

Meeting: Via Zoom MWF 13:00-14:20. **Office Hours:** By appointment via email. **Communications:** Canvas

Course Aims

- 1) You will receive a solid foundation and construct your own knowledge on the evolution, physiology, ecology and conservation of marine mammals.
- 2) You will continue developing scientist skills: finding appropriate sources of information; synthesizing and critically evaluating knowledge; thinking analytically; developing scientific questions; communicating ideas concisely and effectively in written and oral form; collaborating with others to integrate knowledge into a coherent body of work; becoming familiar with marine mammal scientists; and developing your own ideas and opinions.

In order to fulfill these objectives, you will:

- Be engaged in activities to understand the most relevant information and current research.
- Work in randomly-assigned groups to construct your own knowledge by solving problems.
- Prepare concept maps to identify the theoretical framework of published research and develop your research ideas on the conservation of marine mammals within an appropriate framework.
- Give an individual presentation to the class evaluating a conservation issue.
- Review the conservation concept map and the presentation of one of your classmates.

To succeed in this class (and in life) you will need a **strategic mindset**: effort, perseverance, and continually asking yourself how you can improve. I strongly encourage you to read about this mindset on Canvas/Files/Resources.

Class Format

Before class: read posted material on canvas and answer 5-min quiz on canvas;

Class time: work with randomly-assigned classmates in break-out rooms and participate in whole-class discussions.

Given that the class is collaborative, relies on your active participation and not on me lecturing, and will consist of many simultaneous conversations, attendance is mandatory (three missed classes will result in the loss of a grade), assignments will not be received after the due date, and sessions will not be recorded.

You can learn more about the justification for the class format by reading the three articles about teaching science on Canvas/Files/Resources.

Reading

Class notes on canvas: Files summarizing the topic that you should read before each class, scientific papers.

Textbook (recommended but optional)

Berta A, Sumich JL, Kovacs KM. 2015. *Marine Mammals. Evolutionary Biology*. 3rd edn. San Diego: Elsevier.

On reserve at the library as an e-book: Berta A, Sumich JL, Kovacs KM. 2005. *Marine Mammals Evolutionary Biology*. 2nd ed. Burlington: Elsevier. Some outdated notions, but still useful.

Evaluation and Grading

Mid-term exam (Oct 28th)	15 %
Feedback of mid-term exam (Nov 23rd)	5 %
Final exam (Dec 8th)	15 %
Quizzes via canvas (throughout)	10 %
Attendance	5 %
Participation, includes completing ungraded assignments:	10 %
-Conservation topic due (Sep 28th)	
-Individual concept map of reading (Oct 9th)	
-Individual presentation for review (Nov 2nd)	
-Individual concept map of proposal for review (Nov 6th)	
-Individual self-assessments (Oct 5th and 19th, Nov 13th)	
-Meeting with me to review your presentation (Nov 13th through Nov 30th)	
Graded Assignments:	
-Review of classmate's presentation (Nov 13th)	5 %
-Review of classmate's concept map of proposal (Nov 16th)	5%
-Individual concept map of proposal (Nov 30th)	10 %
-Individual presentation (Nov 18th through Dec 4th)	20 %

Mid-term exam. Individual. Evolution and Physiology. Take-home.

Final exam. Individual. Ecology and Conservation. Closed book, online.

Assignments can be submitted to my email address or via canvas.

BIOL 464- Biology of Marine Mammals- Fall 2020 CRN42644
 Alejandro Acevedo (he/him/his); (360) 650-3653, aceveda@wwu.edu

