

School of Environment, Resources and Sustainability, University of Waterloo

ERS 415 Environmental Assessment III

Advanced Environmental and Sustainability Assessment

Winter 2020

Time and location: Wednesdays 2:30-5:20, AL 124

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Pre-requisites: ERS 215, ERS 315.

Roles and purposes of the course

As the final core course in the series for a Diploma in Environmental Assessment, ERS 415 is the culmination of a series of studies in the field. The course reviews and synthesizes material from the preceding pre-requisite courses on assessment principles and methodologies. The focus, however, is on the major current directions and trends in environmental and sustainability assessment – the most advanced thinking and applications in the field and the most pressing stresses today, especially in Canada. In particular, the course examines how new appreciation of complexities and uncertainties, and rising expectations for progress towards sustainability, are affecting assessment thinking and application in the face of competing pressures for more streamlined decision making.

While assessment theory, law and practice have improved over the years with greater practitioner experience and higher public expectations, they have also proved to have serious limitations. In Canada and elsewhere, most assessment processes have focused on individual proposed projects and have aimed to identify and mitigate their significant adverse effects. Some jurisdictions give serious consideration only to predicted negative effects on the biophysical environment. We have learned, however, that the most serious concerns arise from the combined social and biophysical effects of multiple undertakings, and public expectations are increasingly for projects to deliver positive contributions to lasting wellbeing rather than merely avoid serious negative effects.

Consequently, assessments have been pushed to be more comprehensive (covering the complex interactions of cumulative as well as individual social and biophysical effects), more ambitious (aiming for positive contributions to sustainability as well as mitigation serious adverse effects), more far-sighted (especially where climate changes issues are raised), more broadly applied (to strategic level undertakings as well as individual projects), more transparent and credible (including more open and responsive to public engagement and more forthright about the reasoning behind recommendations and decisions). Also, assessment in Canada has been affected by expanding understanding of complex socio-ecological systems, greater recognition of Indigenous rights, and evident tensions about the distribution of benefits and risks (e.g., from transboundary hydrocarbon pipelines).

The available approaches to addressing all of these considerations might make assessments better, but also more difficult, maybe more expensive and possibly slower as well. A major question for the future therefore is how to design and apply assessments more creatively so they can meet rising needs and expectations while also being manageable, affordable and timely.

In particular, project level assessments have tended to be too narrow in scope and too late in decision making to address overall concerns about the integrity of ecosystems and the wellbeing of communities or to introduce significantly more sensitive and sustainable approaches. Moreover, conventional project-based assessments have tended to be inadequate means of ensuring properly integrated consideration of the interrelated ecological, social and economic factors that determine long term effects.

The course will examine the nature, significance and application of broader approaches to assessment, and accompanying efficiency issues, with emphasis on Canadian cases in various jurisdictions, within and beyond the usual realm of assessment law. It will review the academic and professional literature on advanced assessment thinking and will emphasize critical examination of practical cases where advanced assessment initiatives have been proposed and/or undertaken. Participants in the course will be expected to become familiar with the main components of advanced assessment, to see how they may be integrated in practical circumstances, and to show how this learning might be applied in actual cases.

As well the course will take advantage of the federal impact assessment law and process, which came into effect in August 2019. While the federal process applies only to matters under federal jurisdiction, many assessment cases and issues involve the overlapping interests and responsibilities of two or more jurisdictions (federal, provincial, Indigenous, territorial, even municipal). As a result, the scope of the federal law's implications extends across the country.

Readings

The course will rely heavily on individual readings. Most are available on the course UW Learn website. Some other materials are available on the internet (see the schedule of events and readings). Users can login to UW Learn via <http://learn.uwaterloo.ca/>. Use your WatIAM/Quest username and password.

The sustainability assessment discussions will draw chiefly from two texts:

Robert B. Gibson (with Selma Hassan, Susan Holtz, James Tansey and Graham Whitelaw), *Sustainability Assessment: criteria and processes* (London: Earthscan, 2005); and

Robert B. Gibson, editor, *Sustainability Assessment: applications and opportunities* (London: Routledge/Earthscan, 2017).

Key excerpts will be posted in the UW Learn site.

Some of the readings on the course UW Learn site are long reports. You are not expected to read them through. Skim as needed.

For every week there are more readings that you are likely to read. Focus on the ones that address matters you know least about. Skim the others to get a sense of the substance.

Course structure, assignments and evaluation

After week one, each weekly session of the course will be divided into two parts, a lecture for the first half and discussion in the second half covering weekly questions related to the lecture and the readings. The questions and their implications will be considered from the perspectives of various interests.

The lecture schedule is set out below. The first three weeks provide an overview and background to the main issues now facing assessment in Canada and some big issue cases to which we will be referring throughout the course. The next two consider sustainability assessment practice and application issues. Sessions 6-11 will address particular areas of innovation. The final session will be about employment and other activities in the assessment field, broadly defined.

