Bachelor of Science in Fisheries Science
2012 Outcomes Assessment

MISSION STATEMENT:

The SFOS Fisheries Division will create a center of academic excellence in the fisheries discipline that promotes lifelong learning for undergraduate students preparing to enter a career in fisheries.

GOAL STATEMENT:

The goal of the B.S. in Fisheries Science degree program is to educate undergraduate students in fisheries science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries, in preparation for a career in fisheries and/or the seafood industry in Alaska and elsewhere.

INTENDED OBJECTIVES/OUTCOMES:

1. Have excellent oral and written communication skills.
2. Obtain knowledge of fishery science, with a particular emphasis on the biology, assessment, and management of fish and invertebrate fisheries.
3. Achieve knowledge of the scientific tools of data collection in fisheries science and demonstrate competence in compiling and reporting of that data.
4. Earn a degree in a timely fashion.
5. Be prepared to compete successfully for admission to M.S. programs in Fisheries or related aquatic science disciplines.
6. Be prepared to compete successfully for entry-level professional career positions in fisheries research or management in Alaska and elsewhere.

ASSESSMENT CRITERIA AND PROCEDURES:

1. Compare individual scores of students in similarly-scored evaluations of term papers in the introductory and capstone courses; 80% of students who complete both courses will improve scores. (Objectives 1-3)

   For the revised Bachelor of Science in Fisheries Science degree program, the entry level course is FISH 101 Introduction to Fisheries and the capstone course is FISH 487 Fisheries Management. For FISH 101, there are three writing assignments, with one assignment (summary of a global fishery) serving as the course term paper. In FISH 487, there are four writing assignments and students complete a group fisheries management project, which includes the development of a fisheries management plan; this assignment serves as the course term paper. Since the revision to this degree program, which was initiated in fall 2008, 14 students have completed both FISH 101 and FISH 487. The mean percentile (and percentile range) for the term paper in FISH 101 for these students was 93.6% (range, 62 to 100%), and 7 of the 14 students received a 100% on this assignment. For FISH 487, the mean percentile (and percentile range) for the term paper was 89.0% (range, 78.7 to 94.0%). In tracking the individual scores of students, only 1 out of 14 students (7.1%) showed

improvement in writing scores between FISH 101 (62%) and FISH 487 (90.7%). Eight of 14 students (57.1%) showed no appreciable change in writing scores (all 8 of these individuals scored >90% on both term papers; mean FISH 101: 97.0%; mean FISH 487: 94.4), and the remaining 5 of 14 students (35.7%) showed declines in writing scores (mean FISH 101: 94.8%; mean FISH 487: 81.2%). Although 80% of students that had completed both FISH 101 and FISH 487 did not show improvement in their writing scores, this metric may not be reflective of their writing abilities. Because these two courses are taught by different instructors and a high proportion of students (86%) received a 92% or higher score on their FISH 101 term paper, the trend in writing scores most likely is a result of differences in instructor grading rigor. As a result, the faculty instructors of these two courses are going to work together to resolve the grading rigor discrepancy to allow for more meaningful comparisons during future outcomes assessments.

2. Track retention rates and rate of graduation within 5 years as evidence of achievement. Eighty percent (80%) of undergraduates will be retained each year, and 50% of juniors will complete degrees in ≤3 years. (Objective 4)

   Since the initiation of the revised Bachelor of Science in Fisheries Science degree program, the average retention rate for freshman from years 1-2 is 50.0% (N = 37), and the average retention for transfer students from years 1-2 is 51.4% (N = 25). Retention rates for years 2-3 are much higher. For freshmen and transfer students from years 2-3, retention rates are 85.7% (N = 7) and 76.9% (N = 15), respectively. In addition, retention rates for all students, regardless of entry to the program as a freshman or transfer, are 100% for years 3-4 (N = 2 each). Overall, the retention rate goal for the undergraduate fisheries program (80%) is not being met for years 1-2 and is being exceeded for years 2-3 and 3-4.