Course Aim	Learning Objective	Indicators of Performance (assessment for learning)	Evaluators of Performance (summative assessment)
Knowledge of marine mammal biology <i>Addresses Department Student Learning Outcome 1</i>	Students will understand the evolutionary relationships, morphological innovations and biogeography of marine mammals.	-Whiteboards; discussions; presentations; self-assessment. -Quizzes.	-Mid-term exam -Mid-term exam feedback
	Students will understand the physiological adaptations of marine mammals to survive in the aquatic environment.	-Whiteboards; discussions; presentations; self-assessment. -Quizzes.	-Mid-term exam -Mid-term exam feedback
	Students will understand how marine mammals influence and are influenced by their environment.	-Whiteboards; discussions; presentations; self-assessment. -Quizzes.	-Final exam
	Students will understand the factors threatening marine mammals and that there are at least two sides to their conservation.	-Whiteboards; concept map of scientific readings; concept map of proposal reviewed by peer; individual presentation reviewed by peer. -Quizzes.	-Final exam -Individual presentation -Concept map of proposal -Review of peer's concept map -Review of peer's presentation
Development of science process skills <i>Addresses Department Student Learning Outcome 2</i>	Students will gather, synthesize, and critically evaluate knowledge.	-Whiteboards; discussions; self-assessment; concept map of scientific readings.	-Concept map of proposal. -Individual presentation
	Students will think analytically and develop scientific questions.	-Whiteboards; discussions; self-assessment; concept map of scientific readings; concept map feedback of scientific reading.	-Concept map of proposal.
	Students will communicate ideas concisely and effectively in both written and oral forms.	-Whiteboards; discussions; self-assessment; presentations; concept map of scientific readings; concept map feedback of scientific reading.	-Individual presentation -Concept map -Review of peer's concept map -Review of peer's presentation
	Students will work in collaboration with others to integrate knowledge into a coherent body of work.	-Whiteboards; discussions; presentations.	-Attendance and participation
	Students will develop their own ideas and opinions	-Whiteboards; discussions; self-assessment; presentations; concept map of scientific readings; concept map feedback of scientific reading.	-Concept map -Individual presentation

GRADING SCALE

100% ≥ A > 95%	90% ≥ B+ > 87%	84% ≥ B- > 80%	77% ≥ C > 74%	70% ≥ D+ > 67%	64% ≥ D- > 60%
95% ≥ A- > 90%	87% ≥ B > 84%	80% ≥ C+ > 77%	74% ≥ C- > 70%	67% ≥ D > 64%	60% ≥ F > 0%

INSTRUCTOR RESPONSIBILITIES

I am responsible for teaching you about marine mammals and the process of science. You should expect the following from me:

1. Clarification of learning objectives and criteria needed to succeed in the class: sharing learning objectives for the day and examples of prior student assignments.
2. Innovative learning activities that allow you to construct and expand your understanding of marine mammal biology and the process of science, and elicit evidence of learning: collaborative activities, white-boarding, classroom discussions, critical-thinking questions, and training assignments.
3. A supportive learning environment and instructor that cares deeply about whether you learn the material, stimulates your interest and motivates you: positive, engaging, and friendly classroom atmosphere; and constructive, timely and productive feedback on your work.
4. Opportunities for you to become a learning resource to one another: reviewing the work of classmates.
5. Opportunities to monitor your own learning and become aware of your understanding: self-assessment of the learning objectives and big ideas of the class.

Shared responsibilities in the classroom:

	Where the learner is going	Where the learner is	How to get there
Teacher	1. Clarification of learning objectives and criteria needed to succeed in the class, including why it is important to learn it.	2. Engineering innovative learning activities that allow learner to construct knowledge and elicit evidence of learning.	3. Providing a supportive learning environment and constructive feedback that moves learner forward.
Peer	4. Activating students as learning resources for one another, including providing constructive feedback and encouragement.		
Learner	5. Becoming owner of her/his own learning, including being motivated, curious and responsible.		

Inclusiveness and Respect

You are encouraged to speak up and participate during class. Because the class will represent a diversity of individual beliefs, backgrounds, and experiences, each one of us will respect, appreciate, and embrace every other member of this class.

I am firmly committed to diversity and equality in all areas of life. In this class, I will work to promote an inclusive environment where everyone feels safe and welcome. I recognize that discrimination can be direct or indirect and take place at both institutional and personal levels. I believe that such discrimination is unacceptable and I am committed to providing equality of opportunity for all by eliminating any and all discrimination, harassment, bullying, or victimization. The success of this policy relies on the support and understanding of everyone in this class. We all have a responsibility not to be offensive to each other, or to participate in, or condone harassment or discrimination of any kind. Without failing to speak up, we also have the opportunity to think the best of everyone and give one another the benefit of the doubt.

