

Part I – Agency Profile

Agency Overview

Research mission – investigation into forestry and rangeland resource management problems, forest nursery production, and related areas. Part of the College of Natural Resources, Forest Utilization Research also includes the Rangeland Center with a legislative mandate for interdisciplinary research, education and outreach as suggested by a partner advisory council to fulfill the University’s land-grant mission (Idaho Code § 38-715), and the Policy Analysis Group with a legislative mandate to provide objective data and analysis pertinent to natural resource and land-use issues as suggested by an advisory committee of Idaho’s natural resource leaders (Idaho Code § 38-714).

Core Functions/Idaho Code

The duty of the Experiment Station of the University of Idaho’s College of Natural Resources is to institute and conduct investigations and research into the forestry, wildlife and range problems of the lands within the state. Such problems specifically include forest and timber growing, timber products marketing, seed and nursery stock production, game and other wildlife, forage and rangeland resources and effects of fire on these systems. Information resulting from cooperative investigation and research, including continuing inquiry into public policy issues pertinent to resource and land use questions of general interest to the people of Idaho, is to be published and distributed to affected industries and interests. (Idaho Code § 38-701, 38-703, 38-706, 38-707, 38-708, 38-709, 38-710, 38-711, 38-714, 38-715)

Revenue and Expenditures

Revenue	FY 2019	FY 2020	FY 2021	FY 2022
General Fund	\$1,281,100	\$1,435,500	\$1,421,000	\$1,447,700
Total	\$1,281,100	\$1,435,500	\$1,421,000	\$1,447,700
Expenditures	FY 2019			
Personnel Costs	\$1,121,800	\$1,244,200	\$1,258,400	\$1,274,320
Operating Expenditures	\$159,300	\$191,300	\$162,600	\$173,380
Capital Outlay	\$0	\$0		
Trustee/Benefit Payments	\$0	\$0		
FY20 1% Rescission/1% COVID/HB557	N/A	\$31,200		
FY21 5% General Fund Holdback			\$71,100	
Total	\$1,281,100	\$1,435,500	\$1,349,900	\$1,447,700

Profile of Cases Managed and/or Key Services Provided

Cases Managed and/or Key Services Provided	FY 2019	FY 2020	FY2021	FY 2022
Number of Private Landowners Assisted: Pitkin Forest Nursery	2082	2093	2898	2975
Number of Seedling Industry Research Projects: Pitkin Forest Nursery	7	6	6	5
Number of:				
• Research Projects:				
Experimental Forest	15	14	15	18
Policy Analysis Group	12	13	5	7
Pitkin Forest Nursery	12	11	11	9
Rangeland Center	27	21	19	22
Mica Creek	N/A	5	3	5
• Teaching Projects:				
Experimental Forest	25	14	19	16
Policy Analysis Group	8	6	6	7
Pitkin Forest Nursery	4	5	3	3
Rangeland Center	14	15	10	20
Mica Creek	N/A	3	4	5

Cases Managed and/or Key Services Provided	FY 2019	FY 2020	FY2021	FY 2022
• Service Projects:				
Experimental Forest	12	13	14	12
Policy Analysis Group	11	4	3	8
Pitkin Forest Nursery	10	9	9	11
Rangeland Center	17	12	9	11
Mica Creek	N/A	1	1	4

FY 2022 Performance Highlights (Optional)

Policy Analysis Group (PAG)

FY22 was a year in which the hard work of the Policy Analysis Group (PAG) focusing on climate policy within the context of market dynamics really paid off. Within the larger context of national policy, PAG modeling provided one of three forest sector projections used by the White House for our national communications to the United Nations Framework Convention on Climate Change (UNFCCC) as the U.S. completed the required actions rejoining global mitigation efforts under the Paris Agreement. At the state level, PAG coauthored the Lands chapter of the Idaho Climate-Economy Impacts Assessment to finish off a broad multi-year effort sponsored by many Idaho corporate and non-governmental organization partners. From getting new funding support from companies as prominent as Amazon and Microsoft to taking the message on the road through climate policy talks with Idaho’s loggers through the Loggers Education for Advancement and Professionalism, the PAG approach of market-based climate solutions for Idaho was developed. This led the submission of a 27-million-dollar proposal for a Climate-Smart Forestry Pilot in Idaho for the Intermountain West proposal in Spring of 2022. The PAG-led proposal brought together a wide range of partners including the University of Idaho, Idaho Forest Group, The Nature Conservancy, American Forest Foundation, Northwest Management Inc., TerraCarbon LLC, L&C Carbon, Associated Logging Contractors of Idaho, Idaho Department of Land, Idaho Forest Owners Association, Idaho Forest Products Commission, USDA Natural Resources Conservation Service, and the USDA Forest Service. If awarded, the concept could be pivotal for forest management efforts in the Inland Northwest. Beyond climate, we explored putting out shorter issue briefs discussing timely Idaho topics. And our undergraduate researchers traveled to Lewiston to present forest density and fire risk information to the Clearwater basin Collaborative. The coming year will see a series of county-level Fact Sheets disaggregating our popular Idaho Forest Economics annual reports for a more localized Idaho audience as we continue to meet our legislative mandate to provide objective data and analysis on natural resource and land-use issues of concern to Idaho citizens. The number and scope of our research effort highlights our commitment to this mandate, the impact of which is to provide timely information to inform critical land management decisions at multiple levels of government.

