NATURAL RESOURCES (M.N.R.)

The Master of Natural Resources (MNR) is an interdisciplinary course-based graduate program designed for current and aspiring professionals who wish to enhance their educational credentials for a career in natural resources. The fundamental objective of the MNR graduate program is to integrate and scale various perspectives — ecology and management; planning, policy and society; and tools and technology — into a systems-view of natural resources. This unique professional degree is accessible to students of diverse academic backgrounds and will help graduates develop credentials and skills for the effective management of natural resources. The degree program can be completed entirely online or through a combination of online and on-campus courses. The MNR program can be combined with the certificate program specializing in fire ecology, management and technology. The five MNR degree specializations are:

- Environmental Education and Science Communication
- Fire Ecology and Management
- Fish and Wildlife Science and Management
- Integrated Natural Resources
- Restoration Ecology and Habitat Management

Master of Natural Resources. Major in Natural Resources. Integrated Natural Resources Option.

The Integrated Natural Resources Option of the MNR covers a breadth of natural resource science and management subjects. The program provides knowledge and skills to support holistic, integrated approaches to careers in natural resources. The Integrated Natural Resources Option of the MNR consists of 30 semester credits (at least 7 credits from each of three MNR program categories - Ecology and Management, Policy, Planning, and Society; and Tools and Technology - plus 0-7 elective courses and 2 credits for a final project/portfolio) to total 30 credits. Up to 12 semester credits can be transferred into the program from other institutions. Coursework must include a minimum of 18 credits numbered 500 or above.

Admission to the College of Graduate Studies requires a minimum 3.0 GPA, three letters of reference, and a statement of purpose.

Complete admission and degree information is available online at: http://www.uidaho.edu/cnr/grad-programs/online-degrees/master-of-natural-resources. (http://www.uidaho.edu/cnr/grad-programs/online-degrees/master-of-natural-resources/)

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<tr>
<th>Code</th>
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<th>Hours</th>
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<tr>
<td>Select a minimum of 7 credits from each of the three categories below: 21</td>
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<tr>
<td>BE 450</td>
<td>Environmental Hydrology</td>
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<tr>
<td>ENVS 501</td>
<td>Seminar (A maximum of 2 credits of seminar can be used towards the 30 credit total.)</td>
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<tr>
<td>FISH 415</td>
<td>Limnology</td>
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</table>

FIS 515 Large River Fisheries
FIS 525 Aquaculture in Relation to Wild Fish Populations
FIS 526 Climate Effects & Cons Manage
FIS 540 Wetland Restoration
FOR 501 Seminar (A maximum of 2 credits of seminar can be used towards the 30 credit total.)
FOR/ENVS/REM/WLF 504 Special Topics
FOR 526 Fire Ecology
FOR 410 Fire Effects and Management
REM 440 Restoration Ecology
REM 456 Integrated Rangeland Management
REM 459 Rangeland Ecology
REM 507 Landscape and Habitat Dynamics
WLF 440 Conservation Biology
WLF 506 External Speakers

Policy, Planning, and Society:
ENVS 520 Introduction to Bioregional Planning
ENVS 523 Planning Sustainable Places
ENVS 530 Planning Theory and Process
ENVS/FS 536 Principles of Sustainability
ENVS 551 Research Methods in the Environmental Social Sciences
ENVS 552 Environmental Philosophy
ENVS 577 Law, Ethics, and the Environment
ENVS 579 Introduction to Environmental Regulations
FOR 546 Science Synthesis and Communication
FOR 554 Air Quality, Pollution, and Smoke
FOR 584 Natural Resource Policy Development
FOR 587 Wildland Fire Policy
NRS 501 Seminar (A maximum of 2 credits of seminar can be used towards the 30 credit total.)
NRS 504 Special Topics
NRS 507 Moral Reasoning in Natural Resources
NRS 555 Human Dimensions of Natural Resources
NRS 574 Environmental Politics and Policy
NRS 576 Environmental Project Management and Decision Making
SOIL 544 Water Quality in the Pacific Northwest

Tools and Technology:
FOR 451 Fuels Inventory and Management
FOR 554 Air Quality, Pollution, and Smoke
GEOG 524 Hydrologic Applications of GIS and Remote Sensing
NRS 578 LIDAR and Optical Remote Sensing Analysis
NRS 580 Restoration Ecology Practicum
NRS 592 Emerging Media Outreach in Natural Resources
REM 407 GIS Application in Fire Ecology and Management
REM 507 Landscape and Habitat Dynamics
REM 520 Advanced Vegetation Measurement and Monitoring
SOIL 544 Water Quality in the Pacific Northwest
WLF 540 Conservation Genetics
Master of Natural Resources. Major in Natural Resources. Fire Ecology and Management Option.