Each student's work in the course will centre on six contributions:

- participation in the weekly discussions;
- presentation as a panelist leading one of the weekly discussions;
- class preparation notes for each week except the first week and the last week (to be graded in two sets – notes for weeks 2-6 and for weeks 7-11);
- two briefing papers – one generally covering weeks 1-5 and one covering the whole course but with emphasis on weeks 6-11.

The evaluations will be weighted as follows:

- participation weeks 1-12 15%
- panel presentation 5%
- class preparation notes weeks 2-6 15%
- class preparation notes weeks 7-11 15%
- briefing paper 1 20%
- briefing paper 2 30%

Participation and panel presentations

Each week, the second half of the class will be devoted to discussion of two core questions related to the week's topic. The questions are included below in the section on the weekly topics, readings and questions. The discussions will consider implications for the design of assessment law and policy regimes in Canada and implications for practical application in current or anticipated cases. As well, the discussions should be useful in preparing for the two papers.

In weeks 1, 2 and 12, the discussions will be led by the course instructor and teaching assistants. In weeks 3-11, the discussions will be initiated by student panels (usually five members), one panel for each discussion question. All other students in the class will have assignments as supporting commentators. The course instructor and/or teaching assistants will be the moderators of these discussions.

To initiate the discussion of a question, each of the panelists assigned to the question will make a maximum two minute statement setting out what are, in his or her view, the most important matters and how they should be addressed as the answer to the question from the enlightened perspective of the interest(s) she or he is representing. Each panelist will be assigned to represent the interests of one (or a combination of two) of the following ten categories:

- 1.1 public sector proponents (federal, provincial, territorial)
- 1.2 private sector proponents
- 2.1 the federal government as a decision maker (and reviewer of proposals, etc.)
- 2.2 provincial and territorial governments as responsible authorities
- 3.1 Indigenous governments as responsible and affected authorities
- 3.2 municipal and regional governments and community organizations potentially affected by proposed undertakings subject to assessment
- 4.1 non-government organizations focusing on ecological and social justice issues
- 4.2 future generations (and those advocating for their interests)
- 5.1 independent experts on major assessment issues (e.g., ecologists, socio-economic analysts, climate change policy experts, Indigenous law specialists)
- 5.2 experts in the design of sustainability-based next generation assessment regimes (laws and policies, institutions, applications and practices)

The panelists will be expected play their roles professionally and realistically. Their positions should draw from the readings and from material discussed in previous weeks (and previous courses) as well as from general knowledge of the key concerns of the interests being represented. The positions presented should be well informed and enlightened as well as short.

The rest of the class will act as groups of commentators with assigned perspectives. After the panel presentations on each question, we have a short response preparation period (usually 10 minutes maximum) for the groups to consolidate responses to the question and the panel views. Normally one group member from each group (a different presenter each week) will present a brief summary of the group's contribution (about one minute will be sufficient). *In each discussion, we will aim to see what level of agreement can be reached among the different (but enlightened) interests.*

To facilitate all this, the class has been divided into nine groups (A-I) that have been given rotating assignments through weeks 2-11. See the document "415w20 participant assignments" on the course UW Learn site. The teams have nine or ten members and will be the sets of panelists for one of the weeks 3-11. For the weeks when they are not the panelists, each team has been assigned to think from the perspective of an interest from one of the ten categories. Each week, the group members will take on a different role and on the basis of that role they will develop a group response to the presentations on each of the two questions.

The assignment of individuals to groups and panel presentation weeks and questions will be announced at the first class and posted on the course UW Learn site (the "415w20

participant assignments” document mentioned above). The assignment of individuals to rotating interest perspectives when they are not panelists for weeks 2-11 will also be announced at the first class and posted on the course UW Learn site (same document).

One week prior to the presentation week, students in each panel should meet with the instructor or a teaching assistant during the class break at the session to divide out representation responsibilities. Beyond that, there is no expectation that the panel members or the teams of commentators will need to meet before the class to coordinate positions. The contributions of the panelists and commenting participants will be graded individually.

Recognizing the constraints of a large class, each student is encouraged and expected to participate thoughtfully in the class discussions as well as the panel presentations.

Evaluation of participation will be based on the quality as well as the extent of contributions. Evaluation of participation quality will take the following criteria into account:

- understanding of the concepts and issues introduced and insight into their practical implications;
- evident familiarity with the readings;
- careful listening and thoughtful reflection before making comments;
- communication skills (clear, constructive, etc.);
- synthesis, integration and drawing connections between and among the immediate subject matter and ideas, issues and insights from the course materials or elsewhere; and
- accuracy and creativity in illustrating implications.

There will be bonus marks for humour.

