UCI Masters in Conservation & Restoration Science

Center for Environmental Biology
Department of Ecology and Evolutionary Biology

University of California, Irvine

MCRS Team Capstone Project Guidelines
2020-2021

Table of Contents

Introduction

These guidelines define the MCRS program expectations for the team capstone projects and provide guidance on timeline, process, and required deliverables.

MCRS Mission

The mission of the MCRS Program is to prepare leaders in the fields of environmental science, conservation, restoration, and sustainability by engaging them in active adaptive management experiences.

> *Active adaptive management refers to the process of managing natural resources by (1) collaboratively developing a model for how the system works; (2) developing trials with replication and controls to experimentally evaluate multiple management actions; and (3) modifying future management activities based on results. The idea of active adaptive management provides a coherent link between coursework, fieldwork, and the capstone project.*

Capstone Project Overview

During the second year of the program, students are required to work on a team of three to six students to complete a team capstone project organized by the Center for Environmental Biology. The project is designed to prepare students to produce meaningful solutions to today's environmental problems and will be completed in collaboration with a local partner/stakeholder to address a current management need and/or solve an environmental problem. To complete the project, students will apply the knowledge and skills learned in this program to a practical professional setting, working directly with practitioners to implement and evaluate the project. To this end, team projects must be:

1. *Solution oriented* – Projects should yield specific policy or management recommendations, contain multidisciplinary elements, and align with student and partner interests.

2. *Framed by Active Adaptive Management* – Group project are nested in an active adaptive management framework and include a review of literature and analysis of data.

Students are assigned to capstone projects and teams during the Spring quarter of the first year of study and end in mid-spring quarter of the second year. Each project requires opportunities for students to:

- Learn to operate as an independent professional team
- Develop and sustain a spirit of trust and collaboration among all members
- Operate with limited partner involvement to develop their own ideas and approaches
- Develop and maintain healthy and professional communication among all parties
- Choose a course of action, make mistakes, and learn from those experiences

Teams will produce a project management plan and a written document as well as present their work to the broader community of conservation and restoration science professionals in southern California at an annual workshop in the Spring.

A. Student Learning Objectives

At the end of the course, students will be able to:

1. Apply concepts of ecological systems under stress to conservation and restoration actions or environmental solutions.
2. Describe current environmental laws and regulations as they relate to their team project.
3. Develop an active adaptive management plan through site assessment, trials evaluating management actions, monitoring, and collaborations with multiple stakeholders.
4. Apply project management theories and frameworks to the design and implementation of a conservation, restoration, or environmental solutions project.
5. Adhere to social dimensions of conservation, restoration, or environmental solutions, including socioeconomic values such as cultural features, social uses and perceptions, and environmental ethics.
6. Analyze and interpret conservation, restoration, or environmental literature or data to apply evidence-based research to new management situations.
7. Communicate conservation, restoration, and environmental information through oral, written, digital, and visual presentations.
8. Engage with knowledge networks with diverse stakeholders.

B. Team Project Timeline

Spring Quarter of Year 1	
Week 7	Projects topics are introduced
Week 8	Students submit ranked preferences
Week 9	Student project teams are assembled

Fall Quarter of Year 2	
Week 0	MCRS Capstone Team Retreat
Weeks 3-4	Oral Presentations and peer feedback
Week 7	Rough draft of Prospectus and Project Management Plan due
Week 8	Prospectus due
Week 10	Project Management Plan due Self/Peer Evaluation due Advancement to Candidacy paperwork filed

Winter Quarter of Year 2	
Weeks 1-9	Cohort, Team, and Partner meetings Data collection and data analysis Team Project Status Report due (Week 1)
Week 4	Team Project Status Report due
Week 7	Team Project Status Report due
Week 10	Outline of Final Report due Self/Peer Evaluation due Team Project Status Report due

Spring Quarter of Year 2	
Week 2	Draft of Background, Methods, and Preliminary Results due Team Project Status Report Due
Week 5	Draft of Final Report due Team Project Status Report Due
Week 7	Draft presentation due
Week 8	Present at MCRS/CEB Workshop
Week 9	Final Report (.pdf version) due; Graduation paperwork filed
Week 10	Self/Peer Evaluations due

C. Academic Units and Grading

Students must enroll in EE 286: MCRS Capstone course in the fall (2 units), winter (4 units), and spring (6 units) quarters. Capstone advisors will provide students with a syllabus each quarter that outlines the timeline, milestones, and assignments for each quarter. These may vary by quarter. The capstone advisors grade all Capstone courses, and grades will be assigned each quarter. Instructors will consider the information in all deliverables, including Team Project Status Reports and Self/Peer Evaluations, when assigning grades. **Students must earn a grade of B or better in these courses to be eligible for the MCRS degree.** Students working on the same project may not necessarily receive the same grade. Additionally, students cannot be recommended for graduation until they have submitted an approved final report.

