Program Mission

Department of Forest, Rangeland and Fire Sciences Mission Statement

Program Mission Statement:

The Department of Forest, Rangeland and Fire Sciences strives to provide excellence in education, research, and public service that promotes the understanding, efficient use, and sustainable management of forest and rangeland resources and the products they provide, for the well-being of the people of Idaho, the United States, and the World. Further, we recognize the importance of wildland fire in shaping forest and rangeland resources, and endeavor to understand the impacts of wildland fire on forests and rangelands and efficiently manage wildland fire to improve sustainability.

We are committed to meeting the land-grant mission of the University of Idaho by: 1) Performing research and educating our students to sustain our forests and rangelands and the functions, products, services, and values they provide for current and future generations; 2) Engaging with stakeholders to identify and conduct solutions-oriented research; 3) Maintaining the highest level of professionalism, technical competence, stewardship, and ethics; and 4) Providing leadership, innovation, critical thinking, and excellence within the forest, rangeland, wildland fire, and sustainable products professions.

Program Goal (add a minimum of 3 program goal "plan items")

2. Conduct innovative and relevant solutions-based research

Goal Statement:

Conduct creative and innovative research that is solutions-based and focused on contemporary and emerging issues associated with forest, rangeland, wildland fire, and sustainable products in Idaho, the Nation and the World.

Alignment to UI Strategic Plan Goals:

Indicators/Metrics to Evaluate Progress:

We will use the following indicators as a measure of meeting this program goal:

1. Annual peer-reviewed publications of faculty, staff, and students.
2. Annual competitive grant activity of faculty, staff, and students.

List of Actions the Program Will Take to Achieve Goals :

To achieve this goal, we will track the peer-reviewed publications and competitive grant activity of faculty, staff, and students in the Department. We will evaluate Department research activities and relevance to contemporary and emerging issues to help understand how well scholarly efforts are helping to solve critical issues facing the forest, rangeland, wildland fire, and sustainable forest products communities.

Goal Achievement Level: In Progress

1. Offer employer-relevant degree programs

Goal Statement:

Offer relevant undergraduate education in Forestry, Rangeland Ecology and Management, Fire Ecology and Management, and Sustainable Forest Products that meets the current and anticipated needs of Idaho's natural resource-based employers and enables graduates to compete successfully for positions in these professions across the world.

Alignment to UI Strategic Plan Goals:

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture. Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

We will use the following indicators as a measure of meeting this program goal:

1. Number of students enrolled and graduates in each undergraduate degree program on an annual basis.
2. Number of graduates in each undergraduate degree program placed in positions relevant to their degree program.

List of Actions the Program Will Take to Achieve Goals :

To achieve this goal, we will actively recruit new students to maintain student enrollment levels in each degree program and will benchmark against peer institutions appropriate for each degree program. We will also track placement of graduates in positions relevant to their degree program. These data will be reviewed annually and shared with important stakeholder groups to ensure our curricula are designed and meeting the current and

anticipated needs of natural resource-based employers. These efforts will help ensure that we can continue to offer these critical programs that support natural resource-based employers and industries in the state of Idaho and beyond.

Goal Achievement Level: In Progress

3. Train next generation of scientists

Goal Statement:

Offer research-oriented programs of graduate education that are clearly identified with disciplinary specialties in order to serve both the continuing-education needs of natural resource professionals, and to provide future scientists needed by the private, non-profit, and public sectors.

Alignment to UI Strategic Plan Goals:

 Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Transform (Goal 3): Increase our educational impact.

Indicators/Metrics to Evaluate Progress:

We will use the following indicators as a measure of meeting this program goal:

1. Number of graduate students advised through graduation by Department faculty.
2. Placement of graduate students advised by Department faculty in private, non-profit, and public sectors.

List of Actions the Program Will Take to Achieve Goals :

To achieve this goal, we will track the number of graduate students advised by faculty in the Department, with an emphasis on the number graduate students completing their degrees. These data will be compiled annually and shared with both internal and external stakeholders to ensure that the graduate students trained are meeting the demands of private, non-profit, and public sectors.

Goal Achievement Level: In Progress

4. Engage with stakeholders

Goal Statement:

Engage and respond to the public service needs of Idaho that can best be served by the Department and provide specific mechanisms for meeting those needs on a continuing basis.

