

Fisheries and Aquatic Sciences– BS

Program Assessment Notes

Review of documentation and data at: <https://qanr.usu.edu/wats/assessment/undergraduate>

- Which faculty are assigned to oversee assessment efforts for this program?

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Program	Department	Date	Ex	Outcomes	Planning	Data Collection	Results Used	Annual Feedback
Fisheries and Aquatic Sciences	WATS	10/8/25	N	Emerging	Emerging	Emerging	Emerging	Initial

External Accreditation - No

Assessable Outcomes – *Emerging*

There are seven objectives listed on the program’s assessment webpage:

Students graduating with a B.S. in Fisheries and Aquatic Sciences will have demonstrated:

- Competence in applying computing and mathematical methods
- Functional knowledge of the physical, biological, and chemical components of aquatic ecosystems
- Ability to make and analyze observations of aquatic ecosystems
- Ability to understand and apply the principles of fisheries conservation and management
- Effective oral, written, and visualization communication skills
- Understanding of the social context of ecosystem management and restoration in modern society
- Ability to identify, formulate, and develop solutions to ecosystem management and restoration problems using modern analytical tools, synthesizing knowledge from supporting sciences

Measurable Learning Outcomes feedback, questions, suggestions:

- The learning objectives identify skills and knowledge of program graduates, but some objectives could benefit from more specific language that would allow for assessment. For example, “Understanding of the social context of ecosystem management and restoration in modern society” could be rephrased as “Ability to explain the social context of ecosystem management and restoration in modern society.”
- May be worth reordering objectives to reflect order of priority? Currently, fisheries and aquatic science-specific outcomes are intermixed with broadly applicable (computational, communication) outcomes. Organizing the objectives around the FAS-specific outcomes first, and then the broadly applicable outcomes (or vice versa) may help.

Assessment Planning - *Emerging*

Documentation of the assessment plan is found on the department's assessment website. Assessment is targeted toward ongoing improvements to ensure all graduating students have the knowledge and skills required to be productive and advance in their field of endeavor. The plan specifies that achievement of outcomes is tracked through courses required of all students within the major, and identifies which courses are used to assess each outcome. The faculty review performance on objectives, along with course evaluations at an in-service day at the end of spring semester to make decisions about the curriculum to be implemented in the next year. Summaries of these decisions are available on the department's assessment website.

Planning feedback, questions, and suggestions:

- While the courses used to assess each outcome are identified on the program's assessment website, the list has not been updated in several years, during which time the program requirements and course structures have undergone changes. The program should update the courses used to assess each objective.
 - Consider adding to the curriculum map with program objectives the IDEA objectives referenced to help faculty identify how their courses align to program outcomes. Could help interpret course IDEA scores for assessing performance of program objectives.
 - A more recent version of the course map was updated during the 2024 spring faculty retreat. However, the learning objectives included there do not match those on the assessment website (appear to map closer to IDEA Objectives). This discrepancy should be rectified. Further, while courses addressing each objective are listed, the specific assignments/metrics from each course that will be used to assess whether the outcome is being met are still lacking in this document.
- Student achievement on program outcomes is measured based on performance in specified courses, but the specific assignments used to assess achievement of outcomes within these courses are not identified clearly in the assessment plan. Clearly identifying those assignments in each course that will be used to assess mastery of each objective is necessary.
 - The specific assignments being used for assessment can be found in a document linked in faculty retreat minutes from 2021, but are not clearly linked elsewhere. These should be made much more apparent and accessible from the assessment page. Additionally, many of the courses listed are either no longer required of all majors, are no longer taught, or have been substantially overhauled. The list of assignments used for assessment should be updated.
- Clear language regarding how achievement of each objective will be assessed is needed (e.g., 90% or higher grade on final exam in WATS XXXX, a score of "meets expectations" on assignment Y in course Z, etc.)
 - Faculty should discuss whether qualitative or quantitative data are needed to assess each outcome.
 - Document from 2021 noted above assesses achievement as the % of students at or above B- on the specified assignments. Unclear whether this is all students, or just majors in the course.

- For all course/assignment related outcome metrics, a description of the assignment and details of the performance required to demonstrate mastery should be clearly identified on the program assessment page. Potentially include rubrics for these assignments.
- Indirect measurements for outcomes include student perceptions through a survey, IDEA SRIs, and exit interviews.
- How should the performance of non-majors on outcomes in WATS courses be incorporated into metrics of program success?
- The plan should specify a protocol for individual instructors to submit the outcomes from their course(s) to a central dataset to be compiled/managed/summarized by a point person.

