

Promotion and Tenure Vita
Daniel M. Leavell, PhD
August 25, 2019

PROMOTION AND TENURE VITA

Daniel M. Leavell, Ph.D.

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A. EDUCATION AND EMPLOYMENT INFORMATION

1. Education and Training

Education

Ph.D. 2000
The University of Montana
Missoula, Montana
College of Forestry (*Landscape, Community, Disturbance Ecology*)
Dissertation Title: "Vegetation and Process of the Kootenai National Forest". Advisor:
Kelsey Milner. (GPA: 3.65)

M.S. 1992
Oregon State University
Corvallis, Oregon
College of Forestry (*Forest Science and Interdisciplinary Studies*)
Thesis Title: "Relationships between plant associations and environment within
McDonald-Dunn Forest". Advisor: Bill Emmingham. (GPA: 3.45)

B.S. 1977
Oregon State University
Corvallis, Oregon
College of Forestry (*Forest Resources and Interdisciplinary Studies*)
Forestry (GPA: 2.6)

Silviculture Certification 1987-1992
USDA Forest Service/Region 6
"Silviculture Institute"
(Received 14 graduate credits and obtained a four-year (1988 – 1992), Certified
Silviculturist credential for USDA Region 6 – Oregon and Washington)
University of Washington
Oregon State University

Training

National Wildfire Coordinating Group-Certified (NWCG):

Wildland Firefighting Guard School (40 hours) 1978
Portable Pumps and Water Use (24 hours) 1978
Squad Boss (40 hours) 1979
Intro to Wildland Fire Behavior (40 hours) 1979
Wildland Fire Chain Saws (24 hours) 1981 and 2009
Interagency Business Management (24 hours) 1982
Air Operations (40 hours) 1982

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Intermediate Fire Effects (40 hours)	1983
Crew Boss (40 hours)	1983
ICS-220 (24 hours)	1986
Intermediate Fire Behavior (40 hours)	1987
Field Observer (40 hours)	1990
Strike Team/Task Group Leader (40 hours)	1991
Division/Group Supervisor (40 hours)	1992
Situation Unit Leader (40 hours)	1992
Fire Ecology and Ecosystem Management (40 hours)	1993
Infrared Interpreter I (40 hours)	1994
Operations Section Chief (Type 2) (40 hours)	1997
Command and General Staff (40 hours)	1998
Incident Commander (40 hours)	2002
Infrared Interpreter II (40 hours)	2002
Fire Regime Condition Class (40 hours)	2003
Safety Officer (Type 2) (40 hours),	2005
Smoke Management Techniques (40 hours),	2007
Advanced Fire Use Applications (40 hours),	2007
Aviation Basic Safety/Planning Modules (24 hours)	2007
PMS Engine Operator (40 hours)	2008
Plans Section Chief (Type 2) (40 hours)	2010
Introduction to Fire Effects (40 hours)	2017
Firing Operations (24 hours)	2018
Fire Line Refresher (8 hours each year, with step test, etc)	1978 - 2012

Following the class completion, certifications, and task book sign-off for each position, I was fully NWCG-qualified for Operations Section Chief (Type 2 – 1997 - 2012); Branch Director; Type 3 Incident Commander; Division/Group Supervisor; Strike Team Leader; Crew Boss; Engine Boss; Situation Unit Leader; Field Observer; Infrared Interpreter; Fire-Use Manager; and Burn Boss for prescribed fire ops (various from 1978 to 2012).

National Fire Protection Association Standard (NFPA):

Structure Fire Fighting Academy (150 hours)	2007
Structure Firefighter I (40 hours)	2007
Structure Fire Officer (24 hours)	2008
Structure Fire Engineer (32 hours)	2008
Fire Officer Instructor (32 hours)	2015

Following the class completion, certifications, and task book sign-off for all positions, I was NFPA and State of Montana-registered as a Chief Fire Officer (from 2006 to 2012).

State-Licensed (MT, OR, ID) and NREMT-Certified:

Emergency Medical Technician (Intermediate) (120 hours)	1978
Fireline Emergency Medical Technician (40 hours)	1979
Fireline EMT Refresher (40 hours)	1980
Emergency Medical Technician (First Responder) (80 hours)	2010
Emergency Medical Technician Refresher (24 hours)	2011
Wilderness EMT (40 hours)	2011
Emergency Medical Technician (Basic with endorsements) (160 hours)	2013
Emergency Medical Technician Refresher (24 hours)	2015
Basic Life Support Instructor (AHA)	2015
Heartsaver Instructor (AHA)	2015

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Emergency Medical Technician Refresher (24 hours)

2017

Following the class completion, certifications, and task book sign-off for all positions, I was variously State of Idaho, State of Montana, and State of Oregon-licensed and nationally certified as an EMT-Intermediate, Basic, and First Responder (from 1978 to 2017) – ambulance, backcountry, wilderness, and fire line qualified.

In addition to all of the above training, I completed continuous hours of structure fire and medical training (100 to 300 hours each year) for Fire Department qualification maintenance (from 2006 to 2012 and from 2014 to 2016) and 10 to 40 hours annually for Wildland Firefighter qualification maintenance (1978 to 2010).

International Association of Fire Investigators-Certified (IAFI):

Fifty (plus) hours of training for Arson Investigator 2013-2016

A Ventilation-Focused Approach to the Impact of Building Structures and Systems on Fire Development
an Analysis of the Station Nightclub Fire

Arc Mapping Basics

Charleston Sofa Super Store Fire Critical Thinking Solves Cases

Digital Photography and the Fire Investigator DNA Documenting the Event

Ethics and the Fire Investigator Explosion Dynamics

Fundamentals of Residential Building Construction

NFPA1033 and Your Career

The Practical Application of the Relationship between NFPA 1033 and NFPA 921

The Scientific Method for Fire and Explosion Investigation

2. Employment

Assistant Professor of Practice

2014-Present

Oregon State University (OSU), College of Forestry,

Department of Forest Engineering, Resources &

Management (FERM)

Corvallis, Oregon at Klamath Falls (KBREC)

Precis: Plan, develop, deliver educational programs in the areas of forestry, natural resources, and fire science while serving with the Klamath Basin Research and Experimental Station. Participate in providing educational services to other parts of the State as requested. Duties: Consultation; Landscape Management; Education; Peer Group Assistance; Research; Volunteer Efforts/Community Service.

Director and Adjunct Professor

2014-2016

Klamath Basin Public Safety Training Center

Klamath Falls, Oregon

Precis: Working with a Partnership of State, County, and Federal fire managers and trainers to bring a Public Safety Training Center to southern Oregon. Put in a proposal to establish a Center that would integrate continuing education, for-credit academic curricula, and practical experience for forestry, natural resources, and fire science. The Center emphasized structure and wildland firefighting, emergency medical, and law enforcement training, education, and experience. I assumed the responsibilities of interim Director (part-time) to manage a set of emergency medical technician classes. Developed core curricula for fire science for Extension and the Natural Resources Program,

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Consultant Forester/Ecologist 2010-2014
SMTL Enterprises
Libby, Montana

Precis: After retirement in January of 2010, I formed a small, independent consulting firm named SMTL Enterprises. Entered into contracts (habitat typing workshops; vegetation surveys; workshops) as requested for forestry, ecology, wetland restoration projects.

Forest Ecologist/Silviculturist/Program Manager 1992-2010
USDA Forest Service/Kootenai National Forest
Libby, Montana

Precis: Started with the Forest Service as a GS-2 forestry aid. Worked on many Districts, Forests, and Regions from 1973 to 2010 when I retired. Worked my way up the career ladder to my last job as a Forest Staff Vegetation Manager and Forest Silviculturist/Ecologist. I was responsible for a \$12 million annual budget on a 3 million-acre National Forest; five Ranger Districts; and many personnel carrying out one of the biggest vegetation management programs in the Northern Region.

Fire Chief 2006-2012
Cabinet View Fire Department
Libby, Montana

Precis: As a Fire Department Fire Chief for a 15-square-mile fire service area in northwest Montana, I was responsible for all operations, administration, and management (equipment, personnel, and resources) of our Fire Department. Our Agency had jurisdiction within this fire service area (about 8700 acres, 250 homes, 12 businesses, one city/county airport, 1500 people) and as mutual response for adjacent fire service areas. During my tenure, we had 20 to 25 firefighters/ EMT's on our roster, with approx. 10 responding to all calls. I also supervised a Fire Department Auxiliary for Fire Dept. and community support. The Auxiliary consisted of 5 to 10 dedicated volunteers.

Adjunct Professor/Instructor/Advisor 1994-Present
University of Washington
Flathead Valley Community College
Boise State University
University of Montana
Klamath Community College

Precis: Formally nominated and elected as Adjunct for all five colleges and universities, my part-time responsibilities included serving on graduate student committees, advising scholastic progress; and providing guest lectures and workshops.

Forest Steward 1994-2014
State of Montana
Missoula, Montana

Precis: Part of Montana State University Extension Program, the Forest Stewardship is to promote the health, viability, and longevity of Montana's nonindustrial forests through assuring private forest landowners access to accurate, practical and quality skills and knowledge necessary for the planned management of their forests and the natural resources therein. As a certified Forest Steward, my part-time job was to work with private landowners to complete land management plans and to conduct the formal

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workshop structure of the program.

Farm Hand/Research Assistant 1989-1991 and 1997-2000
Oregon State University/University of Montana
Corvallis, Oregon/Missoula, Montana

*Precis: (**Farm Hand**) My graduate program at Oregon State (1989 to 1991) led to a Master of Science degree in ecology and interdisciplinary studies. I worked during the school year on a truck farm (Twedt's Farms) for minimum wage and during summers and holidays as a GS-9 Forester for the Wallowa-Whitman National Forest (on the Baker City Ranger District). I worked there as a silviculturist/botanist/ecologist and did whatever was needed for the District during this time – and was a firefighter during the fire seasons.*

(Research Assistant) 1997-2000

During my graduate efforts at the University of Montana, I completed two research/teaching assistantships - one for an undergraduate class in Forest Ecology and one for a graduate class in multivariate statistical analysis that I co-taught with Dr. Ray Calloway. I also served as a committee member for two students pursuing a Master's degree. I successfully completed my written and oral comprehensive exams and successfully completed and defended my dissertation. I graduated in May of 2000. While enrolled full-time at the University, I maintained consultation with the Kootenai Forest in all botany and ecology-related matters and maintained leadership in these areas – and was a firefighter during the fire seasons.

