

ERS 337: ReWilding & Ecological Restoration v.2019

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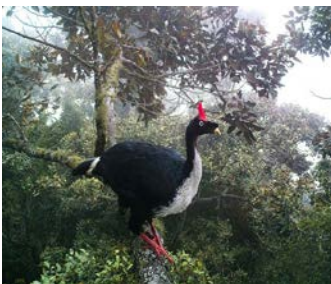
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Office Hours: 0830-1200; 1300-1530 weekdays.

Email me for an appointment to reduce your waiting time.

(I don't discourage people from dropping by my office, but it may be more efficient for you to set up an appointment – I am sensitive to your time management)

ReWilding is the macro-scale approach to conserving and restoring the socioecological resilience of ecosystems. It can be spatially explicit and quite dependent on large scale modeling and landscape ecology, but it can also take a more integrative approach that is more geared towards ecological planning, management, and monitoring of the whole socioecological system. Consistent with the mission of the School of Environment, Resources & Sustainability, this course will explore the full range of facets that ReWilding & Ecological Restoration involves. Specifically, the course will focus on restoration and conservation at landscape scale, including an emphasis on connectivity, reintroduction of keystone species, novel ecosystems, and re-introduction of apex predators, herbivores, and omnivores. Because ReWilding & Ecological Restoration can be infused with various political agenda and ideologies, technocratic issues, policy ambitions, and governance issues, students can expect to experience a course focused on ecology and technical skills but contextualized and connected to the larger concepts of socioecological change and resilience. This is a 3rd year course: Expect a lot of reading, thinking, synthesis, and action. For some of the classes, I will provide a skeleton outline on the slides and I will expect the class to participate fully in discussing the concepts and readings that day; if the class elects not to participate fully, then it will be a brief class.



Assessment of students (grading/weighting)

1. Short test on synthetic concepts of ReWilding & Ecological Restoration: 10% of final grade. January 23 in class.
2. Write a Policy Briefing on ReWilding & Ecological Restoration: 15% of final grade. Due February 25 2300 h in Dropbox.
3. Rapid response team exercise on ReWilding: 15% of final grade. In class exercise, due in Dropbox in real-time. Date unannounced (just like in real life) beyond the fact it will occur between (and including) February 25-March 25.
4. Final Exam: 60% of final grade. Date TBA via the Registrar's Office.

1. Short test on synthetic concepts of ReWilding & Ecological Restoration. After the first 5 classes, I wish to ensure you all some base knowledge of the topic; this keeps you focused for the first month and gives you a check-up on your performance at an early milestone. Questions will be reasonable and open-ended to allow you to show knowledge and reflection on the major theoretical and conceptual frameworks of this course.

2. Writing a Policy Briefing Note on a ReWilding and Ecological Restoration Issue. The art of writing and influencing people is rather important. In this year's exercise, you are in the role of working as a mid-level scientific advisor to the Assistant Deputy Minister (ADM) of the Ontario Ministry of Natural Resources and Forestry (OMNRF). You have been retained by the current administration and are knowledgeable regarding the current provincial government's political goals. However, you are a civil servant and not normally subjected to political aims. The ADM has been asked by her Minister of Natural Resources & Forestry, Hon. Jeff Yurek, to report on the relative merits of restoring the ecological integrity of the eastern blocks of Algonquin Provincial Park based on a desire to rewild this area to increase populations of Eastern Wolf (*Canis lycaon*). There is a long history of controversy with management of Algonquin Provincial Park and over the genetic status, ecological status, and social license regarding conservation and rewilding of *C. lycaon*. The grey literature and academic literature may both help – but the grey literature from advocates or opponents may be tainted; there will be provincial documents as well. Your job is to sort through this morass of information and recommend to the ADM if any actions should be taken to rewild the Park to foster rewilding of *C. lycaon*.