D. Types of Projects

- *Original research*: Students write a paper that reports on original research, with the expectation that the finished product is of publishable quality, meets professional standards, and has management implications.

- *Research project report*: Students identifies a problem to be studied, systematically reviews the literature associated with the problem, collects primary or secondary data about the problem, analyzes the data to answer research questions, discusses the results, presents the conclusions, and makes appropriate recommendations based on the study, which might include the need for further research.

- *Policy analysis*: Student analyzes the conservation/restoration implications of a current or proposed policy. The project could include perspectives on economics and financing, need and demand, politics/ethics/lay, or quality/effectiveness.

- *Evaluation of an ongoing/completed project*: Student provides a description of the project, explains the purpose of the evaluation, describes the methods and procedures used to evaluate the project, identifies the logistics of carrying out the evaluation, and presents the results of the evaluation.

- *Written plan for a project*: Student conducts a site assessment, creates a project design, describes how the project will be implemented (or implement the project), and explains how the project will be evaluated (or evaluate the project). This could be a mitigation-funded or landowner-initiated project, and the difference between restoration and remediation must be addressed.

- *Grant proposal*: Student identifies the conservation initiative or restoration problem/project for which the grant will be used, explains the significance, lists the questions/hypotheses to be answered, reviews the literature associated with the problem, analyzes existing data, creates goals and objectives, methods, timeline and budget, and explains how the project will be evaluated.

E. Student Time Commitment

Students should plan to spend at least 10-12 hours each week on their Team Project; however, be prepared to spend more time on some tasks. It is important to develop a complete and detailed project timeline to avoid excess workload at the end of the project.

F. Deliverables

The major deliverables for the Team Capstone Project are:

Fall

- Prospectus
- Project Management Plan

Winter

- Team Project Status Forms

Spring

- Final Report with Executive Summary
- Team Project Status Forms
- Final presentation
- Data and metadata

G. Authorship/Ownership

Each team member is an equal owner of the intellectual property of the project. Teams may divide the tasks among the team members; however, each member of the team is required to contribute to the capstone project work. This means that every required paper or presentation produced by the group must list every member as an author.

H. Publishing

The MCRS program encourages students to present their team project findings in conferences outside of the university. Teams may also want to publish their results in peer-review journals. If this is the case, each team will collectively develop criteria for authorship, but all team members must agree to these criteria. A team member may choose not be included as a co-author on a publication; however, all team members must be offered the opportunity to make their own decision about their authorship. If a team member adapts the deliverables for presentation or publication after the project has ended, every group member should be listed

as a co-author. Teams may also include faculty members or community partners who contribute substantially to the work as co-authors.

I. Use of Human Subjects

If team project involves human subjects in the research, students must obtain approval from UCI's Institutional Review Board (IRB). Human subjects are living individuals whose responses are the object of study in the research project. The IRB is charged with the responsibility of reviewing human subjects research and ensuring compliance with federal regulations, state laws, and UC/UCI policies. The primary role of the IRB is to protect the safety and welfare of human subjects. The process for obtaining IRB approval for proposed research is complex and lengthy—it cannot be addressed at the last minute. In addition, there are serious consequences if a team is not in compliance. **Human subjects cannot be interviewed, surveyed, or contacted in any way without prior approval of the IRB.**

J. Use of Animal Subjects

If a team project involves live, vertebrate animal subjects in the research, students must obtain approval from UC Irvine's IACUC (Institutional Animal Care and Use Committee). IACUC is composed of scientists, non-scientists, veterinarians and community members – all appointed by the Vice Chancellor for Research. This committee oversees all aspects of the Animal Care and Use program at UCI. Community members are individuals who are not affiliated with the university and help to provide an outsider perspective, representing the views of the general public.