Alignment to UI Strategic Plan Goals:

 Innovate (Goal 1): Scholarly and creative products of the highest quality and scope, resulting in significant positive impact for the region and the world.

Engage (Goal 2): Suggest and influence change that addresses societal needs and global issues, and advances economic development and culture.

Indicators/Metrics to Evaluate Progress:

We will use the following indicators as a measure of meeting this program goal:

1. Number of annual outreach and engagement activities of Department faculty, staff, and students.
2. Use and feedback on research impact statements developed by Department faculty that outline the impact their individual research on citizens of the state of Idaho and/or Nation.

List of Actions the Program Will Take to Achieve Goals :

To achieve this goal, we will track the number of outreach and engagement activities of Department faculty, staff, and students. These data will be compiled annually and shared with both internal and external stakeholders. Using individual research impact statements as part of the annual review process, we will evaluate Department research activities and relevance to contemporary and emerging issues to help understand how well scholarly efforts are helping to solve critical issues facing the forest, rangeland, wildland fire, and sustainable forest products communities of Idaho and beyond.

Goal Achievement Level: In Progress

Student Learning Assessment Report (add one "plan item" for each major, degree, and/or certificate offered by dept)

B.S., Forestry

Assessment Report Contact: Charles Goebel

Program Changes in Past Year:

During the past year we revised the curriculum to be more flexible by eliminating the minor requirement for graduation. We also created three new emphasis areas for the degree, including: General Forestry, Forest Operations, and Forest Biology. We also proposed a new Forest Hydrology and Watershed Management Emphasis Area.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: Society of American Foresters

Import Outcomes Data (from Anthology Outcomes):

See Outcomes data below entered into the Anthology system. Indirect measures include:

1. Students with Final Grade of 80% or higher in FOR 424 Silviculture Principles and Practices: 100%
2. Students with Final Grade of 80% or higher in FOR 430 Forest Operations: 94%
3. Students with Final Grade of 80% or higher in FOR 493 Business of Forestry: 100%
4. Graduating senior survey data not useable due to low response rate
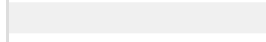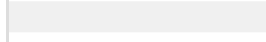
1.

Management Skills

Graduates of the B.S. in Forestry will be able to conduct forest resource inventories and perform field measurements of forest ecosystems, providing the foundation for making science-based management decisions.

Academic Year 2019-2020: Forestry (B.S.Forestry)

Term: Overview

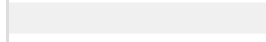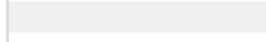|		
Exceeded	0%	0
Met	100%	25
Partially Met	0%	0
Not Met	0%	0

2.

Critical Thinking

Graduates of the B.S. in Forestry will be able to think critically, and will have the skills to develop, evaluate, synthesize, and apply scientific knowledge (i.e., biological, physical, and socioeconomic) from a variety of sources (i.e., scientific literature, technologies, and expert advice) to evaluate and justify forest management decisions and management alternatives.

Academic Year 2019-2020: Forestry (B.S.Forestry)

Term: Overview

Exceeded	0%	0
Met	100%	11
Partially Met	0%	0
Not Met	0%	0

3.

Communication Skills

Graduates of the B.S. in Forestry will be able to communicate plans and decisions effectively in light of existing policies and laws by listening actively, formulating, articulating, and explaining ideas clearly using both oral and written techniques.

Academic Year 2019-2020: Forestry (B.S.Forestry)

Term: Overview

Exceeded	0%	0
Met	100%	11
Partially Met	0%	0
Not Met	0%	0
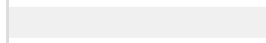
4.

Collaboration Skills

Graduates of the B.S. in Forestry will be able to work effectively as an individual and collaboratively with teams of people, including effective leadership of groups working toward a common goal.

Academic Year 2019-2020: Forestry (B.S.Forestry)

Term: Overview

Exceeded	0%	0
Met	92%	23
Partially Met	0%	0
Not Met	8%	2

Summary of Student Learning:

Overall, we met or exceeded most targets for the direct measures of student learning outcomes. There was a decline in student performance from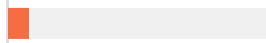 the previous academic year we attribute to issues related to COVID-19. We clearly exceeded the indirect measures associated with the student learning outcomes. Unfortunately, the indirect assessment associated with graduating student surveys was not useable as the response rate to the online survey was too low.

