

VT- SUNY-AUIP 2017 Conservation-based Service Learning Course in New Zealand and Australia

BIOL 3954 (VT) or OAP 404.61 (SUNY) (6 credits)

Instructors: Lori Blanc, Ph.D., Dept. of Biological Sciences, Virginia Tech
Phone: 540-231-5256, Email: lblanc@vt.edu

Sahnzi Moyers, Ph.D., Dept. of Biological Sciences, Virginia Tech
Phone: 503-545-1275, Email: sahnzi@vt.edu

Course Description

This is a 26-day field course in New Zealand and northeast Queensland, Australia. By participating in hands-on service learning projects, we will learn about sustainability, ecological restoration and resource conservation in New Zealand and Australia. Students will learn through classroom lectures & field work and then use their knowledge to assist community groups with long-term ecological research & conservation projects. Our objectives are:

1. Understand the impacts of human actions on natural systems, and human responses to those changes, using case studies in New Zealand's North Island & Australia's northeast Queensland;
2. Understand New Zealand's & Australia's natural history, biogeography, ecological diversity, and related social / cultural contexts by visiting national parks and World Heritage areas;
3. Gain hands-on experience with conservation and ecological restoration by participating in service-learning projects;
4. Learn about forest ecosystem conservation, watershed management, riparian zone re-vegetation, estuarine ecosystem management, endangered species management, tropical forest ecology, and Great Barrier Reef Marine Park management;
5. Learn about indigenous world views, conservation practices, culture and history by interacting with New Zealand Māori and Australian aboriginal communities;
6. Address relationships between human societies and their natural environments from multiple disciplinary perspectives and develop a multi-faceted and holistic view of human – environment connections that cross traditional disciplinary boundaries;
7. Develop scientific writing and collaborative teamwork skills through field-based data collection, analysis, write-up and presentation.

Attendance and Lateness Policy

Punctual attendance at all scheduled, program-related activities is required, including group meetings, discussions, field excursions, as well as lectures and any other scheduled activities. Participation in field activities (such as hiking, snorkeling, swimming, kayaking, etc.) is voluntary and at the discretion of the student; however, should you wish not to participate you must inform the instructor and an alternate activity will be assigned. An excused absence or decision not to participate in one or any of these field activities will not affect your grade for the course. During the field studies, no student is to leave the group without the consent of the faculty supervisor. Unless an absence is approved by one of the instructors or the program directors, students will lose 10% of their final grade for each day or part-day they fail to participate. Any unexcused absences or continued late arrival to program activities may, at the discretion of the Faculty Leader, be grounds for dismissal from the program.

Academic Honesty and Conduct

Academic work must meet AUIP standards of academic honesty (as described in the AUIP Program Handbook). Each student is responsible for informing themselves about those standards before performing any academic work. Students are bound by Virginia Tech's Honor Code and the SUNY Brockport Academic Integrity and Prohibited Behavior Policies for academic and personal behavior. Failure to obey these policies may result in program dismissal, at the discretion of the Faculty Leader. The Undergraduate Honor Code pledge that each member of the university community agrees to abide by states:

"I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Students enrolled in this course are responsible for abiding by the Honor Code. A student who has doubts about how the Honor Code applies to any assignment is responsible for obtaining specific guidance from the course instructor before submitting the assignment for evaluation. Ignorance of the rules does not exclude any member of the University community from the requirements and expectations of the Honor Code. For additional information about the Honor Code, please visit: <https://www.honorsystem.vt.edu/>

1. All assignments submitted shall be considered "graded work" and all aspects of your coursework are covered by the Honor Code. All projects and homework assignments are to be completed individually unless otherwise specified.

2. Commission of any of the following acts shall constitute academic misconduct. This listing is not, however, exclusive of other acts that may reasonably be said to constitute academic misconduct. Clarification is provided for each definition with some examples of prohibited behaviors in the Undergraduate Honor Code Manual located at <https://www.honorsystem.vt.edu/>

A. CHEATING

Cheating includes the intentional use of unauthorized materials, information, notes, study aids or other devices or materials in any academic exercise, or attempts thereof.

B. PLAGIARISM

Plagiarism includes the copying of the language, structure, programming, computer code, ideas, and/or thoughts of another and passing off the same as one's own original work, or attempts thereof.

C. FALSIFICATION

Falsification includes the statement of any untruth, either verbally or in writing, with respect to any element of one's academic work, or attempts thereof.

D. FABRICATION

Fabrication includes making up data and results, and recording or reporting them, or submitting fabricated documents, or attempts thereof.

E. MULTIPLE SUBMISSION

Multiple submission involves the submission for credit—without authorization of the instructor receiving the work—of substantial portions of any work (including oral reports) previously submitted for credit at any academic institution, or attempts thereof.