The class preparation notes

Each week from week 2 to week 11, inclusive, each participant must submit a one-page set of class preparation notes. The notes

- should address the questions posed for the week
- should be based on the course readings for that week (and any additional readings or other research that the student may choose to consult);
- should anticipate and be useful for participation in the class discussion;
- should not be limited to the perspective you are to represent in class that week (except for the week when you are a panelist*);
- must be prepared before the class and printed out, though you are encouraged to add further annotations in pen or pencil during the class (e.g., to include points from the lecture and discussions);
- should normally be in point form;
- should demonstrate familiarity with at least two of the week’s readings
- must include proper references to your sources;
- should normally be one page, single spaced; and
- must be submitted at the end of the class on the relevant week (if you cannot attend the class, post your preparation notes in the notes dropbox on the course

UW Learn site before the class begins and provide a paper copy to the course envelope on Bob Gibson's office door, EV2 room 2037, as soon as possible thereafter).

* For the week you are assigned to make a panel presentation, the submitted notes will be your panel presentation notes. These can be more than one page, may or may not be in point form, and still must include proper references to your sources.

The class preparation notes will be graded in two packages: weeks 2-6 and weeks 7-11. Late notes submissions will be accepted for two days following the class when submission was due, but will be treated as worth 0.50% of notes submitted on time.

The two briefing papers:

Submission of two papers is required. Both are to be in the form of briefing notes and appendices to relevant individuals or organizations. These writing assignments have two purposes. The main purpose is to encourage integration of understanding gained from the readings, lectures and discussions, with particular attention to the implications of what you are learning for practical application. The second purpose is to provide experience in a style of writing you are likely to use as a professional.

Both papers should incorporate

- a professional approach to writing;
- proper bibliographic references to written materials, or other sources you've used;
- evidence of familiarity (though not necessarily agreement) with the key points raised in the readings, lectures and discussions, though you are also encouraged to incorporate material from other sources;
- analysis of the significance and practical implications (directly and indirectly) of these points or questions for other jurisdictions and undertakings subject to assessment;
- attention to the perspectives of different interests; and
- consideration of how to ensure assessment is both more effective (as a means of contributing to sustainability) and more efficient (recognizing the diversity of interests and the multitude of jurisdictions involved).

Your papers should draw from the lectures, readings and discussions, and from any material you dig up that is relevant to the discussion. Always provide proper references to your sources.

Given the complexities involved (many different applications, players, issues, possible responses, etc.), you cannot discuss everything. In choosing what to include in the briefing papers give particular attention to what you consider to be most significant for improving assessment law, policy and practice. You will have to consider carefully what is and is not crucial here.

Be concise. These are short papers. Typically, the people who read briefing papers are very busy. They need the key information that is presented in a format designed to facilitate a quick grasp of the material, but that also includes necessary clarifications and

evidence (or references to evidence) supporting the argument. Remember that you are, at least implicitly, making an argument. Remember also that these are scholarly papers, expected to meet the usual expectations for sound argument, proper references and reasonable adherence to the conventions of grammar, even if you choose to rely to some extent on bulleted lists of major points. In addition to the considerations noted above, grading of the papers will be based primarily on evidence of

- familiarity with (or mastery of) the concepts and sources, ideas and implications covered by the course;
- coherence (or brilliance) of argument; and
- clarity (or elegance) of writing.

Late penalties will be assessed for papers received after the due dates set out above. The standard penalty is 0.5% per day (15/20 one day late becomes 14.5/20).

Briefing paper #1: sustainability-based assessment

The first paper focuses on ERS 415 materials from weeks 1-5. It is a briefing paper that you must prepare for the Impact Assessment Agency of Canada (IAAC), which is carrying most of the initial responsibility for developing policy for implementation of the new federal assessment law. You can address the briefing paper to Brent Parker, the IAAC director in charge of legislative and regulatory matters, or to Erin Groulx, the IAAC director in charge of policy analysis. Both of them took ERS 415 in years past.

Your assigned briefing paper for IAAC is to present a well-reasoned position on the six most important requirements to be incorporated into policy guidance that will ensure effective and practical application of the new federal *Impact Assessment Act's* sustainability-based agenda – as indicated by sections 22(1)(h) and section 63(a) but also reflected in other clauses in the Act. In developing and presenting this position, please pay attention to

- the key purposes and characteristics of sustainability-based approaches to assessment under the new federal law;
- the major practical implications for policy guidance of how to do sustainability-based assessments under the new federal law;
- more specific implications for
 - what proponents of projects subject to assessment under the Act must address in their planning, project design, consultations and Impact Statements;
 - what the Agency and other authorities (especially federal experts outside the Agency, the provinces and territories and Indigenous authorities) as well as other assessment participants (e.g., communities and regions likely to be affected by undertakings subject to assessment and civil society organizations including those that aim to represent the interests of future generations) should focus on in their analysis of the proponents' submissions and in making recommendations concerning the extent to which a project contributes to sustainability; and
 - what decision makers should emphasize in their decision making and in their published reasons for decisions;

- your rationale for each of six requirements that you have chosen to include in your paper, with attention to:
 - how they are needed to ensure that assessments and associated decision making are effective, efficient and fair.