Equal Opportunity Rights

You have the right to an educational experience that is free from illegal harassment or discrimination on the basis of race, color, creed, religion, national origin, sex, disability, age, veteran status, sexual orientation, gender identity or expression, marital status or genetic information. **If you or someone you know has experienced macro- or micro-aggressions of any kind related to personal identity on campus**, please report any issues to an instructor you feel is an ally, to one of the two Biology faculty members on the College’s Equity, Inclusion, and Diversity Committee (Lynn Pillitteri -pillitl@wwu.edu- and José Serrano-Moreno -jose.Serrano-Moreno@wwu.edu), to one of our CSE and Biology Community Ambassadors (<https://cse.wwu.edu/biology/cs-es-ambassadors-community-hours>) or using the anonymous form under the Equity and Inclusion tab on the Biology Department homepage (<https://biology.wwu.edu/equity-and-inclusion-issues-biology>). You can also contact the Equal Opportunity Office for additional advice and help (<http://www.wwu.edu/eoo/bias-incident-response.shtml>).

Intellectual Honesty

Science is based on trust. If a scientist states that she carried out a particular study and obtained certain results, the rest of us trust that she did such thing. This is one reason why there is no tolerance for people who are not intellectually honest, and this class will be no exception. <https://wp.wwu.edu/academichonesty/>

From WWU: Plagiarism is presenting as one's own in whole or in part the argument, language, creations, conclusions, or scientific data of another without explicit acknowledgement. Examples include but are not limited to:

- Using another person's written or spoken words.
- Using information from a World Wide Web site, CD-ROM or other electronic sources.
- Using statistics, graphs, charts and facts without acknowledging the source of the ideas.
- Paraphrasing, which is using someone else's argument without acknowledging the source by imitating the argument using other words.

Learn more at [Understanding and Avoiding Plagiarism](#)

Religious Accommodations

Western provides reasonable accommodation for students to take holidays for reasons of faith or conscience or for organized activities conducted under the auspices of a religious denomination, church, or religious organization. Students seeking such accommodation must provide written notice to their faculty within the first two weeks of the course, citing the specific dates for which they will be absent. "Reasonable accommodation" means that faculty will coordinate with the student on scheduling examinations or other activities necessary for completion of the course or program and includes rescheduling examinations or activities or offering different times for examinations or activities. Additional information about this accommodation can be found in [SB 5166: Providing religious accommodations for postsecondary students](#).

Additional Resources

Do you have any concerns about your ability to learn in the classroom or your ability to take assessments in the classroom? Contact the Disability Access Center for advice, help, and to request accommodation (650-3083 or <https://disability.wwu.edu/>).

Do you feel unwell or have a health-related question? Contact the Health Center (650-3400) or visit the website of Student Health (http://www.wwu.edu/chw/student_health/).

Do you have an emotional or psychological concern or question? Contact the Counseling Center (650-3164) or visit the website of Counseling Services (<http://www.wwu.edu/counseling/>).

Do you have a safety concern? Contact the University Police for non-emergency services (650-3555) or visit their website (<http://www.wwu.edu/ps/police/index.shtml>).

Do you have a family or personal crisis or emergency? Contact the Dean of Students (650-3450) or visit their website (<https://wp.wwu.edu/students/>).

Do you have concerns related to being an undocumented student? Contact Student Outreach Services (650-7443) and check the following site: <https://www.wwu.edu/undocumented-students>.

Do you have financial difficulties? Go to the Financial Aid Services Center and schedule an appointment with a financial aid counselor (http://www.finaid.wwu.edu/client_services/pages/contact.php)

Do you identify as a member of the LGBTQ+ Community? Learn about resources and support by emailing L. K. Langley (they/them/theirs) at L.K.langley@wwu.edu or by visiting <https://lgbtq.wwu.edu/>

Do you or someone you know need confidential support related to sexual violence? Contact CASAS (650-3700 or <https://pws.wwu.edu/consultation-and-sexual-assault-support-casas>), the Student Health Center, and/or the Counseling Center.

To report sexual violence, please contact University Police, Bellingham Police, and/or the Title IX Coordinator in Western's Equal Opportunity Office (650-3307). Faculty are required to report sex discrimination, including sexual violence that they learn about to the Title IX Coordinator.

Are you or someone you know in distress? Help is available anytime, all the time.