The university is charged by federal animal welfare regulations, U.S. Public Health Service (PHS) Policy, and accreditation standards with the responsibility to assure that:

1. The use of live, vertebrate animals in research, testing, teaching or related activities is scientifically justified.
2. All animals intended for use in those activities are provided humane care and treatment, including appropriate veterinary medical care.
3. Procedures are designed to minimize or avoid pain, distress and discomfort.
4. All personnel involved in the use of animals have received appropriate training to conduct the procedures and care for the animals.
5. The IACUC works closely with University Laboratory Animal Resources (ULAR) and Environmental Health & Safety (EH&S) to ensure the well-being of animals and safety of researchers.

Composition of the Team Projects

A. Team Members

Each team is composed of two to five students. MCRS faculty provide students with project topics, and students rank projects according to interests. To assemble the teams, team assignments are made using an unbiased algorithm. Not all students will be assigned to their top preference; however, almost all students are assigned to their first or second choice

project. The experience of completing a Team Project is comparable across all teams regardless of the project topic.

B. Project Advisors

MCRS Capstone class instructors will serve as project advisors. Project advisors are not project managers; their role is that of a consultant. Project leadership, management, and quality of the final project are ultimately the team members' responsibility.

Project advisors will attend class meetings, and they are responsible for grading. They may offer advice in response to team activities. They will also provide guidance when asked. It is important that students understand the limited, but vital, role of the advisors. Their role as instructors in this course is to direct students to resources to complete their projects, to mentor them in project management, and to provide constructive feedback. Each team is responsible for the content and execution of the capstone project.

Teams should clarify advisor role during the fall quarter when preparing their Project Management Plan.

C. Community Partners

Each year, MCRS capstone project topics are selected by MCRS Steering Committee in collaboration with CEB community partners. Community partners provide the environmental problem or question, and in some cases, the relevant data, that are central to the Team Projects. Students are expected to maintain professional communication with their project partner throughout the project. Teams must engage with the partner early in the fall quarter, so all parties are in agreement on project objectives, deliverables, timeline, and communication plan. If in person meetings are not possible, teams should make arrangements with course instructors to meet through teleconference or Zoom.

Community partners may offer advice and provide feedback and will review and sign-off on the final product. In addition, students will invite their community partner to attend the MCRS/CEB Spring Workshop for the final presentations.

D. MCRS Team Project Science Advisor

The Team Project Science Advisor is a MCRS staff member who assists students, project advisors, and community partners in facilitating the Team Project process. The coordinator will be available to help with administrative, logistical, design, analytical, and fieldwork aspects of the projects.

Project Management

A. Team Collaboration

Each team will identify one person as the Project Manager who will be responsible for the flow of communication between team members. Each team should create a 1) group email list or Slack workspace and 2) a shared folder on UCI's Google Drive. The folder should include files for project management, literature (library), methods, data files, drafts, and maps/images. The

Project Manager will also be responsible for maintaining the project calendar and informing team members of project status based on the calendar at each team meeting. Finally, each team member should have a separate file to save their work. **Make sure to back up your files on a regular basis.** Each team is responsible for drafting its own protocol for collaborating on tasks (including data) and on documents. This protocol should be written into the Project Management plan. The capstone advisors and project coordinator can provide assistance in developing a protocol and setting up the team Google Drive.

B. Team Meetings

Teams should meet as often as necessary. All teams are required to attend scheduled class times, and each team should plan to meet at least twice a week outside of class. Team meetings should be schedule at times that do not conflict with classes. It is the responsibility of the team to schedule the meetings, prepare the agendas, and invite the relevant participants. Advance notification of an absence should be given to the team project manager as a matter of courtesy. Participation in team meetings is a portion of the student grade; missed meetings may negatively affect the overall grade. Quarterly Peer Evaluations will reflect team participation.

C. Scheduling Meetings and Meeting Rooms

Students are responsible for scheduling their own rooms or videoconferences (e.g., Zoom, Google Meet, Microsoft Teams) for meetings. The designated person from each team should contact the MCRS Team Project Coordinator or MCRS Academic Advisor for information on scheduling meeting spaces on campus. The MCRS Team Project Coordinator and MCRS Academic Advisor can also help to arrange for parking for community partners who are invited to attend meetings. **Arrangements for rooms and parking must be made at least 48 hours in advance of the scheduled meeting.**

D. Conflict Resolution

Each team is responsible for managing intra-team conflict. Project Advisors may help to address any issues that the team is unable to resolve.