The briefing paper should

- draw from the course materials so far;
- provide persuasive evidence, arguments and suitable examples to justify your selections of the most important issues and opportunities;
- use (flexibly) the standard format for briefing notes prepared for a senior official [Briefing notes are designed to get key information across as quickly as possible. Usually they put the key conclusions at the beginning. The main body of the note rarely exceeds two pages, and is followed by appendices on the key details. Some examples of real briefing notes (mostly without the appendices) are posted on the course UW Learn site along with some generic briefing note information from Rob Parkinson at <http://writingforresults.net/>. The examples do not all use the standard format, and you can diverge from the standard too, if you think an adjusted approach will work better for the purposes. But remember that real officials will rarely have time to read (skim) more than two pages – details go into easily skimmed appendices.]

Requirements:

This first briefing paper is to be no longer than 2000 words, not including references. The paper is to be submitted electronically to the course Learn website before midnight on Thursday, February 14.

Briefing paper # 2: challenging sustainability-based assessments

The second briefing paper will cover material from the whole course, but with emphasis on the material for weeks 6-11. This briefing paper is to build upon the foundation of sustainability-based assessment that you established in your first briefing paper. It too will be addressed to the Impact Assessment Agency of Canada (IAAC) – Brent Parker or Erin Groulx. The purpose this time is to help the Agency develop policy on how to address the six key issue areas covered in weeks 6 to 11 in ways consistent with the sustainability-based agenda that you discussed in your first briefing paper.

The briefing paper is to be in two parts. Part 1 will summarize briefly the key features of suitable approaches in sustainability-based assessments to deal effectively with

- complex socio-ecological systems issues,
- uncertainty and precaution,
- cumulative effects,
- regional and strategic assessment,
- tiered strategic assessment and project level assessment, and
- collaboration between the federal government and one or more other Canadian authority (provincial, territorial or Indigenous).

Part 2, presented as an appendix, will provide an illustrative example. It will identify how a sustainability-based approach to assessment could deal effectively with complex socio-ecological systems issues, uncertainty/precaution and cumulative effects, in a tiered application of a regional or strategic assessment and project level assessment in a realistic example where the assessments involve the federal government and at least one other Canadian authority (provincial, territorial or Indigenous).

The illustrative example should be based on actual issues (past or anticipated), actual places in Canada, plausible regional or strategic assessment topics and plausible projects. Possibilities include

- a regional strategic assessment of proposed offshore drilling for hydrocarbons and other activities that contribute to cumulative effects in an identified marine area (e.g., the Gulf of Saint Lawrence), anticipating several and perhaps many particular hydrocarbon drilling proposals;
- a strategic assessment of proposals to develop, approve and use small-scale modular nuclear reactors for power generation in Canada, including in remote northern and Indigenous communities, anticipating multiple specific projects;
- a regional/strategic assessment of open-pen salt water aquaculture using genetically engineered salmon, anticipating several and perhaps many particular proposals for new salmon aquaculture operations in the Bay of Fundy off New Brunswick or on the east side of Vancouver Island;
- a strategic assessment of long-term options for land redevelopment in a major Canadian harbour (Vancouver, Toronto, Montreal, Halifax) and a project-level assessment of a major initiative for redevelopment of an old industrial property on the harbourfront;
- a regional strategic assessment of mining futures in a currently non-industrialized and non-roaded area and a project-level assessment of particular proposals for one or more individual mining projects and/or associated infrastructure in the area; and
- a strategic assessment of the implications of Canada's climate change mitigation commitments under the *Paris Agreement* and a project level assessment of a proposal for expansion of bitumen extraction in Alberta.

You are free to choose other illustrative cases, but they must involve the federal government through some matter of federal jurisdiction, as well as at least one other Canadian authority. Check with the instructor if you are uncertain.

The processes must be collaborative joint processes, and you must set out reasons for expecting that the jurisdictions will see some advantages in cooperating. Other participants in your cases could include municipal and regional bodies, public and/or private sector project proponents and their consultants, public interest organizations (national, regional and community scale), individual citizens, expert advisors, etc.

Part 2 of the briefing paper must

- summarize the scope of the linked a regional/strategic and project assessments;

- explain how the illustrative example would be sustainability-based and address each of the six matters address in part 1 of the briefing paper;
- outline how meaningful public participation would be ensured; and
- identify the main potential benefits and difficulties involved.

As with the first briefing paper, this one should

- draw from the course materials so far (though you are welcome to consult and reference other sources and may need to do some for some specifics of your big issue case);
- provide persuasive evidence, arguments and rationales to justify your points and arguments; and
- use (flexibly) the standard format for briefing notes on issues and options prepared for senior officials.

You will not be expected to demonstrate great expertise in the technical aspects or other specifics of the undertakings you select for your illustrative assessments. The emphasis is on illustrating how sustainability-based next generation assessment processes should work.

