

Department of Rangeland Ecology and Management

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The term RANGELAND was invented in the United States to describe the extensive, unforested lands dominating the western half of the continent. Rangelands around the world are known by many names including prairie, plains, grassland, shrubland, savanna, steppe, desert, semi-desert, sward, tundra, and alpine. These many types of rangeland together form about half of the earth's land surface. Idaho is 48% rangeland. Limited precipitation, generally sparse vegetation, sharp climatic extremes, highly variable soils, frequent salinity, and diverse topography characterize the kind of land called RANGELAND.

Rangelands produce a wide variety of goods and services desired by society, including livestock forage, wildlife habitat, water, mineral resources, wood products, wild-land recreation, open space, and natural beauty. The geographic extent and many important resources of rangelands make their proper use and management vitally important to people everywhere.

The Department of Rangeland Ecology and Management in the College of Natural Resources offers a program leading to a Bachelor of Science (B.S.) degree in Rangeland Ecology and Management with career tracks in rangeland conservation, restoration ecology, invasive species, watershed management, riparian ecology, wildlife habitat ecology, and landscape ecology. In addition, the Department offers a B.S. Degree in Fire Ecology and Management in cooperation with the Forest Resources Department. Studies in rangeland ecology and management are founded on a solid understanding of biology, ecology, soils, and vegetation. Field study and evaluation of plant and animal communities are integral parts of the curriculum in rangeland ecology and management. Internships with public land management agencies and private livestock enterprises add to the educational opportunities in the program.

Rangeland managers enjoy careers with a variety of private organizations and government agencies. State and federal land management agencies, such as the US Forest Service, Bureau of Land Management, and State Departments of Lands, hire rangeland professionals to oversee the management of public rangelands. Wildlife management agencies also hire range managers to maintain and improve wildlife habitat. Private land owners employ range consultants and managers to oversee livestock operations, enhance hunting programs, maintain forage resources and control weeds. Biological assessment companies require the careful measurement and assessment of vegetation resources, therefore they often hire rangeland professionals. A growing number of rangeland professionals work as natural resource facilitators to bring rangeland stakeholders together to craft plans for environmental stewardship. The Rangeland Ecology and Management Department at the University of Idaho holds a record of greater than 85% of students graduating with a B.S. in the last 10 years securing careers in natural resource management or advancing to graduate school.

Because of the extent, character, and importance of Idaho's rangelands, excellent opportunities exist for graduate study in all phases of rangeland use and management. Graduate students may earn a Master of Science degree in Natural Resources or the Doctor of Philosophy degree in Natural Resources. The graduate program allows for a diversity of courses from a variety of fields such as rangeland ecology, wildlife, animal science, soils, agricultural economics, forestry, fire ecology and others.

Prospective students interested in rangeland ecology and management urged to contact the departmental office for further information (208/885-6536; range@uidaho.edu; www.uidaho.edu/range/).

Courses

See Part 6 for courses in Rangeland Ecology and Management (REM).

Undergraduate Curricular Requirements

RANGELAND ECOLOGY AND MANAGEMENT (B.S.Rangeland Ecol.-Mgt.)

Required course work includes the university requirements (see regulation J-3) and:

First and Second Years

Biol 115 Cells and the Evolution of Life (4 cr)

Biol 116 Organisms and Environments (4 cr)

Biol 213 Principles of Biological Structure and Function (4 cr)

Chem 101 Introduction to Chemistry I or Chem 111 Principles of Chemistry I (4 cr)

Chem 275 Carbon Compounds (3 cr)

Comm 101 Fundamentals of Public Speaking (2 cr)

Econ 201, 202 Principles of Economics (6 cr)

For 235 or CSS 235 Society and Natural Resources (3 cr)

Math 143 Pre-calculus Algebra and Analytic Geometry or Math 160 Survey of Calculus (3-4 cr)

REM 221 Ecology or For 221 Ecology or (3 cr)

REM 251 Rangeland Principles (2 cr)

Soil 205 The Soil Ecosystem (3 cr)
Soil 206 The Soil Ecosystem Lab (1 cr)
Stat 251 Principles of Statistics (3 cr)

