived from Landis II model outputs that accounted for climate change, including forest structure and composition, fire dynamics, and beetle mortality, and from secondary models of biodiversity, wood supply, and snow accumulation and melt dynamics based on Landis outputs. Future landscape dynamics were interpreted in terms of the conditions that landscape units tended to support, the stability of conditions in landscape units, and a rating of the ability of landscape units to provide benefits associated with the eight pillars of resilience. These data were integrated into the Ecosystem Management Decision Support (EMDS) Tool synthesize system dynamics and constraints and identify where management activities can have the greatest positive impact on resilience. EMDS is a state-of-the-art modeling framework for decision support of environmental analysis and planning at multiple geographic scales. The system integrates geographic information system data, logic-based reasoning for environmental assessment, and multi-criteria decision analysis for strategic planning to provide explicit, practical decision support for strategic and tactical planning as well as adaptive management. The EMDS model of the TCSI landscape provides a range of management options and opportunities to move the landscape toward achieving desired outcomes that reflect where in the landscape various benefits and outcomes are most readily accomplished and maintained.

Collaborative Science for Landscape Management: Lessons Learned from the Lake Tahoe West Restoration Partnership

Presenter's Name: Sarah Di Vittorio

Presenter's Company/Employer: National Forest Foundation

Presenter's Title: Northern California Program Manager

Co-Presenter's Name: Shana Gross

Co-Presenter's Company/Employer: Forest Service Pacific Southwest Region

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Abstract:

As part of the Lake Tahoe West Restoration Partnership, scientists, land managers, and stakeholders undertook a collaborative modeling effort to inform comprehensive landscape restoration across more than one-third of the Lake Tahoe Basin. This presentation will discuss lessons learned for conducting collaborative, management-relevant science. The goal of the modeling effort was to understand likely outcomes of different management approaches under a changing climate up to 100 years into the future to inform a collaborative landscape restoration strategy. Participants identified several key lessons that may inform future collaborative science, as follows. Collaborative modeling can help diverse interests agree on restoration goals and thresholds, understand possible futures, evaluate tradeoffs between key values, and develop a consensus-based vision and approach for restoring a complex landscape. However, collaborative modeling ' particularly in a large process with multiple teams and agencies involved ' requires a large time and resource investment. Participants should clarify expectations regarding goals, timelines, and workloads at the start of the process, and design the project to balance these needs. The need for new science should emerge from the collaborative process as participants identify key questions and uncertainties essential to resolve disagreements and inform management. Collaborative science should focus on addressing these key uncertainties and questions and avoid more peripheral topics. Choice of models should be collaborative and informed by clear understanding of the models' capacities and limitations. Highly technical content and long timelines for collaborative science will pose barriers for some participants, such as stakeholders representing local community interests; process design should factor in level, type, and timing of engagement needed for different participants. Finally, collaborative science efforts would benefit from facilitation by trained facilitators with technical competence and science training in the fields being analyzed. Authors: Sarah Di Vittorio, National Forest Foundation; Shana Gross, Forest Service Pacific Southwest Region; Kathleen McIntyre, Tahoe Regional Planning Agency

Shared Stewardship: Strategies for Engaging Community-Based Partners

Presenter's Name: Karen Hardigg

Presenter's Company/Employer: Rural Voices for Conservation Coalition

Presenter's Title: Executive Director

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Abstract:

Shared stewardship recognizes that both public land managers and the communities in which they are located, along with other stakeholders, can share responsibility and accountability for being stewards of the land, and can work together across ownership boundaries to accomplish common management objectives. The approach also recognizes that conservation and local community benefits are related and can be mutually supported. At its core, shared stewardship encourages the Forest Service to partner with a diversity of groups and organizations to accomplish its mission. The Rural Voices for Conservation Coalition (RVCC) has worked closely with the Forest Service on implementing the vision of shared stewardship in the West. We have worked with partners to improve implementation of collaborative restoration projects that cross ownership boundaries by focusing on how agencies, landowners, and organizations can partner to accomplish work on the ground. In this presentation we will share best practices and strategies for including and working with community and collaborative partners. Themes will be drawn from applied research, peer learning exchanges, and case studies.

Advancing NM's collaborative management- a new comprehensive spatial risk assessment for shared stewardship priorities

Presenter's Name: Anne Bradley

Presenter's Company/Employer: The Nature Conservancy

Presenter's Title: Forest Program Director

Co-Presenter's Name: Steve Bassett

Co-Presenter's Company/Employer: The Nature Conservancy

Co-Presenter's Title: Director of Planning and Analysis

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Abstract:

The Nature Conservancy worked closely with the New Mexico Division of Forestry to develop a statewide comprehensive risk analysis and associated spatial data to assist the state in completing its update of the Forest Action Plan. The analyses also contributed substantially to the identification of potential joint priorities for the state and the Southwestern Region of the Forest Service. The statewide assessment of values and threats and robust engagement in the Forest Action Plan were made possible by nearly two decades of cross-jurisdictional collaboration between agencies, NGOs, and tribes in New Mexico to work together to restore watersheds and protect communities from large fire impacts. This partnering approach has been especially important for a state with relatively few resources to bring to bear on natural resource problems. The enabling conditions for collaboration and opportunities for cross-jurisdictional resilience-building identified in the Forest Action Plan will be described

Shared Stewardship, Shared Outcomes

Presenter's Name: Laura Ault

Presenter's Company/Employer: Utah Division of Forestry, Fire and State Lands

Presenter's Title: Utah Shared Stewardship Coordinator

Topic: Collaborative approaches to conservation - public/private partnerships

Proposal Type: Symposium - select this if you are part of an organized session

Abstract:

Managers and owners of forested land in Utah face many challenges, among them catastrophic fires, drought, insects and disease, invasive species. Of particular concern are longer fire seasons and the increasing size and severity of wildfires, along with the expanding risk to communities, water sources, wildlife habitat, air quality, and the safety of firefighters. To address these concerns at a landscape scale, the State of Utah (State) and the USDA Forest Service (Forest Service) entered into a Shared Stewardship Agreement. On May 22, 2019, Utah Governor Gary R. Herbert and USDA Secretary Sonny Perdue signed the Agreement for Shared Stewardship between the State and the Forest Service Intermountain Region. Under the agreement, the State and Forest Service will focus on landscape-scale forest restoration activities that protect at-risk communities and watersheds. The State and Forest Service have worked collaboratively to identify and map priority landscapes that will guide activities across jurisdictional boundaries. Shared Stewardship is about setting priorities together and combining resources to achieve cross-boundary outcomes using every available authority and tool to support partnership efforts to improve forest health and target treatments in the highest priority landscapes, thereby protecting at-risk communities and watersheds from catastrophic fire. The State of Utah and the Forest Service will work in partnership to restore these priority landscapes using all available tools.