   Of the 13 undergraduates that graduated with a Bachelor of Science in Fisheries Science since the end of the fall 2010 semester, 11 of these individuals, as juniors, completed the degree within three years. As a result, 84.6% of the aforementioned graduates graduated from the degree program within three years after they became juniors, which exceeds our goal (80%) for this metric.

3. Eighty percent (80%) of graduates seeking employment in fisheries or aquatic sciences, or admission to a graduate program will succeed within one year of graduation. (Objectives 5-6)

   Thirteen undergraduate students that were enrolled in the Bachelor of Science in Fisheries Science degree program have graduated since the end of the fall 2010 semester. Two of these individuals have been accepted into graduate programs and nine of the other graduates have secured employment in the fisheries or aquatic sciences field (mostly with the Alaska Department of Fish and Game). It is unclear at this point if the remaining two individuals have successfully secured employment or have been accepted into graduate school in this field. Based on this information, at least 11 out of the 13 students that graduated with a Bachelor of Science in Fisheries Science degree since fall 2010 have successfully secured

employment or been admitted to graduate school within one year of graduation (84.6%), which exceeds our goal (80%) for this metric.

4. Compile and summarize mentor evaluations from the experiential learning internships as evidence of readiness for a professional position. 80% of students will be judged by mentors to have performed at a satisfactory level for an entry-level fisheries professional. (Objective 6)

   Mentor evaluations were compiled for 28 different experiential learning internships completed by undergraduate students enrolled in the Bachelor of Science in Fisheries Science degree program. The mean mentor evaluation score (out of 5) was 4.73, with a range from 3.5 to 5.0. A mentor evaluation score of 4.0 or higher is considered satisfactory for an entry-level fisheries professional, and 27 out of the 28 mentor evaluation scores for student internships in the Bachelor of Science in Fisheries Science degree program were 4.0 or higher (96% of students) which exceeds our goal for this metric.

5. Eighty percent (80%) of graduates will be "satisfied" or "very satisfied" overall, with the education they received in the Fisheries Program at UAF. (All objectives)

   Ten of the 13 undergraduates that graduated with a Bachelor of Science in Fisheries Science degree provided responses to the exit interview survey. On a scale from 1 to 10, the range in the overall evaluation of the Fisheries Program from the ten respondents was 5 to 10, with a mean score of 8.2. Note that we consider a score of 9-10 as very satisfied and 7-8 as satisfied on a scale of 1 to 10. Specific comments that support this assessment include the following:

   "Very satisfied with SFOS: 8-10. The combination of individual attention and meaningful learning experiences beyond the classroom make SFOS a unique place to get a BS in Fisheries."

   "Excellent rating. The basis is the excellent professors, great access to study areas and computers (undergrad lounge and ocean commons), potential for student research, ability to land students summer internships, and great coursework."

   "I would rate my experience very highly. The basis for that rating is the classes and faculty that provided an excellent, friendly environment that is dedicated to educating students."

   "I would rate my experience very high. All the professors and staff are student oriented. They are all very helpful and supportive. I like the small school feel, with quality education."

   "My rating is a A++. I loved it. I enjoyed all of the fisheries classes. All the fisheries staff were nice, helpful, and approachable. It was great and I am glad that I chose UAF."

Based on the information provided in exit interview surveys, nine of the ten respondents that have graduated with a Bachelor of Science in Fisheries Science degree to date provided a "satisfied" or "very satisfied" rating of the educational experience they received in the UAF Fisheries Program (90%). The lone "unsatisfactory" rating was from a student that had, just prior to graduation, a poor academic advising experience. As a result of this experience, the individual rated the Fisheries Program very poorly. The committee suspects that if the student had completed the exit interview survey at a time when the advising issue was not so fresh, that the overall evaluation of educational experience would have been more favorable.

It should be noted that no three-year post-graduation alumni questionnaires have been completed to date for this Bachelor of Science in Fisheries Science because the first graduates from the revised degree program (which began in September 2008) graduated in spring 2010. As a result, the first set of alumni questionnaires will be completed in spring 2013 and reported in the outcomes assessment document for that year.