



**THE TASMANIA PROJECT:
WILDLIFE MANAGEMENT & ECOLOGY
Winter 2017
January 22 – March 6**

ACADEMIC SYLLABUS

Faculty:

Instructor: Matthew Zylstra, Ph.D.

Contact Hours: We will all be in close contact, meeting every day throughout the course. There will be a number of “check-in days” where we will schedule student-faculty meetings. If you would like to have a meeting outside of those times, you can certainly make an appointment or find an appropriate available time and we will be happy to oblige.

Class Meetings: This Wildlands Studies Project involves seven days per week of instruction and field research, with little time off during the program. Faculty and staff work directly with students 6-10+ hours a day and are available for tutorials and coursework discussion before and after scheduled activities. Typically, scheduled activities each day begin at 8am, with breaks for meals. Evenings include some scheduled activities (films, guest visits) but mostly individual study/journal time. When at a field site, our activities may start as early as 4 am or end as late as 11 pm (for crepuscular/nocturnal wildlife observation). Flexibility is necessary to accommodate a variety of class times which maximize learning opportunities.

Course Credit: Students enrolled in Wildlands Studies Projects receive credit for three undergraduate courses. These three courses have distinct objectives and descriptions, and we integrate teaching and learning through both formal learning situations (i.e. lectures and seminars) and field surveys. Academic credit is provided by Western Washington University. Extended descriptions follow in the course description section of this syllabus.

1. **ESCI 497T, Environmental Wildlands Studies (5 quarter credits)** – Field study of environmental problems affecting the natural and human-impacted ecosystems of our study region, including the role of human interactions.
2. **ESCI 497U, Environmental Field Survey (5 quarter credits)** – In this field-based course we conduct on-site examinations and analyses of environmental problems affecting wildlands and wildlife in our study region.
3. **ESCI 497V, Wildlands Environment and Culture (5 quarter credits)** – On-site field studies concerning the relationship between local culture groups and the environment. Using region- and culture-specific case studies, students assess ways in which local people utilize natural resources, according to both local tradition and modern ‘developed’ norms. Course examines the social and biological consequences of environmental and wildland/wildlife management policies.

Readings: A Course Reader is established for this project and will be provided to students in advance of the project. Readings include selections from academic primary literature, technical reports, book chapters, and environmental impact assessments and planning documents. Field guides and textbooks supplement our field activities and are an integral part of our project. We will carry a shared reference library of these on all activities and field trips.

Contents of this syllabus:

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I. Project Overview

Tasmania's natural diversity is as staggering as it is contrasting. The island offers glaciated alpine landscapes with volcanic dolerite peaks to deep limestone cave systems; towering ancient rainforests with the world's tallest flowering plants to native grasslands and meadowlands, grass marshes and heathlands; storm-battered mountains in the southwest to serene stretches of white sandy beaches in the northeast; pristine waters and wilderness to valleys ravaged by overzealous industry; and abundant wildlife ranging from sea-birds to threatened carnivorous marsupials, like quolls. Tasmania's charismatic wildlife is found in densities unlike anywhere else on the Australian mainland. This provides an excellent setting for our interdisciplinary field studies, which will explore both the relationship between the Tasmanian people and their natural environment and the conservation of wildlife species across various ecosystems and habitats.

Initially, we will touch on something else that makes 'Tassie' unique: its proximity and launch point to Antarctica. We will briefly engage with researchers and institutions that are involved in (sub-)Antarctic exploration and learn about current research focuses as well as the logistics involved in organizing expeditions south.

We will then leave Hobart and, as a team, will explore and study the flora and fauna across the diverse Tasmanian habitats. Team members will take part in firsthand investigations of these ecosystems, the species they support, the people who utilize them, the threats they face and the conservation efforts in place. We will immerse ourselves in the fascinating natural history and biogeography of this island and examine the cultural and socio-economic history of the region. We will encounter conservation in many of its forms: from traditional to contemporary, from sustainable-use to protectionist and from private to public. This provides fertile terrain for discussing the merit of novel partnerships.

Much of the above will be encountered through the lens of Tasmanian Devil conservation. In what has become an iconic program, we will examine the many facets of saving the world's largest surviving carnivorous marsupial – from forging international alliances, to groundbreaking interdisciplinary research, and garnishing community support for this flagship and keystone species. We will look at trophic cascades and reflect on the extraordinary monitoring and rehabilitation efforts that are being carried out in order to reintroduce healthy populations of the "Tassie Devil" back into a functional landscape. We will carry out field assessments with field biologists to assist in monitoring species and habitats of concern.

We will examine how Tasmania's Gondwanaland heritage, climatic trends and more recent isolation from the mainland have shaped both natural and cultural history. We will visit some of the important remaining Aboriginal heritage sites to gain insight into what made Tasmanian Aboriginals unique and what we might learn from their legacy. With local community members, we will examine the history of land use, ownership, and conservation of the Tasmanian landscape and people's varying connections with it. We will interact with

various stakeholders in an effort to understand the diverse and sometimes conflicting perspectives on conservation. In examining various approaches to conservation, we will attempt to understand what has worked, what has not, and why.

These topics will be addressed through lectures and discussion, course readings, field activities, visits with local experts, exposure to ongoing research, hiking excursions, and field research projects. The course generally progresses from faculty-led instruction in the beginning (i.e. more lectures and readings) to student-led critical evaluation, analysis, reflection and synthesis toward the end of the program. The project provides a unique opportunity to interact with like-minded peers, explore new horizons and develop talents in the sphere of wildlife conservation and management.

We will spend extensive time sharpening our observational, awareness and reflective skills as part of a naturalist toolkit. We will learn to identify resident wildlife species both visually and by track and sign, as well as become familiar with key plant species. We will then learn and participate in on-going efforts to monitor these communities, focusing on foundational techniques that form an important part of the conservation ecologist's skill set. With these tools in hand, we can begin to address research questions about the functioning of these Tasmanian ecosystems, and the dynamics of monitoring and managing wildlife populations. Through on-site field studies and research projects, we will have unique learning opportunities to assess the merits of these efforts.