The Fire Ecology and Management Option provides depth to address wildfire management challenges facing society. Completing this option will help students advance their professional careers in wildland fire management, fuels management, and restoration by advancing knowledge of fire science, ecology, fire-related policy and social issues, and the latest tools and technology. The Option also reinforces fundamentals in applied ecology, natural resources management, communications, and other career-advancing knowledge and skills.

The Fire Ecology and Management Option of the MNR consists of 30 semester credits (14 credits of Core Courses; 2-3 credits of Ecology; 4 credits of Tools and Technology; 6 credits of Policy, Planning, and Society; 2 credits of electives; and 2 credits of non-thesis research for a final project or portfolio). Up to 12 semester credits can be transferred into the program from other institutions. Admission to the College of Graduate Studies requires a minimum 3.0 GPA, three letters of reference, and a statement of purpose. Coursework must include a minimum of 18 credits numbered 500 or above.

Complete admissions and degree information is available online at: http://www.uidaho.edu/cnr/grad-programs/online-degrees/master-of-natural-resources.

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<tr>
<th>Code</th>
<th>Title</th>
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<tr>
<td>NRS 501</td>
<td>Seminar (NRS 504-90 ST: Intro Ecol Data Analysis is optional)</td>
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<td>Fire Science and Management Core</td>
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<td>FOR 451</td>
<td>Fuels Inventory and Management</td>
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<td>FOR 526</td>
<td>Fire Ecology</td>
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<td>FOR 546</td>
<td>Science Synthesis and Communication</td>
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<td>FOR 557</td>
<td>Advanced Fire Behavior</td>
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<td>FOR 587</td>
<td>Wildland Fire Policy</td>
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<tr>
<td>FISH 526</td>
<td>Climate Effects &amp; Cons Manage</td>
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<td>FISH 540</td>
<td>Wetland Restoration</td>
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<tr>
<td>FOR 501</td>
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<tr>
<td>FOR/REM/ENVS/WLF 504</td>
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<td>REM 440</td>
<td>Restoration Ecology</td>
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<td>REM 459</td>
<td>Rangeland Ecology</td>
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<tr>
<td>REM 507</td>
<td>Landscape and Habitat Dynamics 1</td>
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<tr>
<td>WLF 440</td>
<td>Conservation Biology</td>
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<tr>
<td>FOR 410</td>
<td>Fire Effects and Management</td>
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<tr>
<td>WLF 506</td>
<td>External Speakers</td>
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<tr>
<td>ENVS 551</td>
<td>Research Methods in the Environmental Social Sciences</td>
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<tr>
<td>FOR 454/554</td>
<td>Air Quality, Pollution, and Smoke 2</td>
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<td>NRS 578</td>
<td>LIDAR and Optical Remote Sensing Analysis</td>
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<td>NRS 580</td>
<td>Restoration Ecology Practicum</td>
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<td>REM 407</td>
<td>GIS Application in Fire Ecology and Management</td>
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<tr>
<td>REM 507</td>
<td>Landscape and Habitat Dynamics 3</td>
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</table>

Courses to total 32 credits for this degree
### Master of Natural Resources. Major in Natural Resources. Restoration Ecology and Habitat Management Option.

