### I. Team Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Member Type</th>
<th>Email</th>
<th>Contact Phone</th>
<th>Responsible for what part</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joe Mueller</td>
<td>Primary Team Member</td>
<td><a href="mailto:joe.mueller@marin.edu">joe.mueller@marin.edu</a></td>
<td>(415) 485-9537</td>
<td>All</td>
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### II. Program Review Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Committee (Chairs)</th>
<th>Signature</th>
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<tbody>
<tr>
<td>Chris Schultz</td>
<td>Curriculum Committee Chair</td>
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<tr>
<td>Blaze Woodlief</td>
<td>Educational Planning Committee</td>
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<tr>
<td>V-Anne Chernock and Erik Dunmire</td>
<td>Facilities Committee Co-Chairs</td>
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<tr>
<td>Yolanda Bellisimo</td>
<td>Planning and Resource Allocation Committee Co-Chair/Academic Senate President</td>
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<tr>
<td>Nick Chang</td>
<td>Planning and Resource Allocation Committee Co-Chair/Instructional Equipment Committee Chair</td>
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<tr>
<td>Sara McKinnon and Becky Brown</td>
<td>Program Review Committee Chair and SLO Coordinators</td>
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<tr>
<td>Chris Schulz</td>
<td>Student Access and Success Committee Chair</td>
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<tr>
<td>Michael Irvine</td>
<td>Tech Committee Chair</td>
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### III. Vice President of Academic Affairs

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<th>Name</th>
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<tr>
<td>Nick Chang</td>
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### IV. Board of Trustees President

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<th>Name</th>
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<tr>
<td>Eva Long</td>
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Program Overview–Introduction
Natural History/Field-2009

Instructions: Use this form to quickly outline your program at College of Marin. Briefly answer each of the questions and use bullet points whenever possible. Provide any attachments that substantiate or expand on the questions below.

I. Program Definition
Outline the unique qualities that define the importance of your program.

The Natural History Certificate is designed to prepare students broadly in the area of field and organismal biology, with balanced exposure to plant and animal classification, ecology/field biology and earth science. This training will solidly prepare students for teaching outdoor science to elementary school students and the public. The program was developed with the express purpose of providing the skills and knowledge to prepare students to become competent field biologists working at the organismal level of community or ecosystem ecology. The emphasis on reductionist approaches in biological education throughout the world is rapidly eliminating the study of taxonomic relationships and ecological interactions in favor of a greater focus on molecular and cellular processes. Such a focus works well for those studying physiological or molecular mechanisms, but for students who plan on careers in more holistic fields, such training provides inadequate knowledge to recognize species or to understand the complexity of biotic interactions. Additionally, emerging problems, such as the spread of exotic diseases, the damage and costs of invasive species, extinction, and general environmental degradation (and a general declining quality of life) indicate an acute need for biologists who can view issues from a broad perspective. This is not to suggest that reductionist science has no role in the training of students in this program. Students have both opportunities and expectations to become competent in the fundamental understanding of molecular biology and genetics. The combination of earth sciences with organismal biology enables students to embrace the exponential increase in knowledge and understanding of biological systems required to address contemporary problems. This program provides a solid foundation and framework onto which students can build. The Natural History Program also provides students with skills that form an essential foundation for their chosen careers and the background needed to continue their learning once they leave the college. It also directly addresses the supposed conflicts between religion and science and trains students to be objective decision makers, using their knowledge and a scientific approach when critical issues must be resolved. The program exposes students to the rapid growth in science and the fact that one must continue to learn if one is to utilize that knowledge to best benefit themselves, humankind, and the environment on which we all depend.

II. Program Purpose
Pathway:
Career Tech. Ed.

Briefly describe how your program fits into the pathways you have chosen.

Today's children spend half as much time outside as they did just 20 years ago and on average, spend seven and on half hours every day plugged into electronic media. Hands on environmental education is a solution to this growing trend of "nature deficit disorder." The Natural History Program goals are mostly directed towards life long learners with significant amount of career/work training. Some students working towards a degree in biology use these courses to supplement their work towards a degree. This program addresses the need to educate educators in outdoor education. The No Child Left Inside Act of 2008, H.R. 3036, created a new federal environmental grant program for states to develop environmental literacy programs and support teacher training in environmental/outdoor education. Our program is well positioned to serve the growing need for outdoor education.

