Environmental Science and Resource Management Program Review

Self Study

In Accordance with Senate Policy 05 -35

Prepared by Donald A. Rodriguez

June 30, 2009

Certification and Signatures

Date

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Executive Summary and Recommendations

Executive Summary

The Environmental Science and Resource Management (ESRM) degree was among the first degrees offered at CSU Channel Islands (CSUCI.) Like the Liberal Studies degree, the ESRM degree was originally designed as the most interdisciplinary undergraduate major at CSUCI with 82% of the course work taken outside the major. The major has undergone a significant redesign in fall 2008 to incorporate a new focus in restoration ecology and field activites while maintaining 73% of the course work still done in departments outside of ESRM. By incorporating ecological restoration into the major ESRM students have a diversity of technical skills that make them very competitive for local, regional, national, and international opportunities. This skill set is complimentary to other skills learned in the major (geographic information systems, resource management, coastal management, and land use), to create a resource professional for the 21st century.

The ESRM curriculum redesign has resulted in exponential growth within the major (which is notable at a time when the University has capped enrollment for the last three years). When compared to other environmental programs in the CSU system, the ESRM program is distinctive due to its' STEM discipline affiliation, and its integration of ecological restoration, GIS, protected area management, and land use in a interdisciplinary curriculum make the ESRM program unique in the CSU.

In the early years of the University's operation, ESRM was consistently the smallest (number of majors) program at CSUCI. In recent years it has surpassed Math, Chicano Studies, Applied Physics, and other small majors to be one of the fastest growing programs in the university. During fall 2008 ESRM had the second highest female enrollment (62.4%) of all the CSUCI STEM disciplines (second only to Biology at 65.2%). Currently the program has been working hard to further diversify its student body by working closely with Oxnard College a Hispanic Serving Institution to encourage new majors through the Pathway to the Baccalaureate grant project. The major has shown exponential increases in diverse student enrollment since its inception in 2002 and is currently third (32.4%) in proportion of majors that are ethnically diverse among all CSUCI STEM disciplines.

The proportion of ESRM majors that graduate each year are virtually the same or higher than the proportion of students graduating within the University. Thus, it seems appropriate to conclude that ESRM majors complete degrees in essentially the same time frame as other majors, which is remarkable in the STEM disciplines since these tend to be longer time to degree.

Retention rates for ESRM freshmen have shifted dramatically since the program's inception in 2002. ESRM freshmen have shown a continued increase in retention rates over the last four years, closely paralleling university retention rates in 2006, and doubling the university rate in 2007.

Conclusions

It is difficult to imagine a process of program review that is more rigorous than that which was required across a four year period by WASC during its review for the initial accreditation of the University. One might argue that all academic programs at CSUCI experienced careful and extended scrutiny by the Western Association of Schools and Colleges in the process of awarding Initial Accreditation to the University.

The WASC Commission lauded the University for its progress and achievements but also recognized that there remain some challenges. Program assessment remains as a daunting task for the University, including the ESRM program. To quote from the Commission's letter in which it announced the award of "Initial Accreditation :

> *"As a new institution, CSUCI demonstrated educational foresight by organizing all its course syllabi around student learning outcomes, then proceeded to identify assessment strategies aligned with those outcomes. Assessment is becoming embedded within the culture of CSUCI, including in student services programs. This will serve the University well as it engages in systematic program review in coming years."*

Thus, it is logical to argue that each of these four reports, and all of them in their entirety, together with the responses and observation of the external reviews from WASC constitutes the best support for concluding that the ESRM program is achieving its' educational outcomes.

Recommendations

A. Organize a series of workshops with "feeder" Community Colleges to help ensure a smooth transition for transfer students.

B. Nurture the dialog between the University Center for Integrative Studies, Center For Community Engagement, local community colleges, and the CSU Chancellor's Office to develop a Coastal Management Emphasis in ESRM.

C. Encourage and support the implementation of the assessment blueprint developed as a part of the Smith Family Assessment Plan Preparation Program.

    1. Provide sufficient additional resources to allow for assessment activities in ESRM to support additional time for the ESRM Chair and a group of faculty who teach ESRM courses and are willing

to work on the assessment challenge to work together for two or three days annually.

a. Refocus assessment activities on evaluation of writing competencies and oral presentation skills in capstone courses.

b. Seek University-wide solutions for common data sets to include but not limited to:

i. Centralizing data acquisition and storage for common elements.
(1) Exit surveys of majors
(2) Employer surveys
(3) Alumni surveys
(4) Community partner surveys

2. Work with the Office of Institutional Research and the University's Assessment Officer to identify an existing instrument to assess general academic skills.

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Donald A. Rodriguez, Chair ESRM

June 30, 2009

INTRODUCTION AND OVERVIEW

The Environmental Science and Resource Management (ESRM) degree was among the first degrees offered at CSU Channel Islands (CSUCI.) Like the Liberal Studies degree, the ESRM degree was originally designed as the most interdisciplinary undergraduate major at CSUCI. It might be argued that the ESRM degree (along with Liberal Studies and Chicano Studies), is one that closely embodies the four pillars of the University mission (interdisciplinarity, engagement and service learning, international perspectives, and multicultural perspectives).

The major has undergone a significant redesign (effective fall 2008) to incorporate a new focus in restoration ecology and field activities. By incorporating ecological restoration into the major, ESRM students have a diversity of technical skills that make them very competitive for local, regional, national, and international opportunities. This skill set is complimentary to other skills learned in the major (geographic information systems, resource management, coastal management, and land use), to create a resource professional for the 21st century. Through the creation of a new course sequence in ecological restoration principles, practices, methods, and design, ESRM students have a competitive advantage within the ecological community.

ELEMENT ONE

Defining Program Purposes and Ensuring Educational Outcomes

1. The program has a statement of its purpose and operating practices. Statement of Purpose

A. The program

The Bachelor of Science in Environmental Science and Resource Management provides solid training in basic physical, biological, and social sciences, and application of management science to reduce adverse impacts of human activity on the environment and to maximize the benefits that accrue from environmental resources.

In the narrowest sense, environmental science is the study of the impact of human systems on physical and biological systems, and the dependence on natural resources by human systems. In a broader sense, environmental science is the study of the interaction and co-evolution of human, physical, and biological systems. Natural science is the study of physical and biological systems. Social science is the study of human systems - economic systems, political systems, human perceptions, and human interactions. Environmental science requires integral knowledge of both natural and social science. Resource management is concerned with the most effective means of avoiding damage to environmental assets and extracting beneficial uses of environmental resources, within the context of social institutions. Effective resource management considers benefits and costs, uncertainties and risks, limits of knowledge, institutional constraints, and social and political forces.

The B.S. program has two emphases: environmental science and resource management. This program prepares graduates specializing in environmental science who understand basic principles of resource management, and graduates specializing in resource management who understand basic principles of environmental science. Most required courses are those offered in related disciplines. The curriculum fosters cross-disciplinary communication in the several required courses common to both degree programs and particularly in the Environmental Science and Resource Management courses.

The Environmental Science and Resource Management minor provides non-majors with the opportunity to explore environmental issues and examine human impacts on natural systems. It provides students with an understanding of how their personal choices affect the environment around them. In addition, it equips students for further study in environmental science, law, policy, or management.

B. Operating Practices

As might be anticipated, faculties from core areas of Arts and Sciences, and Professional Studies coalesced into program areas that reflected the University's original academic programs. As the University's faculty grew in size, so too did the faculties associated with these disciplinary program areas. The earliest structures of the University were self organized by disciplines. These structures are the

primary mechanism that the University uses to assign faculty resources.

In the early years of the University, ESRM developed as the “flagship” interdisciplinary program (along with Liberal Studies) at CSUCI. The program had little administrative support as it fell into the Multiple Programs structure. The Multiple Program structure served as an incubator for small academic programs (ESRM, Political Science, History, Anthropology), that lacked sufficient numbers to warrant their own administrative structure. In 2005 a coordinator was assigned to oversee the discipline and a half time support coordinator was assigned to provide administrative support. In 2007 a chair position was designated for the program on a one year basis, going to a three year term in 2009.

Unlike traditional disciplinary majors, the ESRM degree draws extensively from other majors (currently >70% of the curricula falls outside the discipline). ESRM is unique because of the myriad ways that traditional disciplinary content may be combined to create a catholic education. The broad educational outcomes associated with a ESRM degree results from the different perspectives associated with multi- or interdisciplinary studies. Thus, graduates from the ESRM program are dependent upon the complimentary disciplines (biology, chemistry, political science), for critical content, and for the “mix” of course work for the multiple perspectives that they learn to bring to problem solving. The development, maintenance and oversight of the ESRM program requires the intellectual, fiscal and collegial support of the faculty from the traditional disciplines.

Evolution of Bylaws

During the first 4 years of operation (2002-2005), ESRM was part of the Multiple Programs organizational structure. While the program did have a program coordinator, there was no chair until 2007. Prior to 2007, the ESRM program was administered by the chair of Multiple Programs until this structure was abandoned by the University.

In 2008 the ESRM faculty developed the program Bylaws for consideration and approval by the Dean in Fall 2008.

ESRM Bylaws (approved fall 2008)

I. Unit Definition (size, disciplines, majors, etc.)

The Environmental Science and Resource Management (ESRM) program comprises the faculty appointed in the areas of Environmental Science and Resource Management. The ESRM program houses one degree program with two emphasis areas: A Bachelor of Science in Environmental Science and Resource Management with an emphasis in either Environmental Science or Resource Management. The program also houses a minor in Environmental Science and Resource Management. All courses (not cross listed) carrying the prefix ESRM are offered through the Environmental Science and Resource Management Program.

II. Unit Mission Statement

The ESRM program embodies the four pillars of the CSUCI mission by offering curricula and courses that are inherently interdisciplinary in nature, international in focus, culturally sensitive, and fully engaged with our community, region, and state. The ESRM program encourages collaborative faculty/student research to identify possible causes and propose solutions to current environmental problems that incorporate natural and social science perspectives. The program is at the cutting edge of 21st century intellectual movements that offer students unique preparation to pursue professional careers or advanced degrees in an array of related fields.

III. Unit Membership and Administrative Assignments

- **Officers Chair ESRM**

Chair
Coordinator of the Environmental Science and Resource Management Program
Program Advisor (i.e., major and minor advising for students)

- **Officer Responsibilities**

The duties of the Chair are those spelled out in the CSUCI Handbook on the Roles and Responsibilities of Program Chairs; the Chair oversees the operations of the degree programs within the ESRM major and fulfills all personnel-related functions for all faculty within the Program.

- **Officer Term and Term Limits**

The Chair serves a 3-year term. A faculty member may be elected to no more than 2 consecutive three year terms.

- **Votes of Confidence/No Confidence**

Any tenured or probationary ESRM faculty member may call for a vote of no confidence in the Program Chair. The call may be made at any regularly-scheduled faculty meeting, or at a meeting called for the purpose by any tenured or probationary faculty member. A vote of no confidence will be taken by secret ballot by the same procedure specified for the election of the Chair. The results of a vote of no confidence will be reported to the Dean.

- **Election of Officers**

Tenured faculty in the Program are eligible to serve as chair. In the Spring semester of the last year of the current chair's term, the appropriate Dean or Associate Dean will send out a call for nominations for Chair. The list of nominees will be circulated to all faculty in the Program (tenured and probationary and temporary), with notice that the vote will be held between certain dates. On the first day of the election, the Program's Support Coordinator will distribute ballots to all faculty eligible to vote.

- **Process by which officers are recommended to the Dean and Provost**

For Chair: The results of the vote for Program Chair will be forwarded to the Dean by the Program's Support Coordinator. Included will be the names of all nominees, and the number of votes received by each.

- **Voting Rights**

Only tenured and probationary ESRM faculty may vote in elections for Program Chair.

- **Officer Evaluation**

The Program Chair will be evaluated in the Spring semester of her/his second year in office, following the CSUCI Chair Evaluation Policy approved by the Academic Senate.

IV. Other Unit Assignments

- **Process for Advising Assignments**

All faculty in the program will serve as Program Advisors. Program Advisors will advise all ESRM majors and minors, but only the Program Chair has signing authority for course substitutions.

- **Process for Assessments Assignments**

The tenured and probationary faculty of the Program will elect an Assessment Committee. The Assessment Committee will work with the chair on all Program assessment activities, including advising the chair on how any assigned time allocated for assessment activities should be distributed among program faculty.

- **Process for other Assigned Time within the Unit**

The Chair will consult with the Program's Faculty Committee (PFC, see below) about the distribution of other assigned time within the Program.

- **Process for assigning other duties beyond teaching**

The Chair will consult with the Program's Faculty Committee (see below) about the assignment of other duties within the Program.

- **Elections for other unit decisions**

The tenured and probationary faculty of the Program will elect a Faculty Committee to consult with the Chair on personnel matters. The Program Faculty Committee will have 2 to 5 members, depending upon the number of tenure track faculty in the unit. If the unit has no tenure track faculty beyond the Chair, the probationary faculty will vote on one or more faculty from outside the program to serve on this Committee.

V. Unit Faculty

- **Process to constitute the Program Personnel Committee**

The Program Personnel Committee (PPC) will be constituted according to the process outlined in the Program Personnel Standards (PPS). The PPC(s) within the Program will be reconstituted or reaffirmed each year.

- **Process to constitute the Temporary Faculty Evaluation Committee**

The Program Faculty Committee will serve as the evaluation committee for fulltime lecturers. The Chair will serve as part of the committee for this purpose.