District Silviculturist 1990-1992
USDA Forest Service/Payette National Forest
New Meadows/McCall, Idaho

Precis: I worked for the New Meadows Ranger District while trying to develop a landscape-based approach to management (working with the Operation's Staff position) that utilized ecological concepts and principles while volunteering during off-hours and weekends to the Supervisors Office to develop an ecology program for the entire Forest. I received a performance award from the Payette for bringing leadership to this effort and for establishing an ecology program.

Area Ecologist 1988-1990
USDA Forest Service, Region 6/Area 2
Baker City, Oregon

Precis: I worked as an Assistant Area Ecologist for the Wallowa-Whitman, Umatilla, and Malheur National Forests. My responsibilities included collecting vegetation plots for the plant association classification of major vegetation types found throughout the three National Forests. Emphasis was on successional stages.

District Silviculturist 1980-1988
USDA Forest Service/Wallowa-Whitman NF
Halfway, Oregon

Precis: Starting as an entry-level professional Forester, my initial job was the supervision of seasonal crews in obtaining stand exam, reforestation, timber stand improvement, and tree improvement information/surveys. I applied for, and was accepted into the Region 6 Silvicultural certification program at Oregon State and University of Washington. Upon successful completion of this two-year program (and earning graduate credit), I became the District Silviculturist and added reconnaissance and prescription writing for forest and non-forest stands throughout the District to my job responsibilities.

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Forest Technician 1978-1980
USDA Forest Service/Idaho Panhandle NF
St. Maries, Idaho
Precis: This was my first "permanent" job with the Forest Service. This was a remote in-and-out District in North Idaho on the Upper St. Joe River and presented many challenges to work and live in this area. As a Forest Technician in the silviculture section of the District, I was responsible for the stand exam, reforestation, timber stand improvement, and tree genetics programs. I supervised up to 20 temporary employees and seasonal tree planters – and all vegetation management contracts. Conditions had changed little from the 20's and 30's on this District. Biggest challenge was during the Mt. St. Helens eruption that dumped 8 inches of ash on the District when I was the only employee at the remote area supervising a 20-person tree planting crew. No communication with the outside world...

Wildland Firefighter/Emergency Services Provider 1978-2016
USDA Forest Service/Volunteer
Various locations throughout the US
Precis: I have had 40+ years of firefighting and emergency medical experience in complex and diverse fuel types and terrain throughout the Pacific Northwest, Rocky Mountains, Southwest, Southeast, and Alaska and have been cited for excellent leadership and the ability to strategize and direct all resources for immediate, efficient, and effective attainment of objectives. I have served on several hundred wildland fires ranging in size from 1/10th-acre to over 100,000 acres, and have managed and been directly responsible for thousands of human and mechanical resources. And after serving on over 300 wildfires, dozens of house fires, several hurricane relief efforts, vehicle accidents, and hundreds of medical emergencies - only two people I have been responsible for have had minor reported injuries and there were no fatalities. I am very glad and proud of that and have worked hard to achieve that claim. My experience in fire management and emergency response has greatly benefited my knowledge and expertise within the field of fire ecology and forest management - and my knowledge of fire ecology and forest management greatly aided my efforts in fire suppression/management.

Biological Sciences Technician 1973-1978
USDA Forest Service
PNW Research Station, Corvallis, Oregon
PSW Fire Control Laboratory, Riverside, California
Precis: While obtaining an undergraduate Bachelor of Science degree from the then School of Forestry (Oregon State University), I worked part- and full-time for the Managed Forest Watersheds Project. My supervisors gave me a complete, diverse, and well-rounded work and learning experience. It was more than just assisting research scientists collect data - and became a real learning experience in those formative years with the Forest Service. The project was responsible for studies dealing with every aspect of ecological systems research at the watershed scale, including soils, hydrology, meteorology, fisheries, etc. I had transferred from Riverside, California where I worked with the Pacific Southwest Fire Control Laboratory. There I had my first exposure to fire behavior models; vegetation fuel loadings; and temperature, wind, and humidity changes related to fire intensity and severity.

Petty Officer 1969-1974
US Navy (Active and Reserve)
Worldwide

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*Precis: Military Occupational Specialty - Navy: VERDIN/ISABPS
Communications System Technician.
Security Clearance: Secret. Tours throughout the Mediterranean; North Africa;
North Atlantic; South Pacific; South Asia.*

B. TEACHING, ADVISING, AND OTHER ASSIGNMENTS

1. Instructional Summary

a) Credit Courses

Oregon State University and Klamath Community College

FRP 111 – Firefighter I Winter, 2016	25 enrolled	5 cr. Semester
FRP 112 – Firefighter II Winter, 2016	28 enrolled	3 cr. Semester
ERO 125 – Hazardous Materials Winter, 2016	28 enrolled	1 cr. Semester
ERO 110 – Emergency Vehicle Op. Spring, 2016	15 enrolled	1 cr. Semester

Flathead Valley Community College (Libby Campus)

BIOO 220NL – General Botany Fall, 2009	20 Students	4 cr. Semester
Fall, 2010	20 Students	4 cr. Semester
Fall, 2011	25 enrolled	4 cr. Semester
Fall, 2012	15 enrolled	4 cr. Semester
BIOE 172N and BIOE 173L – Ecology and Lab Fall, 1994	25 students	4 cr. Semester
Fall, 2005	20 Students	4 cr. Semester
FORS 230 – Fire Ecology Spring, 2009	20 Students	4 cr. Semester
Spring, 2010	20 Students	4 cr. Semester
Spring, 2011	25 enrolled	4 cr. Semester
Spring, 2012	15 enrolled	4 cr. Semester
BIOB 275N – Forest Tree Genetics Fall, 2009	20 Students	4 cr. Semester
Fall, 2010	20 Students	4 cr. Semester
Fall, 2011	25 enrolled	4 cr. Semester
Fall, 2012	15 enrolled	4 cr. Semester
Wildland Fire Courses (S-190, S-130, L-180, IS-700) Spring, 2004	10 Students	3 cr. Semester
Spring, 2005	10 Students	3 cr. Semester
Spring, 2006	15 enrolled	3 cr. Semester
Spring, 2007	15 enrolled	3 cr. Semester

University of Montana

FORS 330 – Forest Ecology Fall, 1997	40 enrolled	3 cr. Semester
BIOB 513 – Community Ecology Spring, 1999	15 enrolled	3 cr. Semester

Description of courses

Oregon State University and Klamath Community College

FRP 111 – Firefighter I (winter, 5 credit hours) - Firefighter I is the first level of a progressive program. This level introduces the novice firefighter to the basics of nationally recognized firefighting techniques. Methods of instruction includes classroom theory as well as skill oriented “hands-on” drill sessions. Student performance is evaluated throughout the course including mid-term and final exams, both written and practical. All classes are NFPA/IFSTA certified.

FRP 112 – Firefighter II (winter, 3 credit hours) - Firefighter II is the second level of a progression, which includes Fire Fighter 1, 2, and 3. Instruction at this level is aimed at providing the student with the skills and knowledge necessary to function under general supervision. Students will learn how to function safely and effectively as an integral member of a firefighting team. Successful students are trained to perform firefighting activities requiring the student to maintain direct communication with a supervisor. All classes are NFPA/IFSTA certified.

ERO 125 - Hazardous Materials (winter, 1 credit hour) - Participants learn how to recognize a hazardous materials release and the risks involved. They will also learn how to identify the released material; how to use available resources, including the Emergency Response Guidebook; and how to notify the proper authorities in the event of a hazardous material emergency. All classes are NFPA/IFSTA certified.

ERO 110 – Emergency Vehicle Operations (spring, 1 credit hour) - This course will discuss the rights and responsibilities of the emergency vehicle driver. Also discussed will be the officer / passengers responsibilities. Using case studies of apparatus crashes the student will gain a better understanding of emergency vehicle driving under emergency conditions. A driving course will be set up for firsthand experience and evaluation. All classes are NFPA/IFSTA certified.

Other University

BIOO 220NL – General Botany (fall, 4 credit hours – lecture) - This course offers a thorough overview of the fundamental principles of plant biology from evolutionary, morphological, and physiological perspectives. Emphasis on comparative morphology, anatomy, reproduction and physiology as students survey the major groups of land plants.

BIOE 172N and BIOE 173L – Ecology and Lab (fall, 4 credits) - A study of the principles of ecology with emphasis on ecosystems, this course considers the impact of human activities on the ecosystem (with lab).

FORS 230 – Fire Ecology (spring, 3 credits) - The specific objectives of the course are to provide the student with a comprehensive understanding of: 1. how fuel, topography and weather influence fire behavior; 2. detailed information on the tenets of fire ecology and how they relate to plant and animal individuals and populations; 3. integrated treatment of fire behavior and ecosystems response so that community composition and

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ecosystem properties can be understood or predicted; and 4. a synthetic view of how human land use, fire history and biophysical conditions lead to ecosystem development and change over time for regions of interest to the student.

BIOB 275N – Forest Tree Genetics (fall, 4 credits) - Genetics as applied in forest management for both conifers and hardwoods. The variation, evolution and genetics of forest trees. Methods for selection, breeding, seed production, and vegetative propagation. Exotics, wood properties, and tree improvement as a forest management tool.