Briefing notes are rather short but there is no well-defined word or page limit or style. However, there are some good guidelines and public resources on how to do this:

- <http://www.ppsc-sppc.gc.ca/eng/pub/fpsd-sfpg/fps-sfp/fpd/ch48.html>
- <https://web.uvic.ca/~sdoyle/E302/Notes/WritingBriefingNotes.html>
- https://www.publicsectorwriting.com/?page_id=6
- <https://www.publicsectorwriting.com/wp-content/uploads/2011/09/Briefing-Notes-versus-Memorandum.pdf>

- <http://www.writingforresults.net/classic.pdf>
- *Marking Rubric:* I will grade your effort based on how sound your evidence is, discussions of pros/cons, and the basis for your recommendation – if any. The grade also depends on how effective this communicates information to an ADM. If you follow the structure and content suggestions of the resources that I provided in terms of how to write the note and show clear signs of having synthesized a reasonable amount of credible studies from the grey and academic literature, then you can expect to attain grades above 80%.

3. Rapid Response Team Exercise on Rewilding & Ecological Restoration. The ability to think on the fly after having paid close attention to learning and kept up with information (in our case, a course with classes and readings) is vital. This exercise functions like a surprise test but mimics what happens in professional life when an issue or crisis emerges, and you must respond quickly, devising a plan. On a date from (and including) February 25 to March 25 – it otherwise will be unannounced – I will have people form teams of 2-3 (I will choose partners randomly). The team will then have 30 minutes to discuss how to draft a short action plan based on a scenario that I provide. Each person then takes 45 minutes to write an individual and short version of the plan and submit it to LEARN in real time (bring your laptops during this whole time period). It is, in effect, open-book. I will grade the plan on focus, knowledge of the topic (based on the course, naturally) and the brief details and feasibility of the plan provided. You should be prepared – and able – to provide a theoretical and conceptual framework to address the question being asked of your team, a research design and plan to address the question, some notions of how data should be analyzed, and commentary on likely outcomes and, again, how these outcomes address the question.

4. Final Exam. As scheduled by the Registrar, there will be a final exam in the normal April Exam Period. Do not plan to be absent from campus until after the official exam period ends – be advised that we do get cancellations because of weather (we had 2 extra days added to the exam period in April 2018 for that reason). The exam will cover the entire course. The exam will not engage in a focus on trivial matters but will be a series of questions on the conceptual, theoretical, and applied aspects of rewilding and ecological restoration.

Grading & Related Policies Specific to ERS 337

Failure to be present for – and write – any of the in-class tests or exercises results in a grade of 0 (zero). The only exception is if I receive and accept a written medical or other professional note explaining the absence. If that note is accepted by me, then the value of the missing item is added to the final exam.

Assignments that are submitted after the deadline are penalized 10% for submissions within each subsequent 24-hour period after the deadline and are not accepted at all (grade = 0%) after 96 hours have elapsed past the deadline.

I note that communication between us is very important; if you are struggling or need help in any form, seek this immediately. The more time we have to discuss matters and perhaps plan alternatives, the less stress you will encounter. Generally, my courses tend not to be the source of stress but when life gets difficult, anything with deadlines and expectations will add to that difficulty. There are vehicles to assist you, some of which will be detailed in the set of Faculty of Environment Advisories a few pages hence.

**A Refresher to Assist You to a Successful Path in ERS 337 and Beyond:
Surviving & Thriving in University/Expectations and the Meaning of Grades in University**

In high school, mastery of basic foundations and expected efforts often yield grades above 90%. In University, they do NOT; meeting expectations at a level commensurate with your program level (e.g. 1A, 3B, 4B) typically earns you a grade around 75%. That means the remaining 25% is for extraordinary effort. It also means that if you never progress and submit the same level of work, what earns you a 75% in 1A will probably earn you a 65% in 2A, 55% in 3A and less than 50% in 4A. This rarely happens because people begin to learn the system and get better as they progress during University.

This is what students rarely consider when they first enter university; the assumption is that a good and basic effort will yield a high grade. Nope. That means you get a good and basic grade – around 75%, though one could choose any baseline (in the UK, they choose around 50-60% for this but that really hurts students going for scholarships internationally where all others use the 75% basis for ‘meets standards’). Our job is to make you better and show you how to be the best if you’re willing to put in a lot of effort and/or work efficiently.