F. COMPLICITY

Complicity includes intentionally helping another to engage in an act of academic misconduct, or attempts thereof.

G. VIOLATION OF UNIVERSITY, COLLEGE, DEPARTMENTAL, PROGRAM, COURSE, OR FACULTY RULES

The violation of any University, College, Departmental, Program, Course, or Faculty Rules relating to academic matters that may lead to an unfair academic advantage by the student violating the rule(s).

Special Accommodations

Any student with a disability who needs an accommodation or other assistance in this course must contact the program faculty at least 4 weeks before the program begins. After that time, the program faculty cannot guarantee that such needs can be accommodated. Some activities involve moderate exercise, such as hiking and snorkeling but participation is voluntary for all students.

Course Readings

Course readings will be made available online via the Virginia Tech Canvas course site. Students will be responsible for downloading and printing their own course reading material (or bringing downloaded copies on a laptop), **as copies will not be available in New Zealand and Australia and internet access will be limited.**

Course Assignments

PRE-DEPARTURE COURSEWORK (15%)

1) Pre-departure reflection essays (10%)

Respond with your own personal thoughts and show genuine reflection on the essay prompts. There are no right or wrong answers, **but be sure to address *all* components of each question and proof your work for spelling and grammar.**

Essay 1: (~250 words)

Reflect on your sense of personal identity (e.g., who you are as an individual, what you value, what your life is like) and what has influenced this sense of identity. With this in mind, answer the following: ***Who are you and why?***

Essay 2:

Part A: (~250 words) In your own words, explain what you know about sustainability. What is it?

Part B: (~250 words) After writing part (a), watch the following short, online videos:

i) Sustainability explained with simple natural science (7 min): <https://www.youtube.com/watch?v=eec0UYGle04>

ii) Social sustainability: Satisfying human needs (5 min): <https://www.youtube.com/watch?v=FyT9TMlzC6s>

iii) Rethinking Progress – The Circular Economy (3 min): <https://www.youtube.com/watch?v=zCRKvDyyHmI>

iv) Triple bottom line & sustainability: the science of good business (4 min): <https://www.youtube.com/watch?v=2f5m-jBf81Q>

Identify aspects of the four videos that were new information for you, and explain your reaction to that information. Did anything surprise you? Are there any topics presented that you would like to explore further during the course?

DUE: Upload your reflection essays to the course Canvas Assignments section **by 1159pm on Fri, May 19** (~2 weeks prior to departure).

2) Course “primer” assignment: foundational concepts and concept mapping (5%)

Read chapters 20 (Conservation) and 21 (Ecosystem Health) in:

Krebs, C.J. (2008). Conservation biology: endangered species and ecosystems. Pgs. 479-536 in *The Ecological World View*. University of California Press.

DUE: Each student must develop a concept map for each chapter before arriving in New Zealand. These concept maps will be collected on the first day of class and feedback will be provided. This assignment is designed to (a) ensure that you have a basic understanding of key concepts that are foundational to the service work we will be conducting while abroad, and (b) prepare you for several group exercises that will take place in New Zealand and Australia (concept map instructions below).

3) Course “primer” readings: foundational concepts on sustainability

- AUIP (2017). Course themes overview for New Zealand and North Queensland, Australia, 16 pages.
- Cairns, Jr., J., and Saier, Jr., M. (2010). Real sustainability. *Water Air and Soil Pollution* 205, 67-68.
- Edwards, A. (2009). The sustainability revolution: portrait of a paradigm shift. New Society: Gabriola Island, pp. 16-27.

DUE: Complete these three readings by Day 1 in New Zealand. For two of the readings (Cairns & Saier, 2010; Edwards, 2009), bring a bulleted list to the first day of class explaining the 2 most important take-home points of each reading. *Each bullet point should be only 1-2 sentences that emphasize the core ideas that the authors are presenting. These lists will be collected.

IN-COUNTRY COURSEWORK (45%).

1) Participation: articulated journaling and reading summaries (10%)

One of the objectives of this course is to enhance intellectual/personal maturity through cross-cultural understanding, self-reflection and intellectual engagement. During this field course, you should set aside time to reflect on (a) your experiences associated with the field projects and readings (academics), (b) your experiences and interactions with the surrounding environment (personal growth and observations of the natural world), and (c) your experiences and interactions with the people of Australia and New Zealand (global perspectives). These reflections will take place via (a) journaling, using structured journal entry documents and (b) creating brief reading summaries (e.g., identifying 3 key points from each reading), which you will submit to the faculty leaders for review. You will use these entries to produce a final course synthesis paper. Journals will be collected regularly during the trip for grading.