Third and Fourth Years

Engl 317 Technical Writing or Engl 313 Business Writing (3 cr)
Fish 430 Riparian Ecology and Management (3 cr)
REM 341 Systematic Botany (3 cr)
REM 351 Wildland Plant Identification Field Studies (3 cr)
REM 357 Rangeland and Riparian Habitat Assessment (3 cr)
REM 402 Applied Spatial Analysis in Natural Resources or For 375 Introduction to Spatial Analysis for Natural Resource Management (2-3 cr)
REM 440 Wildland Restoration Ecology (3 cr)
REM 452 Western Wildland Landscapes (1 cr) and Geog 310 Biogeography (2-3 cr); or For 429 Landscape Ecology (3 cr)
REM 456 Integrated Rangeland Management (3 cr)
REM 459 Rangeland Ecology (2 cr)
REM 460 Rangeland Ecology Current Topics and Field Studies (1 cr)
Soil 454 Soil Development and Classification (3 cr)

Students must also complete 19 credits of advisor approved electives in emphasis areas that include: Restoration Ecology, Field Botany, Spatial Ecology, Watershed Science, Wildland Fire Management, Invasive Plant Management, Wildlife Habitat Management, Tribal Land Management, Rangeland Economics, Natural Resource Communication, and Environmental Consulting.

Electives to total 128 credits for the degree

ECOLOGY AND CONSERVATION BIOLOGY (B.S.Ecol.Cons.Biol.)

For information on an undergraduate major in ecology and conservation biology, see the Natural Resources section (Part 5).

FIRE ECOLOGY AND MANAGEMENT (B.S.Fire.Ecol.Mgmt.)

Graduates of the degree will be trained to work as leaders in fuels management, fire prevention, fire suppression, and fire management in rangeland and forests. This degree is administered jointly with the Forest Resources Department.

For information on an undergraduate major in fire ecology and management, see the Fire Ecology and Management section (Part 5).

Academic Minor Requirements

RANGELAND ECOLOGY AND MANAGEMENT MINOR

Note: At least 12 credits in courses numbered 300 or higher are required to satisfy the requirements of this minor.

REM 221 Ecology or For 221 Ecology or (3 cr)
REM 251 Rangeland Principles (2 cr)
REM 353 Rangeland Plant Identification and Ecology (3 cr)
REM 459 Rangeland Ecology (2 cr)
REM 460 Rangeland Ecology Current Topics and Field Studies (1 cr)
Two of the following courses (6 cr):
REM 357 Rangeland and Riparian Habitat Assessment (3 cr)
REM 429 Landscape Ecology (3 cr)
REM 440 Wildland Restoration Ecology (3 cr)
REM 456 Integrated Rangeland Management (3 cr)
One of the following courses (or a course not chosen above) (3 cr):
AVS 474 Beef Cattle Science (3 cr)
AVS 476 Sheep Science (3 cr)
Fish 430 Riparian Ecology and Management (3 cr)
For 426 Wildland Fire Ecology and Management (3 cr)
For 462 Watershed Management (3 cr)
PISc 338 Weed Control (3 cr)
PISc 410 Biology of Weeds (3 cr)
REM 244 Wildland Fire Management (2 cr)
REM 454 Invasive Plant Management (3 cr)
Soil 454 Soil Development and Classification (3 cr)
WLF 314 Wildlife Ecology I (3 cr)

Graduate Degree Programs

Candidates must fulfill the requirements of the College of Graduate Studies and of the College of Natural Resources. See the College of Graduate Studies section of Part 4 for the general requirements applicable to each degree.

Master of Science. The M.S. degree is available with a major in natural resources. Thesis and non-thesis options are offered. (A) Thesis option: General M.S. requirements apply except that the thesis requirements may be fulfilled by a publication(s) at the discretion of the candidate's supervisory committee. (B) Non-thesis option: General M.S. requirements apply. A written and/or oral examination that covers graduate course work must be taken during the final semester in residence. One or more professional papers may be required at the discretion of the candidate's supervisory committee. The non-thesis degree is designed primarily for candidates with background experience in some area of range resource use or management.

Doctor of Philosophy. The Ph.D. degree is available with a major in natural resources. General Ph.D. requirements apply; see the Natural Resources section for details.