Summary of Faculty Discussion:

Assessment outcomes are scheduled to be discussed at a future Forestry faculty in meeting in the winter of 2021-2022.

Summary of Changes/Improvements Being Considered:

No changes are planned for the direct measures associated with this learning assessment; current measures are consistent with our goals and help meet the requirements of our specific program accrediting body, the Society of American Foresters. We do plan to revise the online graduating senior survey as the response rates were too low to be valuable from an assessment perspective. We are exploring other options to include the survey as part of the capstone course.

Inter-rater Reliability:

The direct measures used in the assessment have been consistently used for the past several assessment cycles and evaluated by the same individuals over this time period. As the direct measures include student performance on specific tasks that have remained consistent over time, we feel there is strong reliability in comparing how students are meeting learning objectives over time.

Closing the Loop:

Overall, we feel that the current direct and indirect measures are appropriate to assess how well our students are prepared and meet our student learning outcomes. When we examine student success, the data suggest our students are preforming well. With the changes to the Forestry degree program, it will be important to track student performance in the future to ensure the changes in the curriculum are enhancing student learning outcomes and employment opportunities.

B.S., Rangeland Conservation

Assessment Report Contact: Charles Goebel

Program Changes in Past Year:

During the past year there have been no major changes to the degree program. Following a summit with employers of our Rangeland Conservation graduates in 2019 and additional discussion with stakeholders in 2020, we proposed to rename the degree to Rangeland Ecology and Management to be more identifiable with employers and future students.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: Society for Rangeland Management

Import Outcomes Data (from Anthology Outcomes):

See Outcomes data below entered into the Anthology system. Indirect measures include:

1. Students with Final Grade of 80% or higher in REM 456 Integrated Rangeland Management: 89%
2. Students with Final Grade of 80% or higher in FOR 459 Rangeland Ecology: 89%
3. Graduating senior survey data not useable due to low response rate
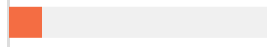
1.

Problem-solving Skills

Graduates of the B.S. in Rangeland Conservation will be able to implement effective planning and problem-solving approaches individually and in teams that consider economic, social, and ecological impacts of rangeland projects and plans.

Academic Year 2019-2020: Rangeland Conservation (B.S.Rangeland.Consv.)

Term: Overview

Exceeded	0%	0
Met	87.5%	7
Partially Met	0%	0
Not Met	12.5%	1

2.

Technical Skills

Graduates of the B.S. in Rangeland Conservation will be able to use spatial tools (including maps, GPS, GIS, and remote sensing) to observe and interpret ecosystems and aid in making management decisions.

Academic Year 2019-2020: Rangeland Conservation (B.S.Rangeland.Consv.)

Term: Overview

Exceeded	0%	0
Met	87.5%	14

Partially Met		0%	0
Not Met		12.5%	2

3.

Measurement Skills

Graduates of the B.S. in Rangeland Conservation will be proficient with rangeland inventories and perform field measurements of upland and riparian habitats in shrublands, grasslands, woodlands, and deserts.

Academic Year 2019-2020: Rangeland Conservation (B.S.Rangeland.Consv.)

Term: **Overview**

Exceeded		0%	0
Met		100%	10
Partially Met		0%	0
Not Met		0%	0

4.

Communication Skills

Graduates of the B.S. in Rangeland Conservation will be able to effectively communicate plans and decisions in light of existing policies and laws.

Academic Year 2019-2020: Rangeland Conservation (B.S.Rangeland.Consv.)

Term: **Overview**

Exceeded		0%	0
Met		87.5%	7
Partially Met		0%	0
Not Met		12.5%	1

5.

Scientific Skills

Graduates of the B.S. in Rangeland Conservation demonstrate a sound understanding of science and the application of the scientific method to addressing natural resource questions.

Academic Year 2019-2020: Rangeland Conservation (B.S.Rangeland.Consv.)

Term: **Overview**

Exceeded		0%	0
Met		80%	8
Partially Met		0%	0
Not Met		20%	2

Summary of Student Learning:

Overall, we met or exceeded the targets for the direct measures of student learning outcomes, even with modifications associated with COVID-19 protocols. Similarly, we also met or exceeded the indirect measures associated with the student learning outcomes. Unfortunately, the indirect assessment associated with graduating student surveys was not useable as the response rate to the online survey was too low.
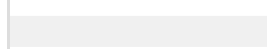
Summary of Faculty Discussion:

Assessment outcomes are scheduled to be discussed at a future Rangeland Conservation faculty meeting in the winter of 2021-2022.