2) Field module activities and assignments (25%)

The modules relate what we learn in the classroom with field activities. The course readings and the field staff are your primary sources of information to help you complete the module questions. Module work may consist of reading publications from peer-reviewed scholarly journals, writing abstract style essays, producing a scientific format research paper and group presentation, participating in group debates and concept mapping exercises, and taking field site quizzes. Assignments will be due at intervals throughout the program (see itinerary). *Assigned module readings will be provided on the Virginia Tech Canvas course site.*

3) Final exam and group presentations (10%)

The final exam will be open notes and comprehensive across the program, and may draw material from any reading, field exercises, lectures, or discussions.

POST-PROGRAM COURSEWORK (40%)

DUE: Upload your completed work to the course Canvas Assignments section **by 1159pm on Thursday, July 20** (3 weeks after the course ends). Late submissions will receive a penalty of 10% for each day or part thereof that they are late.

1) Final course synthesis paper (20%):

After returning home from Australia and New Zealand, use your daily journal entries to write a 5-7 page final course synthesis paper. This paper should include a comprehensive summary of your field experience, with a very specific structure and set of prompts (see page 7 of the syllabus for assignment details). The paper should also draw from the course readings (and cite those sources using the course format; see 2017 NZ-OZ “Tips on essay writing and citation guide” file). Submit your final paper online in the course Canvas Assignment section **using the filename format: “LastName_CourseSynthesis”**. See grading rubric on page 11.

2) Final research paper (20%):

Students can choose from two final paper options, depending on their interests. Option 1 is a comprehensive review of our current state of knowledge of an “at-risk” species in New Zealand or Australia. Option 2 is an evidence-based critique of a recent documentary, “Eleventh Hour”, which discusses the current state of the world and the environmental challenges that we face.

Final papers should be submitted online in the course Canvas Assignment section **using the filename format:**

“LastName_FinalPaper”. See detailed specifications on pages 8 and 10 of the syllabus. See grading rubrics on pages 12-13.

Grade assessment

Final grades for all credits will be assessed together and as follows:

A	93.0 - 100 %	B+	87.0 - 89.99 %	C+	77.0 - 79.99 %	and so on.....
A-	90.0 - 92.99 %	B	83.0 - 86.99 %	C	73.0 - 76.99 %	
		B-	80.0 - 82.99 %	C-	70.0 - 72.99 %	

Course Topics and Activities: See the itinerary for a full list and schedule of field activities and lectures.

Pre-departure Assignment: Conservation Biology and Ecosystem Health – a Primer

Readings

Krebs, C.J. (2008a). Conservation biology: endangered species and ecosystems. Chapter 20, pp. 479-505 in, *The Ecological World View*. University of California Press.

Krebs, C.J. (2008b). Ecosystem health and human impacts. Chapter 21, pp 507-536 in, *The Ecological World View*. University of California Press.

Background: Concept Maps

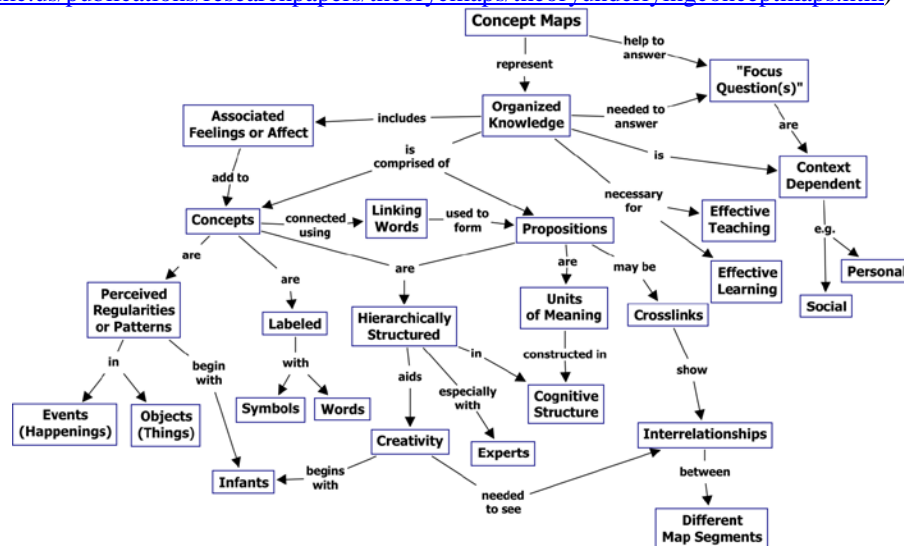
A concept map is a creative learning tool that helps to focus your learning process and guide you to a better understanding of conceptual information. A concept map is a visual diagram that represents knowledge by depicting concepts and the relationships among them. You create a concept map by writing key words (enclosed in boxes) and then drawing arrows between boxes that are related. You then add a short explanation by each arrow to explain how the concepts are related. To learn more about concept maps and their application in effective teaching and learning, see:

Novak, J. D., & Cañas, A. J. (2008). The theory underlying concept maps and how to construct and use them. Florida Institute for Human and Machine Cognition Pensacola FL, [www.ihmc.us](http://cmap.ihmc.us). [<http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm>], 284.