III. Students Served
Briefly outline what students are served in your program.
photographers; nature journalists; elementary school teachers; parents who home school their children; national, state and county park naturalist/rangers/staff.

IV. Program History
Briefly outline the recent history of your program.

The Natural History Program was designed in 1995 to give students the unique opportunity to take a diverse array of courses that concentrate on the nonhuman aspect of biology. Most courses concentrate on a holistic approach to science rather than a reductionist view commonly encountered in most science courses. As the program developed three unexpected outcomes emerged. It was found that a broad education in natural history and field studies is useful in giving biology majors the edge in competing for graduate and employment positions. Also it has been observed that the field courses spark the interests in young students to such a degree that they decide to continue on as biology majors and transfer to institutions of higher learning. Lastly, it was found that a significant number of life long learners decided to change their careers because of their experience in the program. In summary: this program changes lives.

The No Child Left Inside Act of 2008, H.R. 3036, created a new federal environmental grant program for states to develop environmental literacy programs and support teacher training in environmental/outdoor education. Our program is well positioned to serve the growing need for outdoor education.

Attachments:
List and briefly describe any attachments
Five Pathways

A description of how you serve students in the five pathways as described in the Educational Master Plan.

Natural History/Field-2009

I. Please refer to the table of estimates of how many students are in each pathway for your program/discipline over the past four years.

1. Basic Skills
Students on the Basic Skills pathway seek to improve day-to-day functioning, enhance job performance, enter new careers, and/or acquire pre-collegiate fundamental skills in order to successfully complete college level courses. The Basic Skills pathway includes English as a Second Language courses offered in both credit and non-credit divisions as well as courses in developmental mathematics and English as well as basic skills courses in computers and Library.

Our program serves students in this pathway: None

2. Career and Technical Education
Students on the Career and Technical Education pathway pursue knowledge, technical and skill training necessary for career placement, career advancement and career changes or for creative endeavors that require technical skills. Their educational goals are either an associate degree or certificate. For some degrees/ certificates, such as Nursing, the course of study is defined by external professional regulations or licensing criteria.

Our program serves students in this pathway: A good proportion of the students, but not a clear majority

3. Cultural Enrichment
Students on the Cultural Enrichment pathway focus on acquiring and expanding aesthetic abilities. Students broaden their intellectual and artistic skills through participation in creative opportunities including exhibitions, performances, or publishing work.

Our program serves students in this pathway: None

4. Lifelong Learning
Students on the Lifelong Learning pathway focus on intellectual and physical enrichment. Some Lifelong students may have already completed degrees and/or may be in significantly advanced positions in their careers.

Our program serves students in this pathway: To a great extent/ a majority of the students

5. Transfer
Students on the Transfer pathway seek successful matriculation from College of Marin to four-year institutions, universities, colleges or specialized educational institutions by completing courses that fulfill requirements for the baccalaureate degree or admission to specialized programs such as nursing. In the process of completing transfer requirements, these students may also earn an associate degree.

Our program serves students in this pathway:
Transfer GE: Some students
Transfer Major: A good proportion of the students, but not a clear majority

II. What are your program’s goals for each pathway?

The Natural History Program goal for the lifelong learning pathway is to provide an opportunity for community members, teachers, decision makers and others to become knowledgeable in the natural world on a local, community, regional and global level. Proficiency in academic subjects such as ecology, marine biology, local parks and farmlands, field biology and soil biology gives participants the ability to understand...
how valuable natural systems are to human survival and thus a better understanding on how to reverse the current environmental crisis.

The program’s goals for the career education pathway is to provide an organized and broad offering of courses in field biology, ecology and geology so that graduates of the program will understand the natural environment with such proficiency that they will be able to teach environmental and outdoor education to children as well as adults.

III. How does your program/discipline help students meet these goals?

By providing knowledge, hands on laboratory experience and field experience in the subjects mentioned above.

IV. How do you measure your success?

Lifelong Learning Pathway: participants in the program are able to understand some areas of ecology/field biology to an extent that they can understand all the others. The nature of holistic science is interrelationships and when participants learn a particular concept/system in a particular area of study that allows them insight and understanding into others. Examination in concepts, field identification, field analysis and quantitative measurements also gives instructors valid means to measure progress.