This is why I – or any professor – will say you need to start assignments immediately, finish early, write many drafts or you need to review class lessons immediately after they happen and do the mandatory readings before and after (taking notes on these – synthesizing main points) or you need to reflect and synthesize the big ideas or principles in each class/reading/tutorial and consider how case examples – including ones in current events you can read about in the news – are examples of how these principles/idea are applied. You want an A+? You can earn it – with a lot of work.

University is full time; think of it as a job – one that can be fun and rewarding if one has a good attitude and dedication. If you must work more than 10 hours a week because of finances, I’d recommend taking no more than 4 courses a term; it means perhaps an extra term in total over 4-5 years or taking some higher credit weight courses (e.g. ERS has 2 triple weight and 4 double weight courses in spring terms) but it is worth it. You need to devote about 10-15 hours per course each week to achieve above 80% in each course; this means 40-75 hours per week if you are taking 5 courses so that leaves 93 hours a week for all else. Not too bad but since you’ll want to sleep, eat, have some non-academic fun, and allow for days when you are exhausted or ill, it is less time than you think. Work-life balance is something that we all must learn; it is a skill and an art.

Personally, I recommend taking even an old-fashioned paper calendar of some type and working BACKWARDS from the end of each term. You won't know exact dates of your final exams until the end of the 2nd month of each term but you will know you have X number of exams during the final month of term based on course syllabi. Add in your test, quiz, or assignment due dates for all courses and add in times when you anticipate big social events or other happenings. Then add in a schedule where you set hours/times to start assignments and review course materials, synthesizing them in anticipation of your tests and exams. Stick to this schedule. If you maintain a great routine, you will succeed.

Grades can be interpreted a bit differently depending on the professor and type of course (and in some places in the world – like the UK – they use a different basis for grading, i.e. they rarely assign a grade higher than 80% so the mean and median grades and interpretation of student success is different than in Canada). Below, you will find a decent description of what grades mean in my courses and in many SERS courses. Personally, I tend to grade by range-blocks (e.g. 100, 95, 90, 85, 80...) because I examine the quality of an answer – based on the criteria below – and then transform them into a numerical grade reflective of the effort and achievement of a student. Higher grades = better completeness, nuance, creativity, and technical abilities.

- A+ (90% and above): Your work gives an in-depth, reflective or analytical answer that addresses the question beyond a fundamental outline of the main issues; essentially, the answer makes use of class discussions, class resources and other credible sources or ideas and translates these into an answer that produces a workable strategic assessment and operational solutions. Grades in this range or the next one below usually reflect the fact that a student has made a serious and successful effort to review material daily or weekly, anticipate assignments by starting them early and drafting several versions before handing them in, considered the synthesis and specific issues for the course material, made notes on key points of the readings assigned or read extensively beyond mandatory readings or expectations for an assignment, and explored the current events/news relevant to the course or assignment material to mine comparative examples. In sum, the highest grades reflect extraordinary effort
- A/A- (between 80% & 90%): Your work addresses the fundamental issues related to the question and provides a useful and concise summary of them. The upper end of this range means that you have taken reasonably intense efforts at going beyond the materials provided, insights covered in class or the literature assigned. On the lower end of this grade range, your answer does not take the time or provide enough depth to convince the reader that you have great insight into the issues or the technical knowledge to produce an operational solution
- B-/B/B+ (between 70% & 80%): Your work shows that you have most of the basic elements and knowledge related to answering the question but the text and answer itself is a bit muddled or disorganized. Answers receiving the lower end of this grade range normally are ones that reflect a more superficial understanding of the issues related to the answer or are

not well written.