Summary of Changes/Improvements Being Considered:

No changes are planned for the direct measures associated with this learning assessment; current measures are consistent with our goals and help meet the requirements of our specific program accrediting body, the Society for Rangeland Management. We do plan to revise the online graduating senior survey as the response rates were too low to be valuable from an assessment perspective. We are exploring other options to include the survey as part of the capstone course.

Inter-rater Reliability:

The direct measures used in the assessment have been consistently used for the past several assessment cycles and evaluated by the same individuals over this time period. As the direct measures include student performance on specific tasks that have remained consistent over time, we feel there is strong reliability in comparing how students are meeting learning objectives over time.

Closing the Loop:

Overall, we feel that the current direct and indirect measures are appropriate to assess how well our students are prepared and meet our student learning outcomes. When we examine student success, the data suggest our students are preforming well, and are being hired by employers in the rangeland science and management sectors. We will continue to track student performance in the future to ensure the curriculum is enhancing student learning outcomes and employment opportunities.

B.S., Fire Ecology and Management

Assessment Report Contact: Charles Goebel

Program Changes in Past Year:

During the past year there have been no major changes to the degree program.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: Association for Fire Ecology

Import Outcomes Data (from Anthology Outcomes):

See Outcomes data below entered into the Anthology system. Indirect measures include:

1. Students with Final Grade of 80% or higher in FOR 450 Fire Behavior: 91%
2. Students with Final Grade of 80% or higher in FOR 427 Prescribed Burning Lab: 91%
3. Students with Final Grade of 80% or higher in FOR 433 Fire and Fuel Modeling: 91%
4. Graduating senior survey data not useable due to low response rate

1.

Measurement Skills

Graduates of the B.S. in Fire Ecology and Management will be able to conduct fuel inventory and describe fire behavior and ecological effects while using appropriate metrics and technology to make observations at multiple temporal and spatial scales, and then interpreting those observations and using them to develop scientific information for management decisions.

Academic Year 2020-2021: Fire Ecology and Management (B.S.Fire.Ecol.Mgmt.)

Term: **Overview**

Exceeded	91.3%	21
Met	0%	0
Partially Met	0%	0
Not Met	8.7%	2
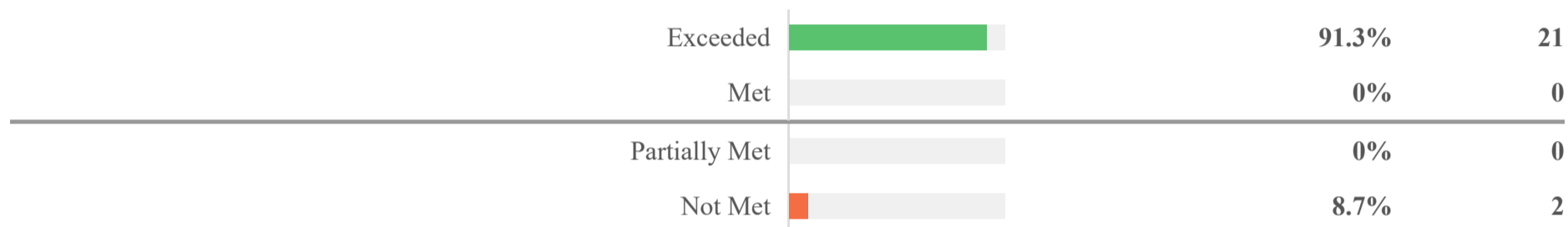
2.

### Forecasting Skills

Graduates of the B.S. in Fire Ecology and Management will be able to forecast potential outcomes of fire management decisions over time and space using models and other prediction tools, while considering risks and uncertainty.

Academic Year 2020-2021: Fire Ecology and Management (B.S.Fire.Ecol.Mgmt.)