- **Process to create and amend PPS**

The Program Faculty Committee will work with all tenured and probationary faculty to develop the initial Program Personnel Standards. There will be one PPS for Environmental Science and Resource Management. The Chair will serve as part of the PFC for this purpose. After the PFC has consulted with program faculty about the PPSs, it will circulate a draft of the PPS and request feedback. After considering all feedback received, the PFC will vote on adopting the PPSs, and will subsequently forward them to the Office of Faculty Affairs to begin the review process. After the initial PPSs are approved, the PFC may modify them by the same process as their initial creation.

- **Number of classes evaluated**

Two (2) classes annually for each full-time, tenured and probationary faculty unit employee. All Classes for each temporary faculty unit employee (except those on 3-year contracts under CBA 12.12, who will evaluate a minimum of two courses per year).

- **How classes are evaluated**

Student evaluations of teaching shall be administered according to CSUCI's policy on student evaluations. All faculty, tenured, probationary and temporary, will also have a minimum of one peer observation of a class. Each faculty member is welcome but not required to consult with the FPC to arrange for a peer observation.

VI. Other Unit Decisions

- **Process for Curriculum and New Course Decisions**

The tenured and probationary faculty will elect an ESRM Curriculum Committee. The Chair is eligible to be elected to this committee. The committee will have 3 or 5 members. If there are 3 or fewer tenured and probationary faculty in the program, it will constitute a committee of the whole. The ESRM Curriculum Committee will approve all ESRM curriculum and course proposals, and revisions.

- **Participation of FERP Faculty**

FERP faculty are eligible to serve on all Program committees while they are in active employment status. FERP faculty are not eligible to serve as Program Chair. FERP faculty are not eligible to serve on Program Personnel Committees.

- **Criteria for Program Honors**

Students may be nominated for Program Honors by any faculty member, tenured, probationary, or temporary. Students must have a minimum 3.0 GPA overall, and a minimum 3.5 GPA in the program to qualify. Nominated students will be contacted by the Chair, and asked to submit a sample of their best work. Samples will be held in the Program office for faculty to view. At a regular faculty meeting, or a special meeting called for the purpose, the nominators will speak about the qualifications of their nominee(s). Subsequently, all full time faculty, tenured, probationary, and temporary, will vote (each faculty member will have one vote) on the student to receive Program Honors. The high vote getter will be awarded Program Honors.

- **Unique Program Elements**

The ESRM program maintains the CSUCI Geographic Information Systems (GIS) lab on campus. When teaching in the GIS lab, all tenured and probationary faculty shall be responsible for the condition of the lab and the ordering of lab resources when needed. The Chair shall be notified of any maintenance issues or equipment requests, particularly for expendable supplies (printer ink, paper, etc).

- **Process to amend unit bylaws**

Any tenured or probationary faculty member wishing to propose an amendment to the ESRM bylaws may do so at any regularly scheduled faculty meeting of the Program, or at a special meeting called for the purpose. Amendments shall be approved by a 2/3 majority of the tenured and probationary faculty in ESRM.

II. Unit bylaws shall be approved by a simple majority of the tenure track faculty in the unit.

III. Unit bylaws shall be approved by the appropriate Dean.

IV. Unit bylaws shall be approved by the Provost.

2. <u>The program has clearly stated educational objectives and has developed indicators and evidence to ascertain the level of achievement of its purposes and educational objectives.</u>

The learning objectives for the ESRM program are published in the University catalog and are available on the program website.

ESRM PROGRAM LEARNING OUTCOMES

- Identify the scientific, social scientific and humanistic aspects of environmental issues

- Identify, locate, evaluate, synthesize and present current research and information on environmental issues

- Define environmental problems from the perspectives of both environmental science and resource management

- Identify possible causes and propose solutions to environmental problems from the perspectives of both environmental science and resource management

- Evaluate proposed solutions to environmental problems from the perspectives of both environmental science and resource management

- Use the methodologies of the natural and social sciences to formulate testable hypotheses concerning environmental problems and issues

- Collect, organize, analyze, interpret and present quantitative and qualitative data

- Make use of current, technological tools in the collection, organization, analysis and interpretation of data

3. The program accurately publicizes its academic goals, programs, and services to students, within the university and to the larger public.

Much of the material presented in section 1A above is taken directly from the University catalog. The catalog is available in hard copy and electronically on the University's web site and may be viewed at http://www.csuci.edu/.

Reflection on Element One

A. Program mission statement/program goals

The ESRM program embodies the four pillars of the CSUCI mission by offering curricula and courses that are inherently interdisciplinary in nature, international in focus, culturally sensitive, and fully engaged with our community, region, and state. The ESRM program encourages collaborative faculty/student research to identify possible causes and propose solutions to current environmental problems that incorporate natural and social science perspectives. The program is at the cutting edge of 21st century intellectual movements that offer students unique preparation to pursue professional careers or advanced degrees in an array of related fields.

The ESRM program has also developed a strategic plan to guide future program development in fall of 2008. This plan was approved by the Dean in fall 2008.

ESRM Program Alignment

- We are part of the CSU system
- We are closely aligned with the Mission of CSUCI
- We are closely aligned with the Mission of the Division of Academic Affairs
- We actively support other CSUCI programs
- The Programs combination of environmental science and resource management creates a unique niche among similar CSU programs

Success Characteristics

- We measure success by students' completion of the degree
- We measure success by students' ability to apply scientific reasoning in resolving problems
- We measure success by students placed in productive careers
- We measure success by our students' continuation in higher education
- We measure success by our students publications, honors, awards, conference presentations, and service to the environmental community
- We measure success by our faculties professional success in teaching, publications, awards, and conference paper presentations
- We measure success by the programs contribution to the collective intellectual and creative spirit to the University community.
- We measure success by our faculty and students taking an active role in the broader management community and contributing concrete solutions to resource challenges

Vision

Ideal Characteristics of the Program in 5 Years?

- Offering a self funded M.S. degree with emphases in Coastal Resource Management, Coastal Applications of Geographic Information Systems, and Restoration Ecology
- Development of a field research facility (greenhouse, field lab space, vehicles, instrumentation, and equipment storage)
- More tenure track faculty
- More students incoming and graduating
- Additional externally funded projects to insure undergraduate student research opportunities and faculty scholarship
- Well supported functional research space for faculty
- More course offerings (lower and upper division, graduate)
- Creation of the Center for Coastal Sustainability incorporating many of the ESRM program elements and Coastal Hydrology and Geosciences
- Support for one or more supported field vehicles to facilitate our teaching and research efforts
- Endowment to facilitate ESRM undergraduate travel for field courses

Program Strengths

- Small class size
- Quality faculty
- Good teaching facilities now, but will rapidly outgrow them
- Close collaboration with local, state, national, and international science community
- Organization of the Program
- Dedicated and quality lab support/staff
- Part of CSU system
- Part of CSUCI
- Location
- Most closely aligned Program with CSUCI mission
- National and international teaching and research
- Faculty strengths are a good match to local resource research opportunities

Program Weaknesses

- Lack of space (lab, research, storage, prep)
- Limited number of tenure/track faculty
- Weak student preparation
- Dependent on CSU Budget (e.g., no line item for equipment or research)
- Limited facilities
- Limited number of temporary faculty leads to stress and multiple teaching assignments
- Limited funds
- Lack adequate CSUCI transportation for field studies

Program Opportunities

- Acquire more funding from all sources
- Increase non-state funds from graduate programs
- Expand student base
- Promote the ESRM discipline to increase enrollments and funding
- Expand ESRM Program to capture hydrology and Geo-science related to coastal management opportunities
- Creation of endowed chair in ESRM with National Park Service
- Develop unique (niche) programs (e.g., restoration, coastal management)
- Develop joint Park Service-ESRM faculty appointments

Program Threats

- Reduced resources (money, facilities, human resources)
- Loss of state funds
- Lack of graduate program limits research opportunities
- Reduced applicant pool of excellent faculty candidates
- Limited part time faculty pool
- Economies of scale disadvantage small programs relative to large programs in CSU model

Strategic Initiatives - Two Year

Goals/Targets

- Hire one more tenure-track faculty
- Acquire functional research space
- Conduct Program Review
- Hire GIS technician

Techniques

- Work with Library and IT to share cost of GIS technician
- Advocate for increased funding for faculty hiring
- Advocate for increased funding for support of RTP, undergraduate and graduate research
- Utilize program review process to identify need for additional faculty (hydrology, geomorphology expertise)

Resources Needed for Success

- Funding for salaries and start-up funds and well-equipped research space
- Reassign time

Assessment of Success

- Make the hires
- Have functional lab space
- Expanded GIS capability (workshops, seminars, certificate programs for community)
- Increased external funding for restoration work

Strategic Initiative - Five Year

Goals/Targets

Coastal Management Institute (CSU COAST initiative, National Park Service, NOAA, Minerals Management Service, Coastal Conservancy, Department of Defense, and EPA partnerships) to create renovated space on campus

Techniques

Convince the President and UPACC of the priority/need

Resources Needed for Success

Advocates, Agency partnerships, External Funders

Assessment of Success

Building is on the CSUCI plan

B. Distinctiveness of the program from that of other CSUs or elsewhere

Given the broad subject matter content requirements and the CSU mandate for a 120 unit degree, there is very little opportunity to craft a degree program that is unique to CSUCI. Indeed there has been a great deal of effort extended by the Chancellor's Office to put in place a uniform "lower division transfer package" that will allow any student in California to transfer from a local community college to any campus of the CSU and not "lose" transfer credits in the process. While this has been challenging in designing a unique ESRM curriculum that does not duplicate other environmental programs within the CSU, the addition of restoration ecology and a new interdisciplinary focus on coastal management has provided a unique niche for the CSUCI environmental science and resource management program. A recent gathering of environmental program chairs within the CSU yielded the program descriptions outlined in Table 1.1. From this data two things stand out as distinctive about the CSUCI ESRM program. First, the program is embedded in the STEM (Science, Technology, Engineering, and Math) disciplines, and second, the integration of ecological restoration, GIS, protected area management, and landuse in a interdisciplinary curriculum make the ESRM program unique in the CSU.

Environmental program comparisons
completed by CSU Environmental Program Chairs

CSU Campus	College Program is Located in	Academic strengths of the program
Channel Islands	STEM Science Block	Interdisciplinary, international, and community engagement focus on urban interface issues: ecological restoration, protected area mgmt, GIS, land use, coastal management
San Francisco	Behavioral and Social Sciences	Strong social justice focus, very broad, some unique degrees, strong science
Humboldt	College of Natural Resources & Sciences	New options designed to reflect emerging and growing fields in Ecological Restoration, Energy & Climate, and Environmental Policy
Fullerton	Humanities and Social Science	Highly interdisciplinary, behavior, health, technology
San Bernardino	Social and Behavioral Sciences	Allows students to have the option of a general overview, or a more focused natural science approach. Strong science in either option.
San Jose	Social Sciences	Strong interdisciplinary breadth with depth in impact assessment, restoration, water policy, environmental education, energy, and recycling
Chico	Natural Sciences	Hydrology, Atmospheric Sciences, Applied Ecology
Bakersfield	Business and Public Administration	Broad program, focused on managing resources, inter-disciplinary, offering areas of emphasis in Occupational Safety and Health and Environmental Health; program also online through Extended University
Monterey Bay	Science, Media Arts and Technology (SMART)	strong technology, geospatial mapping, and marine science and watershed foci

Table 1.1 Comparison of CSU Environmental Program strengths and academic location.

C. Relation of program mission to the University's mission and goal

CSUCI's Mission Statement

Placing students at the center of the educational experience, California State University Channel Islands provides graduate and undergraduate education that facilitates learning within and across disciplines through

integrative approaches, emphasizes experiential and service learning, and graduates students with multicultural and global perspectives.

The university is comprised of several Divisions. Each division has a mission that is congruent with the University's mission. To foster collaboration among and across the divisions, the campus community has created 4 mission based centers:

The Center or International Affairs
The Center for Integrative Studies
The Center for Multicultural Engagement
The Center for Community Engagement

By design, the centers foster communication and collaboration across divisions, and contribute to the mission elements of the University by:

- Supporting and facilitating mission elements in scholarship and research;
- Supporting and facilitating mission elements in teaching and learning;
- Working with programs to develop appropriate assessments of the mission elements in assessing the baccalaureate degree.

The University mission identifies integrative study within and across disciplines, and multicultural and global (International) perspectives as key characteristics of our graduates. Each center, working across the divisions of the University helps members of the University community and individual graduates achieve these characteristics.

Science, technology and professional practice all tend to drive our culture toward specialization. At the beginning of this 21st millennium, academic majors are, predominantly, disciplinary undertakings. This is life on the "high hard ground of theory." (Schön) At the same time, there is a growing recognition that success in our work places ("the swamp of reality," Schön) will demand a plethora of skills. The ESRM degree program is founded on the principle of a broad, liberal exposure to disciplinary content from sciences as well as exposure to the arts, and humanities, and the concept that graduates of such programs can use the knowledge and research methodologies from multiple disciplines and multiple perspectives to help solve society's environmental problems. Since environmental problems rarely exist within disciplinary boundaries, one must consider the ecological, social, and political consequences of man's activity when addressing these issues. Community engagement, experiencing international and multicultural environments are an integral part of the undergraduate experience in ESRM. Students in both options are required to take 9

units of interdisciplinary course work to meet upper division General Education requirements for graduation and complete a multicultural requirement as part of the lower-division General Education requirement.

The specific goals of the Center for Integrative Studies (CIS) are to:

- Create the infrastructure for integrative and interdisciplinary teaching and learning;
- Design and implement programs and curricula that promote integrative and interdisciplinary;
- Foster understanding for students in all fields of study;
- Assist faculty in developing the integrative and interdisciplinary dimensions of their teaching, scholarship, and service activities;
- Facilitate and develop academic and scholarly exchanges and partnerships for students and faculty;
- Coordinate activities that enhance campus awareness of interdisciplinary and integrative studies and their importance to the life of the campus and local community.