Wildland Fire Courses (S-190, S-130, L-180, IS-700) – (spring, 3 credits) - Basic wildland firefighting courses include fire behavior, suppression and safety through classroom and field exercises. Students spend 36 hours in the classroom, learning the fundamentals of fire behavior and suppression tactics. They learn how weather, terrain and fuels affect the nature of fire progression. Instructors intertwine classroom education with field demonstrations of the fire pack equipment and tools used. Includes timed pack test following classroom and field exercises. All classes are NWCG certified.

FORS 330 – Forest Ecology (fall, 3 credits) - Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.

BIOB 513 – Community Ecology (spring, 3 credits) - Multivariate analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).

Guest Lectures for Credit Courses

Oregon State University

Leavell, Daniel M. OSU FOR 446 Wildland Fire Ecology. 15 students. Instructor of Record: John Bailey (OSU – FERM).
Winter, 2015

Leavell, Daniel M. OSU FOR 443/543 Silvicultural Practices. 12 students. Instructor of Record: John Bailey (OSU – FERM).
Winter, 2015

Oregon Institute of Technology

Leavell, Daniel M. BIO 446 Conservation Biology. 95 students total. Instructor of Record: Jherime Kellerman (OIT – Environmental Sciences).
Fall and Winter, 2015 (two separate classes – one Fire Ecology)
Fall, 2016 (Fire Ecology - two classes and an overnight field trip)
Winter, 2017 (Conservation Ecology - two classes)

b) Non-Credit Courses and Workshops

Leavell, D. M., Vradenburg, L., Markus, A, Pettigrew, J. (July 8, 2019). OWEB field tour of the Lake County landscape efforts. On request, I assisted in presenting an informative workshop to OWEB field representatives from across the State. 25 attended.

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Leavell, D. M. (June 21, 2019). OSWA Annual Meeting at the Benton County Fairgrounds, Corvallis. I presented on the OSU Extension Fire Program and Klamath/Lake landscape efforts. 150 attended. Invited.

Leavell, D. M. (June 11, 2019). Washington State Association of Conservation Districts Annual Meeting, Leavenworth, Washington. I presented twice – one on cross-boundary landscape management efforts and one on Basic Silviculture. 60 attended these. Invited.

Leavell, D. M. (May 15th and 16th, 2019). Outdoor School for Salem students – Camp Cascades. I presented outdoor education sessions for 75, 5th-graders and various adults. Subject was basic fire science. Invited.

Leavell, D. M. (April 23, 2019). Skyline West Community FireWise event. I presented on fire prevention/awareness at a Fire Station in Corvallis, OR. 55 attended. Invited.

Leavell, D. M. (April 20, 2019). Presented on basic forestry for a community group in Chiloquin. Used the Train Mountain facilities. Worked with the Klamath Lake Forest Health Partnership. 25 attended. Invited.

Leavell, D. M. (March 29, 2019). Umpqua Tree School, Roseburg. I presented on fuels treatments for private land and what landowners can do to prepare their homes and property to reduce fire risk. 25 attended. Invited.

Leavell, D. M. (March 9, 2019). Rural Living Day, Lane County. I presented on defensible space and fuels reduction strategies. 25 attended. Invited.

Leavell, D. M. (March 7, 2012). Community outreach workshop for Chiloquin. Presented on our landscape efforts with partners from the Klamath Lake Forest Health Partnership to community members. 35 attended. Invited.

Leavell, D. M. (February 26, 2019). Webinar for the Northwest Fire Science Consortium. Presented, "*Let's fix the fire problem: Here's a solution*". Several hundred had signed up to listen. Invited.

Leavell, Daniel M. (September 25, 2014 - September 27, 2018). From 2014 to 2018, I organized and provided leadership for the Klamath Forest Tour, Klamath County. Face to Face, Youth Contacts: 750 each year, Adult Contacts: 120 each year. In 2018, we had the 54th annual Klamath County Forest Tour for all 6th graders in City and County schools Very collaborative effort, Invited. Local.

Leavell, D. M., Berger, Carrie A. (December 27, 2018). Annual Extension Conference, "Fire," Corvallis. State, Applied and accepted. 125 attended.

Leavell, D. M. (December 13, 2018). Landscape Management Update in Klamath and Lake County, Klamath Falls, Face to Face, Adult Contacts: 20, Presented an update of our cross-boundary landscape efforts in Klamath and Lake County to the local chapter of the International Hoo-Hoo Club members., Invited. Local.

Leavell, D. M. (November 13, 2018 - November 15, 2018). Landscape management in Klamath and Lake County, Ellensburg, WA, Face to Face, Adult Contacts: 50, Presented to Washington State DNR and various regional partnership and collaborative organizations on an update of our efforts and how we can work together across State lines. Lead by the Nature Conservancy in Washington. Invited.

Leavell, Daniel M. (November 9, 2018). Slash Pile Burning, Klamath Outdoor Science School, Face to Face, How to site and build piles; notifications and regulations;

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landowner liability; safety and assistance; conditions for burning; lighting and tending; post-fire rehab. FS, ODF, Watershed Council; NRCS, private landowners, Invited. Local.

Leavell, Daniel M. (November 5, 2018). Pile Burning Workshop, Linton Ranch, Face to Face, Adult Contacts: 25, How to site and build piles; notifications and regulation; landowner liability; safety and assistance; conditions for burning; lighting and tending; post-fire rehab. FS, ODF, Watershed Council, NRCS, private landowners, Invited. Local.

Strong, Nicole A., Leavell, Daniel M., Author/Presenter., Baylog, Kara. (November 2, 2018). "*Fuels Reduction 101*", La Pine, Oregon, Face to Face, Adult Contacts: 23, this interactive workshop, originally developed by the OSU Extension Citizen Fire Academy program, gives landowners hands-on practice at effective fuel reduction activities. Skills worked on through this one-day program can be taken home and put to use immediately.

Leavell, D. M., Berger, Carrie A. (October 19, 2018). Women Owning Woodlands Retreat, Molalla, Face to Face, Adult Contacts: 30, Presented the fire ecology and fire prevention modules of the Fire Science Core Curriculum - with an outdoor activity. Invited.

Leavell, D. M., Ahrens, G. R. (October 3, 2018). Society of American Foresters annual meeting, "Landscape Applications to the Eagle Creek Fire Restoration/Prevention," Portland, OR. National, Invited. 45 attended. I assisted in organizing the field trip and did a presentation.

Leavell, D. M. (August 20, 2018). Landscape Management and Water Quality and Quantity, Yacht Club in Klamath Falls, Face to Face, Adult Contacts: 35, I presented on landscape efforts of the KLFHP in Klamath and Lake County and how cross-boundary management can benefit water quality and quantity. Klamath Basin Water User's group invited me. Alan Mikkelsen, the Deputy Commissioner of the Bureau of Reclamation and assistant to the Secretary of the DOI also attended. Invited. Regional.

Leavell, D. M. (August 4, 2018). Homeowner Education, Wagon Trail Subdivision, Face to Face, Adult Contacts: 120, Annual meeting of the property owners of a large subdivision south of La Pine. Presented and educated on forest health and fire prevention, Worked with the Walker Range Fire Protection Association and the Wagon Trail Homeowners Association. Invited. Local.

Leavell, D. M. (July 31, 2018). Kinder Workshop, Ponderosa summer school, Face to Face, Youth Contacts: 60, working with nutrition faculty assistants, presented food values of vegetation growing in forests to kindergarten-aged kids. With Extension nutrition faculty assistants. Invited. Local.

Leavell, D. M., Berger, Carrie A. (July 25, 2018). Western Coordination Committee (WCC) Meeting, "*What Makes an Extension Fire Program*," Vancouver, WA. 45 attended. Regional, Accepted.

Leavell, D. M. (June 30, 2018). Landowner Basic Forestry Shortcourse, Martha Little property, Face to Face, Adult Contacts: 20, Group of neighbors/landowners gathered together from our cross-boundary landscape effort to learn basic forestry concepts/principles., Invited. Local.

Souder, Jon A., Author/Presenter., Belart, Francisca, Author/Presenter., Leavell, Daniel M., Coordinator/Organizer/Facilitator. (May 11, 2018). Forest & Woodland Roads Workshop - Klamath & Lake Counties, Bly Fire Hall & Community Center, Bly, OR, Face to Face, Adult Contacts: 12,

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Leavell, D. M., Berger, Carrie A. (May 22, 2018). Fire Continuum Conference: Preparing for the Future of Wildland Fire, "*Teaching the OSU, FNR Extension Fire Science Core Curriculum*," Missoula, MT. 35 attended. International. Applied and Accepted.

Leavell, Daniel M., Davis, E.J. (May 1, 2018). All-Lands in Southern-Central Oregon workshop, Klamath Community College, Face to Face, Adult Contacts: 75, The goal of this one-day workshop was to bring together those working on all-lands projects in Lake, Klamath, Jackson, and Josephine Counties to: Share specific activities, experiences, and lessons learned; Explore tools and ideas that improve the practice of all-lands management Connect to a community of area practitioners and form new peer relationships Expert leadership by Emily Jane Davis. Sponsored by the Klamath Lake Forest Health Partnership. ODF, FS, Watershed Councils, NRCS, private landowners - and participation from SW Oregon partners, landowners, agencies, entities. Invited. Regional.

Sanchez, Nicole D., Silberstein, Thomas B., Presenter. Leavell, Daniel M., Presenter. (March 20, 2018). Tour of Extension and KBREC, Spring District Mtg, Klamath District Garden Clubs, OSU KBREC, Face to Face, Adult Contacts: 28, per request of local Garden Club stakeholders, arranged tour of facility and presentations by two colleagues to highlight some of the work and research being conducted at KBREC. Local.

Leavell, D. M., Berger, Carrie A. (February 27, 2018). Joint Prescribed Fire Council Meeting (WA and OR), "*Burning Issues with Landscape Restoration*," Hood River. 55 attended. Regional, Invited.

Leavell, D. M., Berger, Carrie A. (February 13, 2018). Annual Oregon State Fire Prevention Conference, I presented, "*OSU's Extension Fire Science Core Curriculum*," Ashland, OR. 65 attended. State, Invited.