Our overarching goal is to help develop students' skills as field ecologists and scientific naturalists who can interface between diverse environments and complete the program with not only insight into this particular region, but also an understanding that allows them to critically evaluate and apply acquired knowledge in other settings in the future. Ultimately, students will be exposed to an integral approach to ecology: one that instills a deep appreciation for how to identify, address and unite the multiple perspectives available for understanding the natural world. We aim to have students equipped with tools that allow them to critically evaluate information in other settings as part of their future careers. Our primary requirement is that students are enthusiastic, curious, adaptable, genuinely open-minded and ready and willing to learn.

II. Learning Objectives

Our Tasmanian program gives students the opportunity for hands-on investigations into the ecology and conservation of its unique wildlife and protected areas. We will commence with an initial examination of the natural and cultural history and biogeography of Tasmania. We will then draw upon this knowledge as we delve deeper into the wild and spectacular places on offer, familiarizing ourselves with current wildlife conservation biology research, key stakeholders, environmental success stories, and persistent challenges and opportunities facing conservation on this island.

Following this project, students should have working knowledge of and experience in:

1. ***Natural history of Tasmania - geology, ecology, climate and other processes that have shaped and characterize the landscape.*** Through a series of presentations, workshops, fieldwork and journal assignments students will learn about Tasmania's dynamic landscapes. Species identification is essential to managing and understanding the communities in this region and for identifying any change over time so techniques for keying out and confirming identification of plant and animal species using field guides will also be taught. Students will learn about relevant ecological concepts and be able to identify habitat types and the processes that underlie distinct ecological communities.

2. ***Cultural, political and governance history of Tasmania from Indigenous and European settler perspectives.*** Following relevant introductory lectures, students will encounter various perspectives on local history firsthand. We will meet community groups and stakeholders who have varying ties and relationships to the Tasmanian landscape. Students will gain additional insight into relevant history through numerous discussions and readings.
3. ***World Heritage, wildlands and wilderness – theory, management practice and contested perspectives.*** Students will gain insight into the important role that these concepts play in contemporary Tasmanian conservation. The implicit and explicit values of each will be discussed as well as conflicting perspectives on their merit for both ecology and society. Their relevance to conservation management will be revisited throughout the program.
4. ***Field research project design and implementation (in the context of threatened wildlife management and conservation).*** Students will learn how to design a field research project and collect field data for monitoring and managing local wildlife populations. Students will be mentored through the research process, from receiving introductory presentations to working alongside local field biologists and fellow peers. The skills learned will be transferable to other fields and future careers: effective teamwork, project organization, time management, utilizing feedback, managing, synthesizing and interpreting information and presenting results in oral and written formats.
5. ***Naturalist field skills, including methods for recording and sharing observations in multiple formats.*** Effective naturalist skills not only promote an intimate understanding of the biophysical world but are integral to robust field biology and good conservation science. Students will attune their awareness and observation skills by connecting with their surroundings in different ways so as to be able to identify ecological patterns and processes. Students will learn the Grinnell method for scientific field journaling, gaining experience in recording biotic and abiotic observations.
6. ***Critical reading, reflection and discussion through evaluation of course literature in the natural and social sciences.*** Throughout this course, we rely on primary literature in lieu of a textbook; therefore, students gain a significant amount of experience reading and critically discussing primary literature. Students digest literature most days, learning over time and with practice where to focus their attention to be able to synthesize and evaluate the work. Most readings are debriefed with a group discussion, ensuring that students have understood the work and are able to comment and express an opinion on it. Students will eventually use these discussions to critically reflect on their own perceptions and worldviews.
7. ***Rewilding, reconnecting and regenerating.*** Students will encounter diverse perspectives on the natural world and different ‘ways of knowing’ and being across and within the social-ecological continuum. These will be discussed in the context of three increasingly popular and culturally relevant themes: rewilding of landscapes and self; reconnecting with nature and people; and regenerating by leading from the emerging future.

The above topics will be addressed through classroom lecture and discussion, course readings, field activities, visits with local experts, exposure to ongoing research, backcountry excursions, and field research projects. The course generally progresses from faculty-led instruction in the beginning (i.e. more lectures and readings) to student-led critical evaluation, analysis, and synthesis by the end of the course. Our overarching goal is for students to leave the course not only with extensive knowledge about this particular region, but also broader skills and understanding of natural and social sciences that allow students to critically evaluate information in other settings in their future lives and careers.

III. Course Descriptions

We teach these three courses in an integrated format in the field. However, students will receive transcript credit for the following three courses:

ESCI 497T, Environmental Wildlands Studies (5 quarter credits) – Field study of the natural history as well as the environmental challenges and opportunities for Tasmania’s ecosystems, including human dimensions.

Experiences/Activities: Students will become familiar with the flora, fauna, ecology, geography and natural history of Tasmania. Students will be instructed in methods of journal recording and critical reflection and will learn directly through observation and experience, as well as through guidebooks, lectures, stakeholder and community interaction, technical keys, and scientific and popular literature. The course will introduce wildlife ecology and management in the context of Tasmania, including threats from invasive species, habitat degradation and climatic events.

The course will explore the steps that governmental and non-governmental agencies are taking to address and combat current issues through actions tied to wildlife conservation and land management. Students will interact with relevant personnel to gain insight into current trends. Students will participate in various field projects led by researchers and/or land managers to further experiential understanding of challenges and opportunities faced.

Students will complete an in-depth field journal with detailed scientific naturalist observations, trip logs and other field surveys. They will be required to participate in activities and discussions, sharing viewpoints and critiquing arguments or topics encountered. Discussions and role playing are some of the tools used to facilitate these processes. Additionally, students will be assigned readings from recent scientific literature and will be responsible for participating and leading seminar discussions. Students will prepare a pre-assigned research topic that will address the natural and cultural history pertaining to an area scheduled to be visited. Students will give an oral presentation summarizing their research for peers.