Career Pathway: Prospective employers in the outdoors education arena are aware that graduates of the program are well educated and able to succeed in teaching field/natural sciences and ecosystem interrelationships. All graduates of the program have attained their career/learning goals.

V. How do you make sure your students are able to get through your program in a timely fashion?

Our department offers more evening and weekend courses than any other area within our institution. This gives day working students the opportunity to complete the certificate in a timely manner. Of course if we had more units available and more teachers we could offer more but we do our best within our means.
I. Access
Based on the enrollment numbers and demographic breakdown for your courses, what significant factors or barriers are influencing student access to your courses or program?

There doesn't appear to be significant access issues for students interested in enrolling in Natural History Program courses. If there are issues they are not apparent in the data available. I have never heard of any student not being able to take a course in this field of study because every effort is made to offer courses at night or weekends. Day students usually can take evening courses, night students of often not able to take courses offered during the day due to conflicts with work schedules.

II. Student Success
Based on the student success and retention rates breakdown for your courses, what significant factors or barriers are influencing student success in your courses or program measured by completion of course and grade earned?

Note: Success Rate is the percentage if students who received a passing grade of A, B, C, or P at the end of the semester.

Note: Retention Rate is the percentage of students retained in a class at the end of the semester. In Progress and Report Delayed grades are excluded. Cancelled classes and classes with no grades shown are excluded.

From what I can gather the reasons why students do not get the grades they expect is almost always one of two reasons. 1) they do not allot enough time for their studies i.e. at least two hours of study out of class time for every hour in class. or 2) their studies take two to three times as long because English is their second language. Many ESL students (mostly Hispanic or Asian) do not realize that science courses are significantly more rigorous than non science courses and do not plan their schedules accordingly. Many are not advised to enroll in remedial science (Bio/Geo 99).

III. Student Retention
Based on the student success and retention rates breakdown for your courses, what significant factors or barriers are influencing the ability for the student to succeed at more advanced courses for which your course is a prerequisite.

The reason why most students drop the courses I (I can only speak for my own observations) teach is because they are failing the course, so the same reasons stated above apply. Every time a student drops a course, whether I'm teaching it or not, I ask them why they dropped. The answers are almost always one of two reasons for any course. 1) poor instruction i.e. lousy teachers or 2) they are failing the course. Or a combination of the two.

IV. Improving Student Success and Retention
What key factors would further improve your student success and retention or support your current level of success? Please check any applicable statements below and then provide additional details/explanation on your choices below.

☐ Access to student support services (counseling, tutoring, etc.)
☐ Curriculum change
☐ Course scheduling for students needs
☐ New offerings/additional sections
Articulation for transfer or COM GE
Recruitment/outreach
Student/job market demand change
Faculty availability
Facilities & technology
Professional development

Other:

It appears to me that a significant number of ESL students are not aware that they need better English skills to be able to succeed in most science courses. So either counselors are not advising them or they are not taking their advice. When asked if these students are aware that their English skills are not developed well enough to succeed in the biology courses taught in our department they appear to not have been advised.

V. Please explain and provide additional details regarding your choices above:
What are the existing facilities issues that impact student access and success, or health and safety? (address any of the following: Size, location, conditions, maintenance, features, a/c, lighting, adjacencies, other.)

The COM Life Sciences Dept. has the only Natural History/Field biology program in the state of California. Marin county has more biotic community diversity than anywhere in the state of California. Marin has one of the most biologically rich and diverse coastlines in the nation. Would it not seem fitting that we should have access to a field station to conduct field education in? We do—the Bolinas Marine Lab. This lab was closed due to safety reasons in 2005. It would be a great advantage for our biology students if we could have access once again. Should a consortium be developed between Calif. Academy of Sciences and the Farallones Marine Sanctuary (as is now in the fund raising stage) it should be imperative that COM does not give up the opportunity to be a part of that consortium.
Curriculum
Natural History/Field-2009

1. Course Outlines of Record must be updated every 5 years to remain current for content, texts, student learning outcomes as well as for articulation purposes. Are you aware of the dates on your course outlines? If not, contact OIM to check. If you have courses that are over 5 years old, are you planning on updating them? Please list.