Leavell, D. M. (August, 2017). Western Coordinating Committee (Forestry) Presented: "*The Role of Extension in Collaborative Forestry Projects*". Fort Collins, Colorado. Invited. 35 attended.

Leavell, D. M. Organized, conducted, and presented at four community meetings held at the Chiloquin Community Center (June, 2017, two in July, 2017, August, 2017). With the Klamath Lake Forest Health Partnership. 95 people total.

Leavell, D. M., Shaw, D., Sanchez, N. (May, 2017). I organized and assisted with a Plant Scene Investigator workshop for the Master Gardeners. 25 attended. Invited.

Leavell, D. M. and Markus, A. (April, 2017). National Cohesive Strategy Workshop, Reno, Nevada. Presented: "*Implementing the Cohesive Strategy: One Path to Success*". 45 attended. Invited.

Leavell, D. M., Markus, A. (February, 2017). I presented a landscape management session with partners from the Klamath Lake Forest Health Partnership to the Klamath County Commissioners. 15 attended.

Leavell, D. M. (January 2017). I presented on Plant Ecology for a Klamath County Garden Club with State representatives, Klamath Falls, OR. 65 attended. Invited.

Leavell, D. M. (January, 2017). Invited speaker and presented to an NRCS yearly symposium in Redmond, OR. 55 attended.

Leavell, D. M. (October, 2016). I presented a plant ecology workshop and guided tour to Master Gardeners at Klamath Arboretum field trip. 25 attended. Invited.

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Leavell, D. M. (September, 2016). I presented to a National Association of Federal Retired Employees (NARFE) lunch group gathering in Medford, OR. Presentation was on the "*Wonderful World of Plants*". Invited. 65 attended.

Leavell, D. M. (August, 2016). Master Woodland Manager Mini College, Corvallis, OSU campus. Presented (with field trip): "*Fire and Fuels – Reducing the Risks by Reducing the Hazards*". Invited.

Leavell, D. M. (July, 2016). I gave a field session of training to the Lake County Resource Inventory crew for forestry and fire-related data collection. In Lakeview, OR. Invited. 25 attended.

Leavell, D. M. (June, 2016). I assisted and organized - and presented a three-day outdoor school for Klamath County 6th graders. I was the Safety Officer and lead instructor for forest and fire related workshops throughout the School. Invited. 125 attended.

Leavell, D. M. (June, 2016). Cascadia Rising Emergency Management Workshop. Presented: "*The Science of Cascadia Rising*". This presentation was part of a Statewide preparatory effort for emergency managers. Over 200 EMS personnel attended this workshop. Invited.

Leavell, D. M. and FNR cadre. (April, 2016). I assisted in organizing and presenting for a Klamath/Lake County Master Woodland Manager course. Course was held in Bly, OR and lasted for 8 weeks (Friday evenings and Saturdays all day). 25 attended.

Leavell, D. M. (March, 2015). PSU Executive Seminar Program (for the Dean of the College of Forestry). Substituted at the Seven Feathers conference room for Dean Manness. 75 attended. Presented: "*Managing for Fire Resilient Forests and Communities*"

Leavell, D. M. (March, 2015). Douglas County Tree School. 35 attended. Invited. Presented: "*The Science of Silvics and the Art of Silviculture*"

Leavell, D. M. (March 2015 and March, 2016). Clackamas Tree School. Presented: "*Fire Ecology*" (two years); "*Fire and Fuels – Balancing the Risks by Reducing the Hazards*". Total of 85 attended. Invited.

Leavell, D. M. (March, 2015). Living on a Few Acres Workshop (Bend). 45 attended. Presented: "*Trees and Shrubs to Know in Central Oregon*" and "*Living in a Fire-Adapted Ecosystem*". Invited.

Leavell, D. M. (April, 2015). OSU/WSU Fire Workshop (with field trips) for NE Oregon and SE Washington (John Day, Baker City, Dayton). 55 attended. Presented: "*Forest Health and Fire Prevention*"

Leavell, D. M. (August, 2015). Oregon Master Naturalist Field Trip (Malheur Field Station and Steens Mountain). Presented: "*Montane Ecology of the Northern Basin and Range Ecosystem*". 35 attended. Invited.

Leavell, D. M., Baylog, K. (September, 2015). I assisted and presented to the Citizen Fire Academy field trips (two weekends – Jefferson and Jackson County). Invited. Total 35 attended.

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Leavell, D. M., Strong, N. (March, 2015). I assisted in developing the Citizen Fire Academy curriculum.

Leavell, D. M. (March, 2015). I was a invited speaker for forest management concepts to YCC crews in Crescent, OR. 75 attended.

Leavell, D. M. and Markus, A. (February, 2015). I assisted, organized, conducted, and presented at a Forest Health Summit for Klamath and Lake County. 95 attended. This was the initiation of cross-boundary landscape projects in both counties.

Leavell, D. M. (February, 2015). I was an invited speaker and presented on the Forest Agent, FNR program to the Klamath Falls Rotary Club. 75 attended.

Leavell, D. M. (January, 2015). I participated and presented at a prescribe fire workshop planning effort for Lake County, Lakeview, OR. Invited. 65 attended.

Leavell, D. M. (January, 2015). I was an invited speaker and presented to the Gilcrest High School staff and Board to discuss outdoor school options and potential assistance. 35 attended.

Leavell, D. M. (January, 2015). I gave a forest perspectives presentation to the California Weed Symposium on fire/forest ecology, Eureka, California. Invited. 125 attended.

Leavell, D. M., Strong, N., and Davis, E.J. (October, 2014, November, 2014, March, 2015). I assisted, organized, and participated in a Values Mapping exercise for the Deschutes National Forest. 75 attended.

Leavell, D. M. (October, 2014, November, 2014). I was an invited speaker for forest management concepts to home school students, Klamath County, OR. 65 attended.

Leavell, D. M. (November, 2014). Bonanza Community Enrichment Day. Presented: "*The Nature of Nature*". 45 attended. Invited.

Leavell, D. M., OSWA. (September, 2014). I assisted in the organization of - and presented forest management concepts at a "Howdy Neighbor" tour with the Small Woodlands Association. 55 attended.

Leavell, D. M. (April, 2014). Interagency Collaborative Seminar, Trout Creek, Montana. Presented: "*Ecology and Natural History of the Kootenai*". 85 attended. Invited.

Leavell, D. M. (March, 2014). I gave a program to a NARFE annual gathering in Medford, OR on fire ecology and fire prevention. Invited. 65 attended.

Leavell, D. M. Idaho Master Naturalist Workshop (Sandpoint, Idaho) (March, /2011, March, 2012, March, 2013, March, 2014, September, 2015). 200 attended in total. Presented: "*Ecology and Ecosystem Management*". Invited.

Leavell, D. M. (May, 2013). Society of American Foresters meeting, Libby, Montana. Presented: "*Fire Ecology on the Kootenai National Forest*". 75 attended. Invited.

Leavell, D. M. (October, 2011). Tree Improvement/Plant Genetics Workshop. Presented: "*Environmental Amplitude and Gradient Ecology*". 45 attended. Invited.

Volunteer Training

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Leavell, D. M. Klamath County Fire District #4, Klamath Falls, Oregon. I assisted training efforts for the Fire Department from 2014 to 2016. 55 firefighters/EMTs attended these regularly schedule training sessions.

Leavell, D. M. Cabinet Fire Department, Libby, Montana. As Fire Chief, I supervised a Department Training Officer and directed all volunteer training classes and courses (100's of hours per year from 2006 to 2012).

Invited speaker for fire ecology to Keno Fire Station personnel in Keno (9/2014)

c) Curriculum Development

Credit Courses

Oregon State University and Klamath Community College

Emergency Response and Operations. Note: My assistance to Klamath Community College consisted of working with the curriculum directors of credit and non-credit course development to accomplish two tasks:

1. Develop a consistent and cohesive curriculum for the emergency medical classes offered by KCC that ultimately satisfied accreditation by the Oregon Health Authority and scholastic requirement for the CC;
2. Integrate the emergency medical classes; create and develop structure and wildland fire curricula; integrate criminal justice – all into a combined two-year program of “**emergency response and operations**” that satisfied all accreditation, certification, and academic credit requirements.

From September 2014 to June 2016, I worked towards these goals and accomplished the tasks. I developed the curriculum with the KCC Curriculum Director. I instructed the classes with two assistants from professional Fire Departments in Klamath Falls - as well as directing the overall program. This is a description of what I created:

Description:

The Klamath Basin Public Safety Training Center at KCC offers comprehensive instruction for students and professionals in emergency service fields including structural and wildland fire sciences, emergency medical services and criminal justice. The Center works in close collaboration with regional emergency service providers to deliver classroom instruction, skills training, and hands on experience. Prospective students can pursue one-year certificates, Pathways certificates or a two-year associate's degree in Emergency Response and Operations. Students earning academic credit can transfer those credits toward other advanced degree programs at cooperating universities. Professionals already working in emergency services have the option of taking non-credit classes to improve or maintain their skills or take credit classes to pursue a certificate or degree for professional advancement.

Development of Teaching Resources (non-credit):

Oregon State University

1. **Fire Science Core Curriculum** (2015-2017). I was the Project Leader and co-author (with Carrie Berger, Stephen Fitzgerald, and Bob Parker) of a five-module set resource for teaching: “What is Fire?”, “Fire Ecology”, “Fire Behavior”, “Fire Management”, and “Fire Prevention for Home and

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Landscape". The set is available now through the Extension catalog and is the newest Forest and Natural Resources Extension core curricula.

Description: Each module has a PowerPoint suitable for modification as needed for various student audiences. The narrative text in each module is meant as a main resource to instructors to choose subject matter as needed to meet the lesson objectives. The modules are guidelines, not mandates.