Outcomes: Students will demonstrate knowledge of ecosystems, natural history and flora and fauna of Tasmania. Students will be able to critically analyze and reflect upon the relevance and significance of scientific research presented, conservation projects participated in, and research or management organizations visited. Across these diverse contexts, students will demonstrate their own process of learning by developing skills in field observation and documenting and communicating observations in multiple formats. Students will employ various techniques to present and record their observations including natural history sketching, narrative writing and mapping.

Evaluation/Assessment:

Oral Presentation	15%
Trail Guidance	10%
Field Journal	50%
Final Exam	15%
Participation & Discussions	10 %

ESCI 497U, Environmental Field Survey (5 quarter credits) – Field studies course focusing on field survey methods and on-site biodiversity analysis and assessment as part of individual and group research on wildlife management.

Experiences/Activities: Students will be taught methods of field data collection, analysis, interpretation and presentation. Students will build species identification lists by using manuals, field guides and keys, which will

be introduced in conjunction with taxonomic concepts. Students will be introduced to research projects and participate in related practical research-implementation efforts, such as biodiversity monitoring. Students will propose, design and complete a number of short field assessments and to capture their understanding of how techniques may be applied in the field.

Students will be able to identify the key testable questions for a research project and identify what elements need to be measured to answer those questions. Students will discuss their results in light of current management or conservation issues and should be able to demonstrate how their results compare with or add to current knowledge of their study subject. Students should be able to demonstrate their understanding of the natural and/or social science processes and concepts that underpin their research, including relevant ethical dimensions.

Outcomes: Students will develop skills in field observation, data collection, and data interpretation. They will gain the ability to undertake field projects and be able to synthesize, organize, analyse, and present final data in a way that is appropriate for peers and other interested researchers/stakeholders. Students will be able to clearly describe what study they are carrying out, why they are carrying out this study, what methods they are using to carry out this study, and what they expect to learn by conducting this study. Students will display competency using all tools provided to them. Students will be able to discuss their results in light of current management or conservation issues, and demonstrate how their results compare with or add to current knowledge of their study subject. Students will be able to demonstrate proficiency with keys and manuals as well as the methods, principles, analysis, and applications of conservation ecology.

Evaluation & Assessment: Demonstrate synthesized knowledge of field research, analysis, presentation, application.

Species ID List	25%
Mid-term Assessment	15%
Revision Quizzes (2 x 5%)	10%
Field Research Report	25%
Final Exam	15%
Active Participation	10%

ESCI 497V, Wildlands Environment and Culture (5 quarter credits) – Field studies course studying the relationships between society and the environment. Using regional- and cultural-specific case studies, students assess human relationships with land, ecosystems and biodiversity, and related social-ecological consequences.

Experiences/Activities: Students will gain familiarity with the social-cultural dimensions of conservation in Tasmania. From pre-colonial Aboriginal history to the arrival of the first European settlers and the cultural destruction that followed. Through personal immersion, students will learn about the unique Tasmanian culture which has subsequently evolved and how its high-profile political controversies have had influence at national and global scales. We will look at how Tasmania continues to do things a little differently by fostering peace-making deals between activists and industry and being a vibrant home to permaculture and ecologically sustainable lifestyles. We will engage with some of the island’s proactive community groups and get a taste of their contribution to the evolving Tasmanian identity. Throughout the program, students maintain a cultural dictionary to familiarize themselves with local language, customs and colloquialisms. This course incorporates lectures, talks from community representatives, and visits to culturally significant field sites. Students will be required to compose a paper on a topic of their choosing which integrates their own experience and insight gained with the social-cultural dimensions of Tasmania. This includes reflection on issues, strategies, policies, successes and failures, and of how communities have interacted with their environment. This may include

reflection on key issues, strategies, policies, successes and failures and of how communities (Aboriginal and European) have utilized, affected and interacted with their natural resources over time.

Outcomes: Students will become keenly aware of how social-cultural dimensions continue to shape conservation and natural resource management in Tasmania. They will be able to critique relevant literature and lead discussions. Students will be able to reflect upon components on ESCI 497T and ESCI 497U in accordance with local social contexts. Where appropriate, students will familiarize themselves with relevant Indigenous Ecological Knowledge (IEK). They will engage with local stakeholders and community members as required, to deepen understanding of the inter-linkages between cultural and natural histories and the tensions between ecological, economic and political objectives and ideologies.

Evaluation & Assessment:

Learning Journal	50%
Opinion Piece/Critique	15%
Local Dictionary	10%
Final Exam	15%
Participation & Discussions	10%

IV. Assessment

The following is an overview of the academic requirements for the program. Some of the assignments are on-going (journal and readings) and some have specific dates (e.g. exams, projects, research papers). Due dates are subject to change in response to local environmental variables. Final grades will be based on the following items:

Course Number	Assessment Item	Date due	Percent of grade
ESCI 497T	Field Journal (Initial Review)	7 th February	15%
	Field Journal (Final Review)	28 th February	35%
	Oral (Area) Presentation	See Schedule	15%
	Final Exam	1 st March	15%
	Trail Guidance / Interpretation	19 th February	10%
	Active Participation & Discussion	Entire Program	10%
ESCI 497U	Mid-term Assessment (Project Proposal)	21 st February	15%
	Field Research Report (Group)	3 rd March	25%
	Revision (Pop) Quizzes (5% x 2)	At random	10%
	Species ID List	28 th February	25%
	Final Exam	1 st March	15%
	Active Participation & Involvement	Entire program	10%
ESCI 497V	Learning Journal (Initial Review)	7 th February	15%
	Learning Journal (Final Review)	28 th February	35%
	Local Dictionary	28 th February	10%
	Final Exam	1 st March	15%
	Opinion Piece	3 rd March	15%
	Active Participation & Engagement	Entire Program	10%

ESCI 497T, Environmental Wildlands Studies (5 quarter credits)

1) Field Journal – 50%

The field journal is an integral part of the Wildlands Studies Tasmania program – it serves as a learning tool and an opportunity to closely attend to the environment, document and codify observations and reflect on experiences. The field journal will be an ongoing assignment throughout the course. Several activities will be designed at the beginning of the course which will help outline what characterizes a thorough, well-written, detailed, observation-based field journal. We will focus on various techniques and styles for recording observations in the field journal.