Yes I am in the process of updating the following courses:
Bio 162, General Ecology
Bio 235, Marine Biology
Bio 164, Intro to Mammalogy
Bio 167, Intro to Herpetology
Bio 170, Intro to Marine Animals
Bio 171, Biology of Marine Mammals
Bio 237, Marine Ecology Field Studies
Bio 245, Field Ecology of Marin
Bio 246 Field Ecology
Bio 247 A/B, Extended Field Studies

2. Are you planning on changing, updating or revising and degree or certificate requirements? If so, please explain how it will improve student learning, student success and/or access.

No, there are no plans to change, update or revise the Natural History Certificate requirements.

3. Are you collaborating (or thinking about collaborating) with other departments to develop joint curriculum for learning communities? If so, please describe briefly and explain how it will improve student learning, student success and/or access.

No collaborations are planned with other departments.

4. Do you plan to develop any new curriculum? If so, please describe briefly and explain how it will improve student learning, student success and/or access.

Yes, I do plan on developing a Wildlife Conservation course. Wildlife Conservation is the study of conserving wildlife, which is disappearing at an alarming rate and many people want to know what to do about it. This course is of great interest to many participants in our Natural History Program as well as those interested in Environmental Sciences.

5. Do you plan to develop any new Distance Ed courses or develop Distance Ed versions of existing courses? If so, please describe briefly and explain how it will improve student learning, student success and/or access.

Distance Ed in field biology? No, I don't think so.

6. Do you plan to add or increase your material fees for any of your classes? If so, please list the classes and the proposed new or revised material fees for the respective classes.

No.
Five College Learning Outcomes:

1. Written, Oral and Visual Communication: Communicate effectively in writing, orally and/or visually using traditional and/or modern information resources and supporting technology.

2. Scientific and Quantitative Reasoning: Locate, identify, collect, and organize data in order to then analyze, interpret or evaluate it using mathematical skills and/or the scientific method.

3. Critical Thinking: Differentiate between facts, influences, opinions, and assumptions to reach reasoned and supportable conclusions.

4. Problem Solving: Recognize and identify the components of a problem or issue, look at it from multiple perspectives and investigate ways to resolve it.

5. Information Literacy: Formulate strategies to locate, evaluate and apply information from a variety of sources - print and/or electronic.

I. Degrees and Certificates

1. What degrees and certificates does your discipline offer?

The Life & Earth Sciences Department has separated the Natural History Program from Majors Biology and Allied Health. The Natural History Program offers a Certificate in Natural History.

2. Keeping in mind the five College Learning Outcomes above as well as what your discipline specifically requires of your graduating students, what should students be able to do when they have completed your discipline's requirements for each degree or certificate?

Once students have completed the course work and field experience required to earn a Certificate in Natural History they should be able to: Locate, identify, collect, and organize data in order to then analyze, interpret or evaluate it using mathematical skills and/or the scientific method. Differentiate between facts, influences, opinions, and assumptions to reach reasoned and supportable conclusions. Recognize and identify the components of a problem or issue, look at it from multiple perspectives and investigate ways to resolve it. Formulate strategies to locate, evaluate and apply information from a variety of sources - print and/or electronic.

3. How do students in your program demonstrate that they meet each of the college-wide learning outcomes? What courses, activities, and/or projects are students required to complete that relate to each outcome?

i. Written, Oral and Visual Communication

Students demonstrate that they meet the written, oral and visual communication SLO in all courses required for completion of the Natural History Certificate. All students must write scientific papers. Subjects range from bird behavior and nesting observations in ornithology to zonation studies in the Sierra Nevada require for general and field ecology courses.

ii. Scientific and Quantitative Reasoning

Students demonstrate that they meet the Scientific and Quantitative Reasoning SLO in all courses required for completion of the Natural History Certificate. An example of an activity that relates to this outcome is studying the invertebrate diversity and densities in the rocky intertidal community. Students locate, identify, collect, and organize data on invertebrates and then analyze, and evaluate the data using statistical analysis and then interpret the results using the scientific method.