Thus, this one center in particular has enormous potential to support and contribute to thinking within and across disciplines. And, students in ESRM are an important resource assisting the Center for Integrative Studies to fulfill its mission. The Center for Integrative Studies and ESRM majors are natural allies in achieving the mission of the university.

The ESRM degree at CSUCI, was designed around philosophical commitments in five broad areas:

  - A commitment to the development of content knowledge – breadth and depth;
  - A commitment to scholarship, teaching, and active, lifelong learning
  - A commitment to excellence across program areas;
  - A commitment to active involvement with the surrounding community.
  - A commitment to understanding the ecological, social, and economic consequences of solutions to environmental problems

These commitments are congruent with the mission of the University, and thus have potential as complements to CIS.

CSUCI has adopted a six-part conceptual framework for assessing and evaluating the effectiveness of its academic programs. These six steps

form a cycle that will be repeated many times across the years. They represent a commitment to continuous evaluation and improvement. They are embedded in the fabric of our day-to-day operation. Further, the faculty has accepted that the quality and nature of academic programs are not sufficient measures, by themselves, against which to judge the effectiveness of our efforts. Rather, we must assess the knowledge, skills, competencies and dispositions of our graduates in relation to the learning objectives that we have established for the ESRM program, and relate them to the educational experiences that we have designed. We must continually "tune" our curricula to meet the changing needs of the communities that we serve with our ESRM programs.

The six steps are as follows:

1. Operationally define measurable learner outcomes that we wish for our graduates;
2. Identify the measures that we will use to determine the degree to which these learner outcomes are being realized;
3. Conduct assessments using the measures identified;
4. Evaluate the degree to which we have achieved the learner outcomes that we established for our program;
5. Use the resulting data to inform decision making regarding content and pedagogy; and,
6. Institutionalize feedback mechanisms to ensure that these data will be used to modify practice.

D. Dissemination of the mission statement/program goals

The dissemination of program objectives was addressed earlier in this section and further amplified in section E below.

E. Course and Program learning outcomes

ESRM Program Goals and Student Learning Outcomes

Seven program learning outcomes have been identified for graduates from Environmental Science and Resource Management. They are published in the University Catalog.

- Identify the scientific, social scientific and humanistic aspects of environmental issues.
- Identify, locate, evaluate, synthesize and present current research and information on environmental issues.

- Define environmental problems from the perspectives of both environmental science and resource management.
- Evaluate proposed solutions to environmental problems from the perspectives of both environmental science and resource management.
- Use the methodologies of the natural and social sciences to formulate testable hypotheses concerning environmental problems and issues.
- Collect, organize, analyze, interpret and present quantitative and qualitative data.
- Make use of current, technological tools in the collection, organization, analysis and interpretation of data.

F. Processes used for documenting student achievement of learning outcomes

The seven program learning outcomes were identified during a University-wide assessment activity in spring 2005, and embedded within the ESRM Plan for Assessment of Student Learning outcomes.

Where ever possible, the ESRM assessment plan is designed to use data and products that are already required elements of programs. These data sets represent authentic measures of student performance. However, we also believe that it would be beneficial to have assessment data from standardized instrument(s) in addition to these authentic measures.

Because all of our native freshmen must complete a freshman level class in critical thinking, our initial assessment and evaluation of critical thinking and reasoning skills was associated with this class. After a brief examination of the literature we elected to use the ***California Critical Thinking Skills Test***. (The California Academic Press – http://insightassessment.com)

California Critical Thinking Skills Test

Construct and Content Validity: The CCTST is based on the conceptualization of critical thinking articulated in the Expert Consensus Statement on College Level Critical Thinking (1990) known as **The Delphi Report**. This concept was supported by an independent replication research study of policy-makers, employers, and academics which was conducted at Penn State University, sponsored by US Department of Education.

Scores Reported: The CCTST Total Score targets the strength or

weakness of one's skill in making reflective, reasoned judgments about what to believe or what to do. The CCTST generates several scores relating to critical thinking.

- Overall critical thinking skills **total** score and norm-group percentile.
- Sub-scale scores by the classical categories of **Inductive Reasoning** and **Deductive Reasoning.**
- Sub-scale scores by the contemporary categories of **Analysis, Inference, and Evaluation.**

The test was administered to all students registered in UNIV 110 Critical Thinking in Interdisciplinary Contexts in Spring semester 2006 and Fall semester of 2005 using a pretest-posttest format. The essential finding from these assessments was that there was no significant difference in the students' critical thinking and reasoning skills after the16 week critical thinking class. (See data below)

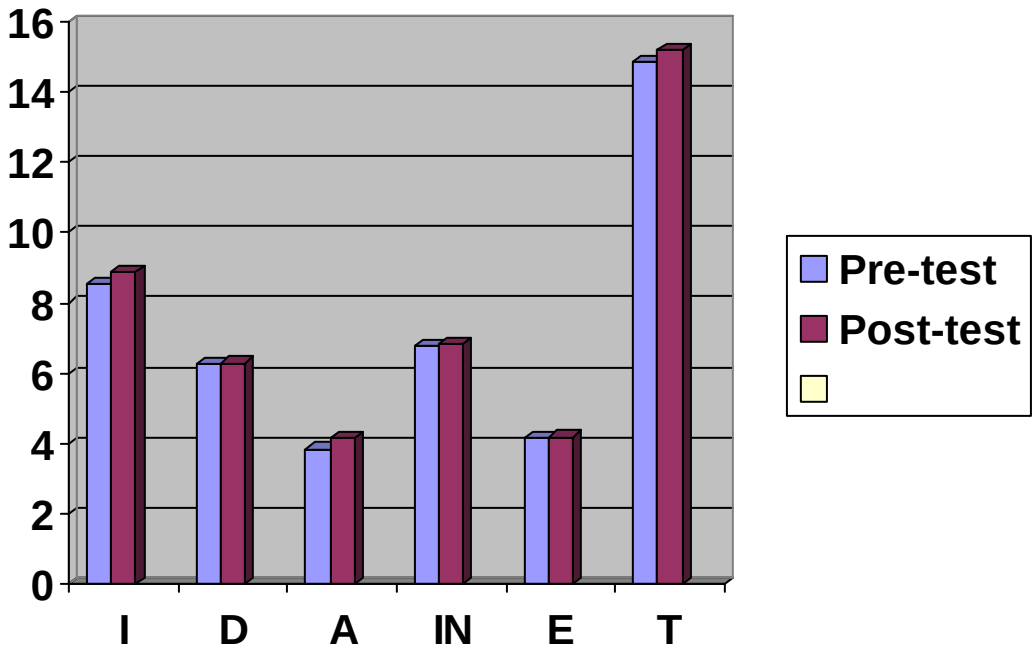

Figure 1.1 Pre and post test results for the California Critical Thinking Skills Test (CCTST) administered Spring 2006 to freshmen at CSUCI.

Where:

I = Induction; D = Deduction; A = Analysis; IN = Inference; E = Evaluation; and T = Total

These data by themselves are insufficient to make any recommendation regarding the nature and levels of learning in the critical thinking class. The data are confounded by the fact that only 60% of the students elected to take both the pretest (N = 66) and the posttest. (N = 40)

Assessment using this instrument has not occurred in Fall semester 2006 for two important reasons:

- Funding for this aspect of assessment was not included in the budget process for 2006 – 2007,
- A university-wide examination of General Education resulted in University support for a pilot program using an ETS test - *Measure of Academic Proficiency and Progress (MAPP)* - a test designed to measure student learning in general education in three areas: mathematics, writing, and critical reading and thinking. After examining the test scores from the pilot group, it was determined that the constructs measured on the critical reading/thinking section of the MAPP focused on similar concepts as taught in the critical thinking section of the general education program. And, by careful sampling, it would be relatively easy to disaggregate student sub-populations, including ESRM majors, to create portraits of students completing the GE Program as well as examine critical thinking skills at other important landmarks in students' programs.

While no decision has been made regarding the adoption of MAPP as a university wide measure of academic skills, it seems likely that it will become the instrument of choice, at least in the early stages of program assessment and evaluation at CSUCI.

Conclusions and implication for the ESRM Program

At this stage of development of our assessment and evaluation activities within ESRM, it would be unwise to draw any conclusions regarding the program. There is simply insufficient data to justify any action. New and different data will be derived from MAPP scores, if MAPP is adopted by the University. It will be these data over time that will inform our decision making regarding pedagogy and programs.

However, there is much to be gained from a thoughtful analysis of what we have learned about student willingness to take tests, and the various incentives that we might adopt to help us generate more complete data sets in the future. The ESRM program in particular, as well as the University as a whole, needs to reflect on the costs of assessment and evaluation in fiscal terms, as well as in human

resource terms, and plan accordingly. Considerable resources will be needed to fully implement the assessment plans of the various academic programs. Identifying and planning their allocation are very important steps that must occur if we are to successfully meet the assessment and evaluation expectations of an accredited university.

Although our current programmatic data are very limited, there is much to inform us regarding the manner in which we design and collect our data sets in the future, and we have sufficient data to create the mechanisms needed to institutionalize feedback loops in our assessment and evaluation programs.

The following statement was taken from the report of the WASC site visiting team in 2006:

The institution has made great strides in the development and use of learning outcomes, which under gird all efforts to assess learning aligned with those goals. As CSUCI continues its pursuit of exemplary practices in assessment, learning outcomes will need to be clearly specified for each program, for general education, and for each of the four Centers, together with indications of the expected levels of learning associated with each stated outcome. An enhanced focus on identifying more precisely the learning that defines a CSUCI graduate may also help the University preserve its distinctive identify and mission as it grows.

ELEMENT TWO

Achieving Educational Outcomes

2.1 The program's expectations for learning and student attainment are reflected in its academic programs and policies, including its curriculum requirements.

2.2 The program has identified its program learning outcomes and these are widely available to faculty, students and external stakeholders. Its learning outcomes are assessed and analyzed on a regular basis. Where appropriate, evidence from external constituencies such as alumni, employers and professional societies is included in such reviews.

In Spring 2007, the Western Association of Schools and Colleges awarded Initial Accreditation to CSUCI for the maximum possible period of seven years. In the cover letter, Mr. Ralph Wolff made the following observation on behalf of the commission:

> *"The Commission notes with considerable appreciation that CSUCI has completed four self-study reports and site team visits in as many years - with the CPR and EER for Candidacy in spring 2003 and fall 2004, respectively, and the CPR and EER for Initial Accreditation in spring 2006 and spring 2007, respectively. It was clear to the Commission that, with each review happening on schedule and revealing significant institutional development, CSUCI both values and embraces the WASC process. CSUCI has been exemplary in the many ways in which it has engaged with and benefited from WASC accreditation."*

Furthermore, the Commission noted that:

> *"As a new institution, CSUCI demonstrated educational foresight by organizing all its course syllabi around student learning outcomes, then proceeded to identify assessment strategies aligned with those outcomes. Assessment is becoming embedded within the culture of CSUCI, including in student services programs. This will serve the University well as it engages in systematic program review in coming years"*

It is difficult to imagine a process of program review that is more rigorous than that which was required across a four year period by WASC during its review for the initial accreditation of the University. In many ways, one might argue that a 5-year, cyclical review of a degree program in the same year that the Western Association of Schools and Colleges awarded Initial Accreditation to the University based upon a four year review process requiring four separate reports and four associate site visits by teams of external reviewers, constitutes a level of programmatic scrutiny that borders on overkill. Again, quoting from the Commissioner's letter:

> *"As a new institution, CSUCI demonstrated educational foresight by organizing all its course syllabi around student learning outcomes, then proceeded to identify assessment strategies aligned with those outcomes. Assessment is becoming embedded within the culture of CSUCI, including in student services programs. This will serve the University well as it engages in systematic program review in coming years."*

Thus, it is logical to argue that each of these four reports, and all of them in their entirety, together with the responses and observation of the external reviews from WASC constitutes the best support for concluding that the ESRM program is achieving its' educational outcomes.

The University Catalog, advising materials distributed to our local "feeder" community colleges as a part of our articulation agreements with these

colleges, and a number of open forums available annually to prospective students provide such students with accurate information regarding the requirements and pre-requisites for transfer and other students who wish to complete an ESRM degree at CSUCI.

The broad educational outcomes associated with a ESRM degree results from the different perspectives associated with multi or interdisciplinary studies. Thus, graduates from the ESRM program are dependent upon the parent disciplines for content, and for the "mix" of course work for the multiple perspectives that they learn to bring to problem solving. For a variety of reasons, e.g., the nascent nature of the University, the budgetary limitations associated with a developing institution, and the rapid growth of our student body, the University utilizes even more part-time faculty colleagues than our more mature, sister institutions. While each academic program (discipline) may integrate part-time faculty into the day to day operation of the program in a variety of different ways, the existence of a collective bargaining agreement (CBA) for part-time faculty, with entitlements regarding instruction, ensures that there is a greater degree of continuity in instruction by part-time lectures than might otherwise be the case were the entitlement clauses not included in the CBA. Furthermore, part-time faculty have representation on the Academic Senate, and served extensively in the development of reports and materials for our Regional Accreditation, including the development of the assessment practices and blueprints for the various disciplines.

2.3 Course learning outcomes are aligned with program learning outcomes disseminated to students and to faculty, including adjunct faculty.

Overall Program Goals

Our Environmental Science and Resource Management Program (ESRM) seeks to produce students who are well-skilled in various aspects of environmental science useful for today's modern resource management professionals. In addition to acquiring particular skill sets (GIS, water quality assessment, etc.) all of our graduates should be able discuss foundational concepts, interpret both basic and applied science, conduct independent research, and be able to clearly articulate current environmental challenges and management recommendations to a wide variety of audiences.

