Utah State University
2020

**Initial Accreditation:** 1936

**Currently Accredited Degree Programs:**
Forestry: Forest Ecology and Management major leading to the B.S. in Forest Ecology and Management

**Current Accreditation-Period Reviews:**
- **Onsite Visit:** 2020
- **Previous Site Visit:** 2010
- **Substantive Change:**
- **Progress Report:**

**Accreditation Expires:** December 31, 2020

2020 Review:
Forestry: Accreditation Review of the B.S. in Forest Ecology and Management degree program

**INTRODUCTION**

A Society of American Foresters (SAF) visiting team was invited to Utah State University (USU) on February 12 – 14, 2020 to review the undergraduate Forest Ecology and Management (FEMA) degree program in the Department of Wildland Resources (WILD), in the S.J. and Jessie E. Quinney College of Natural Resources (QCNR) leading to the B.S. degree in Forest Ecology and Management.

USU has had a forestry program continuously accredited by SAF since 1936. The previous accreditation review was in 2010, when the program of study led to a B.S. in Forestry. No changes to the Program were reported during the period between the current and previous reviews.

**SUMMARY FINDINGS**

**Institutional Accreditation**
USU is accredited by the Northwest Commission on Colleges and Universities (NWCCU). It was initially accredited in 1924 and the most recent seven-year evaluation was in 2018.
RESOLUTION OF CONFLICTS BETWEEN ACCREDITATION STANDARDS AND LOCAL, STATE, OR FEDERAL LAWS GOVERNING THE INSTITUTION OR PROGRAM SEEKING ACCREDITATION

No conflicts between the SAF accreditation standards and local, state, or federal laws governing the institution and degree programs under review were identified.

STANDARD I: PROGRAM MISSION, GOALS, AND OBJECTIVES

The FEMA program has a mission statement and detailed objectives that cascade down in alignment with the USU and QCNR mission statements and align with SAF accreditation standards. The mission of this program integrates elements of the University’s mission statement with the SAF standards—referencing overall goals of promoting the sustainable management of forest resources, enhancing the excellence of the forestry profession, and promoting the continued health, integrity and use of forests for the benefit of society.

Professionalism and ethics in the forestry professions are primarily taught in the capstone class, including a direct introduction of the SAF Code of Ethics and explicit exposure to the SAF Certified Forester (CF) certification process. In many of the required and elective forestry courses in this FEMA curriculum, there is a clear focal point of conveying knowledge and management practices pertaining to the resource issues most impacting the forestlands of the southwest US. These focal points in the curriculum show the Program’s commitment to meeting the “needs of the constituencies” and equipping students to “manage and use natural resources for the benefit of society”.

The standard is met.

STANDARD II: PROGRAM ORGANIZATION AND ADMINISTRATION

Administrator

The QCNR is one of eight co-equal colleges or schools within the University and is administered by a Dean; the Dean of QCNR changed as of July 1, 2020. The QCNR has three academic departments, each administered by a Department Head. In addition to FEMA, WILD offers three other undergraduate degrees. The WILD Department Head oversees all four undergraduate programs and all WILD faculty. Approximately two faculty meetings are held each semester to discuss issues related to department governance.

Student Recruitment, Admissions, and Transfers

In addition to University-level recruiting efforts, the QCNR participates directly in student recruiting in various ways, including participation of its staff in USU Admission Office’s open houses, use of social media, and occasional off-campus outreach. Most of the college-level recruitment is handled through its Academic Advising Center. By hiring faculty for satellite campuses such as in Vernal and Blanding, the QCNR hopes to increase enrollment in its programs, including FEMA.
At the time of the site visit, observed increases in student enrollment suggested that recruiting is becoming increasingly successful, but the then-current (AY19-20) FEMA enrollment (41) and the number of graduates in 2019 (4) are both relatively low compared to most other western forestry programs. Updates from USU show that fall 2020 enrollment numbers show a continuation in the rapid rate of increase in FEMA program recruits, despite university-wide and department program enrollments that are relatively flat or slightly down.

Admissions and transfer policies for WILD students are the same as for other prospective USU students.

Teaching
Excellence in teaching is an important goal at every level of the institution, including WILD. There are support programs at various levels, including the Empowering Teaching Excellence (ETE) program offered by the Provost’s Office. All tenure-track faculty members at USU are expected to undergo peer review of their teaching on at least an annual basis, and all courses are evaluated using the IDEA Student Ratings System. New faculty hires are selected in part based on their teaching experience and a teaching seminar is generally required as part of the interview process.

