

# NATURAL RESOURCES GRADUATE MAJOR (MNR)

## Graduate Areas of Concentration

*Fisheries management, forests and climate change, geographic information science (GIScience), sustainable natural resources, urban forestry, water conflict management, and wildlife management*

**Also available via Ecampus.**

The MNR is a 45-credit online degree program with curriculum organized into three sections: core (18 credits), area of emphasis (18 credits), and capstone project (9 credits). It is taught entirely online through OSU Ecampus, although some students work toward the MNR degree while in residence at OSU.

The MNR degree is offered as a non-thesis program with a capstone project, rather than a thesis. The MNR's contemporary content is for natural resource professionals who work in settings that require cross-disciplinary competency to find solutions to natural resource problems. Integration of multiple disciplines occurs through the curriculum, assignments, and a capstone project. All MNR students integrate concepts and approaches developed throughout the entire program in a final capstone project.

**Major Code: 2430**

Code	Title	Credits
<b>Core Courses</b>		
18 credits are required from four thematic areas. These must be courses that are not already being used to satisfy units in the area of emphasis		
<i>Theme: Overview/Introduction</i>		
MNR 511	INTRODUCTION TO SUSTAINABLE NATURAL RESOURCES	3
<i>Theme: Ecology/Production</i>		
Select 6 credits from the following:		6
BEE 511	GLOBAL ENVIRONMENTAL CHANGE: USING DATA TO INFORM DECISIONS	
FES 535/TOX 535/ MCB 535	GENES AND CHEMICALS IN AGRICULTURE: VALUE AND RISK	
FES 536	CARBON SEQUESTRATION IN FORESTS	
FES 545/FW 545	ECOLOGICAL RESTORATION	
FES 547/HORT 547	ARBORICULTURE	
FES 548	INVASIVE PLANTS: BIOLOGY, ECOLOGY AND MANAGEMENT	
FES 552/FW 552	FOREST WILDLIFE HABITAT MANAGEMENT	
FES 560	GREEN INFRASTRUCTURE	
FW 519	THE NATURAL HISTORY OF WHALES AND WHALING	
FW 521	AQUATIC BIOLOGICAL INVASIONS	
FW 523	MONITORING WILDLIFE POPULATIONS AND THEIR HABITATS	
FW 527	PRINCIPLES OF WILDLIFE DISEASES	
FW 535	WILDLIFE IN AGRICULTURAL ECOSYSTEMS	
FW 538	STRUCTURED DECISION MAKING IN NATURAL RESOURCE MANAGEMENT LAB	
FW 540	VERTEBRATE POPULATION DYNAMICS	
FW 551	AVIAN CONSERVATION AND MANAGEMENT	
FW 554	FISHERY BIOLOGY	
FW 556	FRESHWATER ECOLOGY AND CONSERVATION	
FW 558	MAMMAL CONSERVATION AND MANAGEMENT	
FW 562	ECOSYSTEM SERVICES	
FW 563	CONSERVATION BIOLOGY OF WILDLIFE	

FW 570	ECOLOGY AND HISTORY: LANDSCAPES OF THE COLUMBIA BASIN
FW 575	WILDLIFE BEHAVIOR
FW 576	FISH PHYSIOLOGY
FW 579	WETLANDS AND RIPARIAN ECOLOGY
FW 580	STREAM ECOLOGY
FW 581	WILDLIFE ECOLOGY
FW 583	SPECIES RECOVERY PLANNING AND RESTORATION
FW 597	AQUACULTURE
MNR 530	TROPICAL FOREST ECOLOGY AND MANAGEMENT: A GLOBAL PERSPECTIVE
MNR 538	ADAPTING FORESTS TO CLIMATE CHANGE
MNR 550	CLIMATE CHANGE IMPACTS ON FOREST ECOSYSTEMS
SNR 530	ECOLOGICAL PRINCIPLES OF SUSTAINABLE NATURAL RESOURCES
SNR 531	SUSTAINABLE SILVICULTURE AND FOREST CERTIFICATION
SNR 532	PLANNING AGROFORESTRY PROJECTS
SNR 533	NONTIMBER FOREST PRODUCTS: AN INTERDISCIPLINARY INTRODUCTION
SNR 534	REDUCED IMPACT TIMBER HARVEST
SNR 535	SUSTAINABLE MANAGEMENT OF AQUATIC AND RIPARIAN RESOURCES
SNR 540	GLOBAL ENVIRONMENTAL CHANGE
SOIL 511	SOIL: A NATURAL AND SOCIETAL RESOURCE