Term: **Overview**

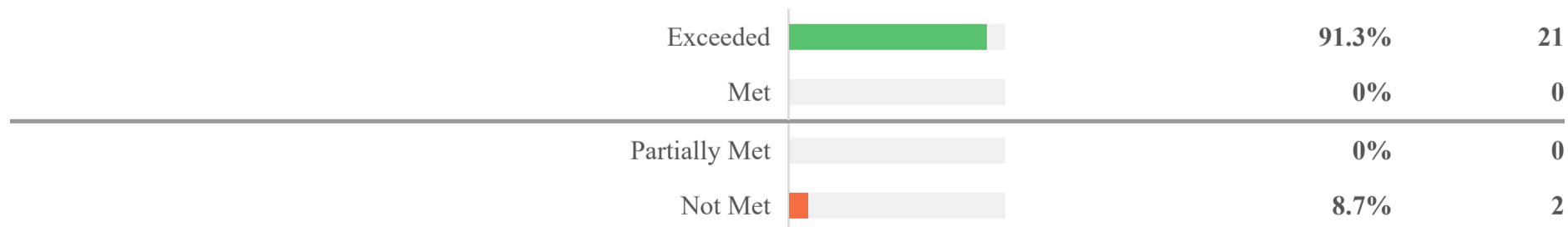|		
Exceeded	90.48%	19
Met	0%	0
Partially Met	0%	0
Not Met	9.52%	2
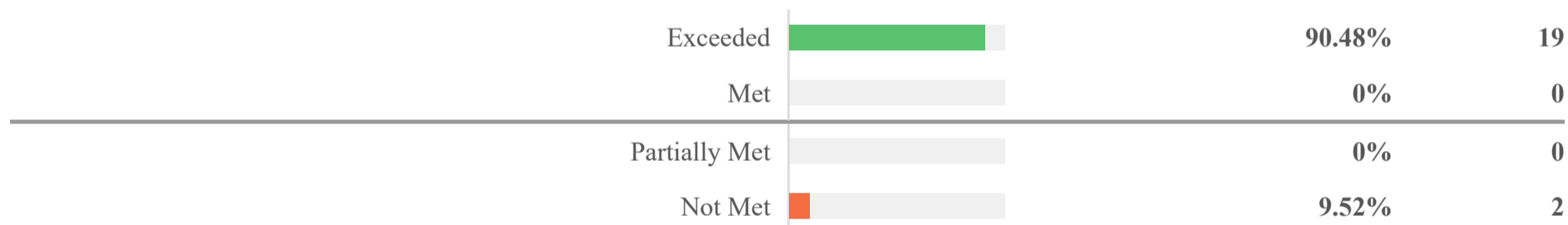
3.

Literacy Skills

Graduates of the B.S. in Fire Ecology and Management will be able to demonstrate scientific literacy through proficiently accessing, evaluating, synthesizing and appropriately using scientific literature, technologies, and expert advice in addressing complex natural resource management issues, and applying scientific knowledge to fire management decisions.

Academic Year 2020-2021: Fire Ecology and Management (B.S.Fire.Ecol.Mgmt.)

Term: **Overview**

Exceeded	91.3%	21
Met	0%	0
Partially Met	0%	0
Not Met	8.7%	2

4.

Teamwork Skills

Graduates of the B.S. in Fire Ecology and Management will be able to demonstrate skills in working with teams of people, including effective leadership of groups working toward the common interest goal of addressing a complex resource management issue.

Academic Year 2020-2021: Fire Ecology and Management (B.S.Fire.Ecol.Mgmt.)

Term: **Overview**

Exceeded	95.24%	20

Met	0%	0
Partially Met	0%	0
Not Met	4.76%	1

5.

Communication Skills

Graduates of the B.S. in Fire Ecology and Management will be able to communicate effectively by listening actively, formulating, articulating, and explaining ideas clearly using oral and written techniques.

Academic Year 2020-2021: Fire Ecology and Management (B.S.Fire.Ecol.Mgmt.)

Term: Overview

Exceeded	91.3%	21
Met	0%	0
Partially Met	0%	0
Not Met	8.7%	2

Summary of Student Learning:

Overall, we met or exceeded the targets for the direct measures of student learning outcomes, even with modifications associated with COVID-19 protocols. Similarly, we also met or exceeded the indirect measures associated with the student learning outcomes. Unfortunately, the indirect assessment associated with graduating student surveys was not useable as the response rate to the online survey was too low.

Summary of Faculty Discussion:

Assessment outcomes are scheduled to be discussed at a future Fire Ecology and Management faculty meeting in the winter of 2021-2022.