Requirements:

This second briefing paper is to be no longer than 2500 words, excluding references. It is to be submitted electronically to the course Learn website before midnight on Wednesday, April 8.

Summary of the course schedule

1. January 8 Introduction to the course: scope, aims, participants, activities
2. January 15 From the past to the future: the new federal assessment law and its place in the history of assessment in Canada and next generation assessment needs
3. January 22 Big issue topics: climate change, non-renewable resource extraction, and the plans and projects of booming cities
4. January 29 Sustainability assessment
5. February 5 The Mackenzie Gas Project case
6. February 12 Complex ecological, social and socio-ecological systems
- Family Day and Reading Week February 17-21 – No class
7. February 26 Uncertainty and precaution
8. March 4 Cumulative effects, scenarios and alternatives
9. March 11 Regional and strategic assessment
10. March 18 Tiered regional/strategic and project assessment
11. March 25: Cooperation, collaboration and engagement: multi-jurisdictional assessments including with Indigenous partners, public involvement, modern science and traditional knowledge
12. April 1: Onwards from here: course summary, opportunities for application and implications for professional practice

Important UW policies and services on key course-related topics

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

Disabilities: AccessAbility Services (<https://uwaterloo.ca/accessability-services/>), located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term.

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See <http://www.uwaterloo.ca/academicintegrity/>. Every student is expected to know what constitutes academic integrity, to avoid committing academic offences, and to take responsibility for his or her actions. Please review the material provided by the university's Academic Integrity office specifically for students: <http://uwaterloo.ca/academicintegrity/Students/index.html>. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating), should visit the on-line tutorial at <https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>, and seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean.

When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 (Student Discipline). For information on categories of offences and types of penalties, students should refer to Policy 71 (Student Discipline): <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71>.

Within the Faculty of Environment, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties that may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion.

Grievances: Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy 70, Student Grievance: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>.

Appeals: A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) on matters other than a petition, or Policy 71 (Student Discipline) may be appealed if there is a ground. A student who believes he or she has a ground for an appeal should refer to Policy 72 (Student Appeals): www.adm.uwaterloo.ca/infosec/Policies/policy72.htm.

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.

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. Students who email the instructor or TA from a personal account will be requested to resend the email using their personal University of Waterloo email account.

Intellectual Property: 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); 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).

Unclaimed assignments: Unclaimed assignments will be retained until one month after term grades become official in Quest. After that time, they will be destroyed in compliance with UW's confidential shredding procedures.

Recording lectures: Use of recording devices during lectures is only allowed with explicit permission of the instructor of the course. Only audio recordings will be permitted. 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.

Schedule of course sessions, issues and readings

1. January 8 Introduction to course: scope, aims, participants, activities

- course scope, aims, participants
- core elements of advanced (next generation) assessment and associated efficiency issues
- course structure and assignments

2. January 15 From the past to the future: the new federal assessment law and its place in the history of assessment in Canada and next generation assessment needs

- the evolution of environmental assessment, especially in Canada
- federal, provincial, territorial and Indigenous law, policy and processes
- assessments under other laws and processes
- competing challenges (more effective, more efficient)
- positive steps, limitations and retreats
- the big issues for the next generation of assessment regimes: sustainability, complexity, cumulative effects, precaution, participation, cooperation/harmonization, links between strategic and project levels, dealing with long term effects (e.g., climate change), etc.
- the new federal impact assessment law and process

Readings:

Robert B. Gibson, Meinhard Doelle and A. John Sinclair, “Fulfilling the promise: basic components of next generation environmental assessment, *Journal of Environmental Law and Practice*, 27:3 (2016), on course UW Learn site.

Paul Muldoon, Alastair Lucas, Robert B. Gibson, Peter Pickfield and Julie Williams, “Chapter 7: Environmental assessment,” in *An Introduction to Environmental Law and Policy in Canada*, third edn. (Toronto: Emond-Montgomery, forthcoming 2020), pre-publication version on course UW Learn site.

Canada, *Impact Assessment Act*, Statutes of Canada 2019, c.28, s.1, <https://laws-lois.justice.gc.ca/eng/acts/I-2.75/index.html>, on course UW Learn site

Robert B. Gibson, “An initial evaluation of Canada’s new sustainability-based *Impact Assessment Act*,” forthcoming 2020 in the *Journal of Environmental Law and Practice*, pre-publication version on course UW Learn site.

Recommended background readings – current Canadian assessment law:

Canada, Impact Assessment Agency of Canada, “Impact Assessment Process Overview,” <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/impact-assessment-process-overview.html>

Expert Panel for the Review of Federal Environmental Assessment Processes, *Building Common Ground: A New Vision for Impact Assessment in Canada* (Canada: MECC, April 2017), <https://www.canada.ca/en/services/environment/conservation/assessments/environmental-reviews/environmental-assessment-processes/building-common-ground.html>

Government of Ontario, *Environmental Assessment Act*, <https://www.ontario.ca/laws/statute/90e18>, on course UW Learn site.