If students have difficulty with a member of their group, it is critical that they maintain written documentation of the problem and attempted solutions. For example, if one member of a team is not doing their share of work, missing milestones, or providing work of inferior quality, the other team members must document dates of specific incidents and a description of specific efforts made to address the problem. This information is necessary for the Project Advisors to intervene and help craft a solution.

Project Deliverable Details

A. Fall Quarter: Project Prospectus (up to 6 pages, double spaced, 12-point font, 1-inch margins)

1. Title Page
    a. Project Title, descriptive of the environmental science and management problem to be solved.
    b. Name and contact information (email, phone, and affiliation) of team members. If you have worked actively with a faculty member or a community partner(s) to write the proposal, please list them as co-authors.
    c. Community partner, including name, email, phone, and affiliation. The partner is the primary representative from the partner organization and the main point of contact for students.
2. Introduction
    a. *Goals and objectives*: What are the overarching goals of the proposed project? What are the concrete and achievable objectives? Focus on 1 to 3 concrete and achievable objectives.
    b. *Specific research questions*: What are the science or management questions that need to be answered by the project?
    c. *Significance*: What is the context for this work? Why is this work important? Who is the target audience/partner? Which other people (besides the partner) would benefit from the results of this work?
    d. *Background*: Where is the project location? In general, how did the problem arise? What has been done to date, if known?
    e. *Literature Review*: What is already known about this topic? How does the literature pertain to the proposed problem/project? Does the literature provide supporting documentation of the existence of the identified problem? Does the literature support the methodology or solution selected to address the problem? Does the literature point to major gaps the proposed project can fill? Are there published reports by others who have already done what is proposed? If so, critique this literature and discuss how the proposed project can improve/expand/build on it.
3. *Available data*: What data are available to address this problem? How and when can the students acquire the data for their analysis?
4. *Preliminary research*: Optional if proposing to conduct experimental field trials
    a. Preliminary Methods: Was there preliminary data collected and/or analyzed? If so, describe how those data were collected in enough detail so that someone could repeat the work.

   b. Preliminary Results: What were the results of the preliminary data analysis? Include figures or tables.

   c. Preliminary Discussion: What is the link between the preliminary data collection, preliminary results, and the proposed restoration experimental trial. How do the preliminary results inform next steps?

5. *Possible Approach*: Describe your approach to address the project objectives.

   a. If conducting field trials, include the methods. Describe the design of the field trial (include a diagram) and include a table of the species or variables of interest.

   b. Describe the statistical tests that will be used to analyze the data
   c. Explain how the results will inform the adaptive management plan.

6. *Deliverables*: What are the specific products that you expect from the project, in addition to the final written report, policy brief, poster and oral presentation? What types of recommendations do you expect to have as an outcome from the project?

7. Additional Materials (does not count toward 6-page limit)

   a. References (Please use a consistent format)

   b. Tables & Figures

B. Fall Quarter: Project Management Plan (See Appendix B)

1. *Project Overview/Purpose*: Include project goals and SMART objectives

2. *Project Scope*: Include descriptions of deliverables, exclusions, and project milestones

3. *Stakeholders & Stakeholder Analysis*: List all the stakeholders and include an analysis of their impact and attitude toward the project with a proposed strategy for working with each stakeholder.

4. *Work Breakdown Structure (WBS) & Gantt Chart*: Provide a detailed breakdown of the project work. At a minimum, include project tasks arranged in a logical order, the time it will take to complete the tasks, and the person responsible for each completion. You may submit a spreadsheet that includes the WBS and the Project Schedule.

5. *Human Resources Requirements and Linear Responsibility Chart (LRC)*: Clarify the roles of each person on your team. Possible team roles include (1) Project Manager (see Project Management A., page 8), (2) data collection manager; (3) data analysis manager; (4) partner liaison; etc. List the people on your team who will be assigned to the project roles and note any training needs. Complete a Linear Responsibility Chart to document each team member's workload.

6. *Procurements*: List the known resources (e.g., field equipment, software, consultations, permits, training) that must be procured.