The following are two examples of concepts maps taken from Novak and Cañas (2008).

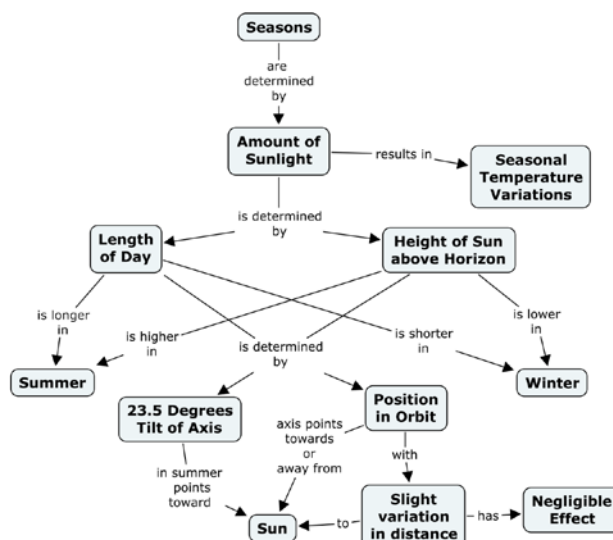
Example 1: a concept map showing the key features of concept maps. Note that it should be read from the top downward.

(Source: <http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>)



Example 2: a concept map representing the knowledge required to understand why we have seasons.

(Source: <http://cmap.ihmc.us/publications/researchpapers/theorycmaps/theoryunderlyingconceptmaps.htm>)



Pre-departure Assignment: Conservation Biology and Ecosystem Health – a Primer, Cont...

Your Pre-departure Assignment

Create a draft concept map for each of the two pre-departure readings from Krebs (2008):

- Chapter 20: Conservation biology: endangered species and ecosystems
- Chapter 21: Ecosystem Health and Human Impacts

For each chapter, do the following:

- 1) Select what you consider to be **the 10 most important key concepts** from the chapter. A concept can be a single word or a very short phrase.
- 2) Write each concept on a sticky note (or use PowerPoint to create Text Boxes that contain the concepts).
- 3) Choose the most general and/or important word from your list. Place this word at the top of the map or towards the center.
- 4) Start adding related concepts to the map and draw connector lines from the first general concept to the related concepts. Keep adding related words and drawing connector lines until all of your concepts are included in the diagram. Typically, concepts toward the top of the map are general terms, and concepts toward the bottom are more specific.
- 5) Add a few words of text next to each connector line explaining the relationship between the words being connected. Note that one concept can be connected to multiple other concepts and related concepts can connect back to each other. However, all connecting lines must contain text indicating the relationships between the concepts.
- 6) You may need to repeat this process multiple times and continue to rearrange the concepts logically until you find a spatial arrangement that works best.
- 7) A general reader should be able to read the final concept map (words and connector lines) like a story, without having to make any assumptions about the connecting relationships.

Deliverable:

Bring a sketch or printout of your two concept maps to New Zealand. These concept maps will not be assigned letter grades, but they will be collected at the first class meeting. This assignment is designed to (a) ensure that you have a basic understanding of key concepts that are foundational to the service work we will be conducting while abroad, and (b) prepare you for several group exercises that will take place in New Zealand and Australia. In the group exercises, the class will be divided into teams. Each team will be provided with a pre-determined list of key concepts from the course experiences (determined by the faculty) and will be given a set amount of time to work together to produce a group concept map. Each team will then be required to explain their concept map both in writing (via a group essay) and in speech (via a classroom presentation).

Due

The first day of class in New Zealand.

Final Field Course Synthesis Paper Specifications

After returning home from New Zealand and Australia, use your journal entries (journaling sheets will be provided) to write a final course synthesis paper. This paper should include a synthesis of your field experiences and course materials, and reflections on your personal growth and awareness of global perspectives. The paper should be between 5-7 pages long, single spaced. To support the academic component of your paper, you must draw from course readings, cite those sources using APA citation format and provide a References Cited section.

What is a “synthesis paper”?