Summary of Changes/Improvements Being Considered:

No changes are planned for the direct measures associated with this learning assessment; current measures are consistent with our goals and help meet the requirements of our specific program accrediting body, the Association for Fire Ecology. We do plan to revise the online graduating senior survey as the response rates were too low to be valuable from an assessment perspective. We are exploring other options to include the survey as part of the capstone course.

Inter-rater Reliability:

The direct measures used in the assessment have been consistently used for the past several assessment cycles and evaluated by the same individuals over this time period. As the direct measures include student performance on specific tasks that have remained consistent over time, we feel there is strong reliability in comparing how students are meeting learning objectives over time.

Closing the Loop:

Overall, we feel that the current direct and indirect measures are appropriate to assess how well our students are prepared and meet our student learning outcomes. When we examine student success, the data suggest our students are preforming well, and are being hired by employers in the fire science and management sectors. We will continue to track student performance in the future to ensure the curriculum is enhancing student learning outcomes and employment opportunities.

B.S., Forest and Sustainable Products

Assessment Report Contact: Charles Goebel

Program Changes in Past Year:

During the past year there have been no major changes to the degree program except for changing the name of the program from Renewable Materials to Forest and Sustainable Products.

Learning Outcomes are Communicated to All Students in Program (check box if true): true

Learning Outcomes are Communicated to All Faculty (check box if true): true

Optional: Framework Alignment: Society for Wood Science and Technology

Import Outcomes Data (from Anthology Outcomes):

See Outcomes data below entered into the Anthology system. Indirect measures include:

1. Students with Final Grade of 80% or higher in FSP 436 Biocomposites: 25%
2. Students with Final Grade of 80% or higher in FSP 491Biomaterial Product and Process Development Lab: 100%
3. Students with Final Grade of 80% or higher in FSP 495 Product Development and Brand Management: 67%
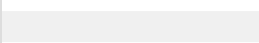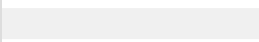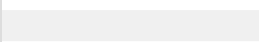4. Graduating senior survey data not useable due to low response rate

1.

Academic Skills

Graduates of the B.S. in Renewable Materials will have a sufficient academic background in forest products and allied disciplines for entry level employment within the renewable materials and allied industries or for transition to a graduate program.

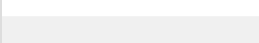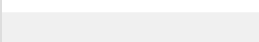Academic Year 2020-2021: Renewable Materials (B.S.Renew.Mat.)

Term: **Overview**

Exceeded		**100%**	**5**
Met		**0%**	**0**
Partially Met		**0%**	**0**
Not Met		**0%**	**0**

2.

Teamwork

Graduates of the B.S. in Renewable Materials will be able to work with teams and provide leadership to integrated groups of individuals focused toward a common goal.

Academic Year 2020-2021: Renewable Materials (B.S.Renew.Mat.)

Term: **Overview**

Exceeded		**83.33%**	**5**
Met		**0%**	**0**
Partially Met		**0%**	**0**
Not Met		**16.67%**	**1**

3.

Quality Assurance

Graduates of the B.S. in Renewable Materials will understand the quality assurance and quality control processes using ASTM standards when performing testing on renewable materials and products.

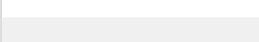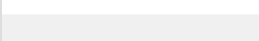Academic Year 2020-2021: Renewable Materials (B.S.Renew.Mat.)

Term: **Overview**

Exceeded		**50%**	**2**
Met		**0%**	**0**
Partially Met		**0%**	**0**
Not Met		**50%**	**2**

Summary of Student Learning:

Overall, we had mixed results associated with meeting the targets for the direct measures of student learning outcomes. Similarly, we only met the targets of our indirect measures for one of the three classes we measure. Upon reviewing performance, it is clear that some students struggled with COVID-19 issues and absenteeism was an issue associated with poor performance. Unfortunately, the indirect assessment associated with graduating student surveys was not useable as the response rate to the online survey was too low.

Summary of Faculty Discussion:

Assessment outcomes are scheduled to be discussed at a future Forest and Sustainable Products faculty meeting in the winter of 2021-2022.

Summary of Changes/Improvements Being Considered:

No changes are planned for the direct measures associated with this learning assessment; current measures are consistent with our goals and help meet the requirements of our specific program accrediting body, the Society of Wood Science and Technology. We do plan to revise the online graduating senior survey as the response rates were too low to be valuable from an assessment perspective. We are exploring other options to include the survey as part of the capstone course.