*Theme: Human Systems*

Select 6 credits from at least 2 of the following 5 areas: 6

<b>Economics</b>	
AEC 534	ENVIRONMENTAL AND RESOURCE ECONOMICS
FES 500/MNR 500	MARKET TOOLS FOR MANAGING GREENHOUSE GAS EMISSIONS
FW 537	STRUCTURED DECISION MAKING IN NATURAL RESOURCE MANAGEMENT
SNR 521	ECONOMICS OF SUSTAINABLE NATURAL RESOURCE MANAGEMENT
<b>Policy</b>	
AEC 532	ENVIRONMENTAL LAW
FES 527	FOREST CARBON ANALYSIS FOR ASSESSMENTS AND POLICY AGREEMENTS
FES 555/HORT 555	URBAN FOREST PLANNING, POLICY AND MANAGEMENT
FES 565	URBAN FORESTRY LEADERSHIP
FES 586	PUBLIC LANDS POLICY AND MANAGEMENT
FOR 531	ECONOMICS AND POLICY OF FOREST WILDLAND FIRE
FW 515	FISHERIES AND WILDLIFE LAW AND POLICY
FW 522	INTRODUCTION TO OCEAN LAW
FW 620	ECOLOGICAL POLICY
GEOG 540	CONFLICT, COOPERATION, AND CONTROL OF WATER IN THE US
GEOG 541	THE WORLD'S WATER
GEOG 552	ENVIRONMENTAL ASSESSMENT
PPOL 546	THE POLICY AND LAW OF UNITED STATES COASTAL GOVERNANCE
PS 575	ENVIRONMENTAL POLITICS AND POLICY
PS 577	INTERNATIONAL ENVIRONMENTAL POLITICS AND POLICY
PS 578	RENEWABLE ENERGY POLICY
WRP 521	WATER CONFLICT MANAGEMENT AND TRANSFORMATION
<b>Sociology</b>	
ANTH 581	NATURAL RESOURCES AND COMMUNITY VALUES
FES 585	CONSENSUS AND NATURAL RESOURCES
SOC 554	LEISURE AND CULTURE
SOC 580	ENVIRONMENTAL SOCIOLOGY
SOC 581	SOCIETY AND NATURAL RESOURCES

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SNR 520	SOCIAL ASPECTS OF SUSTAINABLE NATURAL RESOURCES
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Ethics

FW 549	HISTORY OF FISHERIES SCIENCE
GEOG 564	GEOSPATIAL PERSPECTIVES ON INTELLIGENCE, SECURITY AND ETHICS
PHL 540	ENVIRONMENTAL ETHICS
PHL 543/REL 543	WORLD VIEWS AND ENVIRONMENTAL VALUES
SNR 522	BASIC BELIEFS AND ETHICS IN NATURAL RESOURCES

Communication

COMM 550	COMMUNICATION AND THE PRACTICE OF SCIENCE
FW 514	PROFESSIONAL DEVELOPMENT: MEETING COMMUNICATIONS
LEAD 542	LEADERSHIP SKILLS FOR CAREER SUCCESS
LEAD 543	LEADERSHIP THROUGH CONVERSATIONS
SED 535	COMMUNICATING OCEAN SCIENCES TO INFORMAL AUDIENCES
TRAL 593	ENVIRONMENTAL INTERPRETATION

Theme: Methodology

Select 3 credits from the following: 3

BOT 540	FIELD METHODS IN PLANT ECOLOGY
CH 590	COMPUTER PROGRAMMING FOR SCIENTISTS
FW 524	INTRODUCTION TO FISHERIES ASSESSMENT
GEOG 560	GISCIENCE I: INTRODUCTION TO GEOGRAPHIC INFORMATION SCIENCE
GEOG 561	GISCIENCE II: ANALYSIS AND APPLICATIONS
GEOG 580	REMOTE SENSING I: PRINCIPLES AND APPLICATIONS
MNR 522/FES 522	RESEARCH METHODS SOCIAL SCIENCE
PPOL 521	UNDERSTANDING SOCIAL RESEARCH
PPOL 523	QUALITATIVE RESEARCH METHODS
ST 516	FOUNDATIONS OF DATA ANALYTICS
ST 517	DATA ANALYTICS I
ST 539	SURVEY METHODS

Area of Emphasis

Students may select a certificate listed below or design their own option. A certificate may not be used to satisfy core requirements 18

Geographic Information Science (GIScience)
Sustainable Natural Resources (SNR)
Water Conflict Management and Transformation (WCMT)
Fisheries Management
Urban Forestry
Forests and Climate Change
Wildlife Management
Design own option (not transcribed)

Capstone Project

Master of Natural Resources students will select one group below depending upon their area of emphasis choice. All students should choose Group 1 unless they have completed SNR 511 and SNR 506 as part of their certificate program. Students are advised not to take MNR 560 (or SNR 506) and MNR 561 during the same term. MNR 561 credits should be taken after MNR 560, and the credits may be broken up over more than one term

Select one of the following groups: 9

Group 1

MNR 560	DEVELOPING THE MNR CAPSTONE PROPOSAL
MNR 561	MNR CAPSTONE PROJECT

Group 2

SNR 511	SUSTAINABLE NATURAL RESOURCE DEVELOPMENT
SNR 506	INDEPENDENT PROJECT IN NATURAL RESOURCE SUSTAINABILITY
MNR 561	MNR CAPSTONE PROJECT

Total Credits 45

- Geographic Information Science (GIScience) (<http://www.geo.oregonstate.edu/ucgis/teaching.html>) **Contact:** Kuuipo Walsh
- Sustainable Natural Resources (SNR) (<http://ecampus.oregonstate.edu/online-degrees/graduate/sustainability/>) **Contact:** Badege Bishaw
- Water Conflict Management and Transformation (WCMT) (<http://www.transboundarywaters.orst.edu/training/curriculum.htm>) **Contact:** Lynette de Silva
- Fisheries Management (<http://ecampus.oregonstate.edu/online-degrees/graduate/fisheries-management/>) **Contact:** fw.gradadvising@oregonstate.edu
- Urban Forestry (<http://ecampus.oregonstate.edu/online-degrees/graduate/urban-forestry/>) **Contact:** Paul Ries
- Forests and Climate Change (<http://ecampus.oregonstate.edu/online-degrees/graduate/forests-climate-change/>) **Contact:** Badege Bishaw
- Wildlife Management (<http://ecampus.oregonstate.edu/online-degrees/graduate/wildlife-management/>) **Contact:** fw.gradadvising@oregonstate.edu
- Design own option (not transcribed) **Contact:** Janean Creighton (developed in consultation with your advisor)

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