The following two quotations were taken directly from the Educational Effectiveness report that was submitted to WASC in 2006:

The Curriculum Committee, a standing, elected committee of the Academic Senate, is responsible for reviewing and evaluating all courses and academic programs. Courses that are approved by the Curriculum Committee must either support the mission of the University or provide foundational knowledge in a recognized discipline. Each course proposal must include a set of

Student Learning Outcomes (SLOs) that are carefully scrutinized by the Curriculum Committee to ensure that they are assessable, are appropriate for the course level, and are reasonable in number. The faculty are required to include the approved course-level SLOs in their syllabi, and program chairs are responsible to see that their faculty adhere to this rule.

All CSUCI academic major programs have a set of Student Learning Outcomes (SLOs). These outcomes are a requirement of the major approval process and are subjected to review both on campus and off campus by the Chancellor's Office. In spring 2005, the campus took a major step toward the assessment of the major program SLOs by establishing the Smith Family assessment Plan Preparation Program (APPP). APPP was made possible by a generous gift from the Smith Family. Their gift made it possible to provide honoraria to encourage faculty to participate in a series of working sessions designed to produce assessment models and blueprints for each of the CSUCI academic major programs.

2.4 The program actively involves students in the learning process, challenging them with high expectations, and providing them with appropriate feedback about their performance and how it can be improved.

The challenges of assessment were addressed earlier in this document. Indeed, for ESRM, this remains as the single greatest area of need. In part because of the challenges of working across disciplines, and in part because it remains as a major challenge for the University as whole, and perhaps most of all because of the fiscal constraints currently impacting the CSU in general and CSUCI's smaller programs in particular. Authentic assessment is the foundation upon which the new WASC process of accreditation was built. In order to receive Initial Accreditation, the University had to demonstrate to the WASC visiting teams that it was focused on student learning. The University had to convince WASC that the learning outcomes for individual classes and programs of study were being monitored by assessment processes. Supporting the idea that this is and will remain an area of need for the whole campus, the WASC commissioner observed in his letter informing the University of its Initial Accreditation:

> *"The institution has made great strides in the development and use of learning outcomes, which under gird all efforts to assess learning aligned with those goals. As CSUCI continues its pursuit of exemplary practices in assessment, learning outcomes will need to be clearly specified for each program, for general education, and for each of the four Centers, together with indications of the expected levels of learning associated with each stated outcome."*

The relationship and contribution to the mission-based elements of the university were addressed earlier in this document. The nature of a broad ESRM education requires an interdisciplinary approach to learning. Each ESRM graduate as (s)he lives and is employed in the communities that the University serves and brings her/his interdisciplinary thought processes to bear on community and work issues is a positive step for the University in realizing its mission.

2.5 The program demonstrates that its graduates consistently achieve its stated levels of attainment and ensures that its standards are embedded in criteria faculty use to evaluate student work.

The interdisciplinary nature of our program requires our students spend much of their coursework in non-ESRM courses (Physics, Biology, Chemistry, Economics, etc.). As such, we feel the most appropriate point to assess student outcomes of our ESRM program is at the culmination of their time at CSUCI: their senior capstone project.

Capstone Assessment

Currently the program utilizes the capstone poster session as the central assessment element for the capstone experience. Students are asked to defend their posters and discuss their research projects with outside faculty (Biology, Chemistry, Computer Science, Math, and others), and with community partners such as the National Park Service, private environmental consultants, and representatives from local government). The following rubric is used to assess student's ability to achieve the educational program objective to collect, organize, analyze, interpret, and present quantitative and qualitative data.

Environmental Science and Resource Management
Rubric for Capstone Poster Defense

Educational Program Objective: **Collect, organize, analyze, interpret, and present quantitative and qualitative data**

5. Student use of data was appropriate for the project. Data was organized and presented graphically on the poster. Analysis and interpretation of the data reflects thoughtful integration with stated research hypotheses.

4. Student provides most of level 5 but one characteristic is missing or unclear.

3. Student has collected appropriate data. Organization of the data is clear using appropriate graphs but there is a lack of thoughtful analysis and interpretation to integrate the data with stated hypotheses.

2. Student has collected appropriate or less relevant data but organization of the data is not clear and there is no attempt at analysis and/or interpretation.

1. Data is missing or is inappropriate to stated hypotheses. Erroneous data is reported out of context and there is no attempt at integration with stated hypotheses.

Figure 2.1 reveals that mean scores for student capstone posters has been rising since the program began the assessment process in 2005. It is interesting to note that in 2007 a pre-capstone seminar course was introduced into the curriculum to engage students with the scientific literature regarding their capstone topic. The result has been an increase in student fluency regarding their research, higher order thinking and reporting about their topics (five ESRM students have presented their capstone posters at undergraduate research conferences since 2007), and general project improvement in poster evaluations.

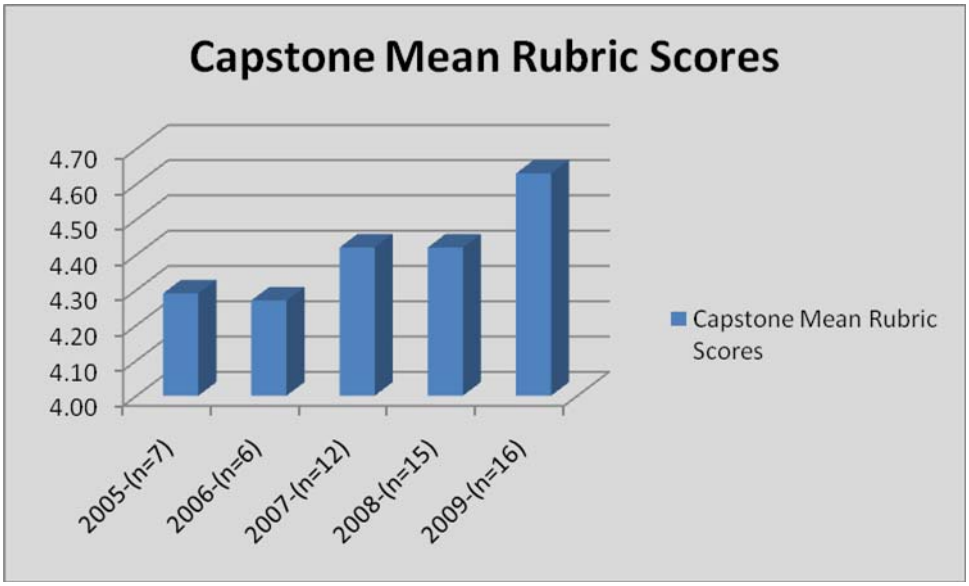

Figure 2.1 Mean rubric scores for capstone poster assessment from 2005-2009.

Our capstone curriculum consists of two courses: a guided semester of basic literature reading and an independent research class. Students present their independent research at the conclusion of the capstone to an invited campus audience. We conduct a peer-reviewed assessment of their final presentation in a seminar format. Reviewers include all ESRM faculty plus various faculty from other disciplines such as Biology, Chemistry, English, Communication, and Political Science. Judges evaluate communication skills, the caliber of the research itself, and the student's overall demonstration of his or her

knowledge of the project and related disciplines. Judges score students independently and then produce a consensus report of each student (the individual assessment).

Following all student presentations, the reviewers also provide an overall summary of the entirety of the capstone presentations (aggregate assessment). While the individual student assessments are directed primarily at evaluating particular student success at meeting the program objectives, the aggregate assessment is directed at specific gaps or weaknesses in ESRM curricula. At the conclusion of this process, reviewers are asked to identify the top five strengths of the students' aggregate work (not necessarily in any order). They are then asked to identify five areas in need of improvement (which are prioritized).

	Points = 10	Points = 5	Points = 0.0
Communication Organization Points awarded:_____	The purpose of the writing is clear. The reader clearly understands the concept of the paper and the significance of the data provided.	The purpose of the writing is clear. The concept can be determined and the significance of the data is understood.	The purpose of the writing is vague. The reader has no understanding of the significance of the information provided.
Communication Language Use Points awarded:_____	Text & figures are excellent; word usage, spelling, grammar and punctuation are excellent.	Text & figures are sufficient; adequate use of wording, grammar and punctuation; some errors.	Text & figures are poor; deficiencies in word use, grammar, punctuation, and presentation.
Factual relevance and correctness Points awarded:_____	Facts relevant and correct as stated.	Some deviations from relevant and correct facts.	No relevant facts correctly stated.
Identification of problem Points awarded:_____	Problem is defined explicitly using appropriate scientific terms. Presentation is clear and logical.	Problem defined satisfactorily. Presentation is clear but issues are not addressed thoroughly.	Problem is not defined, presentation is neither clear nor logical.
Critical thinking skills Points awarded:_____	Concepts are clearly expressed; analysis is logical and complete.	Concepts are stated but not thoroughly. Analysis is mostly logical but flawed in some places.	Concepts are unclear, analysis is minimal or absent.

Table 2.1 Rubric for ESRM aggregate capstone assessment

2.6 The program contributes to the mission-based elements of the University such as internationalism, interdisciplinarity, service learning and civic engagement, and multiculturalism, general education, as appropriate to the discipline.

The relationship between the mission of the University and the ESRM program was covered in depth in Section 3C, page 23.

2.7 The program demonstrates its academic degrees can be completed in a timely fashion.

Degree Completion

Table 2.2 illustrates that the time taken to complete a baccalaureate degree for a ESRM major at CSUCI is essentially the same as it is for all other majors at CSUCI. Since the average student, regardless of major, carries a little over 12 Units per semester, most students will require 5 years to complete the 120 Unit degree. Thus, a typical student at CSUCI cannot complete a degree in four years regardless of major, given the current student practice of taking marginally more than 12 units per semester.

Student Enrollment	F 02	F 03	F 04	F 05	F 06	F 07	F 08
CSUCI % - Full Time (≥12 hrs)	57.1	72.6	73.1	74.9	77.5	78.2	
Part time (≤ 12 hrs)	42.9	27.4	26.9	25.4	22.5	21.8	
Average Unit Load (hrs)	11.1	12.5	12.3	12.4	12.7	12.6	
ESRM% - Full Time (≥12 hrs)	37.5	79.3	84.2	77.8	80.0	81.0	81.7
Part time (≤ 12 hrs)	62.5	20.7	15.8	22.2	20.0	19.0	18.3
	11.0	12.6	12.0	12.4	12.5	12.3	
AUI in Data Pack	**8.3**	**12.9**	**14.1**	**13.4**	**14**	**12.9**	**13.8**

Table 2.2 Average Unit Load and Percent Student Enrolled Part-Time and Full-time

2.8 The program values and promotes scholarship, curricular and instructional innovation, and creative activity, as well as their dissemination.

Quality teaching and a regular commitment to scholarship activities are important elements in all academic programs at CSUCI. Since a ESRM major may take classes from a range of disciplines (>60% of the classes in the major are outside the discipline), it is important that there are mechanisms, university-wide, to ensure that individual faculty members reach and maintain such standards. The CSU is an institution that values teacher scholars. Universities set themselves apart from community colleges, in large part, because their faculties make a commitment to scholarship. It is our belief that teaching is informed by scholarly activities; active scholars are more successful in the classroom; and, students learn more than they would if there was no scholarship requirement of their instructors.

As a represented faculty, the collective bargaining agreement (CBA) for the CSU as a whole defines the “wages, hours, and terms and conditions of work.” These are the “mandatory” area for bargaining. For the CSU, the CBA requires contributions in three areas: instruction, scholarship and creative activities, and professional service. However, each campus is charged with developing its own standards for tenure and advancement through the ranks. The retention, tenure and promotion standards for an institution explicate how an individual faculty member can be successful in the University; success is defined as earning tenure and eventually being promoted to the rank of professor. The faculty at CSUCI has chosen to decentralize this process of standard setting and to permit each academic program (discipline) to develop standards appropriate to its discipline. The process for developing and

approving these standards includes a set of checks and balances at faculty and administrative levels to ensure that reasonable rigor and fairness operates in the review process for retention, tenure and Promotion.

Inherent to the process by which CSUCI faculty are reviewed, retained, tenured and promoted is that each faculty member will contribute to the body of knowledge represented by her/his discipline through peer reviewed publications and presentations of scholarly work appropriate to her/his field of expertise. Since all academic programs have approved standards for scholarship, all academic programs promote scholarship and instructional innovation. The ESRM faculty has been engaged in scholarship with several peer reviewed publications, conference presentations, and international recognition to their credit. It has been the goal of ESRM faculty to promote undergraduate research and to incorporate research efforts into their efforts in the classroom. This seamless approach to teaching and scholarship has resulted in several funded projects that actively engage ESRM undergraduate research assistants. Program efforts were recently recognized by SAGE publications awarding of the faculty research mentor award to program chair Donald Rodriguez.

Curricular innovation has been a hallmark of the ESRM program ranging from the curriculum revision to include a new focus in restoration ecology, expanded course offerings in GIS, and a new field methods course that is co-instructed by resource specialists at the National Park Service. Unique interdisciplinary course offerings including: ESRM 342 Environmental History (co-taught with the History program), ESRM 341 “The Park” (co-taught with the political science program), Water and Conflict in the West (selected as one of three new courses for the New Academy, co-taught with communications and political science). Two of the three ESRM faculty have been recognized as Outstanding Faculty member of the year by the CSUCI Associated Students organization.

2.9 As appropriate, the program implements co-curricular programs and activities that are integrated into its academic goals and programs, and supports student professional and personal development.