Inter-rater Reliability:

The direct measures used in the assessment have been consistently used for the past several assessment cycles and evaluated by the same individuals over this time period. As the direct measures include student performance on specific tasks that have remained consistent over time, we feel there is strong reliability in comparing how students are meeting learning objectives over time.

Closing the Loop:

Overall, we feel that the current direct and indirect measures are appropriate to assess how well our students are prepared and meet our student learning outcomes. When we examine student success, the data suggest our students are preforming relatively well, although we will need to continue to monitor and focus on student attendance. Our students are being hired by employers in the forest and sustainable products sectors. We will continue to track student performance in the future to ensure the curriculum is enhancing student learning outcomes and employment opportunities.

Student Achievement

Student Achievement - FRFS Programs

Student Retention:

All four undergraduate degree programs in the Department are monitored using data provided by the University, comparing students enrolled each fall semester. From the UI Institutional Dataset for the past five years (2015-2016 to 2020-2021), we observe the following first-year retention rates:

- Fire Ecology and Management: 50.0% - 87.5%
- Forestry: 61.5% - 85.7%
- Forest and Sustainable Products: 50.0% - 100.0%
- Rangeland Conservation: : 50.0% - 100.0%

From the UI Institutional Dataset, we observe the following four-year retention rates:

- Fire Ecology and Management: 35.7 - 50.0%
- Forestry: 45.5% - 50.0%
- Forest and Sustainable Products: 50.0% - 100.0%
- Rangeland Conservation: 50.0% - 100.0%

Overall, we observed no major trends with gender, race, or first-generation status among students enrolled in the programs.

Student Persistence:

All four undergraduate degree programs in the Department are monitored using data provided by the University, comparing students enrolled each fall semester. From the UI Institutional Dataset for the past five years (2015-2016 to 2020-2021), we observe the following one-term persistence rates:

- Fire Ecology and Management: 86.4% - 91.9%
- Forestry: 84.4% - 94.5%
- Forest and Sustainable Products: 92.9% - 100.0%
- Rangeland Conservation: : 81.0% - 100.0%

From the UI Institutional Dataset for the past five years (2015-2016 to 2020-2021), we observe the following three-term persistence rates (this is an important metric as it relates to summer employment experience, i.e., working on wildland fire crews):

- Fire Ecology and Management: 75.0% - 80.6%
- Forestry: 78.1% - 90.1%
- Forest and Sustainable Products: 80.0% - 100.0%
- Rangeland Conservation: : 81.0% - 90.0%

Overall, we feel that our student persistence rates are strong, in part due to our experiential learning opportunities early in the curriculum, as well as student advising.

Student Completion:

All four undergraduate degree programs in the Department are monitored using data provided by the University, comparing students enrolled each fall semester. From the UI Institutional Dataset for the past five years (2015-2016 to 2020-2021), we observe the following graduation rates:

- Fire Ecology and Management: 26.7% - 50.0%
- Forestry: 33.3% - 40.9%
- Forest and Sustainable Products: 50.0 - 100.0%
- Rangeland Conservation: 20.0% - 25.0%

Overall, we observed no major trends with gender, race, or first-generation status among students enrolled in the programs.

Student Postgraduate Success:

We use graduating senior survey designed specifically for the four undergraduate degree programs in the Department to track postgraduate success. This survey focuses on understanding how graduates perceive their experience in their program and how it has prepared them for future success. It also asks questions about immediate plans post-graduation. Over the past two years we have used an online survey to track this information due to COVID-19; the result has been a relatively low response rate. In the 2021-2022 AY, we will be modifying this approach to ensure higher student response.

Currently, we are not monitoring longer-term success of our graduates in the work force. This is largely due to the lack of resources to track this information consistently. We do have strong relationships with our stakeholders and do interact with these employers to follow program alumni.

Identify Equity Gaps:

Assessing equity gaps is difficult with the Institutional Data provided. Overall, we are not observing any significant trends related to equity based upon retention and graduation levels. From the UI Institutional Dataset for the past five years (2015-2016 to 2020-2021), we observe the following % of enrolled studnets that are female:

- Fire Ecology and Management: 11.0% - 17.0%
- Forestry: 22.5% - 36.0% (trending more female)
- Forest and Sustainable Products: 0%

- Rangeland Conservation: 23.8% - 52.9%

While we need to focus on recruiting more female students into our programs, these are traditionally male-dominated majors. We have revised our recruitment materials to highlight female studnets in each degree in an effort to improve the gender equity in each program.