Data Collection - *Initial*

There does not currently appear to be consistent data collection on performance relative to program outcomes from direct measurement in courses. Outcomes are discussed at the end of spring semester faculty in-service day, but quantitative data from courses are not consistently used in these discussions (though they were used in 2021). Data are regularly collected from surveys with students (both from interviews with the department head and course IDEA surveys) and program alumni (through USU Career Services). The department maintains a more complete database of graduate placement.

Data collection feedback, questions, and suggestions:

- Data from assignments and direct measurement methods applied in courses need to be regularly collected in a single, central dataset made available and summarized in an annual report.
- Similarly, the data from surveys (i.e., exit interviews, IDEA surveys) need to be collected in a single, central dataset and made available and summarized in an annual report.
- For both Individual instructors would need to submit the relevant metrics from their courses to a specified point person.
- Data should be maintained across years to support characterization of trends and determine whether previous curricular changes have been effective.

Results are used - *Initial*

The annual record of decisions report posted to the department's assessment describes the changes made to the curriculum (or planned for implementation in the next academic year). The record of decisions frequently notes feedback from surveys of students and graduates, but does not provide data from direct measurements of objectives from courses. It is evident faculty have discussed feedback from students and their experiences in courses and are regularly updating the curriculum to continually improve the quality of the program.

Results used feedback, questions, and suggestions:

- The published assessment plan contains language on how the objectives are used to improve the program and courses over time. However, quantitative data on the direct measurements of success from courses/assignments are not available.
- A summary of the changes made to the curriculum is made available each year, but specific details of how assessment data were used to implement changes is not clearly presented, particularly from direct measurements of competency from courses. These reports do include feedback gained from student surveys to support decisions made by the faculty.
- Future discussions at the end of spring semester could review summaries of the direct measures of success at program objectives from courses, in addition to the information from surveys currently being used.
- Would be beneficial to include brief descriptions of any improvements to learning outcomes from past decisions in prior years. Will require collection, maintenance and updating of metrics of success from courses.

Feedback and Review - *Emerging*

Faculty convene and discuss the program’s effectiveness at helping students achieve mastery in the program outcomes, though quantitative data from performance on objectives in courses are not broadly used in these discussions, to date. The outcomes of these discussions, departmental curriculum committee meetings, and changes planned for the coming academic year are documented in a summary document published to the department’s assessment website.

Feedback and Review feedback, questions, and suggestions:

- With improved data collection discussed above, discussions could focus on each objective (or those experiencing the most challenges) specifically.
- Continue to document discussions and changes in annual summary document. It may be helpful to include a summary table or figure of the performance metrics for each outcome in this document.

Feedback from 2021 annual review:

Program	Ex	Assessable Outcomes	Assessment Planning	Assessment Implementation	Results Are Used	Annual Feedback on Assessment
Fisheries and Aquatic Sciences, BS	No	Emerging	Emerging	Initial	Initial	Emerging

This is an undergraduate program that is not externally accredited. The program assessment information is located here: https://qcnr.usu.edu/wats/about/assessment/undergraduate_assessment

There are 7 learning objectives:

- Competence in applying computing and mathematical methods
- Functional knowledge of the physical and biological, and chemical components of aquatic ecosystems
- Ability to make and analyze observations of aquatic ecosystems
- Ability to understand and apply the principles of fisheries conservation and management
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They identify skills and knowledge of program graduates, but lack details showing how students demonstrate mastery. There is no reference to how these outcomes are used to improve the program over time.

The learning objectives are not meaningfully assessed. While there is reference to “tracking achievement relative to program learning objectives”, there is no documentation available to show how this process is managed. The program needs to identify direct measures and properly document how they are used to assess student learning.

Implementation has not been documented properly. There is no dated data for any of the outcomes, only a course map. This does not qualify as evidence. The supplemental IDEA results are an indirect measure, and do not replace meaningful assessment activities. Additionally, the link redirects to a general IDEA search page, which is only available to individuals with an active USU ID (A#). This renders it unusable to any external parties.

There is limited documentation to support consistent faculty discussions on student results, proposed plans to improve the program as a result of those discussions, or follow up on decisions made. There is a summary of decisions document, but it does not address any collected evidence for the program, since there is no data collected in regards to learning objective performance.

AAA provided feedback to the department for the 2018-2019 AY regarding many of these deficiencies, and that feedback has not been implemented to improve the assessment process for the program.