A synthesis paper is one that “synthesizes” smaller details from multiple sources into bigger level ideas. For example, in a class you might be asked to read 5 papers and then synthesize the ideas from each of those papers into an overall bigger picture argument. Doing so requires finding connections and relationships between the detailed ideas from each paper to and repackaging them into higher-level ideas. Applying this to your final synthesis paper, you should let the bigger ideas/concepts drive the organization of the paper and use details from the day to day course (e.g., readings, lectures and activities) as supporting evidence for the bigger ideas. *The fact that you had pre-departure “primer” readings to set the academic foundation for the course is telling.* You should revisit those primer readings to better understand the bigger ideas that were presented to kick off the overall field course experience.

Tips

- Do NOT focus on daily events and details (e.g., “on day 4 we did xxx”, or “we travelled to” or “Smith gave us a lecture on”). Doing so would be an example of using a daily journaling style. Instead, synthesize those details into the bigger picture of what you learned.
- Instead of referring to “receiving a lecture from a guest speaker”, write about the conceptual information and then cite the speaker as the source of that information (using an in-text citation).
- When you write about learning objectives, a good way to approach your writing is to write about the objective and then provide several examples of how you learned about that objective.
- For academics, you might talk about subjects like environmental worldviews, ecosystem connectivity, the 3 E’s of sustainability, principles of conservation biology, etc. (revisit the primer readings for ideas), and then explain / support those ideas using examples (readings, lectures, activities) from the course experience.
- The overall purpose of the entire paper is to focus on the bigger ideas, and then use details from the course (activities, readings, lectures) to provide specific evidence and examples (i.e., synthesize details into overarching ideas).

Requirements/deliverables of the final paper (all four components must be explicitly addressed):

**We strongly recommend that you structure your paper into the following sections: an introduction, three content sections (described below), a conclusion and a references cited section. Do not write this paper like a personal journal. Write it like a formal paper for the general reader who does not know anything about the course or the group’s experience.*

- Introduction: Provide enough background information to inform the reader of the context of your paper (i.e., that this is a synthesis of the experiences you had in a study abroad course).
- Body of paper: In each of the following three sections, discuss the ways in which your experiences in the course aligned with the **course objectives** (listed on page 1 of the syllabus)
 - Section 1: Connect field experiences and service projects with course **academics** (i.e. readings, lectures). Write about what you did and what you learned by doing these activities.
 - Section 2: Explain how this field experience influenced your sense of **self-identity and personal growth**.
 - Section 3: Explain how this field experience influenced your sense of **global awareness**.
- Conclusions
- References Cited*

Required reading for final synthesis paper*:

Nyborg, K., Anderies, J. M., Dannenberg, A., Lindahl, T., Schill, C., Schlüter, M., ... & Chapin, F. S. (2016). Social norms as solutions. *Science*, 354(6308), 42-43.

*You are expected to cite a variety of your course readings in this synthesis paper. The above article (Nyborg et al, 2016 from Module 3), however, must be integrated into your final course synthesis.

Filename: You must use the following filename to save your document (before you upload it to the course Canvas Assignments section). This means that the name of the file ON YOUR COMPUTER should be: Course Synthesis Paper: “LastName_CourseSynthesis”. Upload your final essay to the course Canvas Assignments section **by 1159pm on Thursday, July 20.**

Final Research Paper Option 1: Conservation Status Update of an At-Risk Species*

** Required for VT Biological Science majors pursuing upper-level lab-link credit)*

Background:

New Zealand is described as an extreme case study of pressing issues in conservation biology, a country currently in a state of 'ecological collapse'. From habitat loss and fragmentation to invasive species and extreme biodiversity loss, New Zealand provides a critical context within which conservation biologists are debating trade-offs between preservation and sustainability, management and research, and species vs ecosystem-level management. The New Zealand Department of Conservation (NZ DOC) is the leading central government agency responsible for the conservation of New Zealand's natural and historic heritage. Their statutory mandate, the Conservation Act of 1987, is described here: <http://www.doc.govt.nz/about-us/our-role/legislation/conservation-act/>. The NZ DOC uses a rigorous Threat Classification System, based on objective criteria and the best available scientific information, to assess the risk of extinction faced by New Zealand plants, animals and fungi. Species are placed within formally defined categories that reflect the level of risk faced. This risk classification system is used to prioritize limited conservation resources.

Australia is well known for its biological diversity. More than 80% of Australia's flowering plants and land mammals are endemic, and 88% of its reptiles, 45% of its birds and 92% of its frogs also occur nowhere else. The Australia Department of Sustainability, Environment, Water, Population and Communities is the central government agency responsible for implementing the Australian Government's policies to protect their environment. This department works in partnership with state and local governments, non-government organizations, research scientists and community groups to ensure the protection of their native species. The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) is the Australian Government's central piece of environmental legislation, similar to the U.S. Endangered Species Act. The EPBC Act provides a legal framework to protect and manage Australia's nationally threatened flora, fauna and ecological communities. Using objective criteria and the best available scientific information, threatened species are placed within a formally defined category that reflects the level of extinction risk they face. This risk classification system is used to prioritize the use of conservation resources. Detailed information on this federal agency and conservation under the EPBC Act can be found here: <http://www.environment.gov.au/biodiversity/index.html>. Threatened species categories are described here: <http://www.environment.gov.au/biodiversity/threatened/species.html#categories>.