2. **National Wildland Coordinating Group** (2018-2019). With Carrie Berger, I have been the lead to coordinate with the NWCG's Fire Learning Network to develop an online course for all Federal and State firefighters/managers to access through their website for continuing education and training. We have just (August, 2019) completed the beta test for the pilot. Goal is to have the remaining core curricula online in the next year.
3. **Professional and Continuing Education** (2018-2019). I am also leading (with Carrie Berger) an effort to install the Fire Core Curricula into the LMS Canvas for use online – to reach the communities within the FNR Extension infrastructure.
4. **Oregon Environmental Literacy Program (OELP)**. (2019). With Carrie Berger, I am incorporating fire science concepts into the Oregon State General curriculum development for grades K-12.

Class Series/Short Course

Leavell, Daniel M. (September 25, 2014 - September 27, 2018). I have spent the last 5 years organizing and leading the Klamath County Forest Tour, Spencer Creek Drainage, and Klamath County, Face to Face, Youth Contacts: 700 each year. Adult Contacts: 120. Located 11 miles outside of Keno Oregon near the Spencer Creek Drainage off Clover Creek Road is the Klamath Forestry Tour. For the past 54 years, this tour has been educating Klamath County sixth graders through individual stations about; forest products, recreation, survival, reforestation, tree identity, soils, water, forest management, fire suppression and wildlife. FS, ODF, NRCS, SWCD, Hoo-Hoo Club, ODFW, USFW, Talk about Trees, Future Farmers, Invited. Local.

d) *Graduate Students and Postdoctoral Trainees*

Post Doctorate Scholar Supervised

None

Member of PhD committee

2016-2017 Teresa Wicks (Committee member; PhD, Environmental Sciences Graduate Program, OSU). She left the program before completion.

MSc Advisor

2015-2016 Michael Douglas (Department of Geography, College of Earth, Ocean, and Atmospheric Sciences; Graduated 2016)

MSc Advisor and Committee Member

2005-2007 F. Jack Triepke (Department of Biological Sciences, Boise State University; Graduated 2007)

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2006-2009 Michael Lolley (College of Forestry; University of Washington, Graduated 2009)

e) Team or Collaborative Efforts

1. *When arriving in Klamath Falls in August, 2014, I completed a detailed needs assessment throughout Klamath and Lake County to determine who would be the best to partner with – what efforts would bring the greatest return and service to ecosystems, communities, and economies. I had taken this job because there was supposedly folks who wanted to accomplish this. Within 6 months, I found the individuals – and the Klamath Lake Forest Health Partnership. With time and effort invested, we worked together with my leading from behind - to realize the potential of the group to become the core group our Counties need to bring Federal, State, local, and private industrial and non-industrial forest management entities together to resolve problems and create opportunities for land management across all ownerships, regardless of boundary lines. At the beginning of 2015, attendance was good, but clarity of mission, goals, and objectives were needed. I provided leadership in coordinating a trained facilitator to hold several meetings with our entire group (20 to 30 each meeting) to do that: set priorities, design mission statements; and build a strategy short- and long-term to maximize effectiveness and efficiencies. I believe we accomplished this goal and became a much stronger and better-focused partnership. Since that time we have been very successful in developing a process that brings about a change significant enough across all land boundaries over sufficient acres to make a difference. In the next five years, over 500,000 acres will be under this process. It has surpassed any success I would have imagined, and created a future for Klamath and Lake County that will benefit ecosystems, communities, and economies.*
2. *Greater La Pine Two Chiefs (2015 to 2017). Walker Range Fire Protection Association has jurisdiction for wildland fire over the northern area of Klamath and Lake County. They are the go-to resource for fuels reduction, fire prevention, and fire suppression for this area – a trusted community resource for Crescent, Crescent Lake, Chemult, and all small communities and small to large land ownerships. They requested I assist them with subdivision fire prevention efforts as they are now funded in part with the Two Chiefs Greater La Pine Project lead by the Deschutes National Forest. I am part of the La Pine effort for Klamath and Lake Counties and attend regular planning meetings with the Walker Range folks. Walker Range has a 700-acre subdivision, the Wagon Trail with about 125 individual property owners.*
3. *North Warners Cross-Boundary Landscape Project (2015 to current). My involvement has been more direct with the Two Chiefs Project on the North Warners. I assisted my Forest Service colleague, Amy Markus, in writing the proposal and providing direct input with our mapping and inventory results – under my direction. We put together a package that was approved and funded. We made several presentations to the OWEB Board, County Commissioners, Forest and Agency Leadership for support, but the greatest factor in getting approval was the acres of priority need and where on the landscape the need exists from the mapping and inventory completed*
4. *The Chiloquin Community Forest and Fire Project (2016 to current). Received a Joint Chiefs grant in 2018 – for three years. Over the last 2 ½ years, we have mapped and inventoried almost 70,000 private land acres and assisted the development of private land management plans covering almost 40,000 acres. Over 2500 landowners have been contacted, educated, and informed of our efforts to improve forest health, wildlife habitat, fuel loadings, risk mitigation, and safe/effective fire/emergency response. We have improved the social health and well-being as well as the economic health of Lake County and working toward that goal for Klamath. State and Federal agencies have developed agreements (Good Neighbor, Farm Bill, etc) that have vastly improved relationships and the ability to accomplish work on the ground. FS has developed efficiencies in programming and accomplishing work. In Lake County last year, our landscape efforts resulted in the accomplishment of over 20,000 acres of sound, science-based*

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management on public lands, and over 6,000 acres of private lands – with two more years funded. We have published a process that works and have inspired many other landscape efforts across Oregon and Washington.

5. I completed over 150 individual site visits (2014 to 2017) on request from over 100 small landowners to diagnose potential problems with trees and shrubs on properties ranging from yards to 10,000-acre ranches. Total land area affected was 25,000 acres. I assisted landowners with larger properties (greater than 10 acres) to complete semi-formal plans for short- and long-term management and gave pamphlets, materials, and any other assistance possible to the others.
6. *Interim (under the table) Fire Specialist. (October 15, 2017 – Present). Carrie Berger and I drafted a NFNH proposal in the latter part of 2018 to put together a Fire Program for the FNR Extension program. With colleagues we submitted the proposal to our group - it was selected. Even with minimal funding, Carrie and I agreed to proceed as of October, 2017 to implement the proposal and do what was necessary to build the program as proposed and approved. To do this, Carrie has been serving as an interim Program Manager and I have served as an interim Fire Specialist - since October, 2017, and throughout 2018 ND 2019. We conducted a needs assessment with interviews with all FNR colleagues; 2. Developed a Fire Program Initiative to submit to the OSU Statewide Public Service Programs Proposal; 3. Conducted Presentations at conferences and organized gatherings; 4. Created publications and academic advancements; 5. Incorporated efforts and proofs of concepts to the Fire Program from landscape results in Klamath and Lake County. We developed a program flow to structure progression and development as guidance throughout the year. I developed (with Carrie) an FNR Fire Initiative that was eventually incorporated into OSU's Statewide Public Service Program Initiative. Our Fire Program Initiative was funded by the Legislature in July of 2019. We are currently building the new program to carry into the future.*
7. Carrie organized and managed the publication of nine Fire FAQ's. With collaborated effort from our FNR colleagues and others from outside our group, we published six FAQ's (EM 9203, 9194, 9193, 9195, 9196, and 9222) and have three in the editing/peer review stage. I also provided edits for the Northwest Fire Science Consortium Fire Facts series. We have also connected with the education branch of National Wildfire Coordinating Group (NWCG), a national standard for all professional fire management training and certification. In conjunction with our PACE group on campus and with the NWCG design team, we have made progress to convert our Fire Science Core Curriculum to two online Learning Management Systems.
8. *Regional Newsletters (2017 to present). Our Eastside FNR peer group (John Panches, Bob Parker, Paul Oester, and Nicole Strong, and I) have worked together to produce a newsletter for our landowners. This has accomplished three main objectives: 1. to refine and clarify our Klamath, Lake, and Harney County mailing list of forest landowners; 2. to work with and get to know Bob, Paul, and Nicole better; and 3. to disseminate forest- and natural resource-related information and opportunities to our constituents. We have mailed out approximately 500 newsletters to our KBREC landowners each quarter – over 2,000 in all (including the last edition planned for December).*

f) International Teaching

Leavell, D. M., Berger, Carrie A. (September 11, 2019). International Union of Forest Research Organizations (IUFRO): Extension & Knowledge Exchange Conference, I presented, "An Initiative Designed to Protect Lives, Property, and the Environment through Education, Outreach, Research, and Landscape Management," Christchurch, New Zealand. International, Applied and Accepted.

Leavell, D. M., (May 22, 2018). Fire Continuum Conference: Preparing for the Future of Wildland Fire, "Homes as Fuel: Do We Need a New Fire Behavior Paradigm?," Missoula, MT. International. 55 attended this workshop. Applied and Accepted.

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Leavell, D. M. (November, 2017). 7th International Fire Ecology and Management Congress (Applied Fire Science Workshop). Presented: "A Fire Science Core Curriculum for OSU Extension". Applied and Accepted.

2. Student and Participant/Client Evaluation

Basic Forestry April 20, 2019

Teaching Quality	No Score	Very Poor	Poor	Fair	Good	Very Good	Excellent	Average
Overall Quality						2	5	5.71
Quality of Instruction						4	3	5.43

Fire Awareness March 9, 2019

Teaching Quality	No Score	Very Poor	Poor	Fair	Good	Very Good	Excellent	Average
Overall Quality						1	7	5.88
Quality of Instruction						2	6	5.75

Basic Forestry and Silviculture January, 2019

Teaching Quality	No Score	Very Poor	Poor	Fair	Good	Very Good	Excellent	Average
Overall Quality						11	13	5.0
Quality of Instruction						11	13	5.0

3. Peer Teaching Evaluations

Note: Peer Reviews are an Attachment to this Vita

4. Advising

Formal undergraduate advising is not required of faculty in the OSU Department of Forest Engineering, Resources and Management.