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<th>Code</th>
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<tr>
<td>REM 520</td>
<td>Advanced Vegetation Measurement and Monitoring</td>
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<td>ENVS 523</td>
<td>Planning Sustainable Places</td>
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<td>ENVS 530</td>
<td>Planning Theory and Process</td>
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<td>ENVS 577</td>
<td>Law, Ethics, and the Environment</td>
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<tr>
<td>FOR 454/554</td>
<td>Air Quality, Pollution, and Smoke 2</td>
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<tr>
<td>FOR 584</td>
<td>Natural Resource Policy Development</td>
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<tr>
<td>FS 536</td>
<td>Principles of Sustainability</td>
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<tr>
<td>or ENVS 536 Principles of Sustainability</td>
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<td>NRS 501</td>
<td>Seminar (A maximum of 2 credits of seminar can be used towards the 30 credit total.)</td>
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<td>NRS 507</td>
<td>Moral Reasoning in Natural Resources</td>
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<td>NRS 555</td>
<td>Human Dimensions of Natural Resources</td>
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<td>NRS 574</td>
<td>Environmental Politics and Policy</td>
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<td>NRS 576</td>
<td>Environmental Project Management and Decision Making</td>
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<td>NRS 588</td>
<td>NEPA in Policy and Practice</td>
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<td>Final Project</td>
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<td>NR 599</td>
<td>Non-thesis Master’s Research</td>
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<td>Elective Courses:</td>
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<td>ENVS/FOR/ NRS 501</td>
<td>Seminar (A maximum of 2 credits of seminar can be used towards the 30 credit total.)</td>
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<td>ENVS/FOR/ NRS/REM/ WLF 504</td>
<td>Special Topics</td>
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<td>WLF 506</td>
<td>External Speakers</td>
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<tr>
<td>-OR- any additional courses listed above -OR- advisor-approved electives to bring total to 30 credits</td>
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</table>

**Total Hours**: 30

#### Courses to total 30 credits for this degree

1. REM 507 Landscape and Habitat Dynamics can be used for either the Ecology and Management requirement -OR- the Tools and Technology requirement (but not both).

2. FOR 454 or FOR 554 Air Quality, Pollution, and Smoke can be used to contribute to either the Policy, Planning and Society requirement -OR- the Tools and Technology requirement (but not both).

### Master of Natural Resources. Major in Natural Resources. Fish and Wildlife Science and Management Option.

All listed courses are available online. Additional courses are available for on-campus students and could be substituted for some of the courses below with advisor permission.
18 credits must be from 500 level courses.

Complete admissions and degree information is available online at: http://www.uidaho.edu/cnr/grad-programs/online-degrees/master-of-natural-resources/.

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<tr>
<th>Code</th>
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<td>NRS 555</td>
<td>Human Dimensions of Natural Resources</td>
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<td>FISH 598</td>
<td>Internship</td>
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<tr>
<td>&amp; NR 599</td>
<td>and Non-thesis Master's Research</td>
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<tr>
<td>or FISH 502</td>
<td>Directed Study</td>
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<tr>
<td>FOR 546</td>
<td>Science Synthesis and Communication</td>
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<tr>
<td>WLF 506</td>
<td>External Speakers</td>
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Select 8 credits of Fish & Wildlife Science Courses:

- FISH 411: Fish Physiology
- FISH 415: Limnology
- FISH 525: Aquaculture in Relation to Wild Fish Populations
- FISH 526: Climate Effects & Cons Manage
- FISH 515: Large River Fisheries
- FISH 511: Fish Physiology
- FISH 540: Wetland Restoration
- FISH 550: Ecology & Conservation of Freshwater Invertebrates
- FISH 551: Freshwater Invertebrate Field Methods
- REM 411: Wildland Habitat Ecology and Assessment
- WLF 440: Conservation Biology
- WLF 530: Riparian Ecology
- WLF 540: Conservation Genetics
- WLF 545: Wildlife Habitat Ecology
- WLF 561: Landscape Genetics
- WLF 562: Landscape Genetics Lab
- WLF 575: Behavioral Ecology

Select one course in Quantitative & Statistical Methods: 2-3

- STAT 419: Introduction to SAS/R Programming
- STAT 422: Survey Sampling Methods
- STAT 431: Statistical Analysis
- WLF 550: Quantitative Analysis of Fish and Wildlife Populations
- WLF 552: Ecological Modeling
- WLF 551: Applied Mixed Effects Modeling

Select one course in Policy, Planning & Society: 2-3

- BIOP 523: Planning Sustainable Places
- BIOP 520: Introduction to Bioregional Planning
- BIOP 530: Planning Theory and Process
- ENVS 577: Law, Ethics, and the Environment
- ENVS 579: Introduction to Environmental Regulations
- FOR 584: Natural Resource Policy Development
- FOR 587: Wildland Fire Policy
- NRS 475: Local and Regional Environmental Planning
- NRS 574: Environmental Politics and Policy
- NRS 576: Environmental Project Management and Decision Making