Administrative Support
The FEMA program is supported by two administrative support staff in WILD. Financial management is centralized at the college level, where the Business Service Center (BSC) is comprised of a Business Manager, a Financial Officer, and four Business Assistants. Temporary staff are also hired occasionally to assist with short-term administrative needs.

Program Planning and Outcomes Assessment
WILD has a department level Curriculum Committee and a FEMA Subcommittee that periodically meet to evaluate the FEMA program and to discuss possible revisions. These committees consider input from a variety of sources, including formal outcomes assessment information, informal feedback from students, and discussions at faculty meetings.

WILD’s approach to outcomes assessment is multi-faceted, and includes an approach based on assessment of the five FEMA learning objectives (LOs), interviews and surveys of graduating seniors, evaluation of individual students in the capstone course, and interviews with employers. The approach used to assess the FEMA LOs appears to be innovative in its use of GPAs of specific courses that best address each LO. While the 5 primary LOs appear general, each is underlain with some detail. To estimate graduates’ level of attainment for each LO a weighted mean “GPA” of final numeric grades for many of the courses in the curriculum is calculated. Each person is then assigned to an achievement category for each LO based on that GPA. The categories are Achieves Mastery (AM; GPA > 3.333), Achieves Proficiency (AP; GPA 2.667 to 3.333), Approaching Proficiency (ApP; GPA 2 to 2.666), and Lacks Proficiency (LP; GPA <2). The courses included, and their weighting, are decided in the FEMA major by WILD faculty who teach in the major.

In FEMA’s April response letter, it was conveyed that during the last (2016) reaccreditation process with the Northwest Commission on Colleges and Universities (NWCCU), FEMA was told
that its existing 26 LOs were too detailed and that they needed to be simplified and made more program specific. It was then that FEMA consolidated these LOs into five overarching objectives for each major. Once FEMA simplified the objectives and came up with its GPA-based approach for assessing them, the Program believed it had achieved better, more understandable results that were more useful in the context of its other assessment activities.

Results of the LO-based assessments are assembled annually by the Department Head with the assistance of the WILD Curriculum Committee. In addition, the Department Head and the committee provide a meaningful synthesis of the LO attainment results and recommendations to the WILD faculty at the annual retreat. The WILD Curriculum Committee is tasked with keeping this assessment current as degree program requirements change and assuring that the learning objectives and assessment metrics are providing useful and accurate information for program improvement.

**Representations to the Public**

The WILD homepage (accessed 02/09/20) states “Forest Ecology & Mgmt degree accredited with SAF”. The WILD Undergraduate Assessment web page (accessed 02/09/20) discusses SAF accreditation and provides links to the prior review documents. The FEMA webpage states “The Forest Ecology and Management degree is the only 4-year forestry program in Utah and has been accredited by the Society of American Foresters since 1936.” All accreditation references should be updated as needed following completion of this accreditation review.

**Provision of Reliable Information to the Public on Performance**

The USU Office of Analysis, Assessment and Accreditation (AAA) and USU Career Services assemble program and student data such as Department Data Sheets found at [https://www.usu.edu/aaa/](https://www.usu.edu/aaa/), which provide five-years’ worth of data on enrollment by major and retention, graduation, demographics, and faculty information at the Department level. However, this information is not major specific, and the information or links thereto are not posted on the Program’s web page, as required by the SAF accreditation standards.

FEMA’s April response conveys that USU Career Services has 6 years of reports listing employment data and continuing education of FEMA’s recent graduates. However, the low response rates reflect that program-specific numbers available through AAA are not meaningful. FEMA relayed its hope that, as the Program continues to grow, the departmental tracking of students improved, FEMA-specific performance metrics will be an accurate representation that can be posted on WILD’s website.

The standard is met with recommendation.

**STANDARD III: STUDENTS**

**Student Life**

FEMA students are active in the student chapter of SAF, which hosts the state SAF meeting every spring, which provides interactions with forestry professionals. A newly created Fire Club
provides extracurricular opportunities for those interested in wildland and prescribed fire as part of their careers. Students additionally have access to a good selection of seminars. Outdoor recreation opportunities, including skiing, are outstanding due to the campus location.

