Academic Program Elimination Proposal: B.S. in Aquaculture

Summary: The B.S. degree in Aquaculture is offered through the School of Marine Sciences (SMS). Enrollment in the program has been very low and the degree program was suspended in 2010. SMS offers a B.S. degree in Marine Sciences with a concentration in aquaculture as an alternative. There is also the opportunity to pursue a minor in aquaculture. Both alternatives have fewer required courses specific to aquaculture and thus can be offered more efficiently with a small number of faculty members having expertise in aquaculture. Since 2011 a recruitment drive has increased enrolment in the Aquaculture Minor and Aquaculture Concentration, and a series of updates and amendments to the program will ensure that the Aquaculture Minor will remain a strong program within SMS, involving students from across many departments. NSFA proposes to eliminate the B.S. degree in Aquaculture and retain the Minor and Concentration.

Rationale for suspension of program: A B.S. degree in Aquaculture has been offered for many years. Unfortunately, the program has been plagued by low enrollment. Total enrollment topped 20 students in 1999, but has declined so that only 2 students are currently enrolled in the degree program. Since AY 05-06, we have conferred fewer than two degrees per year (Table 1. Seven year summary of enrollment and degrees conferred). As a result, enrollments in most aquaculture courses have been low, even when offered in alternate years (Table 2).

Table 1. B.S. Degree in Aquaculture: Enrollment in program and number of degrees conferred annually from AY 2005 to present:

Academic year	Fall enrollment count	No. degrees conferred
AY 2005	7	2
AY 2006	7	1
AY 2007	10	2
AY 2008	11	1
AY 2009	8	1
AY 2010	6	3
AY2011	2	0
Seven year average	**7.3**	**1.4**

Table 2. Enrollment in selected aquaculture courses when last offered:

Course designation	Last offered	Enrollment
SMS 211 Introduction to Aquaculture	Fall 2012	27
SMS 309 Techniques in Shellfish Aquaculture	Summer 2008	6 (’09 – 0 enrolled)
SMS 401 Critical Issues in Aquaculture	Fall 2012	4
SMS 409 Shellfish Aquaculture	Spring 2008	8
SMS 420 Fish Aquaculture I	Fall 2010	7
SMS 421 Fish Aquaculture II	Spring 2011	6
SMS 449 Engineering in Aquaculture	Spring 2012	6
SMS 467 Fish Nutrition and Feeding	Fall 2012	2

We wish to continue to serve the aquaculture industry, but we cannot justify the expense of offering so many specialized courses to a modest number of students. It is our intent to eliminate the separate B.S. degree in Aquaculture and direct students toward the aquaculture concentration within the B.S. in Marine Science, and towards a minor in aquaculture while majoring in marine sciences, animal science, zoology or other related fields, as applicable alternatives.

Enrollment in Marine Sciences is growing, with 167 undergraduate majors (AY 2011) and ~ 70 first-year students entering the program in fall 2012. The suspension of the B.S. degree in Aquaculture did not negatively impact enrollments in SMS. The students presently enrolled in the B.S. degree in Aquaculture will be provided with an opportunity to complete their degree requirements.

Relationship of the program suspension to institutional mission:

The Federal Government is creating a new 10-year strategic plan for aquaculture development; overseen and developed by NOAA, and Maine is well positioned to be the lead state in sustainable aquaculture both for research and economic development. Maine has a strong aquaculture industry that produces finfish, shellfish, baitfish, ornamentals and sea vegetables. As part of UMaine's land grant mission, the University provides educational programs, research and outreach to this industry.

Suspension of the B.S. degree in Aquaculture will not impact our current efforts in aquaculture research. The University recently established an Aquaculture Research Institute (ARI) for this purpose. The ARI reports to the Vice President for Research, and liaises closely with Maine Sea Grant to develop aquaculture outreach programs. The NSFA and SMS work closely with ARI to ensure both undergraduate and graduate curriculum in aquaculture at UMaine.

The aquaculture curriculum is provided by a subset of School of Marine Sciences, Animal Veterinary Sciences and MBMS faculty members. Aquaculture faculty numbers had declined with several faculty retirements and others left UMaine. However, this trend is reversing with the hiring of three new faculty associated with the ARI, bringing our current aquaculture faculty to 4.5 FTEs, with 3.5 FTEs in the SMS. Elimination of the B.S. degree in Aquaculture is not linked to the elimination of any current personnel. SMS will continue to offer a B.S. in Marine Sciences with a concentration in aquaculture as well as the minor in aquaculture. This enables UMaine to maintain a program that prepares students for careers in aquaculture and its related fields.

Assignment of faculty during the suspension period: Faculty having expertise in aquaculture will continue to deliver courses on this topic and subjects related to aquaculture such as the biology of fishes. These courses will contribute to fulfillment of the aquaculture concentration within the B.S. in Marine Sciences and fulfillment in the aquaculture minor. As indicated previously, suspension of the B.S. degree in Aquaculture is not linked to the elimination of any current personnel. However, this will reduce our need to hire adjunct faculty to teach in this curriculum and allows us to revise the aquaculture syllabi removing low enrollment courses and developing new course more relevant to the needs of the aquaculture community.

Impact of the program elimination on students: Students currently enrolled in the B.S. in Aquaculture will have the option of completing their degree or transferring to the aquaculture concentration within the B.S. in Marine Sciences.

Timetable for program elimination: We wish to eliminate the B. S. in Aquaculture degree program at the conclusion of the 2012-2013 academic year. The program was suspended in 2010 and will remain

suspended until the proposal to eliminate the degree is reviewed and evaluated. We expect those later steps to be completed during the current academic year.

Input obtained from meeting and discussion with the appropriate faculty and AFUM: The SMS faculty have been concerned with the low enrollment in B.S. Aquaculture as major. In response to that concern, a concentration within a marine science degree was developed as an alternative. While some individual faculty members believe that a separate B.S. degree in Aquaculture is warranted, there is a clear realization that the current program is not attracting sufficient student interest despite significant efforts to publicize both the program and the opportunities in this field. A meeting with an AFUM representative was held prior to the suspension of the degree program. Some concerns regarding suspension were identified by the ARI, Maine Aquaculture Association and Maine Sea Grant. After consideration of the points raised in these concerns, the University of Maine Faculty Senate Standing Committee on Program Creation and Reorganization Review Committee recommended suspension of the program. The degree elimination proposal was submitted to AFUM on September 17, 2012 for comment. No response was received during the subsequent 6 weeks; suggesting no adverse reaction to this proposal.

Respectfully submitted,

Edward N. Ashworth
Dean, Natural Sciences, Forestry and Agriculture October 30, 2012