5. Other Assignments

Interim (under the table) State Fire Specialist. (October 15, 2017 – Present). Carrie Berger and I drafted a NFNH proposal in the latter part of 2018 to put together a Fire Program for the FNR Extension program. With colleagues we submitted the proposal to our group - it was selected. Even with minimal funding, Carrie and I agreed to proceed as of October, 2017 to implement the proposal and do what was necessary to build the program as proposed and approved. To do this, Carrie has been serving as an interim Program Manager and I have served as an interim Fire Specialist - since October, 2017, and throughout 2018 ND 2019. We conducted a needs assessment with interviews with all FNR colleagues; 2. Developed a Fire Program Initiative to submit to the OSU Statewide Public Service Programs Proposal; 3. Conducted Presentations at

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conferences and organized gatherings; 4. Created publications and academic advancements; 5. Incorporated efforts and proofs of concepts to the Fire Program from landscape results in Klamath and Lake County. We developed a program flow to structure progression and development as guidance throughout the year. I developed (with Carrie) an FNR Fire Initiative that was eventually incorporated into OSU's Statewide Public Service Program Initiative. Our Fire Program Initiative was funded by the Legislature in July of 2019. We are currently building the new program to carry into the future.

C. SCHOLARSHIP AND CREATIVE ACTIVITY

1. Publications

Peer-Reviewed Journal:

Triepke, F. J., Brewer, C. K., Leavell, D. M., and Novak, S. J. (2008). Mapping Forest Alliances and Associations Using Fuzzy Systems and Nearest Neighbor Classifiers. *Remote Sensing of the Environment*, March 18, 2008 (Vol. 112, No. 3, doi:10.1016/j.rse.2007.07.014)

Peer-Reviewed Extension:

Leavell, D. M., Berger, C., Fitzgerald, S., and Parker, B. (2017). *Fire Science Core Curriculum: What is Fire?, Fire Ecology, Fire Behavior, Fire Management, and Fire Prevention*. OSU Extension Service, Corvallis, Oregon. EM 9172. 500 pp.

Leavell, D. M. *Fire-Adapted Communities: The Next Step in Wildland Fire Preparedness*. (2015). OSU Extension Service, Corvallis, Oregon. EM 9116. 23 pp.

Bennett, M., Fitzgerald, S. A., Leavell, D. M., Berger, C. A. (2018). *Em 9194: Fire FAQs—Have the size and severity of forest wildfires increased in Oregon and across the West?*

Leavell, D. M., Markus, A., Bienz, C., Carlsen, K., Davis, E. J., Douglas, M., Ferguson, D., Flederjohann, L., Johnson, K., Livingston, N., Pettigrew, J., Rogers, G., Schreder, M., Shoun, D., Vradenburg, L. A., Christiansen, A. C. (2018). *Planning and Implementing Cross-boundary, Landscape-scale Restoration and Wildlife Risk Reduction Projects* (PNW 707, pp. 117). EESC. <https://catalog.extension.oregonstate.edu/pnw707>

Saffell, B. J., Sanchez, N. D., Leavell, D. M. (2018). *Oregon Forest Pest Detector Pest Watch Bronze Birch Borer (BBB) | Monitoreo y Detección de Plagas Forestales en Oregon Barrenador del Abedul Bronce (BBB)*.

Sanchez, N. D., Leavell, D. M. (2018). *Homeowner Guide to Managing Bronze Birch Borer in the Upper Klamath Basin* (EM 9189). <http://horticulture.oregonstate.edu/content/em-9189-homeowner-guide-managing-bronze-birch-borer-upper-klamath-basin>

FAQ Sheets

Grand, L., Berger, C. A., Fitzgerald, S. A., Leavell, D. M. (2019). *Fire FAQs—Who owns Oregon's forests, and how does that matter when it comes to fire?* (EM 9228, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9228>

Berger, C. A., Grand, L., Fitzgerald, S. A., Leavell, D. M. (2018). *Fire FAQs - What is fire Severity?* (EM 9222, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9222>

Fitzgerald, S. A., Berger, C. A., Leavell, D. M. (2018). *Fire FAQs - What is forest fuel, and what*

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- are fuel treatments? (EM 9230, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em92230>
- Grand, L., Berger, C. A., Fitzgerald, S. A., Leavell, D. M. (2018). Fire FAQs - Who owns Oregon's forests, and how does that matter when it comes to fire? (EM 9228, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em92228>
- Berger, C. A., Grand, L., Fitzgerald, S. A., Leavell, D. M., Peterson, J. (2018). Fire FAQs - Air quality impacts from prescribed fire and wildfire: How do they compare? (EM 9203, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9203>
- Baylog, K., Leavell, D. M., Berger, C. A., (2018). Fire FAQs - How can landscapes with mixed ownerships be managed for fire effectively? (EM 9196, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9196>
- Fitzgerald, S. A., Berger, C. A., Leavell, D. M., Grand, L. (2018). Fire FAQs - Salvage Cutting: What are the effects on fire behavior and severity? (EM 9195, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9195>
- Bennett, M., Fitzgerald, S. A., Leavell, D. M., Berger, C. A. (2018). Fire FAQs - Have the size and severity of forest wildfires increased in Oregon and across the West? (EM 9194, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9194>
- Berger, C. A., Grand, L., Fitzgerald, S. A., Leavell, D. M. (2018). Fire FAQs - Managing Wildfire for Resource Benefit: What is it and is it beneficial? (EM 9193, pp. 2). Corvallis, OR: Extension and Experiment Station Communications (EESC). <https://catalog.extension.oregonstate.edu/em9193>

Magazine/Trade Publication

- Leavell, D. M. (2018). *Northwest Woodlands article* (4th ed., vol. 34, pp. 2). Oregon, Idaho, Montana: Oregon Small Woodlands, etc.. <https://www.oswa.org/Publications/northwest-woodlands-magazine.html>

Newsletter

- Strong, N. A., Leavell, D. M., Parker, R. T., Punches, J. W. (2018). *Life on the Dry Side* (pp. 16). <https://extension.oregonstate.edu/newsletter/life-dry-side-forestry-newsletter> - Quarterly release.

Peer-Reviewed Academic:

- Leavell, D. M. (2000). Vegetation and process of the Kootenai National Forest. School of Forestry, University of Montana, Missoula, MT. In: dissertation abstracts, catalog #9970-793, vol. 61-04B, starting on p.1744. Ann Arbor, Michigan. 508 pp.
- Leavell, D. M. (1992). Relationships between plant associations and environment within McDonald-Dunn Forest. Thesis for the Master of Science (M.S.) degree in Forest Science, College of Forestry, Oregon State University, Corvallis, Oregon. 175 pp.

Peer-Reviewed Professional:

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Leavell, D. M. (2014). LANDFIRE Biophysical Setting Model: Northern Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest – Larch. Modeler – Fire Effects Information System. USDA Forest Service, Missoula, Montana.

Leavell, D. M. and Triepke, J. (1995). Sensitive Plant Program for the Kootenai National Forest. Policy and Methodology for PETS Plant Species Management. Kootenai National Forest, Libby, MT. 65 pp.

Chatters, J. C. and Leavell, D. M. (1995). Harding Lake: A Study of Fire, Succession, and Sedimentation since 350 AD in the Subalpine Forests of the Yaak River, Northwestern Montana. Applied Paleoscience Research Report P-4, Richland, Washington.

Chatters, J. C. and Leavell, D. M. (1995). Smeads Bench Fen: a 1500-year History of Fire Succession in the Hemlock Forest of the Lower Clark Fork Valley, Northwestern Montana. Applied Paleoscience Research Report P-1, Richland, Washington.

Leavell, D. M., Head, J. D., Newell, E. B. (1995). A model for the implementation of ecosystem management on the Kootenai National Forest. [In] Proc., Analyses in Support of Ecosystem Management symposium (April 10-13), Fort Collins, CO. Edited by Joyce Thompson. 26 pp.

Leavell, D. M. (1993). Conservation Assessment for *Thelypteris phegopteris*, Kootenai National Forest. USDA Forest Service, Northern Region. 12 pp.

Peer-Reviewed Professional, Internal:

USDA Forest Service. (2007). *Final Environmental Impact Statement for the Kootenai National Forest Invasive Plant Management Program. Prepared by: Leavell, D. M. Libby, Montana, 59923.*

Media Contributions

Fire. (September 20, 2018).
Aired an interview with me during the fire season

Fire. (September 15, 2018).
Aired an interview with me during the fire season.

Fire. (July 20, 2018).
Oregon Public Broadcasting did an interview with me regarding fire, fire ecology, and fires ongoing.

Fire Podcast. (July, 2019).
Requested participation on a leadership podcast.