The ESRM program has been a flagship program for the integration of co-curricular learning opportunities. One of the outstanding examples of this approach has been the development of alternative spring break courses that are offered through the program. The Mexican mangroves and wildlife course that encourages students to work in a small Mexican village on community projects that include coastal restoration, water quality monitoring, resource inventory and monitoring in a mangrove forest, community recycling, and local development projects. A second course focused on post-Katrina New Orleans wetland restoration and community rebuilding has been extremely successful and recognized as an exemplary example of service learning.

The recent acquisition of Camarillo Regional Park by the University will provide unique opportunities for the program to integrate co-curricular elements into the curriculum. The program is currently working with student recreation to introduce adventure recreation into the freshmen University 101 course centered on the concept of “place” as a way to improve student retention and expose students to the discipline. The program also works with Associated students on issues of sustainability, earth day celebration, and through the development of the new green generation club at CSUCI.

The four University Centers represent pillars of the mission of the University. The relationship among the Centers and the Liberal Studies major is described in 3C, page 19; the Centers, by design, have significant involvement with the Division of Student Affairs, Thus, as the Centers mature in their roles within the University, and the opportunity and potential for co-curricular activities expands, student learning for the Liberal Studies major can become a seamless, integrated experience of academic and co-curricular experiences.

2.10 The program ensures students receive timely and useful information and advising about their academic requirements.

Academic advising for ESRM majors is a strength at CSUCI. Prior to transferring to CSUCI, prospective ESRM students may attend one a several workshops at CSUCI that are designed to inform them about the upper division major requirements for the ESRM major. The Office of Academic Advising also offers individualized advising for transfer students when they first arrive at CSUCI to ensure that students declare the appropriate ESRM emphasis.

The program has increased its’ recruitment activities by appearing at new student orientations during the summer, major fairs at CSUCI during the academic year, and at various high schools in the area.

Majors are advised by all three tenure track faculty members within the program. Faculty work with students within each concentration in the major to design a degree program that represents a coherent program of study geared to the academic and professional strengths of each individual student. The major has enough breadth to allow each student to build on the personal interests to design a sub-focus in Biology, Chemistry, Political Science, or Communication.

2.11 Program serves transfer students by providing accurate information about transfer requirements and ensures the equitable treatment of transfers with respect to its policies on degree completion.

Academic advising for ESRM majors is a strength at CSUCI. It begins with carefully wrought articulation agreements with our feeder community colleges. At CSUCI, approximately 20% of the registered students are native freshmen. In the last three years, the percent of sophomores (native and transfer) has been between 8 and 10%. Thus, approximately 70% are upper division students. Of this 70% only 10% can be native to CSUCI. Thus 60 percent of our enrolled students are community college transfer and highlights the importance of having clear and accurate communications with the community colleges that prepare students to transfer to CSUCI.

In addition the program has increased site visitations to all three feeder community colleges (i.e. Oxnard, Ventura, and Moorpark). ESRM chair Donald Rodriguez also sits on environmental science advisory committees at these three colleges and they are represented on the ESRM community advisory board as well. Of note is that fact that Ventura College has changed not only course structure but title of its Environmental Sciences program to "Environmental Science and Resource Management" to better align their students matriculation efforts with CSUCI. We are now the only two higher education programs in the USA with the unique moniker of "ESRM."

Enrollment

Enrollment in the ESRM major has been steadily increasing since the program inception in 2002 (see figure 2.2). Curriculum revisions and active student recruitment has yielded increased interest in the major. It has long been understood that environmental programs are "discovery" majors at all universities. The lack of knowledge regarding environmental opportunities among high school counselors has been a determining factor for those seeking environmental degrees as incoming freshmen. Comparing ESRM to other CSU environmental majors (figure 2.3), ESRM at CSUCI is shown to be one of the fastest growing environmental majors in the CSU system when compared to enrollment levels three years ago. This is particularly interesting since CSUCI capped enrollment growth in 2006.

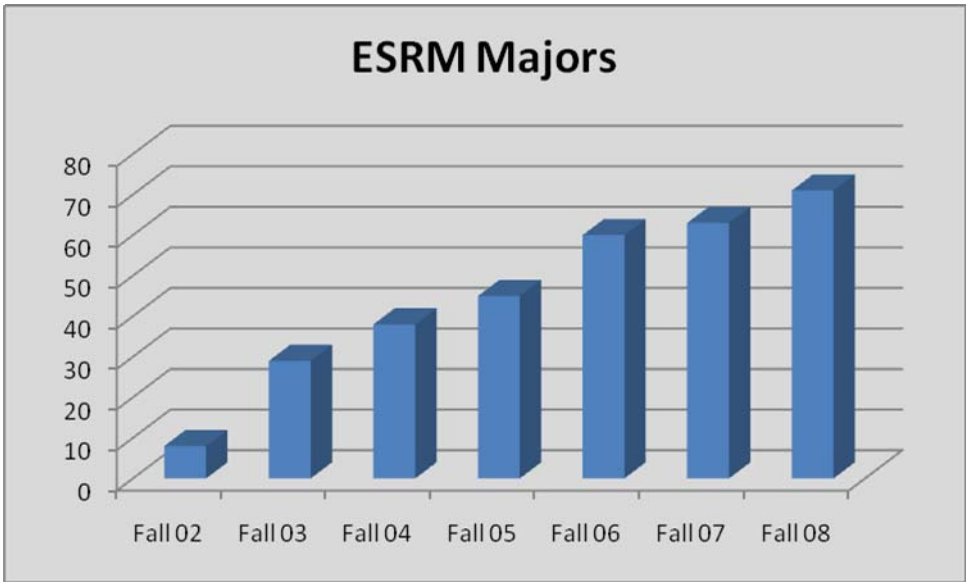

Figure 2.2 Annual enrollment for ESRM majors in the years between 2002 and 2008. Clearly, the number of ESRM majors continues to grow exponentially even though the University capped enrollment growth in 2006.

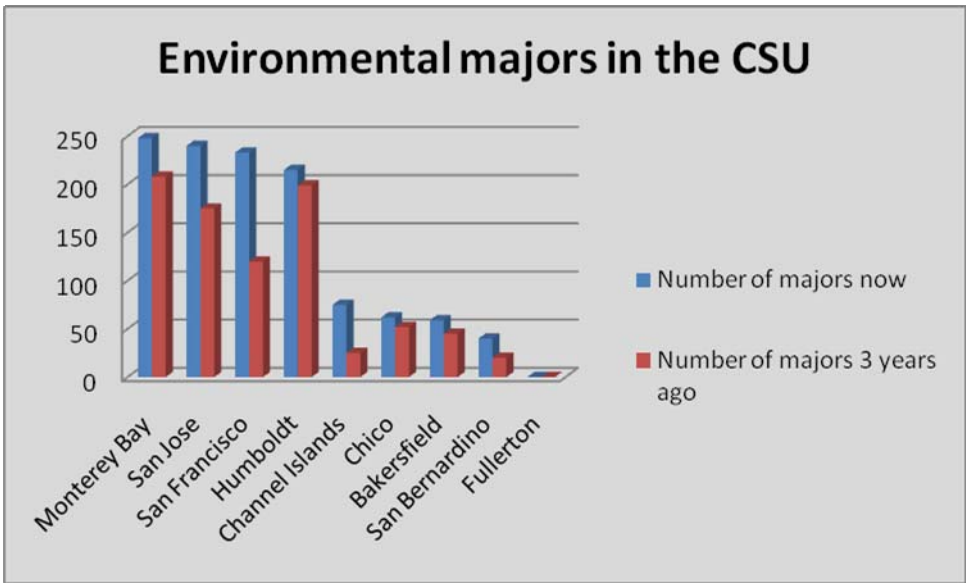

Figure 2.3 compares ESRM enrollment at CSUCI to other environmental majors in the CSU system.

Gender

The data from Institutional research supports the conclusion that ESRM has been growing its' enrollment of women each year since 2003. During fall 2008 ESRM had the second highest female enrollment (62.4%) of all the CSUCI STEM disciplines (Biology 65.2%; Math 50.9%; Chemistry 48%; Computer Science 43.4%; and Applied Physics 0%). With the exception of 2002 when 6 of the 8 ESRM majors were female, the program has made a conscious effort to build a more diverse group of majors including more equal gender representation. During the first 6 years of the program, ESRM program honors have gone to 4 females and 2 males.

It is also interesting to note the gender distribution for the University as a whole, regardless of major. The data regarding the gender distribution of students within the student body at CSUCI has been remarkably stable since the opening of the University in 2002. These data support the notion that there is a major social phenomenon illustrated by these data. It is clear that many more women choose to continue their education beyond high school than do men. These particular data suggest at almost twice as many women choose to seek a college degree than their male counter parts. Since only women can bear children, and most single parents are female, one might speculate from these data that there is a major difference in the social responsibility of women and men, and that women, especially young women, are much more socially responsible than men in our society. These data would suggest that the University needs to systematically recruit more male students.

Student Demographic Data		**F 02**	**F 03**	**F 04**	**F 05**	**F0 6**	**F 07**	**F 08**
CSUCI data -	Percent Female	64.8	63.7	63.8	63.0	62.3	62.5	62.4
	Percent Male	35.2	36.3	36.2	37.0	37.7	37.7	37.6
ESRM –	Percent Female	75.0	31.0	39.5	38.6	40.7	45.2	56.3
	Percent Male	25.0	69.0	60.5	61.4	59.3	54.8	43.7

Table 2.3 Gender Distribution for all Students and for ESRM Majors at CSUCI

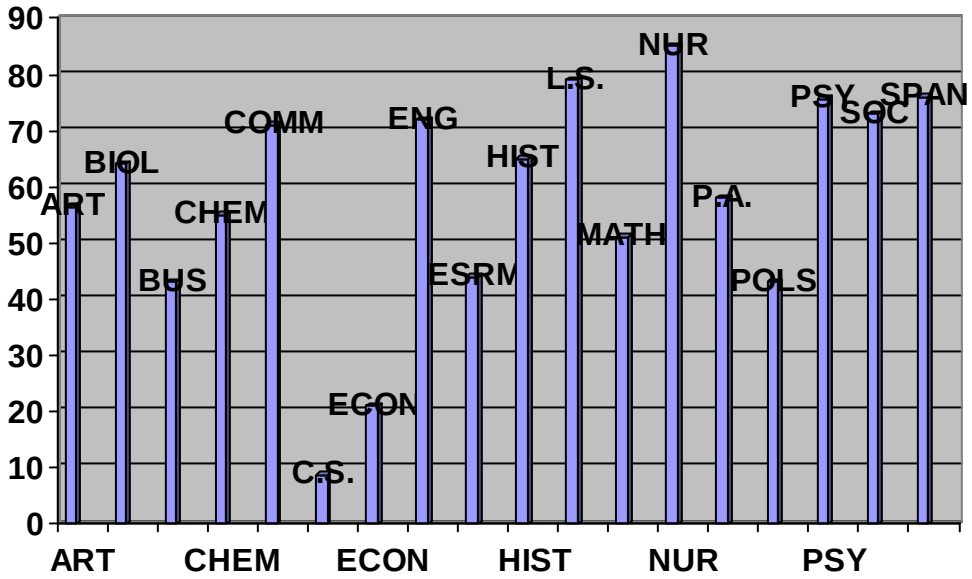

Figure 2.4 Percent of All Majors that are Women

Ethnicity

The fraction of the total University student body that is represented by ethnically diverse students has been steadily increasing since 2002. This is most clearly demonstrated in Table 2.4. The proportion of the enrollment in ESRM that is represented by ethnically diverse students has steadily increased across the same period of time, see Figure 2.5. Table 2.4 illustrates that in 2002 the total enrollment was 630 students of which 140 were ethnically diverse students, or 31.2% of the total enrollment. In 2008 the total enrollment was 3482 students, of which 1609 were ethnically diverse students, i.e., 46.2% of the total enrollment was represented by ethnically diverse students.

Race	2002		2003		2004		2005		2006		2007		2008	
	Univ	ESRM	Univ	ESRM	Univ	ESRM	Univ	ESRM	Univ	ESRM	Univ	ESRM	Univ	ESRM
Amer Ind	5	0	16	0	21	1	30	0	25	0	30	0	36	1
Afr Amer	9	0	25	0	37	0	58	0	79	0	90	0	91	0
Asian	43	1	113	3	125	2	163	3	226	3	243	4	232	3
Hispanic	140	0	350	2	492	8	610	7	771	12	922	12	904	19
White	305	4	794	18	1059	24	1421	29	1648	39	1941	40	1873	43
Unknown	128	3	262	6	287	3	285	6	336	6	373	7	346	5
Total	630	8	1560	29	2021	38	2567	45	3123	60	3599	63	3482	71

Table 2.4 Total Ethnically diverse Enrollment in ESRM compared to diverse University student enrollment

Figure 2.5 reveals the proportion of ethnically diverse students within the ESRM major. Currently the program has been working hard to further diversify its student body by working closely with Oxnard College a Hispanic Serving Institution to encourage new majors through the Pathway to the Baccalaureate grant project. This graph clearly reveals the exponential growth experienced in the major and diverse student enrollment. ESRM currently is third (32.4%) in proportion of majors that are ethnically diverse among all CSUCI STEM disciplines

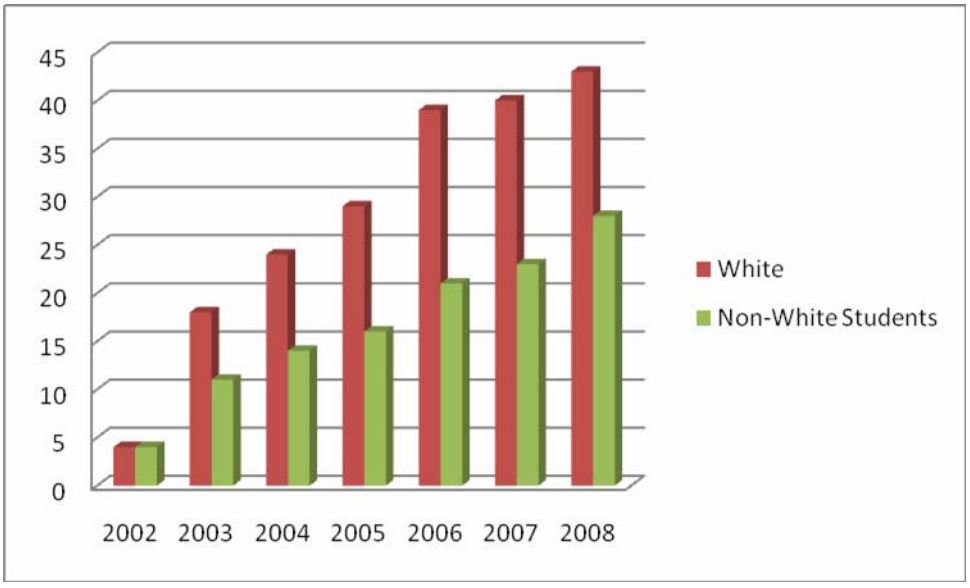

Figure 2.5 Total white vs. non-white enrollment within the ESRM major

Again examining Figure 2.6 we can see that the years between 2002 and 2008 show a steady increase in the proportion of the university student body that represents ethnically diverse students.