Government of Ontario, “Environmental assessments,” <https://www.ontario.ca/environment-and-energy/environmental-assessments>

Notes questions:*

Q2a: Recognizing the perspectives of many different particular interests, and the lessons from the history of assessment processes and practices in Canada so far,

- what have been the five most significant advances in the broad public interest, and
 - what have been the five most significant barriers to better assessment?
- Q2b: Recognizing the perspectives of many different particular interests, what key changes need to be made to improve impact assessment?

*Discussion questions:**

- Q2a: From the perspective of the interests you are representing today, and recognizing the lessons from the history of assessment processes and practices in Canada so far,
- what have been the five most significant advances in the broad public interest, and
 - what have been the five most significant barriers to better assessment?
- Q2b: From the perspective of the interests you are representing, what key changes need to be made to improve environmental assessment and do you think you could persuade the other interests represented here today to support those changes?

* Be aware that the notes questions and the discussion questions are the same, except that in the notes you address the perspectives of many different particular interests and in the discussions you take the perspective of the interests you are representing for the week.

3. January 22 Big issue cases: climate change, non-renewable resource extraction, and the plans and projects of booming cities

- major issues and opportunities involving impact assessments in Canada in the last five years, including
 - how to incorporate serious attention to climate change in assessments of new projects (e.g., new hydrocarbon projects),
 - how to assess non-renewable resource extraction projects with necessarily limited life expectancies but potentially long-term cumulative effects (e.g., opening up new areas for extraction or adding to existing regional cumulative effects concerns, and
 - how to plan and assess growth-servicing projects in booming metropolitan areas (e.g., Ontario Greater Golden Horseshoe and BC's lower mainland).
- associated big issues:
 - how best to deal with multiple projects with cumulative and legacy effects
 - how to ensure effective consultation and accommodation of the interests of multiple communities with Indigenous/Aboriginal and treaty rights
 - how to ensure effective engagement of all authorities and stakeholders
 - how to harmonize responsibilities of overlapping jurisdictions
 - how to deal with international and inter-jurisdictional responsibilities, interregional implications, and regional/municipal requirements
 - how to link planning and assessment
 - how and where best to address alternatives
 - how to ensure reliable information and impartial decision making
 - how far to look ahead
 - how to do all this and still make timely decisions

Readings

- Meinhard Doelle, “Decades of climate policy failure in Canada: can we break the vicious cycle?” *Environmental Law News*, Dalhousie University Blogs, 8 August 2018, on course UW Learn site.
- Meinhard Doelle, “Integrating climate change into EA: thoughts on federal law reform,” *Environmental Law News*, Dalhousie University Blogs, 18 October 2016, on course UW Learn site.
- Ron Bousso, “Major new energy projects, like Shell’s LNG Canada, don’t gel with Paris targets: report,” *Global News*, 5 September 2019, <https://globalnews.ca/news/5862990/energy-projects-paris-agreement/>, on course UW Learn site.
- Co-Designing the Active City, “Ontario’s Growth Plan for the Greater Golden Horseshoe and Greenbelt Plan,” and associated documents, <https://participatoryplanning.ca/community/ontarios-growth-plan-greater-golden-horseshoe-and-greenbelt-plan-0>
- Friends of the Greenbelt, “Maps, Greenbelt Plan 2017,” <https://www.greenbelt.ca/maps>
- Robert B. Gibson, “Sustainability and the Greenbelt,” *Plan Canada* 51:3 (2011), pp.38-41, on course UW Learn site.
- Neptis Foundation, “The big picture about land use and why it matters,” (October 2013), <http://www.neptis.org/publications/big-picture-about-land-use-and-why-it-matters>; on course UW Learn site; full report at <http://www.neptis.org/publications/implementing-growth-plan-greater-golden-horseshoe>
- Meinhard Doelle, “The role of EA in achieving a sustainable energy future in Canada: a case study of the Lower Churchill Panel Review,” *Journal of Environmental Law and Practice* 25: (2013), pp.113-133, on course UW Learn site.

Additional readings – Climate and energy issues in Canada

- Andrew Green, “On Thin Ice: Meeting Canada’s Paris Climate Commitments,” *Journal of Environmental Law and Practice* 32:1 (2018), pp.99-135.
- Jason MacLean, Meinhard Doelle, Chris Tollefson, “The Science, Law, and Politics of Canada’s Pathways to Paris,” *University of British Columbia Law Review* 52:1 (2019), pp.227-241.

Additional readings – Greater Golden Horseshoe and the Greenbelt:

- Government of Ontario, *The Greenbelt Plan* (initially 2005, revised 2017), <https://www.ontario.ca/document/greenbelt-plan-2017>.
- Government of Ontario *Places to Grow: Growth Plan for the Greater Golden Horseshoe* (initially 2006 revised 2017), <https://www.ontario.ca/document/place-grow-growth-plan-greater-golden-horseshoe>, on course UW Learn site.
- David Crombie, et al., *Planning for Health, Prosperity and Growth: Expert Panel Report*, (2015), on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q3a: From the perspective of the interests you are representing, what are the three most important big issues to be addressed and objectives to be met in considering expansion of bitumen production in Alberta and associated infrastructure (e.g., pipelines) in overall policy/planning deliberations and in project assessments that must also consider implications for meeting Canada's climate change commitments?