The Conservation Management Framework:

The conservation and recovery of a threatened species is a complex and technical undertaking, involving far more than just setting land aside for preservation. Conservation biology involves:

- (a) Understanding the ecological requirements of species and their associated communities,
- (b) Determining the causes of the species' decline,
- (c) Determining the relationship between the cause of decline and the relevant aspect of the species' biology (e.g., life history),
- (d) Using our understanding of (c) to develop informed, appropriately-targeted management strategies,
- (e) Assessing and evaluating the effectiveness of those management strategies, and then
- (f) Using the results of (e) to continually modify and improve our management program.

Your Assignment:

Provide a comprehensive review of *our current state of knowledge* of an "at-risk" species in New Zealand or Australia, with emphasis on its ecology, current conservation status, efforts to manage for its recovery, and review of three recent publications on this species. The goal of this assignment is to use a focal species as a case-study to better understand the conceptual issues involved in species and biodiversity conservation. **In order to complete this assignment, it is required that you locate, read and cite the official recovery plan document for your species of interest.** The government website links provided below will help you locate the recovery plans.

Web-based Resources:

If you choose a species from **Australia**, refer to the following links to find the status listing of your species

Australia Department of Sustainability, Environment, Water, Population and Communities Website:

<http://www.environment.gov.au>

Australian Environment Protection and Biodiversity Conservation Act 1999. Australian Government Website:

<http://www.environment.gov.au/biodiversity/legislation/index.html>

Australian Threatened Species Classification System under the EPBC Act. Australian Government Website:

<http://www.environment.gov.au/biodiversity/threatened/species.html#categories>

If you choose a species from **New Zealand**, refer to the following links:

New Zealand Department of Conservation Website. <http://www.doc.govt.nz/>

New Zealand Threat Classification System manual. www.doc.govt.nz/upload/documents/science-and-technical/sap244.pdf

NZ Threat Classification System lists 2012-14: <http://www.doc.govt.nz/publications/conservation/nz-threat-classification-system/nz-threat-classification-system-lists-2012-14/>. Because you should be selecting a species that is either threatened or

endangered, there should be an official recovery plan for that species on the NZ DOC website. You should download a copy of that recovery plan to inform your paper as well.

Required New Zealand References

- Atkinson, I.A.E. (2001). Introduced mammals and models for restoration. *Biological Conservation* 99, 81-96.
- Clout, M. (2001). Where protection is not enough: active conservation in New Zealand. *Trends in Ecology and Evolution* 16, 415-416.
- Craig, J., Anderson, S., Clout, M., Creese, B., Mitchell, N., Ogden, J., ... & Ussher, G. (2000). Conservation issues in New Zealand. *Annual Review of Ecology and Systematics*, 31(1), 61-78.
- Joseph, L. N., Maloney, R. F., O'Connor, S. M., Cromarty, P., Jansen, P., Stephens, T., & Possingham, H. P. (2008). Improving methods for allocating resources among threatened species: the case for a new national approach in New Zealand. *Pacific Conservation Biology*, 14(3), 154-158.
- Krebs, C.J. (2008). Chapters 20 (Conservation) and 21 (Ecosystem Health) in *Conservation biology: endangered species and ecosystems*. Pgs. 479-536 in *The Ecological World View*. University of California Press.
- Seabrook-Davison, M. N., Brunton, D. H., & Ji, W. (2009). Future direction for the conservation of New Zealand's biodiversity. *Pacific Conservation Biology*, 15(3), 153-157.

Required Australia References

- Krebs, C.J. (2008). Chapters 20 (Conservation) and 21 (Ecosystem Health) in *Conservation biology: endangered species and ecosystems*. Pgs. 479-536 in *The Ecological World View*. University of California Press.
- Lindenmayer, D., & Hunter, M. (2010). Some guiding concepts for conservation biology. *Conservation Biology*, 24(6), 1459-1468.
- Morton, S. R., HOEGH-GULDBERG, O., Lindenmayer, D. B., Olson, M. H., Hughes, L., McCulloch, M. T., ... & Andersen, A. N. (2009). The big ecological questions inhibiting effective environmental management in Australia. *Austral Ecology*, 34(1), 1-9.
- Taylor, M. F., Sattler, P. S., Evans, M., Fuller, R. A., Watson, J. E., & Possingham, H. P. (2011). What works for threatened species recovery? An empirical evaluation for Australia. *Biodiversity and conservation*, 20(4), 767-777.