Pitkin Forest Nursery (Nursery)

The Pitkin Forest Nursery continued furthering its mission to advance the science, education, and application of native plant regeneration in Idaho in FY22. Progress was made on the construction of two new state-of-the-art greenhouses by securing bids and starting the planning process. The new greenhouses will increase our nursery capacity to fulfill our mission including production of high-quality plants for Idahoans. The greenhouses are expected to be completed in FY23. The surge in seedling demand continued in FY22, with the sale of 418,500 seedlings to 1,400 customers. Demand for seedling and planting information also continued to increase with the Nursery providing information to 4,588 stakeholders. We published 6 journal articles on a range of topics relevant to forestry and seedling propagation. Two papers focused on innovative techniques testing drought conditioning in the nursery to improve drought resistance and survival of native tree species following planting. Improving seedling drought resistance is a major challenge for Idaho as the frequency and intensity of droughts continue to hinder successful reforestation following wildfire and harvesting. We had a resurgence in demand for educational programming where we engaged with 95 K-12 students with presentations and hands-on planting demonstrations and 58 college students through nursery tours. The Nursery employed 28 college students to assist with growing the operational seedling crop, most in natural resource majors that will use planting stock in their future careers. We also started an intensive internship program with 7 interns from across the United States, who came to the Nursery to gain hands-on experience in tree propagation relevant to future nursery careers. The Nursery is the only facility in the US able to offer this type of training and help address the backlog of skilled workers entering the nursery industry. To further strengthen the pipeline for skilled nursery workers, an Associate of Science degree in

nursery management and technology was approved in FY22, which will integrate the Nursery's resources into educational programming.

University of Idaho Experimental Forest (UIEF)

In FY22, the University of Idaho Experimental Forest (UIEF) was the basis for several initiatives at the forefront of CNR growth in research, teaching and demonstration to benefit forestry stakeholders and the people of the State of Idaho. Over \$12 million in new proposals were submitted to several agencies and sources with more than \$1 million successful. More than 35 students gained forestry experience working on the UIEF and over 450 participated in field-based classes. The UIEF leads the nation as the first University research forest with a complete, lidar-based individual-tree inventory (STI) map of all trees on our main, 8,300-acre timberlands on Moscow Mountain, leading to several new papers, grants, and industry donations related to use of STI in precision forestry. A new, \$628,000 research grant using wearable technology to improve forestry efficiency and safety based on the UIEF was successfully funded. A new Senior Forest Utilization Research Associate to conduct applied, hands-on research of interest to forestry stakeholders was created and filled. In 2022 the UIEF began use of modern, mechanized logging equipment with our Student Logging Crew, now it's 50th year. This equipment also supports our new Forest Operations and Technology, A.A.S. degree, which is based on the UIEF and one of three 2-year degrees being offered for the first time in the University's history. This new degree will help train the logging workforce that is the foundation of Idaho's forest products economy. We worked with the Idaho Forest Products Commission, Idaho FFA, Idaho State Tax Commission, Idaho Dept. of Lands and Idaho Forest Owners Association to host several new field tours, workshops, and student competitions, presenting to over 600 Idahoans at events through the year.

Rangeland Center (Center)

In FY22, the UI Rangeland Center built partnerships to advance our knowledge of rangelands, brought in external funding sources, and conducted outreach to groups across the state and the Western US. The vacant Communications Manager position was filled, adding to our capacity and ability to reach our audiences. Center staff led and participated in both in-person and virtual outreach events, including the Idaho Rangeland Fall Forum that focused on resiliency to drought and brought in 197 participants. The UI Rinker Rock Creek Ranch continues to be a cornerstone for Center research and outreach projects, including a monitoring blitz that brought together 40 individuals from multiple agencies and non-profit groups to practice monitoring techniques and learn together. Center publications, including the Field Guide to Grasses and Grass-like Plants continue to be popular items for amateur and professional plant enthusiasts alike, with nearly 150 copies sold. Center staff completed a multi-year project with the UI McClure Center with the publication of the Idaho Climate-Economy Impacts Assessment. Another multi-year project, one taken in collaboration with the Rangelands Partnership, launched an online searchable science tool called RangeDocs. Center faculty wrote 17 peer-reviewed journal articles during FY22, showing our strength in topics ranging from sage-grouse biology, to livestock nutrition, to the use of drones for monitoring. Center members brought in over \$3 million dollars of external funding to the university to fund research projects on topics like drought and wildlife interactions and virtual fence technologies.