iii. Critical Thinking
Students demonstrate that they meet the critical thinking SLO in all courses required for completion of the Natural History Certificate. Science, by its very nature and methodologies, differentiates between facts and subjective influences and opinions. If reasonable assumptions are considered they must be compelling and show evidence to be able to reach reasoned and supportable conclusions. In all science courses we discuss the environmental issues so important in today's world and students are constantly using critical thinking skills to evaluate and interpret the science vs the politics when analyzing these issues as well as projects that use the scientific process.

iv. Problem Solving

Students demonstrate that they meet the problem solving SLO in all courses required for completion of the Natural History Certificate. The scientific method is central to all science courses. In the field students practice developing problems (asking questions), developing a null hypothesis that is testable, developing testable methods and interpreting the results. In this way they learn to recognize and identify the components of a problem or issue, look at it from multiple perspectives and investigate ways to resolve it.

v. Information Literacy

Students demonstrate that they meet the information literacy SLO in all courses required for completion of the Natural History Certificate. All scientific projects require that students figure out ways to locate, evaluate and apply information from the campus library, internet, scientific journals as well as local organismal collections such as those housed at California Academy of Sciences. The first step in the scientific process to observe or rely on observations by scientists and results of their experimentation.

II. General Education:

1. Does your discipline offer any classes which count for general education requirements?

2. Which General Education courses in your discipline address the each of the five College Learning Outcomes? Please list courses for each of the following:
   i. Written, Oral and Visual Communication
   ii. Scientific and Quantitative Reasoning
   iii. Critical Thinking
   iv. Problem Solving
   v. Information Literacy

III. Course Level Outcomes:

1. Do all of your Course Outlines of Record include Student Learning Outcomes? If not, are you revising them?

   Not all of them do but we are in the process of revising them.

2. What percentage of faculty members in your discipline include SLOs in their course syllabi?

   Unknown.

3. Assessment:
   i. How often do you assess these SLOs?

   Constantly, as we assess the success of our students when they graduate and inform us of their progress.
3. Assessment:
ii. In the last two years every discipline developed SLOs specifically related to College Learning Outcome #3: Critical Thinking. Have you assessed this or any of the stated Student Learning Outcomes in your course outlines over the last year? If so, please summarize the results.

No we have not.

3. Assessment:
iii. What improvements have you made or do you plan to make in the future?

We plan to improve our assessment methods in the future.

3. Assessment:
iv. What do you plan to assess this year? Who will you assess? How will you assess?

We plan to assess the marine biology and general ecology courses this year. We will assess the students and whether or not SLOs are compelling or not. We will use questionnaires and directly question a random assortment of students currently participating in the program.
Non-Instructional Requests

Part II : Other Non-Instructional Costs/Contract Services

This section will be filled out by the Department Chair

Natural History/Field-2009

II. Other Non-Instructional Costs

This section will be filled out by the Department Chair and reviewed by the Area Dean, IPC and Budget.

Note: Service Contracts: maintenance, repairs, laundry, hazardous waste removal, etc.

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<th>Category</th>
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<td>Other</td>
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Description and part number for ordering:

Field Trip Expenses

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<tr>
<td>3000.0</td>
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Justification

Please comment on request in terms of how it benefits your program, faculty and/or students:

These costs are needed to successfully run field trips:

Student drivers: $150/trip (1-2 weeks)

Instructor per-diem: $51/day

Transportation for Instructors: $0.55/mile

Instructor lodging and air fair, shuttle, parking: varies.

Approx totals per course based on above rates:

Bio 162, General Ecology: $500

Bio 237, Field Ecology: $1000

Bio 247, Extended Field Studies: $1000

Bio 235, Marine biology: $200

Bio 164, Mammalogy: $200
Faculty Members
Natural History/Field-2009

I. Program Faculty
List of Faculty Members and Total faculty Units separately for Fall, Spring and Summer

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<tr>
<th>Last Name</th>
<th>First Name</th>
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<th>Year Retired:</th>
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See under Biology

Status: Shared W/other program(s):

No

Summer 2009 TU   Fall 2009 TU   Spring 2010 TU   Reassigned (Total)

00.000

Years of Service: Specialty:

List all areas of specialty and/or equivalency

Leadership: List involvement in committees or other service

Additional Teaching Unit Requests

III. FT Faculty Needs (Please fill this out ONLY if you are stating a need for new full time faculty in your area.)

1. Please indicate if there are NO FT faculty in your discipline. Please provide data regarding the length of time this discipline has been without a full time instructor.