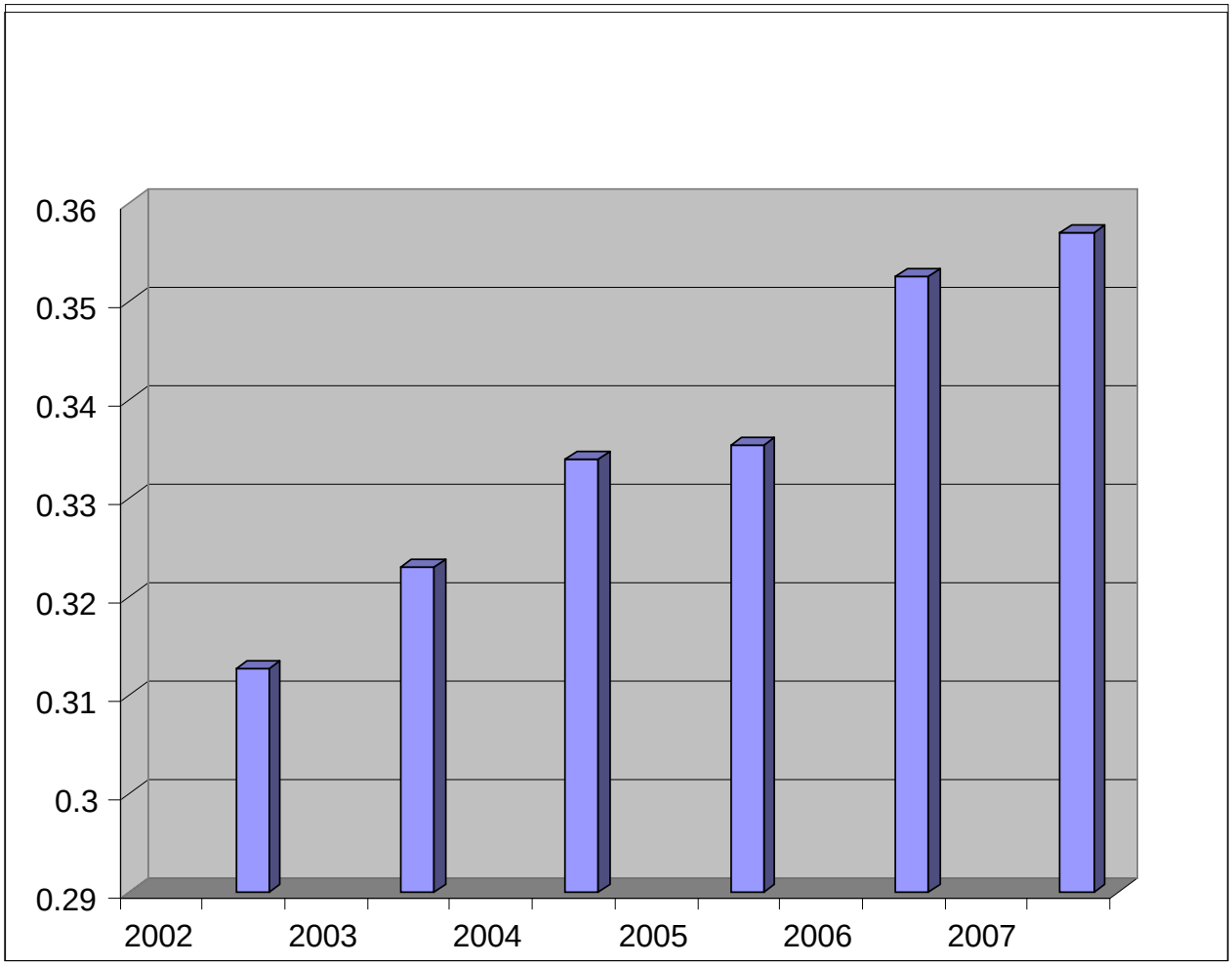

Figure 2.6 Proportion of the Total Student Body that is Ethnically diverse by Year.

From Table 2.4 it is clear that the largest ethnic group represented at CSUCI is Hispanic. The number of Hispanic students in ESRM continues to increase in size over time. It would seem fair to conclude that future growth in ESRM will continue to increase the diversity within the major.

Degree Completion

Time to completion of the degree was addressed earlier in this self study, with Liberal Studies majors being indistinguishable from all other majors. Since the common practice is to carry approximately 12 units per semester, all student will require 10 semesters (5 Years) to complete a baccalaureate degree.

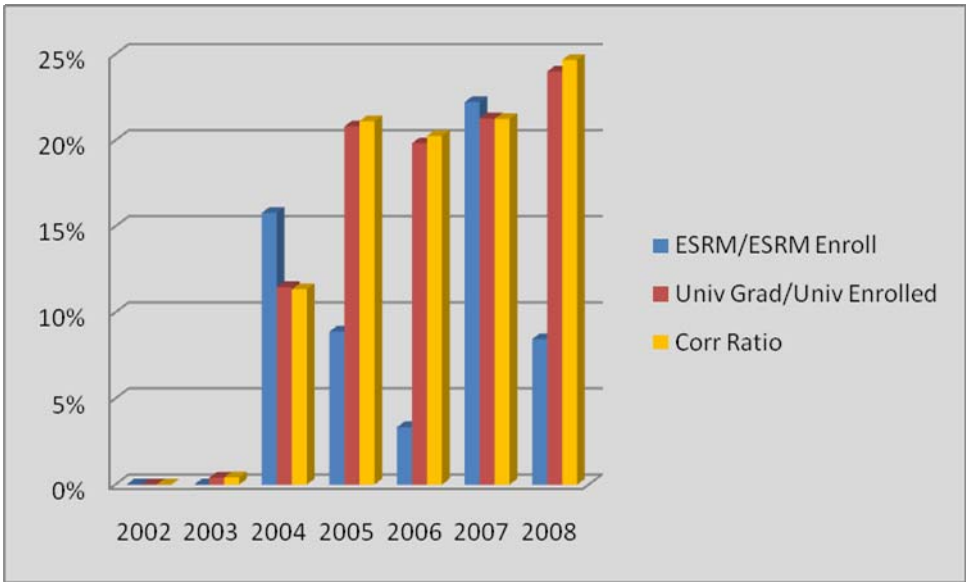

Figure 2.7 Proportion of Enrolled Students that Graduate

In Figure 2.7, each column represents the number of graduates in any one year divided by the number of students enrolled. The corrected ratio is the total number of University graduates minus the number of ESRM graduates divided by the total University enrollment minus the ESRM enrolled. It is clear that in the last four years the proportion of ESRM majors that graduate each year are virtually the same or higher than the proportion of students graduating within the University. Thus, it seems appropriate to conclude that ESRM majors complete degrees in essentially the same time frame as other majors, which is remarkable in the STEM disciplines since these tend to be longer time to degree.

Retention

Figure 2.8 Illustrates that the retention rate for ESRM freshmen has shifted dramatically since the program's inception in 2002. ESRM freshmen have shown a continued increase in retention rates over the last four years, closely paralleling university retention rates in 2006, and doubling the university rate in 2007 (as of this writing data was not available for 2008). In 2006 the major was redesigned to more closely reflect student interest and courses were designed to keep ESRM students engaged with the faculty (200 level course was introduced and a restoration series was begun).

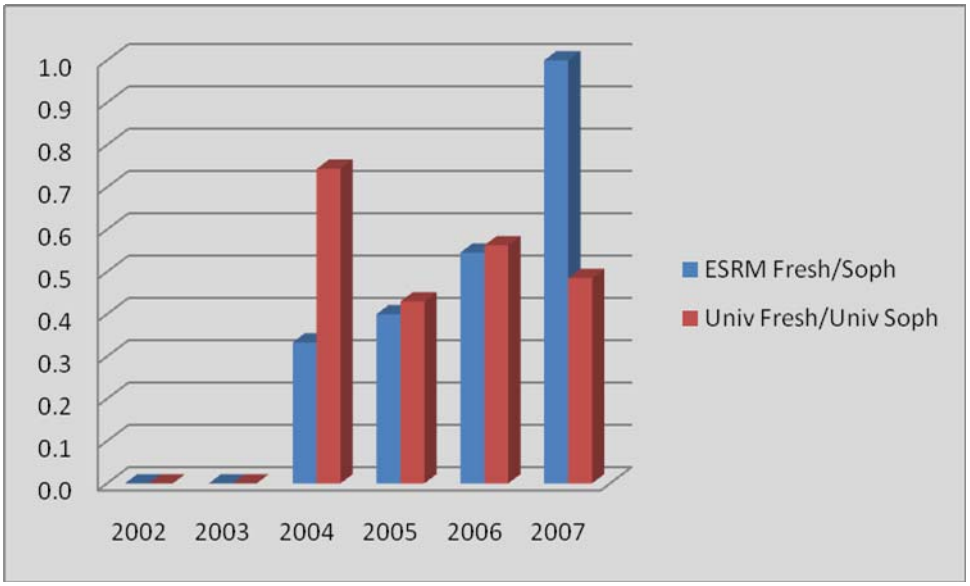

Figure 2.8 Retention rate for ESRM freshmen compared to University freshmen

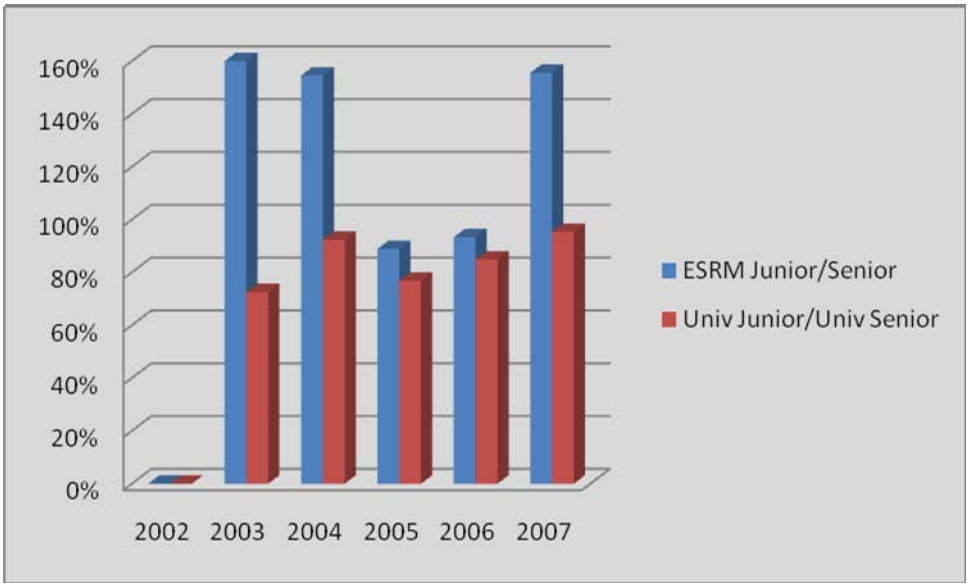

Figure 2.9 Proportion of ESRM juniors retained from junior year to senior year in relation to total University

Figures 2.10 and 2.11 illustrate the proportion of the total University student body retained by class and by year, and the proportion of the ESRM majors retained by class and by year. From Figure 2.10 we can conclude that the number of students enrolled in the Junior and Senior class, in each of any one academic year has been approximately the same since 2004, although the enrollment has steadily increased from calendar year to calendar year. While this finding does tend to support that the retention of Juniors into their Senior year has been very high at CSUCI since 2004, the number of Seniors is actually a mix of Juniors that are retained and new transfer senior students. It will take a more refined data set to determine the relative contribution of each of these student groups. The data for the ESRM majors reveals that there is virtually no loss from sophomore to junior year and in fact, significant growth due to junior transfers. Thus the need for a more refined data set for the major as well.