- C-/C/C+ (between 60% & 70%): You generally addressed the main requirements of the question or an assignment, but your answer shows less than rudimentary mastery of the basic materials and no real cohesion in your answer. If it is a written report, it usually reflects some rather poor sentence structure, grammar, spelling, and/or organization.
- D-/D/D+ (between 50% & 60%): You had enough elements in your work to convince me you have some vague notion of the requirements and key concepts but that's about all; there is usually no cohesion at all on an exam question and if it is a written assignment, your answer is barely readable but does contain enough to pass.
- F (less than 50%): The work gives me a strong suspicion you didn't care, didn't bother, or didn't attempt to comprehend the question and made little to no effort – either that or you truly missed the point of the question or assignment. This usually reflects a very rushed job on an exam or written assignment (no drafts and no real editing); for assignments, it means you probably failed to meet even the most basic requirements (e.g. did not pay attention to instructions or missed key objectives). If it is around the 40% range, it usually means you made some effort but did not address the major issues or wrote poorly; less than that usually means you had no clue or didn't care to get a clue. The answer may be incoherent, contradictory, or plain wrong. It may not even address the question asked. In some cases, however, it can reflect a life crisis or a hidden learning challenge that we can use to diagnose, get help and solutions, and in those cases, we then eliminate this grade and work out a plan to fix things. I do that if the same situation arises and you passed with, say, a D-level grade too.

The above is a good summation of the principles and guidelines when one is marking on a basis of the quality of the answer.

In some cases, the assignment or exam lends itself to a very strict and point-by-point grading rubric. Annotated bibliographies, multiple choice or true-false questions on exams and perhaps brief lab reports are examples where there is less reliance on a qualitative framework for grading and more on a tallying rubric where X gets you Y points. I tend not to use it much because life is not multiple choice; it is all reflection, essay and synthesis.

How does a student write a good paper or exam answer?

No matter what the approach, I think students sometimes miss the two most important points when they answer exam questions or write an assignment:

- 1. Is this answer or assignment any good – is it great (beyond expectations; A+), perhaps?*
- 2. Did it address the question/follow the instructions/focus on the main goals of the assignment or exam question?*

Point 1 is rather obvious and yet so many people miss it; people get caught up in life and in scrambling to juggle (usually) 5 courses with multiple assignments and deadlines and class attendance (one hopes). The mind's focus then goes to the simple stuff: how many words do I need to use (what is the word limit – minimum, maximum or both?). That simple stuff is the wrong question and the wrong attitude – you don't get graded on how many words you use; yes, some professors levy heavy penalties for exceeding the word limit and you need to watch that. Word limits are usually no more than attempts at telling you when to stop and that's all. Simply ask yourself upon reading your draft versions: Is this any good? Be honest with yourself.

Point 2 is also trite and yet also missed by many; follow the instructions and focus on what is demanded and emphasized as being important. Do you have an assignment where it is a scientific or consultant style report and 80% of the grade weight is on the discussion? Well, then, 80% of your attention and effort should be on the discussion, right? You'd be surprised. I've seen people who clearly spent days formatting a cover for their report (said cover is worth ZERO marks) and then handed in a 1-page discussion when there were another 8-10 pages allocated to discussion and the concomitant weight of the grade. And then students get shocked when they fail the assignment; a little sober reflection on the sheer imbalance and mismatch between efforts on each part would have saved some tears, I think.

Content-wise, the effort needed varies depending on circumstances and questions asked. For exam answers, the total weight (number of marks) can sometimes reflect the number of 'points' tallied or expected. That happens with short answer or multiple-choice type exams. However, whether it is more of an essay style or even a 'point-form exam' (which is not the same as 'tallying points' – it just means you don't have to use proper essay style), the weight simply gives you an idea of the depth and breadth expected in an answer.