The field journal will consist of natural history journal entries based on both the Grinnell Method and other nature writing approaches which incorporate the student's personal experiences and observations (see Parker article). The focus of journal entries is a detailed record of observations from an explicit time period in a specific location written in a coherent, readable, and sometimes creative way. It is an in-depth descriptive natural history record. The journal uses different formats: silent observation in a single spot; an ongoing description along a prescribed route; a theme observed several times; a landscape description and the forces that influence it; a focus on relationships among species observed (food webs; other interactions); geological history as seen by the observer; and/or solely on what is encountered with the full and exacting use of the senses. The emphasis is therefore on the phenomena that the student senses and experiences and much less about what they did, were told or read that day – even though parallels or comparisons may be drawn utilizing this complementary information.

Class notes and personal notes are not included as formal journal entries, although we do encourage students to take notes, as they will be useful for other assignments or examinations. When journals are handed in for review, please ensure that assessable items are clearly indicated. The journal will be collected at three different times during the program – after 1 week to ensure students are on track (non-assessable), after 2-3 weeks (initial review) and after 5.5 weeks (final review).

Field journals will consist of:

i) Grinnell Trip Logs – 25%: 4 entries from locations as prescribed by the Instructors. This (adapted) Grinnell Trip Log is a structured, descriptive, narrative record of field walks (not in table/grid format). It consists of the following elements:

1. Date & Time: Head your trip log entry with the date and the start and end time of your trip.	6. Flora: Descriptions of characteristic/notable vegetation seen, i.e. names and habit of plant and tree species, incl. interactions.
2. Location: Give the name of the area and the name of the hiking trail/route. Include start/end GPS coordinates if available.	7. Fauna: Record and description of sightings of any animals seen (incl. behavior) and/or evidence of their tracks, calls and signs.
3. Weather: Start/end conditions and notable weather changes, e.g. temperature, % cloud cover, wind speed, wind direction.	8. General Commentary: A brief personal summary reflection on the walk and/or other notable observations, e.g. geology, soils
4. Route Description & Map: Concise description of the route travelled, with distances, times, notable markers or changes in direction. On a left page, sketch route map with key features.	9. Species Record & Sketches: Descriptions of 3-5 species observed (e.g. flora, fauna, tracks, signs). Use field guides to support observations. On left page, sketch species and label well.
5. Habitat(s): Description of the area's ecology, general vegetation type and changes in habitat, including ecotones.	10. Two Questions: Conclude with two detailed questions about ecological phenomena encountered that got you wondering.

This log is a careful summary of observations and field notes taken throughout the day. This entry usually takes 1-2 hours to write-up, but can take longer depending on the day of record. All entries must include the 10 elements as outlined above.

Grinnell Trip Log entries will be **graded** according to:

- *Organization*: Entries must be written in an organized way and should follow a logical format that remains consistent with the established criteria. Information should be accessible and related to specific dates and locations.
- *Completeness*: Includes the essential elements of a field journal and the prescribed entries have been completed.
- *Accuracy of Content*: Provides an accurate and comprehensive reflection of phenomena encountered during the trip (e.g. correct orientation information and habitats and species encountered).
- *Neatness/Readability*: Other readers should be able to easily use your journal as a reference.
- *Effort*: The entries should reflect that serious attention/effort has been invested, and improvement made, throughout the program.

ii) "Today I noticed..." – 10%: at least 5 entries throughout the program as determined by the student.

These are entries that begin with the above phrase (or, if done weekly, "This week I noticed...") and leads into a short reflection on specific ecological phenomena observed (e.g. species interactions) that ignited a sense of curiosity or newfound learning. The reflection should try to draw on additional information from field guides or lectures to support, refute or deepen insight into the ecological observation. Sketches or other graphic representations are highly encouraged.

iii) Other assignments/field activities as assigned – 5%: Refers to any other specific journal activity or assignment given by the Instructors throughout the program, e.g. field surveys (e.g. bird counts), botany and ethology exercises, mapping.

Include a table of contents on the first page of your field journal so entries can be more easily located.

2. Oral (Area) Presentation – 15% (individual)

Students will be assigned a topic a minimum of four weeks before arriving to Tasmania. During this time, students will carry out bibliographic research and then complement it with the activities and experiences during the program, if appropriate. An oral presentation of 10 minutes (+5 minutes facilitated discussion) and a 1-2 page summary of **bulleted** information will be evaluated for this project. Oral presentations are graded according to:

- *Content*: coverage, relevance, accuracy, depth, originality, creativity.
- *Structure*: logical and ordered flow of information, adhering to the 10 minute time limit.
- *Style*: engagement/participation of the audience, clarity, demeanor (interested, enthusiastic, good eye contact).
- *Discussion*: ability to generate/facilitate discussion on the topic and answer questions on key points.
- *Bullet-point summary*: 1-2 page overview of key points - can be legibly handwritten or typed up. This is a summary and not just your personal notes. Must include your reference list, i.e. articles/books/websites/personal sources used (at least 3 different sources). Cut/paste plagiarism (i.e. unreferenced material) will not be accepted.

3. Trail Interpretation/Guidance – 10%

Utilizing their acquired field observation skills and understanding of the Grinnell trip log method, students will prepare guidance for a given hiking trail. These interpretation trail notes will be prepared with the view that they will be used by members of the public, i.e. walkers, who wish to have knowledge on the route, distances,

obstacles, as well as guidance on the terrain in terms of the habitats, species and ecological, geological or cultural interest areas which may be encountered.

4. Final exam – 15%

Students will take a written exam to evaluate their understanding of the key themes addressed throughout the course. Some ‘facts’ may be examined; however, the emphasis is more on demonstrating understanding and application of core concepts to scenarios.

5. Active Participation & Discussion – 10%

Includes general engagement with the subject matter and participation in group readings and discussions.