<https://suicideprevention.wwu.edu/get-help/>

I also encourage you to check the syllabi policies for students: <https://syllabi.wwu.edu/>

BIOL 464- Biology of Marine Mammals- Fall 2020 CRN42644
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CLASS SCHEDULE

Week	Date	Topic	Assignments and exams (bold indicates graded assignments or exams)
Sep	W 23	Introduction: class overview.	Explanation of assignments
1	F 25	Evolution: ancestors and zoogeography of Pinnipedia, Sirenia, and Cetacea.	Quiz
	M 28		Quiz / Conservation topic selection due
2	W 30		Quiz
Oct	F 2		
	M 5	Physiological adaptations: anatomy, locomotion, diving, thermoregulation, sensory systems, and sound production.	Quiz / <i>Reading assigned</i> / Self-assessment due
3	W 7		Quiz
	F 9		Quiz / Concept map of reading due
	M 12		Quiz
4	W 14		Quiz
	F 16		Quiz
	M 19	Tips on Presentations	<i>Mid-term assigned</i> / Self-assessment due
5	W 21	Relationship with the environment: a) foraging and reproductive strategies of phocids, otariids, mysticetes and odontocetes.	Quiz
	F 23		Quiz
	M 26	b) role of marine mammals in the ecosystem.	Quiz
6	W 28		Quiz / Mid-term due
	F 30		Quiz
Nov	M 2		Quiz / Individual presentation for review due
7	W 4		Quiz
	F 6		Quiz / Concept map of proposal for review due
	M 9		Quiz
8	W 11	HOLIDAY!!	<i>Mid-term returned</i>
	F 13	Conservation: population biology and threats.	Quiz / Review of individual presentation due Self-assessment due
	M 16		Quiz / Review of concept map of proposal due
9	W 18	<i>Student Presentations (1-4).</i>	
	F 20	<i>Student Presentations (5-8).</i>	
	M 23	<i>Student Presentations (9-12).</i>	Two questions from presentation for final exam Feedback of mid-term due
10	W 25	HOLIDAY!!	
	F 27	HOLIDAY!!	
11	M 30	<i>Student Presentations (13-16).</i>	Concept map of proposal due
Dec	W 2	<i>Student Presentations (17-20).</i>	
	F 4	<i>Student Presentations (21-24).</i>	
T 8 (15:30-17:30 h)		FINAL EXAM: Foraging through Presentations.	

Changes might be made to the syllabus along the course. These changes will be announced in advance.

Description of concept maps and graded assignments

- Individual concept map of reading (ungraded) Due: Oct 9th 17:00h PST
- Individual concept map of proposal for review (ungraded) Due: Nov 6th 17:00h PST
- Individual concept map of proposal (10 points) Due: Nov 30th 17:00h PST

Aim: To learn about marine mammal conservation and develop science process skills by dissecting the theoretical framework of a scientific paper and designing a scientific study related to the conservation of marine mammals.

Rationale: Science is a creative process. Describing and attempting to understand the world involves generating questions, formulating explanations, conducting observations and experiments, and assessing the significance of the results obtained. In order to learn to develop our own ideas and become scientists we have to be active research participants, not merely be told about the results of the work conducted by others. One of the hardest and most beautiful things in science is to formulate a good research question that is testable. It is where science becomes a creative process, almost an art. Generating an interesting, exciting and important question begins with placing such question in the appropriate theoretical framework: what is the problem to solve? Why is it important to solve this problem? To develop and strengthen your confidence and experience in generating research ideas you will generate concept maps.

Concept maps create a diagram that represents the "big picture" with regard to a particular concept or problem, and at the same time includes a level of detail that allows you to organize and prioritize information in meaningful ways. Concept maps are extremely useful to examine the validity of our ideas. A valid concept map is logically consistent, that is the pattern of reasoning described by the map makes sense. *A more detailed description of concept maps is presented along with student examples on canvas.*

NOTE: I have found out that the easiest way to create concept maps is using powerpoint or free software from the web.

Description: You will generate two concept maps during the course:

1) Concept map of reading. On your own you will generate a concept map of the introduction of one of two research papers assigned by me (see canvas: Files/C-Concept Maps/A-CM Reading), demonstrating the key concepts of the study and how they relate to one another. At the bottom of the map, you will describe and justify in a couple of sentences whether the paper's ideas are valid (logically consistent or not) and write down your name.

2) Concept map of proposal. You will write the concept map of the introduction of a proposal to conduct a conservation-based study on marine mammals. You will not actually conduct the study, but develop the idea. At the bottom of the map, you will describe in one sentence the study that you propose to conduct (after reading the map, the proposed study should be clear to the reader) and write down your name. You will also list the references that you used to develop your concept map and include including the name of the journal which reference format you followed (see examples on canvas).