- My rule of thumb was that a 20-25-mark weight indicated a very deep and sophisticated answer was expected. I never bothered to worry if I had 20 or 25 points or items because the professor could easily give the same great mark to someone who took 10 items and explained them more in depth as to someone who took 15 items and explained them well but perhaps with a less depth for each but more integration of the ideas and items. I simply tried to do my best where 'best' meant weeks of work/prep.
- Sometimes the depth vs. breadth approach depended on the question being asked but in most cases, it is a challenge question to the student: Show me you understood the concepts, explain them, show me how these address the question, raise any issues about missing information and how we should research it/find it, and impress me with your sophistication and well-read nature (did you read beyond the mandatory material and did you reflect and practice answering questions all term?). These big questions are usually synthesis and reflection – the big picture of the course and about strategic ideas.
- A 10-15-mark weight is often one that is a problem-solving one; greater mark value usually means more detail is expected or it is cross-linked between several topics and lessons and perhaps multi or transdisciplinary in nature.
- Questions around 5 marks are usually more reductionistic and focused on one idea.

- Thus, I worried less about how many actual marks were allocated and more about what the relative number of marks/weights against the whole exam can tell me about the type of answer expected – meaning the marks reflect the quality of answer, translated to a numerical assessment.

The writing style often bedevils students because as one begins to learn terminology and reads peer literature, there is a temptation to emulate the complex language and sentence structure in some of these sources to sound smart. In some cases, students emulate the worst excesses of peer literature. My advice: KISS – keep it simple, stupid. Write simple (not compound) sentences that focus on one subject, one verb, one object. Structure the paper so that the paragraphs each focus on one main point and the series of paragraphs lead to an emergent and important theme, that is often reinforced by active voice subtitles to help readers focus. For example, here are two possible subheadings:

- Importance of diversity to ecological restoration.
- Increased genetic diversity increased the successful outcome of ecological restoration.

The second subheading tells us what the series of paragraphs that follow lead us too; this is not a murder mystery novel so don't worry about giving away the plot. Don't bury the lede.

As far as first vs. third person is concerned, unless the instructions demand one of the other, it does not matter. I tend to use first person, active voice because it is less awkward to write and produces clearer and better writing.

Don't waste time and space on rhetorical flourishes, pedantic comments, burying the lede, irrelevance, half-a-story, or chattiness.

For example, this is bad writing: "A study that was done in Australia in 1987 by DS Smith, FP Jones, AB Uriah, and Dr. Robert Q. Important-Person showed that restoration was good."

The citation style is wrong, most of the sentence is not needed, why call the last author by a full name, and this never tells us why we should care.

This is better: "Smith et al (1987) determined that connectivity analysis improved landscape scale restoration of sand-dune ecological communities outcomes by 80% vs. use of landsat satellite mapping because connectivity focused on animal and plant migrations, fecundity and survival in real-time." This tells us a lot; there may be more we could add but it gives us a clear idea of what was done and what the relevance is.

The bottom line: Ensure your submission addresses the question, ensure that it is good (that means a lot of hard work with multiple drafts written well in advance), and ensure that it has evidence and proper citations to back your interpretation and claims.

That's a reasonably detailed guideline to grading in university, or at least the way that I (and many colleagues) do it. There are inevitably going to be many more permutations but professors who know their field and use qualitative grading frameworks know how to spot gems vs. bullshit; good answers vs. great ones; all possible combinations of answers. Therefore, professors should (and usually do) mark final exams in courses that are 120 students or less.

An Obvious but often Neglected Piece of Advice: Attend Classes.

There is often a temptation to become indolent and skip classes, assuming that the slides provided or the readings will provide all that is needed. In my experience as a student and as a professor, I've found this is rarely the case. The classes provide real-time engagement and the slides are merely a useful foundation. The professors elaborate and explicate the nuances and emphasizes on the topics and ideas – and that is where learning happens. I've long studied impacts of class attendance in my courses and while I generally have very good attendance, I still have enough data from those who tend to miss my class (and, from talking with colleagues, all their other classes) to draw some conclusions. Examining the relative impact of attendance to classes (and tutorials in courses where that is relevant), the latest data indicate that attending > 90% of the classes (etc.) is rather important to success in courses I teach. The difference in grades on the exam indicate that there is a 36.5% difference (mean exam grade for those MIA is 51.8%; mean exam grade for those attending and [I add] participating or involved otherwise in classes is 88.3%). The overall course grade shows similar trends but a bit lower since one can do assignments solo; it is a 31.7% difference. If illness/mental health are issues, let us talk; we can make alternative arrangements for those sorts of deeper needs.