**Recruitment, Enrollment, and Retention**
Recruitment is coordinated through the University and therefore is in line with institutional policies. Admission policies have minimum GPA and SAT score criteria to ensure that academically qualified students are brought into the Program. Opportunities to recruit in Hispanic and Native American communities could be emphasized more.

University support services are of good quality. Retention might be improved by more FEMA experiences earlier in the program which would encourage cohort building and a sense of connection to the profession.

To help with student retention, an update memo from USU conveys that a new group, *WILD Alumni and Friends*, has been convened and the purposes of this alumni/professionals committee are to provide a mentoring resource for current WILD students, provide a networking resource for alumni and students, and to provide an informal advisory network for WILD. Students’ introduction and connections to this group are initiated in the introductory orientation class (WILD 2000).

To strengthen the Program’s recruitment efforts to acquire more racial and ethnic diversity in the student body, the new QCNR Dean has reached out to the USU *Latinx Club* and collaboratively designed a recruitment event that will be offered to local high schools that have a high proportion of Latinx students. This event was developed by, and will include, WILD’s advising office, forestry faculty members, and an adjunct faculty member who is a forester in Honduras. Once COVID restrictions are lifted, these recruiting events will be carried out.

This year, the Department has included a much more diverse set of Department Seminar speakers, including presentations by professionals from Patagonia, South Africa, and Kenya - as well as a specific seminar on the “eco-evolutionary consequences of structural racism in urban environments”. Pandemic restrictions enhanced the diversity of these presenters as online webinars facilitated participation from a wide array of countries.

**Advising**
Students are assigned an academic and a faculty advisor. Peer-to-peer advising support, backed by the College and University advising, is also available and effective. Students have ready access to information about summer jobs, although awareness of non-federal forestry job opportunities appears sparse.

Students also have the opportunity for direct mentoring from FEMA alumni and other professionals who have joined the *WILD Alumni and Friends* group.

The standard is met.
STANDARD IV: PARENT INSTITUTION SUPPORT

Program Support
Funding for the FEMA program comes from a mix of sources, including the USU/state budget, McIntire-Stennis, research grants, and philanthropic sources. Funding has been relatively stable and adequate to meet the Program’s most critical and immediate needs. Funding for WILD is comparable to other units within QCNR.

Support for computers, geospatial information technologies, supplies, equipment and transportation for field instruction is appropriate.

Although all WILD faculty are academically qualified and enthusiastic instructors, some appear to be teaching outside their areas of expertise (e.g., forest economics). The Committee on Accreditation (COA) is concerned about the disciplinary expertise needed to deliver the competencies required of an SAF-accredited program effectively and efficiently, particularly with increasing enrollment. As opportunities for adding and/or replacing faculty arise, careful attention should be paid to expanding expertise specific to the needs of the FEMA program.

Supporting Programs
USU offers a diverse range of services available to all students regarding academics, health and well-being, counseling, residence life, recreational activities, emergencies, student safety, and equal-access opportunities. The FEMA program has ready access to the S. J. and Jessie E. Quinney Natural Resources Research Library and is very well-supported by the staff and resources available through the University’s Merrill Library - a new library that gives students and faculty access to “the Barn,” an automated system for retrieval of printed material scattered over an expansive five-story storage area.

Physical Facilities
The Natural Resources building is a well-designed facility that appears to be a safe and healthful environment for faculty, staff and students. It has an attractive central atrium that is used for both informal student gatherings as well as for peer-to-peer mentoring and other purposes. Students have use of state-of-the-art GIS laboratory classrooms, and access to modern forestry-related equipment such as the Juniper Systems field computers that are available for checkout from the Quinney Library.

The FEMA program has access to a variety of outdoor laboratory settings, including the Green Canyon research facility and the Uintah – Wasatch – Cache National Forest, which is home to the T. W. Daniels Experimental Forest. These are relatively accessible areas that offer a range of opportunities for training in areas such as plant identification, forest ecology, and forest management.

The standard is met.
STANDARD V: CURRICULUM

The FEMA degree program requires a total of: 83 semester credit hours of required general-education courses, WILD (departmental) required common courses, and FEMA specific required courses; 18-19 required credit hours of restricted-elective forestry courses; and 18-19 hours of free electives related to the concentration of study for a total of 120 credit hours for graduation.