ESCI 497U, Environmental Field Survey (5 quarter credits)

1. Species Sightings List – 25%

Starting at the back of their field journals, students will prepare columns with the following headings and list species chronologically:

<i>Place</i>	<i>Date & Weather</i>	<i>Classification (Taxa)</i>	<i>Species Name (Common & Taxonomic)</i>	<i>Habitat</i>	<i>Field Notes</i>	<i>Count</i>
Maria Island	07/06: Part cloudy, strong SW breeze	Bird	1. Sulphur-crested Cockatoo (<i>Cacatua galerita</i>)	Coastal Open woodland	Feeding on sheoak seeds, making guttural sounds, distinctive crest curves forward	3

Species lists will be graded according to:

- *Consistency of use*: it is used continuously throughout the program.
- *Accuracy*: information entered is accurate.
- *Representation*: contains a fair representation of key species encountered per area visited.
- *Detail*: brief field notes are expected for each entry and may include notable traits, behavior and interactions.

Remember that species can and should be entered multiple times across each location, particularly if that reflects the range of a particular species; in other words, the species list is more than just a ‘tick box’ (“seen this”) list.

2. Mid-Term Project Proposal - 15% (in pairs or small groups)

In pairs, student will develop a research proposal for a (hypothetical) project in a given context. The proposal will be presented to the faculty (and possibly other stakeholders) as if the students are researchers ‘pitching’ to a panel of decision-makers and grant funders. The proposal should:

- *Follow a logical structure*: i.e. usually in the accepted format of: **i) Introduction** (background; problem statement; rationale; relevance); **ii) Area Description** (ecological and social-cultural); **iii) Research Questions** (or hypothesis); **iv) Materials & Methods** (including sub-section on ethical considerations); **v) Time Schedule**; **vi) Budget**; and **vii) Anticipated Results**.
- *Detail how apply field survey techniques can will be applied in the proposal*, demonstrating understanding and creativity.
- *Demonstrate relevance to both local context and the ‘bigger picture’* (e.g. conservation and community outcomes).
- *Be an oral presentation accompanied by a bullet-point summary* of your proposal to be handed to the panel as reference notes.

3. Field Survey Report – 25% (in groups)

Students will write a detailed field report covering the methods and outcomes of their field survey activities conducted as part of – and as a contribution to – the Save the Tasmanian Devil Program. Grading will be according to:

- *Structure*: Clear logical structure that follows a general, prescribed or adapted format of: Introduction; Area Description(s); Objectives; Methods & Materials; Results; Discussion and that these are outlined in a neat and readable way.
- *Thoroughness*: Each of the above sections are completed with sufficient effort, accurate detail and are easy-to-follow.
- *Reflection*: The report critically reflects on methods and results and identified limitations and future recommendations.

(Note that the above criteria may be adapted according to the wishes of the field biologist / stakeholders involved)

1. Revision (Pop) Quizzes – 10%

Short quizzes which assess the student's level of attentiveness, retention and of factual information imparted, their understanding of field survey techniques performed and their recollection of field observations/identifications made.

2. Final Exam – 15%

Students will take a written exam to evaluate their understanding of the key survey methods encountered throughout the program. The emphasis will be on how these techniques can be applied to selected real-life scenarios.

3. Active Participation & Involvement – 10%

Students will be evaluated according to their active participation and involvement in all field survey activities, particularly their contribution to group projects.

ESCI 497V, Wildlands Environment and Culture (5 quarter credits)

1. Learning Journal – 50%:

This social-cultural journal is central to your personal development and learning throughout the program. It provides an open non-judgmental space for you to engage in thoughtful reflection, critical insight, creative expression and deepening discussion of your own and others' language, perceptions and worldviews. It is a place for exploring social-cultural interactions and dynamics.

i) Reflective entries (40%) - at least 12 thorough entries or more if shorter - more regular entries are preferred. Similar to the "social-ecological autobiography" described by Hayes (2008) in your first mandatory reading, these entries will include regular insightful reflections on learning experiences embedded within specific contexts, particularly concerning interactions with course material, guest speakers, local communities and your peers. Entries should track questions and changes in personal beliefs, perceptions, worldviews and learning, possibly as part of comparative reflection on past experiences/knowledge/places encountered back in your homeland. The entries highlight key learning moments and document information that finds resonance (appeal) or dissonance (conflict) within you. Entries can include poetry, art, or free-writes. **The journal will conclude with a final reflective summary** (as the 13th entry, minimum) which synthesizes your "autobiography" during the program, in terms of reflection on course intentions and identifying how pivotal learning moments have shaped you. **Each entry begins with the phrase: "Right now I feel..."** before continuing on to whatever it is you wish to write about (the entry itself need not be related to your "Right now I feel..." statement).

Include a **table of contents on the first page** of the Learning Journal so entries can be easily located.

Grading criteria is as follows:

- *Depth*: The reflection makes an effort to explore, probe, question, query and mine the topic, possibly even returning to the issue again in subsequent entries with a fresh perspective or different angle. Feel free to engage in philosophical discussion.
- *Wider Reflection*: The entry may take the specific topic and put into a broader context and draw comparisons with elsewhere.
- *Connections*: Insightful links are made with: present or past experiences, knowledge, discussions, course themes, literature, etc.
- *Style*: Entries are readable, articulated and make good use of first-person narrative, prose, dialogue, poetry or art.
- *Effort*: Entries are completed regularly throughout the program (at least twice a week) and improve as the course progresses.

ii) Nature writing (10%): from locations as prescribed by the Instructors, approximately 6 entries.

These pieces encourage creative and expressive reflection and require students to illuminate the meeting of both 'inner' and 'outer' aspects of their lived experiences. Entries should be inspired by and related to the specific place and will be graded according to:

- *Use of language*: Using rich creative language (e.g. metaphor, simile, alliteration, onomatopoeia).
- *Diversity of expression*: Employing a diversity of writing/journaling techniques (e.g. poetry, dialogue).
- *Sensory detail*: Encapsulating a range of sensory detail (i.e. sight, sound, smell, touch, etc.).
- *Natural descriptions*: Making links to ecological observations and processes with your writings.
- *Presence of the narrator*: Writing in a way that shows how you as narrator are interfacing with/experiencing your surrounds.
- *Wider reflection*: Using the scene and observations to generate broader perspectives on self, nature and being in the world.