Q3b: From the perspective of the interests you are representing, what are the three most important big growth management issues to be addressed and objectives to be met in the Greater Golden Horseshoe and Greenbelt area and how should regional planning and project level environmental assessments be designed and used to contribute to addressing these considerations and meeting these objectives?

4. January 29 Sustainability assessment

- international and Canadian developments
- the new sustainability-based federal *Impact Assessment Act*
- past case examples: Voisey's Bay mine assessment, Tulsequah Chief mine, Mining, Minerals and Sustainable Development project, Mackenzie Gas Project, Ontario Power Authority Integrated Power Systems Plan, Kemess North Copper-Gold Mine Project, White's Point Quarry and Marine Terminal

Readings:

Canada, *Impact Assessment Act*, Statutes of Canada 2019, c.28, s.1, <https://laws-lois.justice.gc.ca/eng/acts/I-2.75/index.html>, on course UW Learn site (see readings for week 2), see especially section 63(a).

Robert B. Gibson, "An initial evaluation of Canada's new sustainability-based *Impact Assessment Act*," forthcoming 2020 in the *Journal of Environmental Law and Practice*, pre-publication version on course UW Learn site (see readings for week 2).

Robert B. Gibson, "Foundations: sustainability and the requirements for getting there," in Robert B. Gibson, editor, *Sustainability Assessment: Applications and Opportunities* (London: Routledge/Earthscan, 2017), pp. 1-15, on course UW Learn site.

Robert B. Gibson, "Criteria," in *Sustainability Assessment: Criteria and Processes* (London: Earthscan, 2005), chapter 5, pp.88-121, on course UW Learn site.

Robert B. Gibson, "Sustainability assessment in Canada," in Alan Bond, Angus Morrison-Saunders and Richard Howitt, editors, *Sustainability Assessment: Pluralism, practice and progress* (London: Routledge, 2013), pp. 167-183 (chapter 11), on course UW Learn site.

Canada, Impact Assessment Agency of Canada (IAAC), *Practitioner's Guide to the Impact Assessment Act* (2019), <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act.html>, especially sections

[2.1 Guidance: Gender-based Analysis Plus in Impact Assessment](#),

[2.2 Guidance: Considering the Extent to which a Project Contributes to Sustainability](#),

[2.3 Framework: Implementation of the Sustainability Guidance](#)

Canada, Impact Assessment Agency of Canada, "Fact Sheet: Gender-Based Analysis Plus in Impact Assessment" (2019), <https://www.canada.ca/en/impact-assessment->

[agency/services/policy-guidance/public-participation-impact-assessment-fact-sheet.html](http://www.uw.edu/agency/services/policy-guidance/public-participation-impact-assessment-fact-sheet.html), also on course UW Learn site.

Scan quickly:

Barry Dalal-Clayton and Barry Sadler, *Sustainability Appraisal: a sourcebook and reference guide to international experience* (London: Earthscan, 2014), encyclopaedic ebook in UW library.

Possible additional readings:

Theo Hacking and Peter Guthrie, “A framework for clarifying the meaning of Triple Bottom Line, Integrated and Sustainability Assessment,” *Environmental Impact Assessment Review* 28 (2008), pp.73-89, on course UW Learn site.

MMSD, North American Regional Report, *Seven Questions to Sustainability: How to Assess the Contribution of Mining and Minerals Activities*;
http://www.iied.org/mmsd/rrep/n_am.html; also on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions

Q4a: From the perspective of the interests you are representing, what would be the three main advantages and the three main disadvantages or risks resulting from the new law that shifts the Canadian federal assessment processes from a focus on mitigating significant adverse environmental effects to a focus on delivering positive contributions to sustainability? Provide a practical example (historical or potential).

Q4b: From the perspective of the interests you are representing, what would be the main characteristics of sustainability-based assessment that you would like to ensure are emphasized in guidance for application of the new sustainability-based assessment requirements in the new federal law (especially section 63(a))? Again, provide a practical example.

5. February 5 Sustainability assessment application: the Mackenzie Gas Project case

- the major innovations
- the limitations
- the responses
- implications for sustainability assessment under the new federal law

Readings:

Robert B. Gibson, “Applications: from generic criteria to assessments in particular places and cases,” in Robert B. Gibson, editor, *Sustainability Assessment: Applications and Opportunities* (London: Routledge/Earthscan, 2017), pp. 16-41, on course UW Learn site.