Assignment Deliverable

A 5 to 7 page, single spaced, final paper (not including Literature Cited, Tables, Figures), with a focus on the species or ecosystem that you chose to study. Your paper should include ALL of the following:

1. An introduction to the current overarching issues in conservation both (a) in general (i.e., globally) and (b) specific to Australia or New Zealand (depending on your species).
2. A review of the current conservation status and management for this species, including:
 - a. Overview of the basic biology/ecology of your species, including the historical and current distribution, causes of decline, and current threats
 - b. Current official threat status listing (according the government classification system) and explanation of what your species' status classification means (per the classification system).
 - c. Evidence upon which the status determination for this species was based.
 - d. A review of the types of recovery actions and natural resource management actions currently being conducted for this species. Does this species have an official Recovery Plan? If so, you must use and cite it in your paper.
3. A review of 3 recently-published studies, in addition to those listed above, on your species (****published in peer-reviewed scientific journals during the past 7 years****). Discuss how the authors designed their studies, and how their findings contribute to the conservation of the species.
4. Cite all sources using in-text references (e.g., Jones & Smith, 2001) and include a References Cited section at the end of the paper. Use APA formatting for your references (same as the in-country essay citation guidelines).

You must use the following filename to save your document (before you upload it to the course Canvas Assignments section). This means that the name of the file ON YOUR COMPUTER should be: "LastName_FinalPaper".

Due: Upload to the course Canvas Assignments section by **1159pm on Thursday, July 20** (3 weeks after the field course ends). You will need to use library resources at your university to obtain 3 more articles from the peer-reviewed scientific literature about your species for this paper.

Final Research Paper Option 2

Reflections on Western Civilization: A Critique of the Documentary, "The 11th Hour"

Using the readings listed below, along with any other readings, lectures or personal communications from our course (or any additional references that you want to find through your own research), critically evaluate the "11th Hour" documentary (<http://www.warnerbros.com/11th-hour>). Be sure to conclude with a clear statement of whether you agree or disagree with the message of this documentary. As you write your paper, please keep in mind how the ideas presented in the documentary relate to the sustainability of human populations on our planet, and the concepts that we learned about during our field course. Your conclusion does not have to be an "all or nothing" approach -- you may find that you agree with some parts of the documentary and disagree with others. Be honest about your evaluation, but you **must** support your arguments with evidence from the literature. Do not give unsubstantiated opinions or you will be graded down. The goal here is to present an effective and convincing argument that is supported with strong evidence.

If you choose to use additional resources to support your arguments, do NOT use random websites that you find through Google searches to provide supporting evidence (e.g., random blogs or websites from activist/lobbyist groups that may have an agenda, and thus, present biased information). Use your library search engines to locate reliable information from the peer-reviewed literature, cite those sources, and include them in the References Cited section (following the format described in the 2017 NZ-OZ "Tips on essay writing and citation guide" file).

Assignment Deliverable

A 5 to 7 page, single spaced, final paper (not including Literature Cited), containing the following:

- (a) Introduction paragraph that presents the thesis of your paper
- (b) Body of your paper, organized into meaningful paragraphs or sections
- (c) Conclusion paragraph that clearly states whether or how you agree or disagree with the message of this documentary (based on everything that you presented in the body of the paper)
- (d) Reference Cited section
- (e) Save your document using the filename "LastName_FinalPaper"

Due: Upload to the course Canvas Assignments section by **1159pm on Thursday, July 20.**

Readings:

1. Cairns, Jr., J., and Saier, Jr., M. (2010). Real sustainability. *Water Air and Soil Pollution*, 205, 67-68. (This was from the pre-departure readings and Module 3)
2. Costanza, R., Daly, H., Folke, C., Hawken, P., Holling, C. S., Mc Michael, A. J., ... & Rapport, D. (2000). Managing our environmental portfolio. *BioScience*, 50(2), 149-155. (This was from Module 3)
3. Ehrlich, P. R., & Ehrlich, A. H. (2013, March). Can a collapse of global civilization be avoided?. *Proc. R. Soc. B*, 280 (1754), 20122845. The Royal Society. (This is a new reading)
4. Fischer, J., Dyball, R., Fazey, I., Gross, C., Dovers, S., Ehrlich, P. R., ... & Borden, R. J. (2012). Human behavior and sustainability. *Frontiers in Ecology and the Environment*, 10(3), 153-160. (This was from Module 3)
5. Oreskes, N., & Conway, E. M. (2013). The collapse of Western Civilization: a view from the future. *Daedalus*, 142(1), 40-58. (This is a new reading)