2. Local Dictionary – 10%

The local dictionary is a list of cultural-specific words/phrases (i.e. Aboriginal words and Australian English slang/colloquialisms) encountered during the program that are unique to Australia. Begin the dictionary on the **back page of your cultural journal** and create a table with the following three columns:

Word or Phrase	Language	Translation
Trouwunna	Eastern Aboriginal dialect	Tasmania

Grading will look for:

- *Accuracy*: Spelling, translation and language groups are correct.
- *Attentiveness*: Demonstrates an ear for being attentive to new words/phrases encountered during the program.
- *Representative*: The dictionary is used consistency throughout the program and at key cultural exchanges/opportunities.
- *Effort*: Reasonable effort has been invested throughout the program.

3. Opinion Piece/Critique – 15% (individual)

Students will prepare a concise 'opinion piece' (approx. 5 pages) on a social-cultural topic of their choice but that is relevant to key themes and concepts encountered throughout the program. The format of the reflection is relatively open but should be seen as an exercise in science communication, e.g. magazine/newspaper op-ed, critique, review, letter to the editor, investigative report. Your task is to convey a

potentially complex social-cultural topic in a succinct, engaging and argumentative way. This popular piece must explore various perspectives on the topic (e.g. as encountered with guests, in literature or group discussion), including your own views. In this regard, aim to include, interweave and/or refer to personal stories/experiences that help illustrate your point, the complexities and/or the possible shifting positions/contexts of the theme. The piece should include some reference to literature, e.g. "According to..."

Grading criteria is as follows:

- *Structure*: the reflection is logically-ordered according to the chosen format and is potentially publishable.
- *Style*: the style of writing is succinct and engaging and effectively communicates the key message(s)/themes.
- *Argumentative*: the reflection highlights different perspectives (even if they are not your own) and, if appropriate/relevant, takes a well-argued position on one of them.
- *References*: the reflection draws on and refers to available literature which brings additional perspectives/opinion/theory.

4. Final Exam – 15%

Students will demonstrate an understanding and ability to critically reflect on key social-cultural issues encountered during the program.

5. Active Participation & Engagement – 10%

Students will be evaluated according to active participation in everyday activities as well as their attitude and involvement when engaging with guests and local hosts. In this particular course, it is important that the student demonstrates a genuinely open mind, a willing attitude, and a respectful etiquette in interacting with team members and local groups. Finally, the student's consistent and positive contribution to the team dynamic (e.g. by embracing assigned roles and responsibilities) will be taken closely into account.

V. Grading Scheme

To convert final grade percentages to letter grades for each course that will appear on your transcript, we will use the following grading scheme:

Grade	Percentage	Grade	Percentage	Grade	Percentage	Grade	Percentage	Grade%
		B+	80.0 - 84.9	C+	60.0 - 64.9	D+	40.0 - 44.9	
A	90.0 - 100	B	70.0 - 79.9	C	50.0 - 59.9	D	30.0 - 39.9	F < 25.0
A-	85.0 - 89.9	B-	65.0 - 69.9	C-	45.0 - 49.9	D-	25.0 - 29.9	

VI. General Reminders

Academic integrity is as relevant in this field course as it is at your home institution. Plagiarism, using the ideas or materials of others without giving due credit, cheating, or putting forth another student's work as your own will not be tolerated. Any plagiarism, cheating, or aiding another to cheat (either actively or passively) will result in a zero for the assignment. Cases of academic dishonesty may be reported to your home institution.

Assignment deadlines are necessary so course instructors can get the grading done on time. These deadlines need to be enforced so that diligent students are not penalized for being punctual. Therefore, work submitted late may receive a lower grade than equivalent work submitted on time. If you think circumstances may keep you from completing your work on time, talk to the instructor before the assignment is due.

Participation and attendance are crucial throughout this project. Because of the demanding schedule and limited time, all components of the program are mandatory (unless indicated) and missing even one activity can have a proportionally greater effect on your final grade. Hence, it is important to be prompt and prepared (i.e., with required equipment) for all activities.

Students with special needs should meet with the lead instructor as soon as possible to discuss any special accommodations that may be necessary.

VII. Academic Schedule & Course Content (Draft - Subject to Change)

The anticipated academic schedule and daily itinerary is outlined in the following table, but daily scheduling is subject to change according to local conditions (e.g. weather, final availability of hosts/presenters, and 'strategic opportunism'). We ask for your cooperation in being open to changes and a degree of flexibility with the programming. Thank you.

Date 2017		Overnight at	Lecture Topics & Activities	Assessment Due	Readings Due
Friday, 22 January	AM PM	Hobart	Arrival Hobart Airport 16:00 / Group Dinner	497T: <i>Oral Presentations (OP) as scheduled</i>	
Saturday 23 January	AM PM	Hobart	09:00: Orientation / Syllabus / Journal Introductions UTAS Institute for Marine & Antarctic Studies (IMAS)		M1 Hayes 2009 - Into the Field... M2 Parker nd - Natural History...
Sunday 24 January	AM PM	Hobart/Neika	UTAS Institute for Marine & Antarctic Studies (IMAS) Shopping / Discussion / Intro to Save the Tassie Devil Program	497T: OP - Wellington Park	
Monday 25 January	AM PM	Hobart/Neika	Literature Discussion / Debrief / Student Check-In / Directions Introduction Species ID / Cathedral Rock (Grinnell Practice)	497T: OP - Huon & Hartz NP	M3 McCallum 2008 - DFTD Lessons...
Tuesday 26 January	AM PM	Hobart/Neika	Tahune Forest Walk: Introduction to Canopy / Tall Tree Research Tahune Forest Walk: Introduction to Canopy / Tall Tree Research		
Wednesday 27 January	AM PM	Mt. Field	Introduction to Tas. Land Conservancy / Tas. Devil Sampling Bonorong Wildlife Sanctuary: Introduction to Wildlife Rehabilitation	497T: OP - World Heritage Areas	M4 Hobday & Minstrell 2008 - Roadkill
Thursday 28 January	AM PM	Mt. Field	Introduction to Tasmanian Habitats / Grinnell Naturalist Trip Log Introduction to Nature Writing / Night Walk	497T: OP - Mt. Field NP	