7. *Cost Management and Cost Control Plan*: Provide an estimated budget and an explanation of the cost control activities that you will use throughout the project to monitor and control costs.
8. *Risk Assessment*: Analyze all risks associated with the project, and provide a table that includes risk probability, risk impact, risk level, and risk strategy.
9. *Communications Plan*: Provide a communication matrix that includes all stakeholders.
10. *Team Collaboration Plan*: Provide a team collaboration plan, assigning a communications manager to handle the organization and flow of the work. This plan should include the structure of the team's shared drive and the protocol for managing data and collaborating on written documents.
11. *Quality Control Plan*: Include information on how quality will be managed.
12. *Data Management Plan*: Provide clear and specific guidelines for data management and archiving using the UCI Library's DMP tool.
13. *Completion Criteria*: include what must occur before the project is considered complete.
14. *Assumptions & Constraints*: List project assumptions—factors in the planning process that are true without proof or demonstration and list the project constraints—limiting factors that affect the execution of the project.
15. *Project Manager*: Name the selected project manager and provide contact information.
16. *Project Authorization*: Provide signatures of Project Advisor, Community Partner, and all team members as authorization to conduct the project.

C. Winter and Spring Quarter: Project Status Report (See Appendix A, not limited in length)

Note: Project Status Reports will be due in Weeks 1, 7, and 7 in the Winter quarter and in Weeks 2 and 5 in the Spring quarter. These reports will be the product of a team meeting and will provide clear and detailed information on project progress. They will be used by Capstone advisors to provide additional support as needed and to prepare quarterly grades.

1. *Project Details*: Include project name, project manager, period covered by status report, date of status report, and projected date of project completion
2. *Team/Stakeholders***:** Provide information on project team, including conflicts and conflict resolution and changes to team composition.
3. *Budget*: Enter information about your budget. Is your project on, under-, or over-budget? If over-budget, what are your plans for getting control of costs? If under-budget, are you under resourced?
4. *Scope*: Enter information about project scope. Has the project stayed in scope during this quarter? If not, why and what is your plan to re-scope your work?
5. *Deliverables*: Enter information about your deliverables. What deliverables did you agree to produce in your prospectus? Have your deliverables changed? If so, how and why? Have you gotten approval from your partners and other stakeholders for changes?

6. *Quality of Deliverable(s)*: Enter information about the quality of your deliverables. Are you on track to produce your anticipated quality level? If not, why and what is your plan to increase quality?
7. *Schedule of Project/Work Breakdown Structure*: Enter information about your schedule/WBS. What was your original schedule? Have you met all this period's milestones toward producing your deliverables? If not, what milestones have you not met, why haven't you met them, and when/how do you anticipate meeting them?
8. *Dependencies*: Enter information about your progress. What factors are you/your team waiting on before being able to move forward?
9. *Issues and Roadblocks*: Enter information about issues and roadblocks. What roadblocks have come up during this quarter? Give a brief description of what they are, what you are doing to remedy them, and who owns them.
10. *Upcoming Work:* Detail upcoming work, including the work, its status (including start and end dates), and details.

D. Spring Quarter: Final Report

The final report is a complete discussion of the project's objectives, significance, methodologies, results, and recommendations/accomplishments. A draft of background, methods, and preliminary results must be submitted to Capstone advisors by the end of Week 2 of Spring quarter. A complete draft of the final report must be submitted by the end of Week 7. The revised final report is due at the end of Week 9 and must be submitted to the capstone advisors and community partner(s).

The final report should reflect the team's ability to articulate in writing the problem, the relevant literature, the scope of work, the analytical approaches, the results, any recommendations or conclusions, and how the work is related to larger issues. Teams must demonstrate that they can create original interpretations of others' work and/or generate original data that leads to original interpretations. Unsupported claims and/or opinions not based on data in the final report is not appropriate.