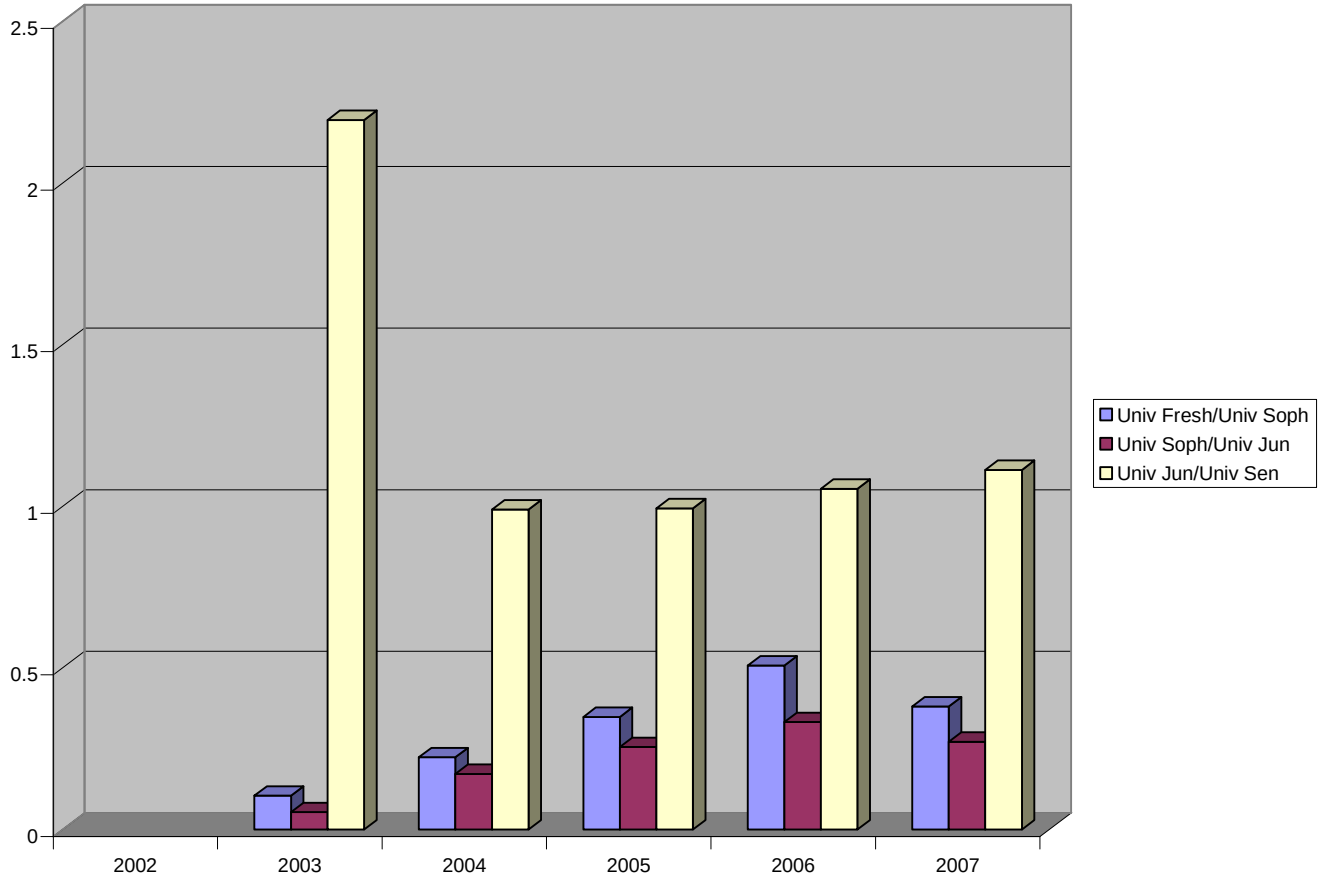

Figure 2.10 Proportion of total University student body retained by class and year

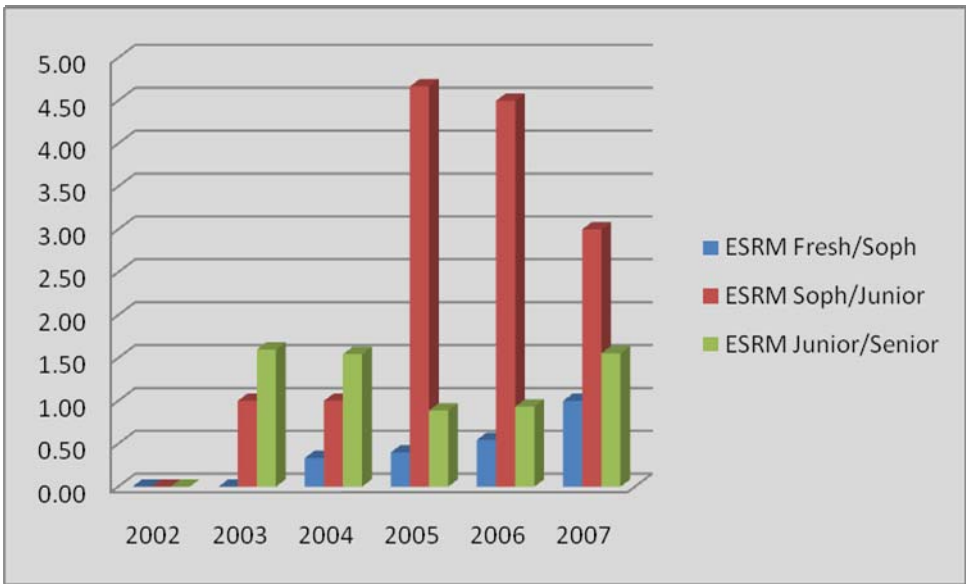

Figure 2.11 Proportion of ESRM majors retained by class and year

ELEMENT THREE

Developing and Applying Resources

3.1 The program employs faculty in sufficient number, and with appropriate professional qualifications and diversity, to support its academic program consistent with its educational objectives.

Like many other academic programs at CSUCI, enrollment in the ESRM Program continues to grow exponentially since 2002 (See Figure 2.2.) When compared to other environmental programs in the CSU overall, one can see that all the environmental majors in the system have shown considerable growth when compared to enrollment three years ago (see figure 2.3.)

It is reasonable to assume that ESRM will continue to grow in popularity as all other environmental majors have done in the past three years. There is a continued demand for students with environmentally related degrees in the private sector. Environmental consultants continue to be a major source of employment for ESRM students since California has some of the most stringent environmental reporting requirements in the United States.

We anticipate that opportunities for ESRM students within the federal government land management agencies will grow exponentially within the next few years due to attrition. It should be noted that over one half of the senior executive service within the Department of Interior (National Park Service, US Fish and Wildlife Service, U.S. Geological Survey, Bureau of Land Management) U.S. Forest Service, and Environmental Protection Agency will retire by the end of 2010. Within the same period Department of Interior will lose 61% of its' program managers, the Forest Service will lose 81% of its' entomologists, and 49% of its' foresters, and the EPA will lose 45% of its' toxicologists and 30% of its' environmental specialists.[1]

In the University's Educational Effectiveness Report (2006) submitted to the Western Association of Schools and Colleges, the University made the following statement:

> *"CSUCI has developed a unique faculty recruitment process to identify and recruit faculty with a high level of disciplinary expertise who embrace the CSUCI mission and values, and who will thrive in the challenging start-up environment. In particular, the recruitment reflects the mission and values through its collegial process, in its commitment to interdisciplinary development, and in its quest for diversity. Given that high-quality teaching and curriculum development within and across disciplines remains the central mission for the CSUCI faculty, the recruitment process includes:*
>
> > *• a review of instructional and teaching portfolios*
> > *• a focus on experience in curriculum development*
> > *• a process to assess candidates' ability to work collaboratively in an interdisciplinary environment*
>
> *Faculty recruitment at CSUCI is highly collaborative. Faculty and administrators determine faculty position allocations together. Position descriptions are written by faculty, prominently feature the University mission, and are widely advertised. To date, the faculty recruiting committee has been a faculty committee-of-the-whole. Following campus interviews, candidates are recommended to the Dean of the Faculty, who adds his recommendations to the faculty's recommendations and then forwards them to the Provost and the President. Tenured faculty members conduct reference checks of candidates after telephone interviews with particular attention to collegiality and fit with the mission and campus culture.*
> *This process has resulted in the successful recruitment of a diverse, highly mission-focused faculty."*

[1] Renewable Natural Resource Foundation annual conference 2003

The team of external peers who evaluated the University concurred with this description of the faculty at CSUCI. Thus, It seems appropriate to conclude that our current and future faculty will continue to exhibit these characteristics.

3.2 Faculty workload, incentives, and evaluation practices are aligned with institutional practices.

As a represented faculty, the collective bargaining agreement (CBA) for the CSU as a whole defines the "wages, hours, and terms and conditions of work." These are the "mandatory" area for bargaining. For the CSU, the CBA requires contributions in three areas: instruction, scholarship and creative activities, and professional service. The contractual agreement applies to all faculty.

As mentioned earlier in this report, the Office of Academic Advising provides excellent support through its advising services for transfer students and those students who select ESRM as their major. At the program level, the Chair and faculty within the program are assigned to a Support Services Coordinator who is also assigned to the Spanish program and the Instructionally Related Activities (IRA) program. All of academic affairs is, in my opinion understaffed in the area of administrative support personnel, given the complexity of its programs. However, ESRM is not singled out as a program that is being short changed. All of the programs in the administrative unit are in need of additional staff support.

3.3 The program supports appropriate and sufficient faculty development opportunities that are designed to improve teaching and learning.

All of the faculties of the CSU are represented, and they operate under a collective bargaining agreement between the California faculty Association and the Trustees of the California State University. This agreement articulates "the wages, hours and terms and conditions of work" for the faculty, By law this agreement must be applied without bias. Thus, the expectations and workload assignments for Liberal Studies faculty is the same as for all other faculty.

Policy 06 – 11 of The Academic Senate at CSUCI describe the manner in which faculty are evaluated in accordance with the Collective Bargaining Agreement This policy applies to all represented faculty regardless of program.

"APPLICATION OF THIS DOCUMENT:

1. *This document establishes policies and procedures that govern retention, promotion, and granting of tenure for probationary faculty, and the promotion of tenured faculty (RTP).*

2. *This RTP Policy (and its associated appendices) applies to each faculty hired after the original adoption of this document in the 2003-04 Academic Year. Faculty members within the retention, tenure or promotion cycle at the time of this document's adoption may elect to continue under the RTP Policy in force at the time of their hire. Following a personnel action carried out under the old policy (Tenure or Promotion or both), the faculty member will be subject to the current policy. If a faculty member receives tenure or promotion or both under the "old" RTP Policy (SP 01-44) and more than 6 years has passed since this last personnel action, they must submit their request for promotion under this RTP Policy (SP06-11). If less than six years have passed since their last personnel action (tenure or promotion or both), faculty members may remain under the 'old' RTP Policy and submit their request and materials according to the 'old' RTP Policy (SP 01-44).*

3. *The policies in this document apply to teaching, counseling, and library faculty.*

4. *At California State University Channel Islands, all phases of the RTP process support faculty growth and development as well as serve as the formal means of evaluation. To further growth and development, it is important both to the University and to the faculty member that each faculty member establishes a plan to meet program and University standards, as reflected in this document, for RTP.*

5. *The policies and procedures of this document are subject to Board of Trustees policies; the California Administrative Code, Title 5; California Education Code; the Unit 3 Collective Bargaining Agreement (CBA); and other applicable State and Federal laws."*

3.4 The program employs professional staff in sufficient numbers and with appropriate experience to maintain and support its academic programs.

The power of a common vision as a necessary substitute for planning in the early years of the University's development is discussed later in this report in Element Four (page 61). However, not only is there a common vision, the faculty also share a common commitment to create a student learning centered university. This common commitment resulted from a clear understanding and acceptance of the University's mission. One way in which this common commitment has been made visible is in the way that the disciplinary program chairs make courses available to ESRM majors. Additional sections of classes are added as they are needed by students, regardless of the students' majors. This makes for a very positive work and learning environment.

As a part of the work environment, the University provides support for faculty development. The following is a quote from the University's Educational Effectiveness Report (2006) submitted to the Western Association of Schools and Colleges:

"*Providing faculty support for improving teaching and learning is central to educational effectiveness at CSUCI. To facilitate these opportunities the Office of Faculty Development (OFD) was established in summer 2002. OFD has its own budget and currently has an interim director. A search is underway for a permanent Faculty Development Director for 2007-08 AY (hired in 2007). OFD takes the lead role in advocating, promoting and providing opportunities to support improved teaching and learning. It calls on the Faculty Development Advisory Committee, an elected standing committee of the Academic Senate, to provide direction and to make recommendations regarding grant and award funds. OFD programs and activities include:*

- *publicizing and providing support for on-campus and off-campus faculty development opportunities and events to improve teaching and learning*
- *creating and maintaining the faculty development resource reading room and library with materials on effective teaching*
- *fostering networks to support distinct groups of faculty (for example, lecturers and untenured faculty)*
- *assisting with and publicizing "brown bag lunches" for the purpose of sharing scholarly and creative activities*
- *offering research and travel grants*
- *supporting pilot assessment projects*
- *providing individual consultation services for faculty on the retention, tenure, and promotion (RTP) process*
- *assisting with the establishment of the faculty writing group*
- *sponsoring workshops*
- *matching individual faculty interests and needs with specific opportunities for faculty development*
- *assessing both individual and campus-wide efforts to improve teaching and learning*
- *creating a Faculty Mentor program for new tenure track faculty members*
- *supporting retreats for faculty to focus on scholarly activities*

In addition to OFD, several other campus offices provide faculty development support, including the Office of Research and Sponsored Programs (ORSP), the University Library, and Information Technology (IT). OFD works with these offices to promote their faculty development support.