Friday 29 January	AM	Dobson Lake	Introduction to Alpine Landscapes: Lake Dobson Walk		M5 Breen 2015 - A timeline...
	PM	Mt. Field	Introduction to the Socio-Cultural and Political Landscape		
Saturday 30 January	AM	Bronte	Debrief / Discussion / Review	497T: OP - Five Rivers	
	PM	Five Rivers	Introduction to Five Rivers / Private Land Conservation		
Sunday 31 January	AM	Bronte	Introduction to Wildlife Camera Trapping		M6 Bryant & Keble 2014 - The Value...
	PM	Five Rivers	Introduction to Botany / Nature Writing		
Monday 1 February	AM	Bronte	Literature Discussion / World Heritage & Wilderness		
	PM	Five Rivers	Naturalist Awareness		
Tuesday 1 February	AM	Strahan	Travel (incl. Nelson Falls, Franklin River, Queenstown)	497T: OP - Franklin/Gordon 497T: OP - Queenstown Strahan	M7 Fletcher & Thomas 2010 - Holocene
	PM	Henty Dunes	Contrasting Landscape Histories: Wasteland vs Wildlands		
Wednesday 3 February	AM	Tarkine	Introduction to Animal Tracking	497T: OP - The Tarkine	
	PM	Corinna	Area Introduction / Temperate Forest Ecology		
Thursday 4 February	AM	Tarkine	Grinnell Naturalist Trip Log		M8 Flynn et al 2011 - Mammal...
	PM	Corinna	Temperate Forest Ecology & Wildlife Survey Techniques		
Friday 5 February	AM	Arthur River	Nature Writing / Naturalist Awareness	497T: OP - Arthur River - Pieman	
	PM		Area Introduction / "Edge of the World" / Indigenous History		
Saturday 6 February	AM	Arthur River	Debrief / Discussion / Introduction to Tas. Parks & Wildlife		M9a Swaisgood & Sheppard 2010 ... M9b Swaisgood & Sheppard 2011...
	PM		Nesting Shorebird Surveys / Exotic Species Monitoring & Removal		

Date 2017		Overnight at	Lecture Topics & Activities	Assessment Due	Readings Due
Sunday 7 February	AM	Arthur River	Trail Testing & Guidance		
	PM		Trail Testing & Guidance		
Monday 8 February	AM	Arthur River	The Archeology of Aboriginal Cultural Heritage		
	PM		Indigenous Protected Areas (incl. Nature Writing West Point IPA)		
Tuesday 9 February	AM	Arthur River	Field Survey Tools & Techniques Workshop	497T: Field & 497V: Learning Journals (Mid-Review)	
	PM		Nesting Shorebird Surveys		
Wednesday 10 February	AM	Cradle Mount	Travel and food shop		M10 Bowman et al 2013 - Contracting...
	PM		Debrief / Discussion		
Thursday 11 February	AM	Cradle Mount	Process Survey & Monitoring Data	497T: OP - Cradle Mountain NP	
	PM		Interpretative Centre / Wildlife Research & Captive Breeding		
Friday 12 February	AM	Cradle Mount	Walk to Cradle Peak (via Interpretative Centre)		
	PM		Debrief / Discussion		
Saturday 13 February	AM	Mole Creek	Logistical preparations (food shop) via Sheffield	497T: OP - Mole Creek Karst NP	
	PM		Area Introduction / Debrief		
Sunday 14 February	AM	Mole Creek	Introduction to Speleology / Mole Creek Karst NP		
	PM		Introduction to Speleology / Mole Creek Karst NP		
Monday 15 February	AM	Walls of Jerus.	Hike to Walls of Jerusalem NP	497T: OP - Walls of Jerus. NP	M11 Ashley 2007 - Understanding...
	PM		Area Introduction		
Tuesday 16 February	AM	Walls of Jerus.	Grinnell Naturalist Trip Log		
	PM		Grinnell Naturalist Trip Log / Thematic Discussion		

Wednesday 17 February	AM PM	Walls of Jerus.	Grinnell Naturalist Trip Log Thematic Discussion: Nature Connectedness & Wilderness		
Thursday 18 February	AM PM	Mole Creek	Return to Base Camp Discussion / Debrief		
Friday 19 February	AM PM	Narawntapu NP	Wildlife Rehabilitation: Trowunna / Food Shop Area Introduction / Group Project Introduction	497T: OP - Narawntapu NP	M12 Smith et al - Impact of profound...
Saturday 20 February	AM PM	Narawntapu NP	Field Survey Tools & Techniques Workshop Review Group Project Proposal / Surveys / Nightspotting		
Sunday 21 February	AM PM	Narawntapu NP	Bird Hide Survey / Shorebird Count Group Project Field Surveys / Nightspotting	497T: Trail Guidance	
Monday 22 February	AM PM	Narawntapu NP	Group Project Field Surveys / Preparation Shopping / Logistics		
Tuesday 23 February	AM PM	Mt. William NP	Group Project Presentations	497U: Mid-Term Assessment	M13 Fletcher 2008 - Bring Em Back...
Wednesday 24 February	AM PM	Mt. William NP	Baseline Field Surveys (with Save the Tassie Devil biologists)		
Thursday 25 February	AM PM	Mt. William NP	Baseline Field Surveys (with Save the Tassie Devil biologists)	497T: OP - Mt. William NP	