The final report should include the following sections;

1. *Title page*
2. *Abstract (not to include 200 words)*
3. *Executive Summary (not to exceed 4 pages)*
4. *Table of Contents*
5. *Project Objectives/Research Questions and significance*
6. *Literature Review*
7. *Methods*
8. *Results*
9. *Discussion*
10. *Conclusions*
11. *References*

Additional Notes

1. *Acknowledgements*: The final report should also acknowledge individuals or organizations that have provided significant support for the project. Students should get permission to include such an acknowledgement; supporters have the right to not be publicly associated with the final report.
2. *Appendices:* Teams may choose to include large tables or supplementary data in an appendix at the end of their final report.
3. *Writing & Citation Style*: Teams must choose and adhere to accepted rules of citation (e.g., MLA, APA, Chicago). See Appendix C for complete formatting information.
4. *Drafts*: Teams should expect multiple revisions and iterations with the project advisors and community partners before they submit their final report. We recommend that one team member serve as the editor to review all sections of the final report to verify that the report is presented in a single, professional voice. Do not submit a draft report of cobbled-together sections created by different team members.
5. *Length*: Final reports must not exceed 40 pages (not including figures and references) and must be free of typographical, formatting, and editing errors.
6. *Submission*: After approval, each team will submit an electronic copy (PDF format) to the Project Coordinator, MCRS Steering Committee, and community partners. The final report may be posted to the MCRS website unless an NDA restricts public sharing.

E. Spring Quarter: Final Presentation

Teams will present their work at the MCRS/CEB Workshop, if it is scheduled, during Week 8 of the Spring quarter. Workshop participants include researchers and practitioners from around Orange County. This presentation should focus on the project findings and their significance. All members of the team must be at the workshop, and all members of the team will be required to participate in the presentation. Since this is a professional event and there will be a number of networking opportunities, we recommend that you dress in business attire.

The presentation format will be an Ignite talk. Teams will be given a template of slides that advance automatically every 15 seconds. The template cannot be changed, and settings cannot be altered. A mandatory practice session will be scheduled, and all teams must submit a draft of their presentation at that time. The final presentation must be submitted to the Project Coordinator by Wednesday of Week 8. If a team misses the deadline, the draft presentation will be used during the workshop. No exceptions or extensions will be granted. It will be important to practice timing and transitions.

Teams should expect questions and critique from the audience that may result in final report revisions. All team members must be available to answer questions and engage with the audience.

Note: If the MCRS/CEB Workshop cannot be scheduled because of COVID restrictions, teams will be informed of new presentation criteria at the beginning of Spring quarter.

F. Spring Quarter: Data and Metadata

At the end of the project, all data used and/or collected in the project and the associated metadata must be archived through the MCRS program and the Center for Environmental Biology. Each team will identify a Data Manager who will submit cleaned data and associated metadata to the MCRS Team Project Science Advisor and to the UCI Dryad data archive. Data protected by non-disclosure agreements (NDAs) are exempt from this requirement. Throughout the project, the data manager should keep the data organized (see Project Management Plan) so that it can be easily transferred to the archive. Capstone advisors can provide assistance developing a data management plan, and the project coordinator can provide assistance in preparing the data for archiving.

Appendix A

QUARTERLY PROJECT STATUS REPORT TEMPLATE

PROJECT NAME			
PROJECT MANAGER		DATE OF STATUS ENTRY	
PERIOD COVERED		PROJECTED DATE OF COMPLETION	

PROJECT STATUS			
OVERALL PROJECT STATUS	HEALTHY	SUMMARY	Enter information here about overall status and highlights: *"Regained lost time from last period;" "QA began two days earlier than anticipated;" "Delay in some client feedback, but minimal."*

PROJECT COMPONENTS			
COMPONENT	STATUS	OWNER / TEAM	NOTES
BUDGET	UNDER		Enter information about your budget. Is your project on, under-, or over-budget? If over-budget, what are your plans for getting control of costs? If under-budget, are you under resourced?
SCOPE	HEALTHY		Enter information about project scope. Has the project stayed in scope during this quarter? If not, why and what is your plan to re-scope your work?
DELIVERABLES			Enter information about your deliverables. What deliverables did you agree to produce in your prospectus? Have your deliverables changed? If so, how and why? Have you gotten approval from your partners and other stakeholders for changes?
QUALITY	AT RISK		Enter information about the quality of your deliverables. Are you on track to produce your anticipated quality level? If not, why and what is your plan to increase quality?
SCHEDULE/WORK BREAKDOWN STRUCTURE	PROGRESS HALTED		Enter information about your schedule/WBS. What was your original schedule? Have your met all of this period's milestones toward producing your deliverables? If not, what milestones haven't you met, why haven't you met them, and when/how do you anticipate meeting them?
DEPENDENCIES			Enter information about your progress. What factors are you/your team waiting on before being able to move forward?
RISKS AND ROADBLOCKS			Enter information about issues and roadblocks. What roadblocks have come up during this quarter? Give a brief description of what they are, what you are doing to remedy them, and who owns them.