Select a topic by Sep 28th. You will select a **marine mammal conservation topic** of *your interest*, but that is currently relevant. To identify a topic read the recommended readings on canvas (file For Conservation Topics.pdf), the textbook, and search online the databases available at Western (such as Web of Science or Google Scholar). You need to:

- a) identify three topics of interest that are specific (narrow enough that you could in theory conduct a scientific study on them) and rank them in order of preference, I will review the selection and assign the topic that is most relevant;
- b) provide me with the citations of three scientific papers for each of your three proposed topics (you can cite them using whichever format you like as long as the citations are complete and consistent); for the topic that I assign, you will use those three references as starter references from which to begin developing your concept map of proposal (and later your conservation presentation).

Remember that your concept map of proposal is first due to a classmate for her/his review on Nov 6th. The map will not be graded, but you need to turn it in on time to keep participation points.

See concept map detailed description and student examples on canvas.

RUBRIC OF THE CONCEPT MAP OF PROPOSAL

Category	Outcome	0 Points	2 Points	4 Points
<u>Map</u> <i>Logical consistency:</i>	Provides validity to the espoused ideas supporting the proposal.	-Map makes little sense. -Few key concepts are present. -Breadth of concepts does not flow from top to bottom. -Broad concepts not on top. -Few related concepts are logically linked. -Few concepts are arranged in meaningful clusters.	-Map makes some sense. -Some key concepts are present. -Breadth of concepts tends to flow from top to bottom. -Some related concepts are logically linked. -Some concepts are arranged in meaningful clusters.	-Map makes sense. -All key concepts are present, -Are the broader concepts at the top and the narrower concepts at the bottom of the map? -All related concepts are logically linked. -All concepts are arranged in meaningful clusters.
		0 Points	1 Point	2 Points
<i>Mechanics:</i>	Allows easy reading of map.	-Few concepts are written inside boxes. -Few linked concepts are linked by arrows. -Few links are labeled.	-Some concepts are written inside boxes. -Some linked concepts are linked by arrows. -Some links are labeled.	-All concepts are written inside boxes. -All linked concepts are linked by arrows. -All links are labeled.
		0 Points	0.25 Points	0.5 Points
<i>Organization:</i>	Allows quick view of ideas.	-Map is difficult to follow. -Map is visually unpleasant.	-Map is relatively easy to follow. -Map is somewhat visually pleasant.	-Map is easy to follow. -Map is visually pleasant.
		0 Points	1 Point	2 Points
<u>Proposed study</u>	Describes research to conduct.	-No proposed study present.	-Proposed study present, but unclear or inconsistent with map.	-Proposed study present, clear and consistent with map.
		0 Points	0.25 Points	0.5 Points
<u>References</u> <i>Completeness:</i>	Justifies concepts and links in the map.	-Few references are from preferred sources. -Few concepts and links are justified by a reference.	-Some references are from preferred sources. -Some concepts and links are justified by a reference.	-All references are from preferred sources. -All concepts and links are justified by a reference.
		0 Points	0.25 Points	0.5 Points
<i>Format:</i>	Allows easy reading of references.	-No journal's format has been identified. -Most references are not cited according to journal's format.	-Journal's format has been identified. -Some references are not cited according to journal's format.	-All references are cited according to the journal Conservation Biology.
		0 Points	0.25 Points	0.5 Points
<u>Spelling</u>	Concept map has been proofread.	-Many spelling errors.	-Some spelling errors	-No spelling errors.

Although the concept map of reading will not be graded, the above rubric gives you a good idea of what it is expected of a concept map: consider logical consistency, mechanics, organization and spelling; ignore references and replace proposed study with comment on the validity of the paper's ideas.

-Quizzes (10 points)

Due: Throughout

Aim: To learn about marine mammal biology you need to construct your own knowledge from the material you read. To ensure that you read the information before attending the online class sessions you will take a quiz on the assigned material.

Rationale: To truly learn and understand concepts you need to engage your mind and senses. An efficient way to be engaged is to participate in activities with other people to solve problems and answer questions. However, to participate in those activities you need to have read material on the topic at hand.

