MEMORANDUM

DATE: 25 October 2010

TO: Howard H. Karr
Chairperson, University of Hawai`i Board of Regents

VIA: M.R.C. Greenwood
President, University of Hawai`i

FROM: Donald Straney
Chancellor, University of Hawai`i at Hilo

SUBJECT: CHANGE OF STATUS FROM PROVISIONAL TO ESTABLISHED FOR THE MASTER OF SCIENCE IN TROPICAL CONSERVATION BIOLOGY AND ENVIRONMENTAL SCIENCE AT THE UNIVERSITY OF HAWAI`I AT HILO

SPECIFIC ACTION REQUESTED:

It is requested that the University of Hawai`i Board of Regents approve the change of status from provisional to established for the Master of Science program in Tropical Conservation Biology and Environmental Science at the University of Hawai`i at Hilo. In addition to the summary of the program below, please find attached a self-study of the program for your review.

RECOMMENDED EFFECTIVE DATE:

Upon approval

BACKGROUND

The Master of Science program in Tropical Conservation Biology and Environmental Science (TCBES) program is administered by the College of Arts and Sciences at the University of Hawai`i at Hilo. It is a 30-36 semester hour program. The program currently is the only one in the University of Hawai`i system that trains students in the interdisciplinary fields of conservation biology and environmental science at the master’s degree level. The program admitted its first cohort of students in the Fall semester of 2004 and produced its first nine graduates in May of 2007 with an additional fourteen graduates in 2008. As of July 2010 forty-four students have graduated from TCBES.

The primary purpose of the MS in TCBES is to provide graduate training in conservation biology and environmental science to people with baccalaureate degrees and others currently working in the field. The program utilizes the extraordinary biological, physical and cultural complexity on the Island of Hawai`i as a focus of investigation and study. The program prepares students for technical positions and for entry into Ph.D. programs in related fields.
Program Objectives:

- Foster knowledge of current trends and issues in conservation biology and environmental sciences including basic and applied research and natural resource problems.
- Provide participants with experiences in conceptual and technical research in ecology, evolutionary genetics, geographic analysis, environmental monitoring and assessment in marine and terrestrial environments.
- Promote research and scholarly activities that will enable participants to enter the scientific research community.

Participants of the program will:

- Perform scientific research in the interdisciplinary field of conservation biology and environmental science.
- Develop skills in natural resource and protected area management;
- Use advanced technological equipment, perform quantitative analyses and interpret complex data.
- Present scientific results in oral and written publications.
- Interpret and critique professional scientific literature.

FACULTY

TCBES unites 36 faculty at UH Hilo with 51 certified faculty from federal and state agencies and other universities. Participating UH Hilo faculty reside in the Departments of Anthropology, Biology, Chemistry, Geography, Geology, and Marine Science Departments of the College of Arts and Sciences, and in the College of Agriculture, Forestry and Natural Resource Management. As a multidisciplinary, multi-college program, TCBES encourages and facilitates sustained collaboration across the research areas of ecological and evolutionary genetics, ecosystems analyses and responses to environmental change, cyberinfrastructure for environmental research, and geospatial analyses. Faculty members engage in projects in the diverse ecosystems of Hawai`i Island. At the core of the TCBES Program are the dynamic research collaborations between UH Hilo faculty and federal and state agencies on Hawai`i Island. The participants names, university departments for UH Hilo faculty, affiliations for certified faculty, and the research areas of the faculty and certified faculty are listed in the self-study.

STUDENTS

In the first two years of the program 14 and 16 applicants were admitted into the program in Fall 2004 and Fall 2005, respectively. Twenty-three of these students graduated by December of 2008 and two students graduated in July 2010; the long duration of their graduate program is due primarily to their employment in science-related positions outside the university that has prolonged the completion of their thesis research. Two students have still to complete their thesis and two students from these two cohorts have left the program. Thus 83% of the students from the first two years of the program graduated by 2010. In Fall of 2006, 16 applicants were admitted into the program with one student subsequently leaving the program. Nine of these
students graduated in May 2009 and four of these graduate in May 2010 with two still in the program. In Fall of 2007, 14 applicants were admitted into the program. Eight of these students graduated by July 2010 and six are currently on track to graduate in the 2010-2011 academic year. Most recently 15 students entered the program in Fall 2008, 19 in Fall 2009 and 22 in Fall 2010. These students are on track to finish in 2.5 to 3 years as is typical in this program.

To date, 44 students have graduated from TCBES and 43 of these students conducted original research completing the Plan A thesis option. The titles of their Masters Theses are listed in the self-study report. In addition, the graduate students have co-authored 12 published research papers in peer-review journals and 2 students have won prizes for the best and second best poster presentation at regional meetings in Hawaii. Finally, we know of 28 of the graduates of the program who either currently have jobs related to the TCBES program or have been accepted to Ph.D. programs at other universities. These are all listed in the self-study.

RESOURCE REQUIREMENTS

The TCBES program was initiated in conjunction with the National Science Foundation Experimental Program to Stimulate Competitive Research (NSF EPSCoR) Research Infrastructure Improvement (RII) grant programs that were awarded to the University of Hawai‘i from 2003-2009. These NSF EPSCoR RII grants provided UH Hilo with three education and research facilities in Analytical Chemistry, Genomic Analyses, and Spatial Data Analysis. The equipment and personnel were invaluable to the beginning of the TCBES Masters program and are essential to its long-term success. Nine faculty members were hired in association with the NSF EPSCoR RII grant. Seven of these faculty members are currently tenure-track faculty in Biology, Marine Science and College of Agriculture, Forestry and Natural Resource Management. Two of the EPSCoR-hired faculty members have left the university and been replaced with new tenure-track faculty in Geography. The NSF EPSCoR RII grant has provided resources for the Director position but this grant ended in May 31, 2009. In addition, the TCBES program has been able to support graduate students through the NSF EPSCoR RII grant and an NSF GK-12 grant. This support will be ending at the end of the Spring 2009 semester. The University will implement its first teaching assistantships in Fall 2011, with two TAs assigned to teach undergraduate laboratory courses in Biology. Additional teaching assistantships will be phased in as the University’s budget permits. The Director position is being made permanent and an executive assistant position is being provided to the TCBES program.

ACTION RECOMMENDED:

It is recommended that the University of Hawai‘i Board of Regents approve the change of status from “provisional” to “established” for the Master of Science program in Tropical Conservation Biology and Environmental Science program at UH Hilo.