Mica Creek Experimental Watershed (MCEW)

In FY22, the MCEW continued to build on long-term research designed to assess the effects of Idaho forest Best Management Practices on water quantity, quality, streamflow regime, aquatic macroinvertebrates, and fish populations. A highlight in FY22 was site selection and preparation for the installation of a new meteorological station in the Mica Creek headwaters. The addition of the new meteorological station will further position Mica Creek to become a prime location for climate and forestry research in the rain-snow transition zone. Personnel are continuing to synthesize long-term fish monitoring data and prepare manuscripts on the fish community response to contemporary forest management practices. Preliminary results suggest that water temperatures never exceeded thresholds stressful to cold-water species and fish populations were not adversely impacted by timber harvest operations. MCEW personnel are also continuing to collect fish population information during ongoing harvest activities in the upper watershed. Project personnel designed a study to assess the effects of current Idaho forest management practices on water temperatures in non-fish bearing streams and downstream effects in fish-bearing reaches and are planning to install water temperature sensors in the upper watershed. The project also purchased a new water level monitoring system in 2022 and plan to test it at one of the flume sites in the watershed. Development of an internet accessible relational database with the University of Idaho's Research Computing and Data Services (RCDS) is ongoing. MCEW personnel are continuing to collect phosphorus and nitrogen species samples across the watershed in a collaborative study with the National Council on Air and Stream Improvement

(NCASI). Project personnel conducted outreach and scholarly presentations for approximately 350 attendees at an NCASI-sponsored international meeting, for the EPA Region 10 Forest Practices Group (15 attendees), and at the AGU Frontiers in Hydrology Conference (~30 attendees).

Part II – Performance Measures

Performance Measure		FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Goal 1						
<i>Achieve excellence in scholarship and creative activity through an institutional culture that values and promotes strong academic areas and interdisciplinary collaboration among them.</i>						
1. Objective A, Measure I: Number of CNR faculty, staff, students and constituency groups involved in FUR-related scholarship or capacity building activities.	actual	64	54	62	61	-----
	target	51	52	52	54	55
2. Objective A, Measure II: Number and diversity of courses that use full or partially FUR funded projects, facilities or equipment to educate, undergraduate, graduate and professional students.	actual	43	41	38	41	-----
	target	25	26	26	28	28
3. Objective B, Measure I: An accounting of products (e.g., research reports, economic analysis, BMPs) and services (e.g., protocols for new species shared with stakeholders, policy education programs and materials provided, accessible data bases or market models).	actual	37	35	23	22	-----
	target	33	34	34	34	36
4. Objective B, Measure II: An accounting of projects recognized and given credibility by external reviewers through licensing, patenting, publishing in refereed journals, etc.	actual	24	40	32	40	-----
	target	15 <i>refereed articles</i>	15 <i>refereed articles</i>	16 <i>refereed articles</i>	16 <i>refereed articles</i>	17 <i>refereed articles</i>
Goal 2						
<i>Engage with the public, private and non-profit sectors through mutually beneficial partnerships that enhance teaching, learning, discovery, and creativity.</i>						
5. Objective A, Measure I: Document cases: Communities served and resulting documentable impact; governmental agencies served and resulting documentable impact; non-governmental agencies and resulting documentable impact; private businesses and resulting documentable impact; and private landowners and resulting documentable impact. Meeting target numbers for audiences identified below and identifying mechanisms to measure economic and social impacts	actual	2,839	2,842	3,150	3,257	-----
	target	1,750	1,850	1,850	1,850	1,850
Goal 3						
<i>Efficient financial management of FUR state appropriated dollars supporting Goals 1 and 2 and leveraging resources to secure external funding.</i>						
6. Objective A, Measure I: New funding sources from external granting agencies, private and public partnerships and other funding groups.	actual	14	22	18	16	-----
	target	15	16	16	17	17

Performance Measure Explanatory Notes (Optional)

- Performance Measure #1 – Seeking 20% growth by FY2023 based on increased staff resources in 2016 that allows more faculty, staff, students and constituency groups to be involved in FUR-related scholarship activities.
- Performance Measure #2 – Seeking 15% growth by FY2023 based on College and program goals to enhance coordination of course offerings and research.
- Performance Measure #3 – Seeking 15% growth by FY2023 based on a critical need to communicate with external stakeholders, and increase the pace of products produced.
- Performance Measure #4 – Seeking 25% growth by FY2023 based on increased staff resources in 2016 focused on research that will increase scientific outreach and communication.
- Performance Measure #5 – This is a new measure based on UI and College strategic goal to increase involvement and communication with external stakeholders. The target of 1,250 participants served was established from internal analysis of recent year participants.
- Performance Measure #6 – Seeking 25% growth based on analysis of projects started and completed in recent years, staff capacity, and the need to increase the pace of projects completed annually.

For More Information Contact

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