General Education
SAF accreditation standards require that: oral and written communication skills be developed throughout the curriculum and that students develop 3 related competencies; the curriculum include mathematics and the biological and physical sciences and that students develop understanding and knowledge related to each area; and that students can demonstrate 3 competencies related to social sciences and humanities. Each of these general education standards is covered by the USU general education requirements. In addition, FEMA students must also complete two “communications intensive” courses, one “quantitative intensive” course, one “humanities and creative arts” course and one social sciences course - all related to natural resource management.

Professional Education
The FEMA-specific required courses include 3 credits of natural resource and regional economics (APEC 3012), 3 credits of natural resource and environmental policy (ENVS 3010), 3 credits of introduction to wildland fire (WILD 3100), 3 credits of recreation resources management (ENVS 3300), 3 credits of human dimensions of natural resource management (ENVS 4000), 3 credits of watershed science fundamentals (WATS 3700), 3 credits of a capstone class focusing on forest assessment and management (WILD 5700), 3 credits of forest vegetation disturbance ecology (WILD 5710), and 3 credits of applied remote sensing (WILD 5750). The requirement of 3 credits of a wildland soils class (WILD 5350) will be discontinued in the Fall 2020 semester—while the new wildland fire course (WILD 3100) will be required.

The SAF accreditation standards identify eighteen competencies in four broad subject matter categories that must be delivered by the curriculum.

Ecology and Biology
Ecology and biology have significant emphasis in the curriculum, which meets the requirements for fundamental knowledge of taxonomy, soil properties, hydrology, ecology, assessments, and plant physiology. Evidence of competency is demonstrated through the following courses: WILD 3810 (Plant & Animal Populations); WILD 2400 (Wildland Resource Techniques); WILD 3820 (Forest Plants: ID, Biology and Function); PSC 3000 (Fund. Of Soil Science); WATS 3700 (Fund. Watershed Science); BIOL 1610 (Biology I) and BIOL 1615 (lab); BIOL 1620 (Biology II) and BIOL 1625 (lab); WILD 3800 (Wildland Plants & Ecosystems); WATS/BIOL 2220 (General Ecology); WILD 2000 (NR Professional Orientation), WILD 5700 (Forest Assessment & Mgt.); WILD 3100 (Intro to Wildland Fire); WILD 5710 (Forest Vegetation, Disturbance Ecology, and Mgt.); ENVS 3300 (Recreation Resource Mgt.).
**Measurement of Forest Resources**
The curriculum delivers the competencies in all areas, including land measurements, spatial analysis, comprehensive inventories, and analysis. Evidence of competency is demonstrated through the following courses: WILD 5710 (Forest Veg., Disturbance Ecology and Mgt.); WILD 5750 (Applied Remote Sensing); WILD/GEOG 1800 (Intro to GIS); PSC 3000 (Fund. of Soil Science); WATS 3700 (Fund. Watershed Science); WILD 2400 (Wildland Resource Techniques); WILD 3820 (Forest Plants: ID, Biology & Function); WILD 3850 (Veg and Habitat Mgt.); WILD 4750 (Monitoring and Assess’t in NR and Environ’l Mgt.); STAT 2000 (Statistical Methods) or STAT 3000 (Statistics for Scientists); WILD 5700 (Forest Assessment and Mgt.).

**Management of Forest Resources**
The curriculum meets the requirements for silvicultural prescriptions and administration of forest management enterprises. Evidence of competency is demonstrated through the following courses: WILD 2000 (NR Professional Orientation); WILD 3850 (Veg & Habitat Mgt.); WILD 5700 (Forest Assess’t & Mgt.); ENVS 3010 (Fund. of NR Policy); ENVS 3300 (Fund. of Rec Resource Mgt.); and ENVS 4000 (Human Dimensions in NR Mgt.).

Competencies C2, C3, C4, and C5 relating to the consequences of forest resource management strategies and decisions, development of management plans, valuation, forest markets, processing systems, and transportation and harvesting activities, rely heavily on two courses - WILD 3850 (Veg & Habitat Mgt.); WILD 5700 (Forest Assess’t & Mgt.) - for this array of understanding and abilities. In addition, WILD 5700 (Forest Assess’t & Mgt.) is being revised, and changes are being implemented in other courses as well. Thus, it is not clear how the curriculum will meet these requirements going forward.