UPCOMING WORK		
DATE	STATUS	DETAILS

Appendix B

Project Management Plan: Title of Project

Team Members:

1. Project Overview/Purpose

[Overview/Purpose section should include project goal(s), and S.M.A.R.T Objective(s)]

2. Project Scope

[Project Scope section should include descriptions of the deliverables, a list of exclusions, and a list of the project milestones.

- Deliverables – The unique and verifiable product, result, or capacity to perform a service that you are producing to complete the project.
- Exclusions – Products, results, or projects excluded from this project
- Milestones – Provide high-level estimated schedule information.]

Deliverables	**Description**
<Name of Deliverable>	<Description of the Deliverable>
<Add lines as needed>	

Exclusions
<Name of Exclusion>
<Add lines if necessary>

Project Milestones and/or Phases	**Estimated Completion Date**
<Start of Project>	
<Add lines as needed>	
<End of Project>	

_____
Initials

3. Stakeholders & Stakeholder Analysis

[List the name and title, organization, role, and contact information. Include information from your Stakeholder analysis, including level of impact on the project (high, medium, low), level of attitude toward the project (high, medium, low), stakeholder strategy (Engage & Employ (HH), Woo & Win (HL), Inform & Coach (LH), Monitor & Out Vote (LL), and contact information of each of the stakeholders.]

Stakeholder Name	Organization	Project Role	Contact Information
<Add lines as needed>			

Stakeholder Analysis

Stakeholder Name	Project Role	Stake (H, M, L)	Impact (H, M, L)	Strategy
<Add lines as needed>				

4. Work Breakdown Structure & Gantt Chart

[Provide a detailed breakdown of the work. At a minimum, include project tasks arranged in a logical order, the time it will take to complete the tasks, and the person responsible for task completion. You may submit a spreadsheet that includes the WBS and the Project Schedule.]

Work Breakdown Structure

1. <Function>
   - 1.1 <Deliverable>
     - 1.1.1 <Task>
     - 1.1.2 <Task>
     - 1.1.3 <Task>
2. <Function>
   - 2.1 <Deliverable>
     - 2.1.1 <Task>
     - 2.1.2 <Task>
     - 2.1.3 <Task>
3. <Function>
   - 3.1 <Deliverable>
     - 3.1.1 <Task>
     - 3.1.2 <Task>
     - 3.1.3 <Task>

_____
Initials

			<Month>				<Month>				<Month>				<Month>				<Month>				<Month>			
WBS (Task)	**Time (Weeks, Months)**	**Person Responsible**	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<Add lines as needed>																										

5. Human Resources Requirements and Linear Responsibility Chart (LRC)

[List the people from within the organization who will be assigned to the project and note any training needs. Complete an LRC.]

Name	**Department/Title**	**Contact Information**	**Immediate Supervisor**	**Training Needs**
<Add lines as needed>				

Linear Responsibility Chart

	<Name>	**<Name>**	**<Name>**	**<Name>**	<Add Names as needed>
Task 1					
Task 2					
Task 3					
Task 4					
Task 5					
<Add lines as need>					

Supervisor  **Expert** 

_____
Initials

Do Work  **Sign Off** 

6. Procurements

[List the known resources (e.g., field equipment, software, consultations, permits, training) that must be procured.]

Description	Source	Estimated Cost
<Add lines as needed>		

7. Cost Management Plan: Estimated Budget

Project Budget			
Ecosystem Restoration			
A. PERSONNEL SERVICES *(Ensure that all personnel are described in the project)*			
Project Role	**Hours**	**Rate**	**Amount**
<Insert or delete line items as needed>			
		Subtotal Personnel Services	$ -
Staff Benefits		43.00%	
		SUBTOTAL A: PERSONNEL SERVICES	$ -
B. OPERATING EXPENSES: GENERAL			
<General Expenses>			$ -
<Field Supplies>			
<Permit Fees>			
<Travel>			$ -
<Insert or delete line items as needed>			
		SUBTOTAL B: OPERATING EXPENSES: GENERAL	$ -
C. INDIRECT CHARGES (Maximum Indirect Rate 20%)			
Costs incurred for common or joint objectives and therefore not identified readily and specifically with a particular project or any other institutional activity.		**Indirect Rate (Max 20%)**	
Indirect Charges = (Subtotal A + Subtotal B) * (Indirect Rate)		XX%	
		SUBTOTAL C: INDIRECT CHARGES	
D. OPERATING EXPENSES: SUBCONTRACTORS			
<Insert or delete line items as needed>			