Unfortunately, my experience in previous years is that students do not read before coming to class. Quizzes at the beginning of class are my solution to this problem.

Description: Before attending class, you will answer a timed (5 min) quiz developed to assess if you read the assigned material or not. The quiz will be individual, available after the prior class and due before class begins.

GRADING SCALE

- 4-5 correct answers: 100% of points.
- 3 correct answers: 75% of points.
- 1-2 correct answers: 50% of points.
- 0 correct answers: 0% of points.

-Feedback of mid-term exam (5 points)

Due: Nov 23rd 17:00h PST

Aim: To learn about marine mammal biology and develop science process skills by reflecting upon the work you conducted, and identifying and explaining any mistakes made in the maps and the mid-term exam.

Rationale: To truly learn and understand concepts you need to take ownership of your own learning. An efficient way to own your learning is by revising your work, identifying and explaining mistakes, and in the process reflecting and pondering upon the reason for your answers in the exam. The idea is not to dwell upon the mistakes, but to understand the reason why they were made and in the process truly learn the topic in question, with the expectation that you will have one or more aha! moments, where ideas and concepts make sense all of the sudden.

Description: I will return your mid-term exam along with a grade for each question. You will identify the specific mistakes, if any, for each question and explain the reason for those mistakes. I shall then receive a revised version of the exam that for each question clearly identifies each mistake along with a written explanation.

RUBRIC OF THE FEEDBACK

Category	0 Points	2 Points	4 Points
<i>Identification:</i>	-Few mistakes are clearly identified in the map or exam.	-Some mistakes are clearly identified in the map or exam.	-Each mistake is clearly identified in the map or exam.
	0 Points	1.5 Point	3 Points
<i>Explanation:</i>	-Few mistakes are explained.	-Some mistakes are explained.	-Each mistake is explained.
	0 Points	1.5 Points	3 Point
<i>Logical consistency:</i>	-Few mistakes make sense.	-Some explanations make sense.	-Each explanation makes sense.

-Review of concept map of proposal (5 points)

Due: Nov 16th 17:00h PST

Aim: To develop science process skills by reviewing the presentation of a colleague.

Rationale: One way to improve your skills as a scientist is by evaluating the ideas of another person. Being able to give constructive and thoughtful reviews is a critical skill that not many scientists master. In this assignment, you will provide helpful feedback to the concept map of the proposal of a classmate, who will incorporate your suggestions into her/his talk.

Description:

- Your review will address all seven components of the presentation rubric (see above): logical consistency, mechanics, organization, proposed study, completeness, format, and spelling.
- All of your suggestions and comments need to be properly justified.
- Your review needs to be firm and objective, but at the same time polite and positive.

RUBRIC OF THE REVIEW OF CONCEPT MAP OF PROPOSAL

Thoughtfulness (2 points)	Completeness (2.5 points)	Format (0.5 point)
<p>Are comments and suggestions made by the reviewer well thought and justified?</p> <p>Are comments and suggestions made by the reviewer constructive?</p>	<p>Did comments and suggestions made by the reviewer address the logical consistency of the map?</p> <p>Did comments and suggestions made by the reviewer address the mechanics of the map?</p> <p>Did comments and suggestions made by the reviewer address the organization of the map?</p> <p>Did comments and suggestions made by the reviewer address the proposed study?</p> <p>Did comments and suggestions made by the reviewer address the completeness of the references?</p> <p>Did comments and suggestions made by the reviewer address the format of the references?</p> <p>Did comments and suggestions made by the reviewer address the spelling of the references?</p>	<p>Does the review have spelling errors?</p> <p>Does the review have errors in sentence structure and punctuation</p>

See student examples on canvas.

-Individual presentation for review (ungraded) Due: Nov. 2nd 17:00h PST
-Meeting to review presentation (ungraded) Due: Two classes before you present
-Individual presentation (20 points) Due: Last 2 weeks of classes

Aim: To develop science process skills by presenting a conservation-based report to non-specialists.

Rationale: A critical skill required of scientists is the ability to convey information in a thoughtful, convincing and coherent manner in oral form. Many scientists are not skilled in giving clear and concise presentations to other scientists, let alone to non-specialists such as funding, conservation or governmental institutions. In this assignment, you will give a presentation to present a cohesive, concise and **unbiased** description of the current status of knowledge on a particular issue to support your proposal and opinion on what action(s) need to be taken.