Advisories from the Associate Dean of Undergraduate Studies of the Faculty of Environment

The University of Waterloo has a series of specific *academic policies, procedures and guidelines* that students must be aware of and follow. See also <https://uwaterloo.ca/environment/undergraduate-teaching-resources>; all course syllabi in the Faculty of Environment are required to include the following:

Intellectual Property:

For further information on IP related to teaching, please see https://uwaterloo.ca/legal-and-immigration-services/sites/ca.legal-and-immigration-services/files/uploads/files/volume_1_issue_3_winter_2018.pdf and the Guidelines for Faculty, Staff and Students Entering Relationships with External Organizations Offering Access to Course Materials, <https://uwaterloo.ca/secretariat/faculty-staff-and-students-entering-relationships-external>. The following text is recommended:

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

Mental Health:

The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' well-being to be extremely important. We recognize that throughout the term students may

face health challenges - physical and / or emotional. **Please note that help is available.** Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <http://www.uwaterloo.ca/counselling-services> is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

Religious Observances:

Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Unclaimed assignments:

Unclaimed assignments are held in the LEARN archives until U Waterloo chooses to delete them. After that time, they will be destroyed in compliance with UW's [confidential shredding procedures](#) (e-disposal in our case).

Communications with Instructor and Teaching Assistants:

All communication with students must be through either the student's University of Waterloo email account or via Learn. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

Recording lectures:

- Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course.
- If allowed, video recordings may only include images of the instructor and not fellow classmates.
- Posting of videos or links to the video to any website, including but not limited to social media sites such as: Facebook, twitter, etc., is strictly prohibited.

Co-op interviews and class attendance:

Co-op students are encouraged to try and choose interview time slots that result in the least amount of disruption to class schedules. When this is challenging, or not possible, a student may miss a portion of a class meeting for an interview. Instructors are asked for leniency in these situations; but, a co-op interview does not relieve the student of any requirements associated with that class meeting.

When a co-op interview conflicts with an in-class evaluation mechanism (e.g., test, quiz, presentation, critique), class attendance takes precedence and the onus is on the student to reschedule the interview. CECA provides an interview conflict procedure to manage these situations.

Students will be required to provide copies of their interview schedules (they may be printed from WaterlooWorks) should there be a need to verify class absence due to co-op interviews.

Class Schedule (Classes are held Mon & Wed 1130-1250 h in RCH 205)

Classes between Feb 25-March 25 are not assigned dates because one will be chosen unannounced for the Rapid Response Team Exercise

Class Number [C], Date, Topic	Learning Objectives/Inquiries	Required Readings
C1 M Jan 7 Synthesis of ReWilding Scope & Theory	How has the theoretical framework for rewilding developed; what does it say?	Donlan et al. (2005; 2006) Oliveira-Santos et al. (2010) Corlett (2016) Johns (2016) Nogués-Bravo et al. (2016)
C2 W Jan 9 Synthesis of How ReWilding Uses Landscape Ecology	Being a 'big data/big scale' approach, how have spatially explicit approaches informed rewilding?	Leidner & Haddad (2011) Lausch et al. (2015) Olds et al. (2016) Ziółkowska et al. (2016)
C3 M Jan 14 Synthesis on ReWilding & Keystone & Umbrella Species	Rewilding – like much of conservation – is species focused; how do keystone and umbrella species fit?	Griffiths et al. (2011) Seddon et al. (2014) Naundrup & Svenning (2015) Malhi et al. (2016)
C4 W Jan 16 Synthesis of Socioecological Systems Analysis for ReWilding	Given rewilding is a process as much as an outcome and involves big decisions, how can this work for governance/ecological systems?	Bhattacharyya & Murphy (2015) Mathevet et al. (2016) Sharma et al. (2016)
C5 M Jan 21 Synthesis of Socioecological Resilience as a ReWilding Objective	Is resilience of complex socioecological systems a useful metric or goal?	Walker et al. (2004) Botsford et al. (2009) Standish et al. (2014)