Date 2017		Overnight at	Lecture Topics & Activities	Assessment Due	Readings Due
Friday 26 February	AM	Mt. William NP	Baseline Field Surveys (with Save the Tassie Devil biologists)		M14 Greer 2015 - Rewilding... M15 Hunter et al 2015 - Reintroduction...
	PM				
Saturday 27 February	AM	Mt. William NP	Baseline Field Surveys (with Save the Tassie Devil biologists)		
	PM				
Sunday 28 February	AM	Freycinet	Logistics (Pack-up and Travel to Freycinet via Bicheno)	497T: OP - Freycinet NP	
	PM		Walk Wine Glass Bay		
Monday 1 March	AM	Maria Island	Travel to Orford Ferry - Ferry to Maria Island	497T: OP - Maria Island NP	
	PM		Area Introduction		
Tuesday 2 March	AM	Maria Island	Tasmanian Devil post-release: social-ecological implications	497T: Field & 497V: Learning Journals (Final Review) 497U: Species Sighting List 497V: Local Dictionary	M16a & b - Rethinking Rewilding... M17a & b - Trophic Rewilding...
	PM		Rewilding: The case for and against		
Wednesday 3 March	AM	Maria Island	Discussion / Debrief	497T: OP - Tasman NP	
	PM		Course Review /Evaluation		
Thursday 4 March	AM	Maria Island	Final Exam	497T, 497U, 497V: Final Exam	
	PM		Course Evaluation		
Friday 5 March	AM	Hobart	Travel to Tasman Peninsula / Tasman Peninsula Boat Cruise	497U: Field Survey Report 497V: Opinion Piece	
	PM		Final Dinner		
Saturday 6 March	AM	NA	06:00 Course closes		
	PM				

Readings to be discussed while in the field (provided upon arrival):

VIII. Reading List

- Ashley, P. 2007. Toward an understanding and definition of wilderness spirituality. *Australian Geographer* 38:53–69. Routledge.
- Bryant, S. 2014. Bush Blitz 2014 Five Rivers Reserve Terrestrial Mammals and Birds Bush Blitz 2014 Five Rivers Reserve: Terrestrial mammals and birds:0–22.
- Bryant, S., and J. Keble-Williams. 2014. The value of mammal monitoring on the five rivers reserve, Bronte.
- Hayes, M. A. 2009. Into the field: Naturalistic education and the future of conservation. *Conservation Biology* 23:1075–1079.
- Jones, M. E., P. J. Jarman, C. M. Lees, H. Hesterman, R. K. Hamede, N. J. Mooney, D. Mann, C. E. Pukk, J. Bergfeld, and H. McCallum. 2007. Conservation Management of Tasmanian Devils in the Context of an Emerging, Extinction-threatening Disease: Devil Facial Tumor Disease. *EcoHealth* 4:326–337.
- Lechner, A. M., D. Sprod, O. Carter, and E. C. Lefroy. 2015. Using dispersal guilds to assess connectivity at the landscape scale: a case study in the Tasmanian Midlands.
- Males, N. (n.d.). Midlands Conservation Fund – an innovative conservation tool developed in response to the social, economic, and ecological conditions of the Tasmanian Midlands: 180–185.
- Manolis, J. C. et al. 2008. Leadership: A new frontier in conservation science. *Conservation Biology* **.
- Morse, M. 2013. A quality of interrelating: Describing a form of meaningful experience on a wilderness river journey. *Journal of Adventure Education & Outdoor Learning*: 1–14.
- Morse, M. 2014. Being alive to the present: Perceiving meaning on a wilderness river journey. *Journal of Adventure Education & Outdoor Learning*: 1–13.
- Parker, A. (n.d.). Natural history and naturalist skills.
- Schultz, P. W. 2011. Conservation means behavior. *Conservation Biology* 25:1080–1083.
- Silveira, L., A. Jacomo, and J. Diniz-Filho. 2003. Camera trap, line transect census and track survey: A comparative evaluation. *Biological Conservation* 114:351–355.
- Smith, L. D. G., S. H. Ham, and B. V. Weiler. 2011. The impacts of profound wildlife experiences. *Anthrozoös* 24:51–64.
- Tasmanian Land Conservancy. 2014a. Carnivorous Mammal Monitoring 2014.
- Tasmanian Land Conservancy. 2014b. Feasibility: Monetizing ecosystem services Five Rivers Reserve.
- Taylor, M., and D. Kingdom. 2011. The Tasmanian Land Conservancy: Protecting Tasmania’s biodiversity through conservation on private land. *Australasian Plant Conservation* 20:9–10.

Subject to further revision

Primary field guides

Burns, D. 2012. *Exploring the Flora of Cradle Mountain Day Walk Areas – Plant Identikit*

Burns, D. 2014. *Geology & Landforms of Cradle Mountain*

Cowie, D. 2001/2007. *Jewel Beetles of Tasmania: A Field Naturalist's Guide*. Tasmanian Field Naturalists.

Davis Jnr, W. 2007. *Tasmania: A Natural History*.

Holliday, I. 2002. *A Field Guide to Australian Trees*.

Howells & Gulline. 2011. *Coastal Plants of Tasmania*.

Launceston Field Naturalists Club. 2008. *A Guide to Flowers & Plants of Tasmania, 4th Ed.*

Menkhorst, P. & Knight, F. 2011. *Field Guide to the Mammals of Australia*.

Reynolds, H. 2012. *A History of Tasmania*.

Simpson & Day, 2010. *Field Guide to the Birds of Australia*.

Storey, R. and Zborowski, P. 2010. *A Field Guide to Insects in Australia*.

Tasmanian Marine Naturalists. 1999/2010. *Between Tasmanian Tide Lines*.

Triggs, B. 1996. *Tracks, scats and other traces: A field guide to Australian mammals*.

Watts, D. 2002. *Field Guide to Tasmanian Birds (New Edition)*.

Watts, D. 1987/2015. *Tasmanian Mammals: A Field Guide (Revised Edition)*.

Wiltshire, R. & Potts, B. 2007. *Eucaflip: Life-size guide to the eucalypts of Tasmania*.

Wiltshire, R. & Jordan, G. *TreeFlip: Life-size guide to the trees of Tasmania*.

Subject to further revision