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Initials

SUBTOTAL D: OPERATING EXPENSES: SUBCONTRACTORS			$ -
E. OPERATING EXPENSES: EQUIPMENT			
Equipment 1			
<Insert or delete line items as needed>			$ -
SUBTOTAL E: OPERATING EXPENSES: EQUIPMENT			$ -
F. GRAND TOTAL (A + B + C + D + E)			$ -

- Cost Control Plan

[This section defines the cost control activities which will be used throughout the project to monitor cost control. The documentation will address how the following activities will be performed:

- Monitoring cost performance (actual vs budget) to detect variances.
- Identifying and documenting changes and adjusting the budget as required.
- Implementing only approved changes and preventing unauthorized changes to scope and cost baseline.]

8. Risk Assessment

[Analyze risks and provide a table that includes risk probability, risk impact, risk level, and risk strategy.]

Risk	Risk Probability	Risk Impact	Risk Level	Risk Strategy
<Add lines as needed>				

[*Risk Strategies* could include specific actions that fall in one or more of these general strategies:

1. Remove the risk
2. Reduce the likelihood of the risk
3. Reduce the impact of the risk
4. Have a contingency plan
5. Transfer the risk to someone else
6. Accept the risk]

9. Communications Plan

[Include the communications matrix.]

Vehicle	Target	Description/ Purpose	Frequency	Owner	Distribution Vehicle	Internal/ External	Comments

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<Add lines as needed>							

10. Team Collaboration Plan
[Include assigned communications manager; information on structure of team shared drive, including who has what permissions; and a protocol for managing data and collaborating on written documents.]

11. Quality Control Plan
[Include information on how quality will be managed. Specifically address data management and data quality.]

12. Completion Criteria
[Include what must occur before the project is considered complete.]

13. Assumptions & Constraints
[List project assumptions and constraints.]

14. Project Manager
[Name the selected project manager and provide contact information.]

15. Project Authorization

By initialing each page and signing below, I _____, the Project Partner/Sponsor, approve the project described herein and authorize it to begin.

By: _____ _____ _____
(Signature of Project Sponsor) (Name of Organization) (Date)

_____
(Printed Name of Project Sponsor)

_____
Initials

Appendix C
Formatting Information

Title Page Requirements

Each final report must include a title page with the following information:

A. Title of the team project
B. Master of Conservation and Restoration Science
C. University of California, Irvine
D. Names of all team members (alphabetical order recommended) and Capstone Advisors
E. Month and Year project is signed by Capstone Advisors

Table of Contents

You must include a table of contents. It should include major headings, subheadings, and figures and tables.

Abstract

You must include an abstract, which can be no longer than 200 words. An abstract summarizes the major aspects of the report. Include: 1) the overall purpose of the project and the research problem investigated; 2) the basic design of the project; 3) the major findings or trends found as a result of your analysis; and 4) a brief summary of your conclusions and recommendations. The abstract should follow the table of contents and any optional preliminary pages (i.e., acknowledgements).

Key Words

Select up to 10 key words to describe the project.

Executive Summary

The executive summary is a short section that summarizes the longer report in such a way that readers can quickly become familiar with the work. It should include background information and recommendations. The summary should be text only (no graphs or photos) and be no more than four pages in length.

Formatting Checklist

Characteristic	Requirement
Legibility	Clear and legible font used (i.e., Times New Roman)
Dimensions	8.5” x 11”
Margins	1-inch
Page number placement	Placed 0.75 inches from the bottom edge of pages
Line Spacing	Double spaced
Fonts and Font Sizes	A font size of 12 point for text. A font of 10 point for footnotes and captions. Use of standard font recommended.
Abstract	Not to exceed 200 words
Executive Summary	Not to exceed 4 pages