Effective Learning Environment and Closing Equity Gaps:

Our faculty work collectively to ensure an effective learning environment, primarily through strong communication and connection with students in individual classes and through student advising. We have revised recruitment materials to highlight women and minorities in our programs, and have worked to highlight our women and minority faculty to help with student recruitment. We are also working with our stakeholders on diversity and equity issues, ensuring that there is a connection with future employers and the importance of diversity across all aspects.

Demand and Productivity

Demand and Productivity - FRFS Programs

External Demand:

Currently, we are tracking employment and placement of our graduates at the Department level. Overall, our graduates are in high demand by employers and our meetings with external stakeholders indicates that our graduates are well prepared for their careers. We ensure this connection through a variety of avenues, including conducting period Industry Summits where we bring in stakeholders to review the curricula and provide information on the skills our studnets need to be successful. Our faculty are also well-connected and continually solicit feedback on our programs whichc helps us to be responsive to changes in each profession that we serve.

Internal Demand:

We track student credit hour (SCH) production annually by reviewing the UI class schedule and with the Institutional Data provided by the University. Overall, our courses are in high demand internally. Since the 2018-2019 Academic Year, the total SCH has increased by 38% in the fall and 6% in the spring semesters. Over this same time period, we have observed the following changes in SCH production:

- REM 440 *Restoration Ecology* (26 to 75; up 188%)
- FOR 451 *Fuels Inventory and Management* (13 to 36; up 177%)
- FOR 324 *Forest Regeneration* (15 to 41; up 173%)
- REM 429 *Landscape Ecology* (17 to 45; up 164%)
- FOR 587 *Wildland Fire Policy* (12 to 29; up 142%)
- FOR 526 *Fire Ecology* (28 to 55; up 96%)
- FOR 454/554 *Air Quality, Pollution & Smoke* (29 to 56; up 93%)
- REM 151 *Rangeland Principles* (40 to 75; up 88%)
- FOR 450 *Fire Behavior* (13 to 23; up 75%)
- REM 459 *Rangeland Ecology* (43 to 66; up 54%)

A significant part of this growth has been the creation and emphasis on online sections and student recruitment.

Credit Productivity:

We track student credit hour (SCH) production annually by reviewing the UI class schedule and with the Institutional Data provided by the University. Overall, our SCH production has increased substantially, especially as our Teaching FTE's has declined to 7.425.

Since the 2018-2019 Academic Year, the total SCH has increased by 38% in the fall and 6% in the spring semesters. Over this same time period, we have observed the following changes in SCH production:

- REM 440 *Restoration Ecology* (26 to 75; up 188%)
- FOR 451 *Fuels Inventory and Management* (13 to 36; up 177%)
- FOR 324 *Forest Regeneration* (15 to 41; up 173%)
- REM 429 *Landscape Ecology* (17 to 45; up 164%)
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A significant part of this growth has been the creation and emphasis on online sections and student recruitment.

Financial Health and Resources

Financial Health and Resources - FRFS Programs

Financial Health:

Overall, the financial health of the programs is good. We have a strong connection with employers, and our graduates are in high demand. We anticipate that the new budget model will help with the financial health of the programs as we have seen stable/growing enrollments and our SCH has increased substantially with online offerings.

Specifically for each program:

- Fire Ecology and Management: Program is stable, despite seeing a slight decline in enrollment over past several cycles. Faculty retirements and separations have impacted the program and need to be refilled.
- Forestry: Program is stable and healthy financially. We believe there is considerable potential for growth.
- Forest and Sustainable Products: Enrollments continue to decline, which is consistent with peers nationally and internationally. We are working to increase targeted recruitment to help stabilize enrollment.
- Rangeland Conservation: Program is starting to grow after a significant decline in enrollment. Current student recruitment efforts being implemented should help this program continue with enrollment growth.

Efficient Use of Resources:

From an efficient use of resources perspective, this is monitored closely and each faculty member is consulted to ensure that each is meeting their responsibilities as outlined in their position description. This is particularly true for teaching and advising as the Department lost several faculty to retirement and separation from the University that have not been replaced. Financial resources in the Department are utilized to support faculty efforts, and information is shared annually each fall following the close of the Fiscal Year on how resources were utilized and prioritized.