NRS 588: NEPA in Policy and Practice

Electives from below - OR - any additional courses listed above to total 4-6 credits:

- WLF 503: Workshop
- BE/ENVS 450: Environmental Hydrology
- FOR 451: Fuels Inventory and Management
- FOR 526: Fire Ecology
- FOR 554: Air Quality, Pollution, and Smoke
- GEOG 524: Hydrologic Applications of GIS and Remote Sensing

- NRS/REM 440: Restoration Ecology
- NRS 472: Remote Sensing of the Environment
- NRS 552: Current Lit in Remote Sensing
- NRS 578: LIDAR and Optical Remote Sensing Analysis
- NRS 580: Restoration Ecology Practicum
- REM 456: Integrated Rangeland Management
- REM 459: Rangeland Ecology
- REM 507: Landscape and Habitat Dynamics
- REM 520: Advanced Vegetation Measurement and Monitoring
- REM/WLF/ FISH/NRS/ FOR 504: Special Topics
- SOIL 544: Water Quality in the Pacific Northwest

Total Hours 27-31

Courses to total 30 credits for this degree

Natural Integrated Natural Resources

1. The student will master and integrate information and knowledge from ecological, social, economic and political perspectives – into a systems view of natural resource issues.
2. The student will be able to synthesize ideas and information to identify, analyze and problem-solve natural resource issues; demonstrate an application of this synthesis.
3. The student will be able to demonstrate oral, written and visual techniques to communicate complex natural resource ideas.
4. The student will understand diverse viewpoints and perspectives and apply these to the natural resource professions; demonstrate reflection and expanded understanding as applied to one’s professional goals.
5. The student will be able to define and apply sustainable stewardship and/or management of natural resources as an ethical, socially responsible practice; understand ethical dilemmas and make ethical choices.

Fire Ecology and Management

1. The student will master and integrate information and knowledge from ecological, social, economic and political perspectives – into a systems view of fire ecology and management issues.
2. The student will be able to synthesize ideas and information to identify, analyze and problem-solve fire ecology and management issues; demonstrate an application of this synthesis.
3. The student will be able to demonstrate oral, written and visual techniques to communicate complex natural resource ideas with relevance to fire ecology and management.
4. The student will understand diverse viewpoints and perspectives and apply these to the fire ecology and management; demonstrate reflection and expanded understanding as applied to one's professional goals.

5. The student will be able to define and apply sustainable stewardship and/or management of wildland fire and natural resources as an ethical, socially responsible practice; understand ethical dilemmas and make ethical choices.

**Restoration Ecology and Habitat Management**

1. The student will master and integrate information and knowledge from ecological, social, economic and political perspectives – into a systems view of restoration ecology and habitat management issues.

2. The student will be able to synthesize ideas and information to identify, analyze and problem-solve restoration ecology and habitat management issues; demonstrate an application of this synthesis.

3. The student will be able to demonstrate oral, written and visual techniques to communicate complex natural resource ideas with relevance to restoration ecology and habitat management.

4. The student will understand diverse viewpoints and perspectives and apply these to restoration ecology and habitat management; demonstrate reflection and expanded understanding as applied to one's professional goals.

5. The student will be able to define and apply sustainable stewardship and/or management of natural resources and wildlife habitat as an ethical, socially responsible practice; understand ethical dilemmas and make ethical choices.

**Fish and Wildlife Science and Management**

1. The student will master and integrate information and knowledge from ecological, social, economic and political perspectives – into a systems view of fish and wildlife science and management issues.

2. The student will be able to synthesize ideas and information to identify, analyze and problem-solve fish and wildlife science and management issues; demonstrate an application of this synthesis.

3. The student will be able to demonstrate oral, written and visual techniques to communicate complex natural resource ideas with relevance to fish and wildlife science and management.

4. The student will understand diverse viewpoints and perspectives and apply these to fish and wildlife science and management; demonstrate reflection and expanded understanding as applied to one's professional goals.

5. The student will be able to define and apply sustainable stewardship and/or management of natural resources, fisheries, and wildlife habitat as an ethical, socially responsible practice; understand ethical dilemmas and make ethical choices.