Description:

- You will give an unbiased presentation on the conservation topic that you selected as though it was given to government officials requesting information to make a management decision, this includes addressing biological, social and economic factors to justify your proposal and your own opinion of what actions to take.
- You will have 12 min for the presentation and 3 min for questions, you will be cut off after this time.
- You will have to prepare, practice, and be ready to answer questions from the audience.
- **Your presentation as a powerpoint file is due for review by a classmate on Nov 2nd.**
- *You will need to meet with me online at least two classes before you present to review your presentation.*
- I will need to receive the final file of the presentation at 17 h on the day *before* you are scheduled to talk. I will post a sheet for you to sign-up for a date to offer your talk.

Presentation dates: November 18th through December 4th

RUBRIC OF THE PRESENTATION

Organization (3 points)	Structure (4 point)	Completeness (5 points)	Appearance (4 points)	Performance (2 points)	Time (2 point)
Is there are short, descriptive title?	Does the talk follow a logical sequence?	Is the conservation problem clearly stated?	Is there consistency in the talk (background, font, etc.)?	Is the pace of the talk appropriate?	Is there enough time for questions?
Is the name of the presenter included?	Is content accurate?	Are the two sides of the conservation problem discussed equally?	Is the amount of material in each slide appropriate?	Is the volume sufficient?	Is the talk long enough?
Is talk restricted to topic at hand?		Is there a research proposal that addresses the problem?	Is the font size large enough?	Does the speaker use the natural resting position?	
Is it clear what the talk is about?		Is there at least a case example for the problem?	Is the font type easy to read?	Are hands used appropriately?	
Are there conclusions at the end?		Are there suggested conservation actions?	Is the spelling correct throughout the presentation?	Is there frequent eye contact with all audience?	
Are the conclusions clear, supported by evidence and related to topic?		Are studies cited in slides to support statements made?	Is there enough contrast between text and background?	Does the speaker use pauses instead of fillers?	
		Are studies acknowledged at the end using the format of <i>Conservation Biology</i> ?	Are the figures and tables large enough?	Does the speaker enunciate clearly?	
			Are sources of figures and photos acknowledged?	Does speaker appear confident?	
			Are new terms explained?	Are questions answered appropriately?	

See student examples on canvas.

-Review of presentation (5 points)

Due: Nov. 13th 17:00h PST

Aim: To develop science process skills by reviewing the presentation of a colleague.

Rationale: One way to improve your skills as a communicator is by evaluating the presentation of another person. Being able to give constructive and thoughtful reviews is a critical skill that not many scientists master. In this assignment, you will provide helpful feedback to the individual presentation of a classmate, who will incorporate your suggestions into her/his talk.

Description:

- Your review will address the first four components of the presentation rubric (see previous page): organization, structure, completeness and presentation.
- All of your suggestions and comments need to be properly justified.
- Your review needs to be firm and objective, but at the same time polite and positive.

RUBRIC OF THE REVIEW OF PRESENTATION

Thoughtfulness (2 points)	Completeness (2.5 points)	Format (0.5 points)
Are comments and suggestions made by the reviewer well thought and justified? Are comments and suggestions made by the reviewer constructive?	Did comments and suggestions made by the reviewer address the organization of the presentation? Did comments and suggestions made by the reviewer address the structure of the presentation? Did comments and suggestions made by the reviewer address the completeness of the presentation? Did comments and suggestions made by the reviewer address the appearance of the presentation?	Does the review have spelling errors? Does the review have errors in sentence structure and punctuation

See student examples on canvas.

-Individual self-assessments (ungraded) Due: Oct 5th & 19th, Nov 13th 17:00h PST

Aim: To learn about marine mammal biology and develop science process skills by reflecting upon your level of understanding of the learning objectives and big ideas of the class.

Rationale: To truly learn and understand concepts you need to take ownership of your own learning. An efficient way to own your learning is by self-evaluating your level of understanding of what you are expected to learn.

Description: You will answer to a prompt in class regarding your level of understanding of the big ideas and learning objectives of the class. You will need to indicate whether you understand the ideas and objectives, don't understand them, or are unsure if you understand them or not. If you do not understand or are unsure about an idea or objective, you will describe what is confusing about the idea or objective and what you think may help you understand it.