2. Non-availability of part-time instructors in a subject area. Please provide evidence demonstrating the difficulty in finding part-time instructors to teach in the subject area.

3. RETCUM Faculty: How many FT faculty have retired in the past ten years. How many units are now taught by RETCUM faculty each year?

4. New FT Faculty: How many NEW FT faculty have been hired in past 10 years? Please list each faculty name and the year of employment. If this instructor is shared with another department, please list the equivalent FTE% for your department. Please list instructional equivalencies as necessary and if faculty member was the result of retreat rights.

5. Reduction in department TUs as a result of FT Faculty retirements or other significant causes? Please provide data that illustrates a change in teaching unit allocation as a direct result of FT faculty retirements within your department and how this may change in the coming year(s).

6. Other reasons: Have there been other causes for a reduction in units in your discipline? If so, please explain and provide evidence.

7. Changes in Student Demand: Recent or forthcoming growth as a result of added sections due to enrollment demands. Provide evidence that illustrates the need for additional faculty due to increased student demand such as numbers of sections added and/or courses with waitlist totals showing a need for additional sections. What is the % of FTEF for this increase in units? If there has been a decline in student growth, please explain why.

8. Current of forthcoming changes that illustrate the immediate need of additional FT faculty

http://programreview.marin.edu/TUReportFaculty.jsp

2/22/2010
within this department. Please outline all relevant circumstances that justify the priority of a FT hire in addition to those already outlined above. Consider changes in the field, changes in the job market and population shifts.

9. Program Review Findings: Indicate what trends you identified in your last program review that support the need for full time faculty hires. Tie these to the department and college mission.

10. Other considerations: Include such information as matriculation needs, changes in student demand or community and job market needs, response to legislation, or rapid growth of the discipline.

11. Shared Resources: If you have requested FT faculty that will be used by more than one department, please indicate here. Please indicate which disciplines and/or departments and the number of combined students/faculty or classes he/she would serve. Please indicate how it will improve access or outcomes and if it is needed for health and safety concerns or required by law.
Program Summary
Natural History/Field-2009

Instructions: after reviewing your data and reports from all other sections of your program review, use this form to briefly summarize all of the information you have provided by closing with your concluding remarks (e.g. an executive one-page summary) for your entire program review.

I. Program Excellence (Best Practices)
Please address any of the following areas:
Overall Program structure, contextualized learning/learning communities, reputation of faculty, faculty collaboration, staff, retention and success, how you maintain a supportive environment, how you address issues of diversity, any specific student learning outcomes.

1. Approach to Teaching Science Our students do rather than read about science. Our students succeed because we have high standards and do everything we can to help students attain them. In addition, we believe that the only way to truly understand science is through an interdisciplinary approach. We collaborate with professors and community members both within and outside of our department.

2. Community Involvement All of our faculty members are active members of our community. Our participation includes the following types of organizations: high schools, colleges and universities, non-profit community organizations, and state and federal parks to name a few.

3. Natural History/Field Program Our Natural History Certificate/field program is unique, popular, and extremely successful. Our students truly understand the basic tenants which govern the natural world. Many are retired life long learners that are working on a second career and using their Natural History Certificate to teach sustainability and other environmentally important concepts to K-12 student throughout the Bay Area.

5. Faculty Research All of our full time faculty members are conducting research in their area of specialty. Our preparation/laboratory spaces are invaluable in allowing us to investigate the natural world and to involve and share this knowledge with interested students.

6. Facilities Our green house, Bolinas marine laboratory, soils laboratory and museum are great assets to our students and to our community. Their attributes are detailed in other sections of this document.

7. Job Training Students who choose offered vocations are ready to start working as docents, biotechnology technicians, or environmental science technicians when they graduate from College of Marin.