2. Professional Meetings, Symposia, and Conferences

Western Coordinating Committee (Forestry) (8/2017)
Presented: “*The Role of Extension in Collaborative Forestry Projects*”

National Cohesive Strategy Workshop (4/2017)
Presented: “*Implementing the Cohesive Strategy: One Path to Success*”

Lake County Commissioners Meeting (3/2017)

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Presented: "*Klamath-Lake Forest Health Partnership Long-Term Vision*"

Lake County Watershed Council Annual Meeting (12/2016)

Presented: "*An Example of a Landowner Map and Inventory*"

Agency Leader Conference – Klamath County (12/2016)

Presented: "*Klamath-Lake Forest Health Partnership Long-Term Vision*"

Master Woodland Manager Mini College (8/2016)

Presented (with field trip): "*Fire and Fuels – Reducing the Risks by Reducing the Hazards*"

Cascadia Rising Emergency Management Workshop (6/2016)

Presented: "*Cascadia Rising*"

Clackamas Tree School (3/2015, 3/2016)

Presented: "*Fire Ecology*" (two years); "*Fire and Fuels – Balancing the Risks by Reducing the Hazards*"

PSU Executive Seminar Program (for the Dean of the College of Forestry) (3/2015)

Presented: "*Managing for Fire Resilient Forests and Communities*"

Douglas County Tree School (3/2015)

Presented: "*The Science of Silvics and the Art of Silviculture*"

Living on a Few Acres Workshop (Bend) (3/2015)

Presented: "*Trees and Shrubs to Know in Central Oregon*" and "*Living in a Fire-Adapted Community*"

OSU/WSU Fire Workshop (with field trips) for NE Oregon and SE Washington (John Day, Baker City, Dayton) (4/2015) Presented: "*Forest Health and Fire Prevention*"

Oregon Master Naturalist Field Trip (Malheur Field Station) (8/2015)

Presented: "*Montane Ecology of the Northern Basin and Range Ecosystem*"

Idaho Master Naturalist Workshop (Sandpoint, Idaho) (9/2015)

Presented: "*Ecology and Ecosystem Management*"

Annual Weed Conference, Yreka, California (11/2014)

Presented: "*Black Stain Root Rot*"

Keno Community Meeting (9/2014)

Presented: "*Black Stain Root Rot*"

Region 1, Multi-Forest Animal Damage Workshop (2/2011)

Presented: "*Forest Animal Damage Management*"

Coeur d'Alene Habitat Type Training Workshop (6/2010)

Presented: "*Environmental Amplitude and Gradient Ecology*"

Savenac Nursery Habitat Type Training Workshop (6/2009)

Presented: "*Indicator Plant Overview*"

Silviculture Annual Meeting, Kootenai National Forest (9/2009)

Presented: "*Tree Improvement – The Beginnings*"

Vegetation, Silviculture, Fire, and Ecology Meeting, Libby, Montana (2/2005)

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Presented: *“Ecology: What and Why”*

Forest-wide Vegetation and Fire Meeting, Libby, Montana (9/2004)

Presented: *“Fire Regime Condition Class Application, Crosswalk, and Consistency”*

Forest-wide Vegetation and Fire Meeting, Libby, Montana (9/2004)

Presented: *“Management Implications of Fore and Succession History”*

Silviculture Annual Meeting, Kootenai National Forest (1/2004)

Presented: *“Existing Vegetation Classification”*

Kootenai National Forest, Forest-Wide Meeting (2/2001)

Presented: *“Vegetation and Process on the Kootenai National Forest”*

3. Grant and Contract Support

I assisted in acquiring the following grants for the North Warners Cross-Boundary, Landscape Scale project with the Klamath Lake Forest Health Partnership:

	Private Land	Forest Service
Joint Chiefs	\$796,199 \$700,000	\$353,084 \$1,499,750
Fuels Supplemental		\$2,095,000
Title II/RAC	\$42,500	\$50,000
OWEB	\$537,000 \$537,000	
FS Sage Grouse Funding	\$125,000 \$50,000	
FS State and Private	\$250,000 \$86,500	
Total	\$3,124,199	\$3,997,834

I assisted in acquiring the following grants for the Chiloquin Fire and Forest, Cross-Boundary, Landscape Scale project with the Klamath Lake Forest Health Partnership:

	Private Land	Forest Service
Joint Chiefs (2019 only)	\$1,090,000	\$627,588
NRCS EQUIP funding	\$49,682 \$1,200,000	
OWEB	\$18,156 \$33,058 \$537,878	
Western States Fire FS State and Private	\$23,000 \$300,000	
Klamath County Community Assistance	\$3,000	
Forest Service	\$50,000	
OFRI	\$15,000	
AFF	\$15,000	
Total	\$3,281,774	\$627,588

1. As a member of the Klamath-Lake Forest Health Partnership, I assisted in putting together a cross-boundary, landscape restoration effort in Lake County.

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2. The North Warner Project resulted with 50,000 acres of private, non-industrial land surrounded by the Fremont-Winema National Forest.
3. A key Forest Service employee and I spearheaded the effort with NEPA-ready FS projects.
4. We first obtained a \$60,000 grant from the Oregon Department of Fish and Wildlife to complete the maps and inventory of the private lands and assembled land management plans for all landowners based on diagnoses and prescription recommendations from the inventory.
5. We then worked together to submit proposals for the funding in Table 7.
6. Leavell, D. M. Supporting, "Partnership Grant," Sponsored by USDA Forest Service, Federal, Total \$25,000.00, Status: Funded. (June 15, 2017 - January 15, 2020).
7. Ahrens, G. R., Shaw, D. C., Fitzgerald, S. A., Panches, J. W., Grand, L., Christiansen, A. C., Leavell, D. M., Strong, N. A., Bennett, M., "Forest Wellness Checkup," Sponsored by Oregon Forest Resources Institute, State, Total \$2,900.00, Status: Funded. (July 1, 2018 - June 30, 2019).
8. Leavell, D. M., Berger, C. A., Ahrens, G. R., Fitzgerald, S. A., Bennett, M., Withrow-Robinson, B. A., Grand, L., Baylog, K., "FNR Extension Fire Program: A statewide program that seeks to deliver comprehensive fire education and outreach based on sound science.," Sponsored by Oregon Forest Resource Institute, Private, Total \$7,500.00, Status: Funded. (June 1, 2018 - June 30, 2019).
9. Campbell, j. Co-Principal, Sessions, J. Principal, Bailey, J. D. Co-Principal, Smith, D. Co-Principal, Leavell, D. M. Co-Principal, Tripp, K. Co-Principal, "Opportunities for biochar production to reduce forest wildfire hazard, sequester carbon, and increase agricultural productivity of dryland soils," Sponsored by INSTITUTE FOR WORKING FOREST LANDSCAPES, Other, Total \$249,466.00, Share: \$0.00, Status: Funded. (July 1, 2015 - June 30, 2018).
10. Leavell, D. M., Berg, H. Principal, Wicks, T. *, "Great Outdoor Alliance," Sponsored by Fremont-Winema National Forest, Federal, Total \$38,500.00, Status: Funded. (January 15, 2017 - January 30, 2018).
11. Leavell, D. M. Co-Principal, Marcus, A. Principal, Shreder, M. Supporting, "Title II competitive grants," Sponsored by Fremont-Winema National Forest, Federal, Total \$90,000.00, Status: Funded. (January 15, 2017 - January 15, 2018).
12. Leavell, D.M. RREA grant to develop an online program to deliver our Fire Science Core Curriculum (June 1, 2019 – July 1, 2020). Total \$20,000.

4. Patent Awards/Inventions

None

5. Other information

Professional Organization Membership

Ecological Society of America (1996 to current);
National Geographic Society (1974 to current);
International Association of Wildland Fire. (March 1, 2017 - current).
International Association of Arson Investigators (2013);
Oregon Fire Chiefs Association. (January 15, 2015 - current)
International Association of Emergency Managers (2012 to 2013);
Society of American Foresters (off and on, 1973 to current);
Association of Fire Ecology (2010 to current)
Oregon Small Woodlands Association. (January 15, 2015 - current).

Professional Certification

Certified Senior Wildland Fire Ecologist, Association for Fire Ecology (AFE).

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(December 1, 2018 - current).

Certified Senior Ecologist, The Ecological Society of America. (June 1, 2018 - June 30, 2023).

D. SERVICE

1. Service to the Public (professional)

2015-Present

I served as a member, Board of Directors, Klamath Watershed Partnership

I was appointed by the Secretary of Agriculture as a member of the Fremont and Winema Resource Advisory Committee (RAC).

2016-2019

1. I provided the leadership and authorship to create, develop, and publish a five-module set of Fire Science Core Curricula (FSCC) for the FNR program. Funded with a No Fault/No Hazard grant from FNR, we completed and published the five-module set on time (July 2017). At our October FNR meeting, we proposed another NFNH project to build a Fire Science Program for the State with the curriculum as a foundation. The 2017 Fire Season spurred an increased need for an organized, comprehensive Fire Program with a Program Leader. We received approval and commenced the project.
2. With Carrie Berger, I organized, scheduled, and delivered comprehensive, consistent, and cohesive fire education, information, and outreach based on sound science. 1. I obtained stable, multi-year funding via a multi-prong approach; 2. I provided leadership to the Fire Program with a funded and supported Program Coordinator position; 3. I worked with FNR program leaders/coordinators and county agents/state specialists to identify fire education, info, and outreach needs in FNR Curricula and FNR programming; and 4. I developed a statewide Fire Program ed. and outreach delivery strategy internal and external to FNR.
3. Community school-aged kids need forestry education taught in the forest just as much as adults do. There are not many opportunities for kids to get out and receive quality education about natural resources. I have directly participated and/or directed events designed to bring forestry and natural resource education to elementary and middle school-aged kids. We have continued to bring this education to adults as well.
4. I directly organized and provided leadership to individuals from the Winema Hoo-Hoo Club, Green Diamond, the U.S. Forest Service, the Oregon and U.S. Dept. of Fish and Wildlife, The Bureau of Land Management, the Society of American Foresters, the USDA Natural Resources Conservation Service, and the Oregon Department of Forestry. These volunteers presented eight, 15-minute sessions for two days to enable the 700 6th graders to learn about firefighting and fire prevention, wildlife, soils and water, forest products, tree identification, camping and survival, and forest management. Some of those who attended were the great-grandchildren of the original students. The goal of the School Forestry Tour program is to provide students with a natural resource career awareness experience and to instill an appreciation for the importance of forest resources to the quality of life and economy of our area. Home schooled students and Christian schools attended at our invitation. The Lake County Outdoor School is organized by the Lake County Watershed Council and is one of only a few opportunities school

kids have to get an outdoor educational experience in this rural and remote part of Oregon.