**Forest Resource Policy, Economics, and Administration**
Despite dedicating fewer credit hours in this area, the FEMA degree program provides the requisite understanding of forest policy, professional ethics, state/federal regulations, and operation of public/private enterprises. Evidence of competency is demonstrated through the following courses: WILD 2000 (NR Professional Orientation); APEC 3012 (Intro to NR & Regional Economics); ENVS 3010 (Fund. of NR Policy); ENVS 3300 (Fund. of Rec Resource Mgt.); WATS 3700 (Fund. Watershed Science); WILD 5700 (Forest Assess’t & Mgt.)

**Technological Competency**
All WILD courses require competencies in word-processing software systems, spreadsheet design and data-acquisition technologies. WILD 5700 (capstone class) incorporates FVS usage and WILD 5750 (Applied Remote Sensing) and the introductory GIS class (WILD/GEOG 1800) require competency in the use of ESRI ArcGIS software systems.

**Distance Learning**
Temporary adjustments consequent to the COVID-19 pandemic notwithstanding, several faculty members reported conducting distance learning through “broadcast” classes (videoconferencing of actual lectures). WILD 4750 (Monitoring and Assess’t in NR and Environ’l Mgt.) has been taught as an online offering at one of USU’s satellite campuses. Clarity regarding how the field-lab, experiential part of this course is provided through the online format is lacking.
The standard is met with recommendation.

**STANDARD IV: FACULTY**

Thirteen faculty members are substantively connected to the FEMA program through teaching required and restricted elective courses in the FEMA curriculum and reporting to the WILD Department Head.

**Academic and Professional Competency**

Typical of a land grant university, faculty members generally hold PhDs in their respective disciplines and conduct a mix of research, teaching, and service. Faculty CVs show a very strong publication record, as well as engagement in conferences and seminars, and participation in sabbatical experiences at other institutions. A faculty advisor accompanies students to the national SAF conference, and two other faculty members advise Xi Sigma Pi and the newly formed Fire Club, respectively.

In WILD, four faculty members have an academic background specific to forestry. The Department Head has a strong research background in aspen. Five additional faculty are plant ecologists with a portion of their research and teaching experience related to forests. There is a remote sensing and GIS specialist who encompasses all vegetation types including forests. There are six additional faculty with specializations in wildlife that encompass forests in their research and teaching.

Although all WILD faculty are academically qualified and enthusiastic instructors, some appear to be teaching outside their areas of expertise (e.g., forest economics). The COA is concerned about the disciplinary expertise needed to deliver the competencies required of an SAF-accredited program effectively and efficiently, particularly with increasing enrollment. As opportunities for adding and/or replacing faculty arise, careful attention should be paid to expanding expertise specific to the needs of the FEMA program.

**Teaching Skills**

The faculty is enthusiastic about their teaching and interactions with students, who are encouraged to think independently. A high level of research productivity, along with a robust amount of consulting and service work, provide opportunities to bring contemporary knowledge and experience into the classroom. Several of the faculty have received awards for teaching.

The standard is met.
COMMITTEE ACTION

The SAF Committee on Accreditation grants continued accreditation, under the Forestry standard, to the Forest Ecology and Management degree program leading to the B.S. in Forest Ecology and Management, as administered by the Department of Wildland Resources, S.J. and Jessie E. Quinney College of Natural Resources, Utah State University, effective January 1, 2020 through December 31, 2031. *

Continued accreditation beyond December 31, 2022 is contingent upon submission of a progress report by July 31, 2022 that includes the following:

1. documentation that information regarding student success in the FEMA major is publicly available on the Program’s webpages; and
2. updated / revised syllabi for those courses supporting competencies C2, C3, C4, and C5 as well as descriptive text showing how the competencies are ensured.

Changes to curriculum, program organization and administration, names of concentrations or degrees, and other relevant matters must be reported to the COA on a timely basis.

The above summary findings and actions by the SAF Committee on Accreditation are based upon a review of the Department’s self-evaluation report, the visiting team’s March 2020 report, the WILD response to that report, and oral comments provided to the COA by Dr. Karen Mock, Wild Department Head, Faculty member Dr. Justin DeRose, Emeritus Faculty member Dr. James Long, and Dr. James Allen, chair of the visiting team, at the COA annual meeting, October 28, 2020.

By: Susan Jeheber-Matthews, Chair
SAF Committee on Accreditation

Date: 4 December 2020

* In response to continuing uncertainties for campus-based higher education consequent to the global COVID-19 pandemic, the SAF Educational Policy Review Committee issued a policy August 1, 2020 postponing all accreditation reviews one year. For AY 2019-2020 reviews, this effectively extended the new accreditation period to eleven years.