Video Citation:

Smith, J. (2008). Interview with Connors, N., Petersen, L. C., Castleberry, C., Gerber, B., DiCaprio, L., Scalia, P., Beintus, J.P., and E. Avery. Warner Home Video. The 11th hour. Burbank, CA: Warner Home Video. <http://www.warnerbros.com/11th-hour>

Grading Rubric - Final Course Synthesis Paper

Description of Assignment Prompt	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
Strong, clear introduction that provides the general reader with enough background information to inform the context of the paper.					
Reflected on and connected field experiences and service projects with the course academic content (i.e. readings and lectures). Wrote about <u>what you did</u> and <u>what you learned</u> by doing these things.					
Explained how this field experience influenced sense of self-identity and personal growth.					
Explained how this field experience influenced sense of global awareness.					
Discussed the ways in which experiences in the course aligned with the course objectives.					
Strong and effective conclusion					
Paper Organization: • Effective use of paragraphs and topic sentences • Smooth internal transitions and logical flow of ideas • Concisely written					
Drew from course readings to support the academic component of the paper.					
Cited sources using the required citation format for the course and provide a References Cited section.					
Syntax, grammar, spelling, sentence structure.					
Used correct document filename "LastName_CourseSynthesis"					

Overall Grade:

Grading Rubric: Final Research Paper (Option 1 – Endangered Species Management)

Description of Assignment Prompt	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
Brief introduction to the current overarching issues in conservation both worldwide and specific to Australia or New Zealand					
Overview of the basic biology/ecology of your species, including the historical and current distribution, causes of decline, and current threats.					
Current official threat status listing (according to the government classification system) and explanation of what your species' status classification means (per the classification system).					
Discussed evidence upon which the status determination for this species was based.					
Reviewed the types of recovery actions and natural resource management actions currently being conducted for this species, including a review of the official Recovery Plan.					
Reviewed 3 recently-published studies, in addition to those listed above, on your species (*published in peer-reviewed scientific journals during the past 7 years*). Discuss how the authors designed their studies, and how findings contribute to the conservation of the species.					
Integrated the required readings for Australia or New Zealand into the paper.					
Provided a clear conclusion to the paper, effectively synthesizing the key points.					
Cited all sources using in-text references (e.g., Jones and Smith 2001) and include a References Cited section at the end of the paper.					
Syntax, grammar, spelling, sentence structure.					
Used correct document filename "LastName_FinalPaper"					

Overall Grade:

Grading Rubric: Final Research Paper (Option 2 – 11th Hour Critique)

Description of Assignment Prompt	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
Strong, clear introduction that sets the context of the paper and presents a clear thesis statement.					
Provides an overview of key messages of the documentary, and explained how these messages relate to the sustainability of human populations, and concepts that we learned about during our field course.					
Thesis / argument supported with strong and relevant evidence, with no unsupported opinions.					
Strong and effective conclusion that clearly states whether or how you agree or disagree with the message of this documentary.					
Paper Organization: • Effective use of paragraphs and topic sentences • Smooth internal transitions and logical flow of ideas • Concisely written					
Integrated and cited all required readings for the assignment.					
Cited all sources in-text references (e.g., Jones & Smith, 2001) and include a References Cited section at the end of the paper. (APA format)					
Syntax, grammar, spelling, sentence structure.					
Used correct document filename "LastName_FinalPaper"					

Overall Grade:

Evaluation Rubric for Short Essays Work

	Description	Excellent (A)	Good (B)	Average (C)	Below Average (D)	Absent or Poor (F)
Thesis	<ul style="list-style-type: none"> Strong, clear thesis statement that directly answers all parts of the question 					
Content	<ul style="list-style-type: none"> Directly addresses all parts of the question with equal weight Thesis / argument supported with strong and relevant evidence Paper appropriately balanced (not biased) No unsupported opinions 					
Compre- hension	<ul style="list-style-type: none"> Argument/evidence demonstrates comprehension of core concepts Explains the core concept(s) clearly Accurately represents information 					
Organiza- tion	<ul style="list-style-type: none"> Effective opening and closing statements Effective use of topic sentences Smooth internal transitions and logical flow of ideas Concisely written Word count = 300 +/- 10 words (does not include citations) 					
Source Citation	<ul style="list-style-type: none"> Use of full suite of resources (readings, lectures, field experiences) Appropriate use of source citations Correct formatting of In-text citations and references section (APA citation style) 					
Gramma r /	<ul style="list-style-type: none"> Syntax, grammar, spelling Effective sentence structure 					

Comments and Overall Grade: _____