C6 W Jan 23 TEST	Short test on synthetic topics; test will be geared for 75 minutes.	Assists students in establishing their base performance in the course so far
C7 M Jan 28 Developing a Strategic & Operational Plan for Wildlife Corridors in ReWilding & Restoration I	These two lessons will focus on the theory and practical applications involved in corridor design for rewilding and restoration; our focus is based on the work of Paul Beier & colleagues	Beier et al. (2008) Resources via http://corridordesign.org/
C8 W Jan 30 Developing a Strategic & Operational Plan for Wildlife Corridors in ReWilding & Restoration II		
C9 M Feb 4 Circuit Theory & ReWilding I	One of the big advances in open-source software for connectivity & rewilding is by Brad McRae & colleagues; these two classes focus on this topic and the technical details	McRae et al (2008; 2014) Dickson et al. (2013) Resources via http://www.circuitscape.org/home
C10 W Feb 6 Circuit Theory & ReWilding II		
C11 M Feb 11 Connectivity Analysis for ReWilding I	Connectivity analysis can take many forms; we will explore a 'connectivity toolkit' that Carlos Carroll & colleagues have devised	Klamath Centre for Conservation Research http://www.klamathconservation.org/science_blog/ Carroll et al 2011; 2013; 2017
C12 W Feb 13 Connectivity Analysis for Rewilding II		
<i>Feb 18-22 Family [Civic] Holiday & Winter Study Week (NO CLASSES)</i>		
Reminder: M Feb 25	Briefing Note Due 2300 h in Dropbox	
Reminder: Sometime during C13-C20 (Feb 25-March 25), there is a Rapid Response Team Exercise (this is effectively "C21").		

C13 The Politics of ReWilding	Learn how rewilding has been used as a political cudgel in governance	Hintz (2007) Lorimer & Driessen (2013) Lorimer et al. (2015) Pellis et al. (2015a; 2015b)
C14 ReWilding & Y2Y	Yukon to Yellowstone (Y2Y) & Algonquin to Adirondacks (A2A) predate rewilding as a formal concept but may be a best practice for it – or not. These two lessons will tackle each initiative separately but we’ll also compare their approaches and outcomes.	MacMynowski (2006) Pearce et al. (2008) Chester et al. (2015)
C15 ReWilding & A2A		Brown & Harris (2005) Vásárhelyi & Thomas (2005) Koen et al. (2014)
C16 ReWilding in Europe	Learn how rewilding operates in one of the longest-developed areas of the world	Lorimer & Driessen (2014) Jepson (2016)
C17 ReWilding in Central & South America	Learn how rewilding operates in rapidly developing areas	Crespin & Garcia-Vellilata (2014) Pires et al. (2014) Root-Bernstein & Svenning (2016)
C18 Rewilding in Australia	Learn how rewilding is useful even in a continent/country with asymmetrical human habitation	Newsome et al. (2015) Hunter et al. (2015; 2016) Baker et al. (2016) Fancourt & Mooney (2016) http://www.gondwanalink.org/links/default.aspx

C19 ReWilding in Africa	Learn how rewilding is useful in a continent where people probably assume it is not needed	Laurance et al. (2006) Sinclair et al. (2014) Reisland & Lambert (2016)
C20 Rewilding in Asia	Learn how rewilding is being approached in a yet another politically volatile and vast continent	Zimov et al. (1995) Zimov (2005) Louys et al. (2014) Stone (2015)
C22 W March 27 No formal class	Self-care day for students as we near the end of term	
C23 M Ap 1 Jurassic Park It Ain't	Learn the current state of the scientific and management debates; discuss the future prospects for rewilding	Rubenstein et al. (2006) Caro (2007) Caro & Sherman (2009) Keulartz (2016) Svenning et al. (2016)
C24 W Ap 3 The End is At Hand	Review for the final exam	(none)