8. Interdisciplinary Approach to Curriculum and Resources Biology, the study of life, is inextricably interconnected with sister fields such as chemistry and physics, as well as with the environment in which life is found. Our curriculum reflects this intertwining by having intimate connections with other disciplines such as Geology, Geography, and Environmental Landscaping – offering classes that cross disciplines in our department and in other departments. Our resource use also reflects this connection, with overlaps ranging from field gear to the greenhouse and museum. As we continue to develop curriculum, in particular relating to Environmental Science, Sustainability, and Restoration, it will become more and more vital that we sustain and nurture these connections.

9. Attitude All members of our department are respectful and considerate of each other and of our students. It is a pleasure for us to come to work and, judging from their reactions, a pleasure for students to take classes in our department.

II. Program Resources (Responsiveness)
Briefly summarize examples of key resources required for your program to meet or exceed the college goals (as cited in this review).

1. Faculty Preparation and Laboratory Space We need this space to work out new experiments and to maintain our research program for majors. Many of our field courses are instrument/tool intensive and preparatory rooms provided allow us to organize our tools/study skins/specimens and other field project materials.

2. Vans Our department needs vans to transport students on field trips. We are the only community college with a Natural History Program and that runs field trips that continuously rents vans. Having College of Marin Biology/Geology Department tranportation would make our trips safer, significantly more convenient for instructors, administrative assistants and administrators and much less expensive for students taking our courses.
allow faculty who must teach and organize field trips to spend more time teaching and less time on transportation logistics. 3. Student Study Area Our students are often on campus late into the night because we offer classes in the evening to accommodate students that work or have other obligations during the day. They need a place where they can study and get something to eat. 4. Counselor Our students need a counselor dedicated to science and math students. As counselors are not trained in the sciences, many of our counselors find this (understandably) daunting. 5. Funds We need equipment, equipment maintenance, supply, and field trip transportation funds we can count on. Without a known budget it is impossible for us to plan and offer a coherent curriculum.

III. Moving Forward Objectives (Planning)
Please summarize any data-driven coordinated planning has your department done to improve enrollment, student learning, access and success?

1. Approach Keep doing what we do best and what sets us apart from other departments and institutions (see I above). 2. Curriculum Expand our offerings to keep our department curriculum broad, current, and meaningful; and so that students can move through our curriculum as a cohort. 3. Field Program Expand our field course offerings and include a field component in as many of our courses as possible. 4. Courses Design and implement a Microbial Ecology Course and expand the soil component of many other classes. Our faculty agrees that the study of soils is critical to maintaining our success as a department. 5. Wildlife conservation is a popular and increasingly important career choice so it would be prudent to develop a wildlife conservation course 6. Attitude Keep meeting regularly as a faculty preferably over food, coffee. Completing this program review reinforced our dedication to our students, to the department and to each other.

IV. Assessment of 2008 Program Reviews:
1. What resources have you been granted from your previous program reviews?
2. Please assess how these resources have been used to improve access, learning outcomes and student success in your program?
3. What changes have you implemented based on previous program reviews?
4. What results have you found?

We expect this Program Review to result in a better understanding of our curriculum both within and outside of our department and among administrators, and to be used to provide us the resources we require to maintain our extremely successful programs.

V. Fall 2009 Requests Summary:
1. Please summarize the main requests you have made in this program review in order of your priority starting with the most important one.
2. Summarize briefly why you want each one.
3. Summarize your overall rationale.

See transportation to field trip costs under non-instructional other.

VI. Other concluding remarks.
Area Directors and Deans Comments
Natural History/Field-2009

1. Please make any comments on the Five Pathways, Student Access and Success, Facilities, Curriculum and SLO sections.

2. Please comment on the instructional equipment requests, technology requests and other instructional materials requests sections. Please comment especially on any specific priorities without which this program cannot function.

3. Please comment on the faculty and staff sections.

4. Please itemize expenses currently covered by external funds that may revert back to general funds.

5. Other comments

This is a concise, well-written program review. This latest version does not outline budgetary requests, but, as part of the Life & Earth Sciences Department, the program/department needs to be supported by an adequate budget (which it does not enjoy at this time), and a stable, non-soft-money sources for its supply line. (Currently, most of the funding for biology supplies comes from lottery funds.) The specifics of the budget needs for Life & Earth Sciences have been outlined to the Vice Presidents on numerous occasions.