3.5 Fiscal and physical resources are aligned with program

ESRM has excellent teaching space given our current program size. Our GIS Classroom serves many of our quantitative and computer skills-based curricula well. We continue to struggle with research space in a new university. While the dearth of research space is by no means unique to ESRM at CSUCI, we do feel the impact on our research. In particular ESRM currently has no wet lab space. Other programs are generous is allowing our undergraduate and faculty researchers to borrow space as can be arranged, but this is definitely a priority area for us in the upcoming years. While we do indeed need more space, we should also note that this lack of space has served as yet another driver to engage in interdisciplinary research. Examples of this include our undergraduates and faculty working with collaborators in the Chemistry Program, Biology Program and with labs at UC Santa Barbara and UC Los Angeles. The need for additional space will grow as we have recently acquired 367 acres of riparian corridor adjacent to campus where we need to have at least a modest research/teaching facility.

Figure 3.1 illustrates the annual budget assigned to ESRM in the five year period from 2003 - 2008. The annual enrollment in ESRM continues to grow exponentially from 2002 to present (>1000%) (see Figure 2.2). In the same five year time period, the annual budget varied from a low of $97,563 in 2003, to a high of $410,361 in 2008 (>420%). Annual budget growth during this five year period ranged from a high of 50% from 2003 to 2004 to a low of 9.4% from 2004 to 2005. Budget increases during this time period reflect an increase in tenure track faculty from 1 to 3 and increased operating expenses associated with program growth.

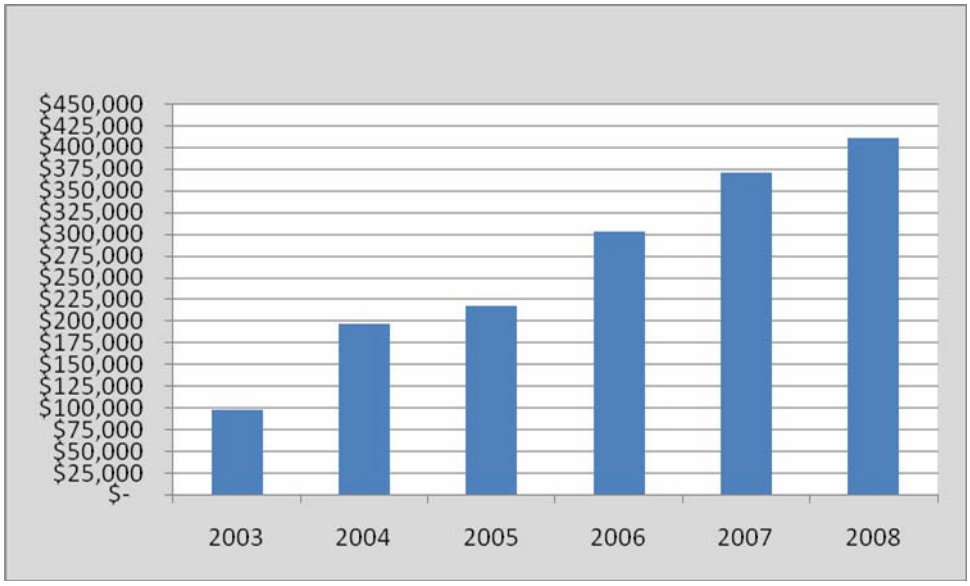

Figure 3.1 Total ESRM Budget by Year

Figure 3.2 is a comparison of the annual supplies and services budget for various environmental programs in the CSU system. While the variance between these programs is considerable (it should be noted that these figures were a self report from environmental program chairs at these institutions and may include dissimilar elements). Regardless, the ESRM program still has a relatively small supplies and service budget when compared across the system.

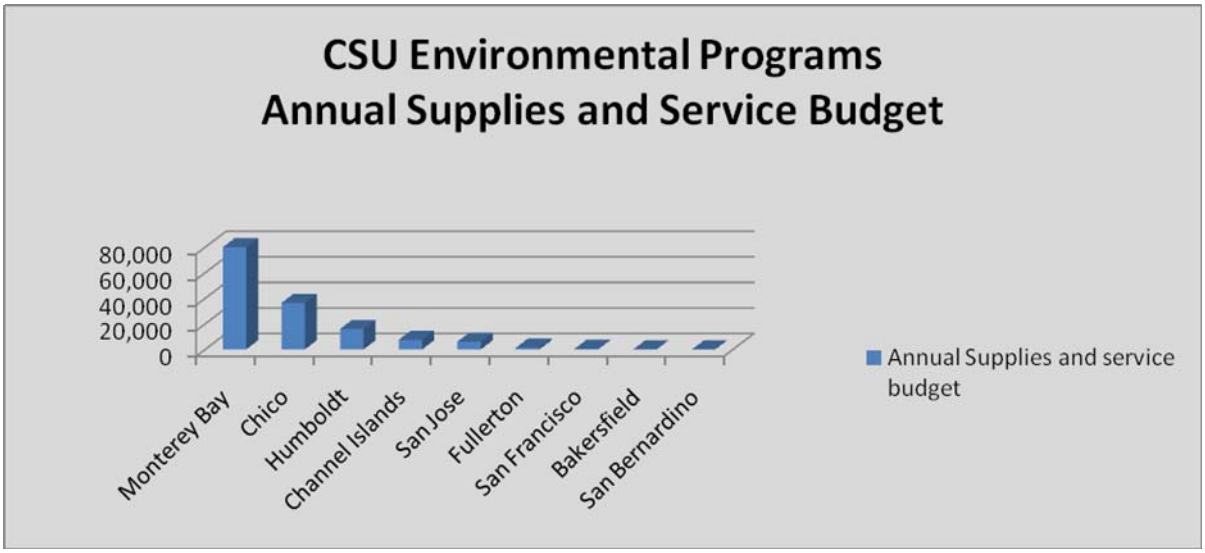

Figure 3.2 Comparison of supplies and service budgets for CSU environmental programs

3.6 The program has access to information resources, technology, and staff sufficient in size and skill to support its academic offerings and the scholarship of its faculty.

Funding for technology in most universities is a challenge. This is also true at CSUCI. There are many program areas that would benefit from more technology dollars. However, the ESRM program is supported in a manner similar to like programs at CSUCI.

3.7 The program draws effectively upon service units, such as the career center, student disabilities services, and others, to assist its students in their educational development

The ESRM program has been actively engaged with several service units within the university. They have worked closely with career services to post job opportunities electronically and to build a network of career professionals that have direct links to the university during various career fairs. Working

closely with student disabilities service and the access center, the ESRM program has closed captioned much of its web content including videos and instructional podcasts. Every course syllabi in ESRM speaks directly to accommodation for student special needs and alternative testing is an integral part of instructional practice.

The program has worked to create an instructional link with the University Writing Center to incorporate a mentoring and support in a number of ESRM courses such as Conservation Biology and Capstone. Writing Center staff are invited into the classroom to advise students on services and to establish consultation appointments. The program has also integrated the university Library into its instructional program through course special sessions designed to assist students with research strategies and literature reviews.

The Office of Service learning and Community Engagement has been integral in the design of the ESRM curriculum and provides various levels of support from volunteer environmental service opportunities in the freshmen year, to more structured service projects during the sophomore year, culminating in co-instructed courses (with community partners) the junior year, and community based research during the capstone experience.

3.8 The program's organizational structure and decision-making processes are clear and consistent with university policies, and effective in supporting the program's education program.

The intimate nature of the program (currently there are three tenured/tenure track faculty and three part time faculty), facilitates open communication and the two way flow of information. Program meetings occur monthly and include all program faculty and the faculty support coordinator (Associate Dean report), assigned to the program. Program Bylaws (see page 12) clearly articulate responsibilities and procedures.

In addition the program has incorporated a community advisory board to assist with curricular decisions and programmatic focus. This committee is composed of local environmental professionals, representatives from local government, and federal land management agencies. The board has played a pivotal role in supporting programmatic change to respond to new developments in the field (i.e. restoration ecology).

ELEMENT FOUR

Creating an Organization Committed to Learning and Improvement

4.1 The program periodically engages in planning activities which assess its strategic position, articulate priorities, and examine the alignment of its core functions with those of the institution.

The ESRM Advisory Board serves as a programmatic “sounding board” for the discipline. Annual meetings of the board are designed to review program goals and objectives and strategic initiatives designed to respond to the dynamic nature of the environmental climate. One example has been an evolving interest in Coastal Management. Currently the Office of the Chancellor for the CSU has developed a COAST (Council on Ocean Affairs, Science and Technology) Center that includes CSUCI as a founding member. CSUCI membership in this initiative has stimulated considerable interest in Coastal issues within the campus in general and ESRM in particular. Currently the program has begun to develop a coastal management emphasis to respond to a growing community need

The first few years at CSUCI were the best example of the business maxim of the latter part of the 1980s: “Fire! Ready - Aim!” This was not an approach elected by choice. This was a reality thrust upon a small group of new faculty charged to create a new university in an incredibly short period of time by politicians and system administrators. The faculty were, in an often used phrase, “building the airplane as they were flying it.” It is a testament to the faculty and to the leaders of the university that CSUCI has the exceptional faculty that it has, and that the academic programs are dynamic and strong. These two phenomena speak to the uniformity of the vision created by the early faculty and University’s leadership.

The early years were characterized by frantic processes guided by a common vision. It is only after several frenetic years of building that the institution could step back and examine what had been achieved and begin to ***plan*** the ways in which programs could be completed and achievements assessed. Within the ESRM program as with all academic programs these efforts had their genesis in the Smith Family Assessment Plan Preparation Program.

4.2 The planning process aligns curricular, personnel, fiscal, physical needs with the program's educational goals, and these planning processes are informed by data and student learning outcomes.

The planning process for this new coastal management emphasis is in its earliest stages. As with the other ESRM emphases, the cost of implementation will be minimal, since much of the course work for the emphasis will already exist. Additional costs will be associated with the adoption of such program elements as an undergraduate research option, advanced field methods, and a coastal practicum that includes community based research.

The OIR Data Pack

The reflections presented in Element 2 above, are derived from the Data Pack distributed by the Office of Institutional Research March 5, 2008. Unfortunately, the scope of these data is limited as a result of the resignation of the Director of Institutional Research in early Spring Semester 2008, and the subsequent resignation of the Assistant to the Director of Institutional research approximately 2 weeks later. While a new Director of Institutional Research was hired in fall 2008, refinements to the OIR data pack are ongoing and will ultimately result in a more robust dataset capable of answering many still unresolved questions regarding student enrollment e.g. currently there is no way to document students with double majors and count them in both academic programs. This is particularly problematic for ESRM since many students currently double major in biology or chemistry. This is compounded by the fact that the data packs are incomplete in several areas, and some data sets appear to contain errors.

Data reported in Section 1, Section 2, Section 3, and Section 4 of the Data Pack appears to be accurate and essentially complete. The data in these sections deal with student demographics (gender, race/ethnicity), are related to enrollment and graduation, average class loads and average GPA, and academic preparation.

Section 5 that reports faculty data is incomplete. The only data available in this section are derived from annual Fall semester statistics and include the numbers of Full Time Equivalent Faculty (FTEF), the Number of Full Time Equivalent Students (FTES), both of which are “calculated” variables and a third calculated variable, the Student: Faculty Ratio (SFR) which is defined as:

SFR = FTES/FTEF

FTES = Total Units/15
FTEF is a calculated variable based on “Instructional” effort only and does not include reassigned time for other functions.

Section 5 does not include faculty data related to rank, gender ethnicity and workload, the Weighted Work Load Units (WTU) assigned to full-time and part-time faculty, or the time reassigned from instruction to other necessary functions of the academic operation. Also there is no information in this section of the data pack regarding the instructional service contribution to developmental classes, general education, or other courses offered as a service to other degree programs. Finally, this section of the data pack does not provide any information regarding the distribution of instruction among full-time and part-time faculty,

RECOMMENDATION ON PROGRAM IMPROVEMENT

Recommendations for program improvement have been addressed within each element of the self study. In summary they are:

A. Organize a series of workshops with "feeder" Community Colleges to help ensure a smooth transition for transfer students.

B. Nurture the dialog between the University Center for Integrative Studies, Center for Community Engagement, local community colleges, and the CSU Chancellor's Office to develop a Coastal Management Emphasis in ESRM.

C. Encourage and support the implementation of the assessment blueprint developed as a part of the Smith Family Assessment Plan Preparation Program.

1. **Provide sufficient additional resources to allow for assessment activities in ESRM to support additional time for the ESRM Chair and a group of faculty who teach ESRM courses and are willing to work on the assessment challenge to work together for two or three days annually.**

    a. **Refocus assessment activities on evaluation of writing competencies and oral presentation skills in capstone courses.**

    b. **Seek University-wide solutions for common data sets to include but not limited to:**

        i. **Centralizing data acquisition and storage for common elements.**
            (1) **Exit surveys of majors**
            (2) **Employer surveys**
            (3) **Alumni surveys**
            (4) **Community partner surveys**

2. **Work with the Office of Institutional Research and the University's Assessment Officer to identify an existing instrument to assess general academic skills.**

REFERENCES

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California State University Channel Islands 2009 – 2010 University Catalog

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PROGRAM DOCUMENTS

ESRM Outcomes Assessment Fall 2006 w data.doc

ESRM Bylaws Fall 2008 Approved by the ESRM Chair and Dean 02 01 09.doc

CSUCI Senate Policies

The Center or International Affairs: SP 03 - 28

The Center for Integrative Studies: SP 04 – 07; SP 05 - 18

The Center for Multicultural Engagement: SP 05 - 06

The Center for Community Engagement: SP 06 -15; Sp 07 - 03

CSUCI WASC DOCUMENTS

2006 Education Effectiveness Report.

WASC EER 2007 Site Team Report

WASC Seven Year Accreditation Letter