Activities - July 2018-June 2019 (shared as a Partner):

5. I participated and assisted a Sharepoint team site created to facilitate sharing of information, tracking of contacts and site visits needed, and entry of data in the field. This site was used as partners contacted landowners through calls and site visits, both as part of general outreach for the project, and to determine interest and eligibility for current implementation using Western States Fire grant funding. Contacts pre-populated in the Sharepoint data table were 1) landowners in the high priority areas, and 2) landowners that had requested a site visit but had not yet been visited.
6. I assisted and helped direct partners meeting with Chiloquin Fire and Rescue, and Klamath County to determine the feasibility and request for a FEMA Pre-Disaster Mitigation grant.
7. I have participated and assisted with partners that have met six times with Train Mountain (landowner of >2,200 acres) to deliver maps and discuss treatment options.
8. I have met with six interested landowners that are close neighbors for a site visit and to discuss treatments across property lines.
9. With partners, I have participated in an outreach meeting in Chiloquin in August 2018. The outreach meeting was held to demonstrate various resources available to area landowners, with other entities such as Energy Trust of Oregon, Trout Unlimited, Partners for Fish and Wildlife, Klamath Watershed Partnership, Farm Services Agency, and Adkins Engineering. The event was attended by 15 landowners.
10. With my assistance, ODF contacted landowners in the project area who had expressed an interest in defensible space projects to be funded through their Western State Fire grant.
11. I conducted and assisted in a slash pile burning workshop was conducted on November 9, 2018 at the Klamath Outdoor Science School facility northeast of Chiloquin. Presenters included OSU Extension, US Forest Service, Oregon Department of Forestry, and Klamath Watershed Partnership. There were 18 participants, with 9 of those being landowners/contractors from the project area. A slash pile burning brochure was developed with locally relevant rules and contact information, and this brochure is now distributed by Klamath and Lake County ODF offices and the Chiloquin Fire and Rescue office.
12. I directly worked with and provided leadership to the Klamath Watershed Partnership with 6 landowners in the project area to develop a grant proposal to the Oregon Watershed Enhancement Board for treatment through small tree thinning and brush mowing. This grant was funded in May 2019, and implementation is slated for later this summer.
13. I conducted a meeting was held January 10, 2019, to discuss cross-boundary treatments and fuel breaks for Train Mountain and adjacent property owners to the west and north. Invitation letters were sent to the neighbors at the end of December 2018. The meeting was held at the Train Mountain facilities with support from OSU Extension, Oregon Department of Forestry, and Klamath Watershed Partnership.
14. I delivered a 4-hour forestry short course was held on April 20, 2019, in Chiloquin based on OSU curriculum and with presentations by Daniel Leavell and ODF. The course was advertised through posters, email, mailings, phone calls, and word of mouth. The workshop was attended by 17 landowners and partners.

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15. I assisted in two meetings that were held, one in April and one in May, targeted at recruiting landowners for NRCS EQIP signups. The meetings were advertised through separate mailings, posters, email, and phone calls. More than 15 landowners attended the meetings. For the first year of NRCS EQIP funding, the budget has been fully allocated among 21 landowners, all owning 20+ acres.

2000 I fulfilled the program manager responsibilities for ecosystem management and the ecology and botany programs, serving five Ranger Districts on the Kootenai National Forest's 2.5 million acres. This involved serving on four resource/budget teams in order to assess program priorities and to allocate dollar resources accordingly. I accounted for all dollars spent within my program areas and assist district specialists to budget their own accounts for each fiscal year

2000-2005 I directly fulfilled the Lead Ecologist and provided the leadership as core team member for the Kootenai and Idaho Panhandle Forest Zone Plan revision effort currently underway. As core team member, I was directly responsible for completing the Terrestrial sustainability, weeds, and fire risk chapters for revision. I served in this capacity for 5 years (2000 to 2005)

- 1995-2006
1. I directed and participated in the completion of an ethnographic assessment of Lincoln and part of Sanders Counties. An in-Agency report resulted. This social assessment is considered the standard from which to base social assessments for Forest Plan revision efforts.
 2. I directed and participated in three pollen/sediment/charcoal studies covering the variability of vegetation groups across the Forest with a consulting palynologist. These studies aided in defining our current climatic period and historic range of variability for planning purposes. I was co-author on one of these studies submitted for publication.
 3. I supervised a synthesis of all temporal ecological, biological, and physical information in archival format and directed the completion of a vegetative/general ecological assessment across the biological and physical variability of the Forest.
 4. I directed the delineation of the Forest into GIS-based, hierarchically nested bio/geophysical units to prepare for Forest Plan revision efforts. I provided leadership in the design of vegetative response unit delineation to better assess the role of disturbance relationships to vegetative communities across the landscape.
 5. I developed a Regional protocol for a standard of landscape-level, process-driven prescriptions.
 6. I directed the creation of a GIS fire history-polygon layer and attribute database for the Forest, using historic records and present fire sampling.
 7. I directed and participated in developing aquatic response units for the Forest. This is a classification of streams and non-moving bodies of water and wetlands driven by the differentia of geomorphic disturbance response.

- 1992-1995
1. I initiated a program called, "Ecosystem Management (EM)", a new policy initiated by the Forest Service Washington Office in June 1992.
 2. I organized the sensitive plant program, wrote Forest guidelines and methodologies for district employees.
 3. I guided the Forest toward implementation of Ecosystem Management by organizing an interdisciplinary task group (called the EM Core Group) to provide oversight for our move towards EM. Through my direction, we

initiated many experimental landscape assessments and analyses throughout the Forest and recommended many Forest-level projects designed to provide baseline sources of information concerning structure, composition, function and process from a temporal and spatial perspective.

4. I delivered scores of talks and seminars to groups ranging from campground users, to teachers groups, to State employees, to various professional societies, to timber industry to environmental groups. I always tried to emphasize the common ground within these divergent groups rather than the differences. I received a performance award from the Kootenai for excellent leadership of the Ecosystem Management program in 1993, and another award for participation in a Forest-wide assessment of the 1994 fires that used many of the concepts and products we had initiated.
5. I enhanced botany/ecology awareness and program efficiency and effectiveness throughout the Forest and Region. More sensitive plants were found and documented each year than during all the years prior to my taking the job. Because of my leadership; the Kootenai National Forest has conservation strategies and assessments for many sensitive plants that are proceeding toward completion, and a healthy cost-share program with the Montana State Heritage Program.
6. Participated in Regional Peer Group discussions and protocol development. One of these early discussions with the Regional Office resulted in Fred Samson's original paper describing the term, "Historic Range of Variability". I also contributed to the Columbia River Basin Ecosystem Management scientific assessment. I directly participated in the development of a Region-wide current vegetation layer based on remote-sensed imagery. I directed the effort for the Kootenai. The vegetation layer is used for revision efforts and landscape-level assessments and analyses. This effort was the basis of my involvement with a National effort to re-write the FS Handbook direction for vegetation classifications.

1980 -1988

1. I was designated the District's fatality investigator (Officer in Charge) for all accidental or intentional fatalities that occurred on Federal Land within the District boundaries.
2. I conducted search and rescue operations as needed for public employees lost in this remote area and for private individuals.

1978 -1980

1. I was designated the District's Emergency Medical Response Officer for the entire remote Ranger District – public and private individuals. Received permission to administer drugs and other Intermediate status procedures. Had helicopter resources available on call – and other personnel as available and as needed.
2. I conducted search and rescue operations as needed for public employees and/or private individuals/groups lost in this remote area.

2. Service to the Public (non-professional)

- | | |
|--------------|---|
| 2014-Present | Member of the International Concatenated Order of Hoo-Hoo, Winema Chapter |
| 2014-2016 | Firefighter/EMT for Klamath County Fire District #4, Klamath Falls, Oregon (served two, 12-hour shifts per week – mainly evenings and one 4-hour training per week) |

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2014-2016	Member of the Klamath County Ambulance Advisory Board
2014-2016	Member of the Klamath County Fire Defense Board
2014-2016	Member of the Klamath-Lake Public Safety Partnership
2006-2012	Fire Chief for the Cabinet View Fire Department, Libby, Montana (served for 20 to 30 hours per week during this time – and on-call 24 hours a day, 7 days per week for emergency response)
2008	I wrote and applied for grants to provide for a better-funded fire department. Under my leadership, our Dept. developed from an ISO rating of 0 (or 10) to an 8 in one year. This involved drastic improvements in personnel training, equipment maintenance, and overall readiness and water supply effectiveness. This was a great accomplishment for the community and insurance savings for many residents. Success in grant writing resulted in obtaining a Lincoln County-wide SCBA grant from FEMA for over \$400,000

E. HONORS AND AWARDS

1. National and International Awards

2018 Silver Award, Association of Natural Resource Extension Professionals.

2. State and Regional Awards

2018 Awesome Force Award, FNR Extension
2016 Watershed Partnership Award from the Lake County Watershed Council
2009 USDA (Kootenai National Forest) Cash award for Montanore EIS efforts
2019 USDA (Region 2) Cash award for participating in Regional habitat type training
2009 USDA (Kootenai National Forest) Cash award for superior performance on the job
2008 USDA (Kootenai National Forest) Cash award for superior performance on the job
2004 USDA (Kootenai National Forest) Cash award for superior performance on the job
2003 USDA Cash award for providing high quality and timely support to the Kootenai National Forest's old growth litigation process
2003 USDA (Kootenai National Forest) Cash award for outstanding teamwork on the Forest Plan revision effort
2001 USDA (Kootenai National Forest) Cash award for outstanding teamwork for the Rock Creek Project
1999 USDA (Kootenai National Forest) Forest Supervisor's award for leadership in the botany and ecology programs and for working with the Libby community
1995 USDA (Kootenai National Forest) Cash award for outstanding teamwork in developing an EM approach to a Forest Fire Assessment
1993 USDA (Kootenai National Forest) Cash award for outstanding leadership in the Forest's Ecosystem Management program
1991 USDA (Payette National Forest) Cash award for going above and beyond in creating an ecology program
1986 USDA (Wallowa-Whitman National Forest) Cash award for superior performance as a team leader for fire recovery efforts
1982 USDA (Wallowa-Whitman National Forest) Quality Step Increase for outstanding professional attitude and performance
1980 USDA (Idaho Panhandle National Forest) Cash award for outstanding performance as an Emergency Medical Technician in a remote location

3. University and Community Awards

2016 Chief's helmet award from the students at the OSU/Klamath CC structure fire academy

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- 2016 Award of Appreciation from the Bly Fire Department
- 2011 Distinguished Service Medal from the Cabinet View Fire Department