Robert B. Gibson, "Application of a contribution to sustainability test by the Joint Review Panel for the Canadian Mackenzie Gas Project," *Impact Assessment and Project Appraisal* 29:3 (September 2011), pp.231-244, on course UW Learn site.
Mackenzie Gas Project Joint Review Panel 2009. *Foundation for a Sustainable Northern Future* (December 2009), chapter 19 (skim the rest), full report (volumes 1 and 2) available at <http://www.acee-ceaa.gc.ca/default.asp?lang=En&n=155701CE-1>, also on course UW Learn site.

Recommended background documents (skim):

Governments of Canada and of the Northwest Territories, *Final Response to the Mackenzie Gas Project Joint Review Panel Report for the Mackenzie Gas Project* (November 2010), available at <http://www.acee-ceaa.gc.ca/default.asp?lang=En&n=155701CE-1>, also on course UW Learn site.

Robert B. Gibson, *Sustainability-based assessment criteria and associated frameworks for evaluations and decisions: theory, practice and implications for the Mackenzie Gas Project Review*, a report commissioned and published by the Joint Review Panel for the Mackenzie Gas Project, 26 January 2006, 67pp. Available at <http://www.acee-ceaa.gc.ca/default.asp?lang=En&n=155701CE-1>; also on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q5a: The Joint Review Panel in the Mackenzie Gas Project case set the Canadian standard in establishing and applying sustainability-based criteria in its deliberations. From the perspective of the interests you are representing, what were the most important strengths of the Panel's criteria and its application of these criteria?

Q5b: The Mackenzie Panel's methods were not applied again (at least not in the same way) in formal Canadian environmental assessments under the old federal legislation, in part because sustainability-based assessment was not clearly mandated in law. The new federal *Impact Assessment Act* has adopted a sustainability-based approach, but so far the associated implementation guidance does not mention development and application of sustainability-based criteria. From the perspective of the interests you are representing, what lessons from the Mackenzie case should be included in the implementation guidance for developing and applying sustainability-based criteria in assessments under the new federal law?

6. February 12 Complex ecological, social and socio-ecological systems and their implications for assessments

- complex systems theory
- complex systems in resource management
- ecosystem-based approaches
- applications to socio-ecological systems
- basic implications for impact assessment research

- implications for environmental assessment process design

Readings:

- James Kay and Eric Schneider, "Embracing complexity: the challenge of the ecosystem approach," *Alternatives Journal*, 20:3 (1994), pp.32-38; on course UW Learn site.
- Convention on Biological Diversity (UNEP), "The Ecosystem Approach: Principles," (12 principles) available at <http://www.cbd.int/ecosystem/principles.shtml>, also on course UW Learn site.
- Lorne A. Greig and Peter N. Duinker, "A proposal for further strengthening science in environmental impact assessment in Canada," *Impact Assessment and Project Appraisal* 29:2 (2011), pp.159-165.
- Jianguo Liu, et al., "Complexity of Coupled Human and Natural Systems," *Science* 317 (14 September 2007), pp.1513-1516.
- Aerin Jacob, "Cross-sectoral input for the potential role of science in Canada's environmental Miriam Diamond, et al., *Natural Heritage Systems in Urbanizing Settings: Sustainable Practices for the Oak Ridges Moraine* (City of Toronto and Save the Rouge Valley System Inc., July 2002), on course UW Learn site.
- Carl Folke, Stephen R. Carpenter, Brian Walker, Marten Scheffer, Terry Chapin and Johan Rockström, "Resilience thinking: integrating resilience, adaptability and transformability," *Ecology and Society* 15:4 (2010) 20, <http://www.ecologyandsociety.org/vol15/iss4/art20/>, also on course UW Learn site.

Possible additional readings:

- Lake Simcoe Region Conservation Authority, *The Uxbridge Brook Watershed Plan* (1997), on course UW Learn site; also available at http://www.lsrca.on.ca/pdf/reports/uxbridge_brook_watershed.pdf.
- Gordon E. Beanlands and Peter N. Duinker, *An Ecological Framework for Environmental Impact Assessment in Canada* (Halifax: Institute for Resource and Environmental Studies, Dalhousie Univ., 1983), pp.1-10, on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

- Q6a: Taking into account the perspective of the interests you are representing, assume that you are in charge of designing a planning and assessment process for rehabilitating an urban waterway in Waterloo Region (e.g., Laurel Creek). What key considerations from an understanding of complex socio-ecological systems would you apply to the process design and what would be the practical implications for regional planning and for assessment of individual undertakings?
- Q6b: Taking into account the perspective of the interests you are representing, assume you are in charge of designing a planning and assessment process for roads and electric power infrastructure to serve proposed mines and existing communities including Indigenous communities, somewhere in northern Canada. What key considerations from an understanding of complex socio-ecological systems would you

apply to the process design and what would be the practical implications for the regional planning and for assessment of individual undertakings?

7. February 26 Complexity, uncertainty and precaution

- complexity and uncertainty: lessons from experience in Canada
- the role of scenario analysis
- risk and precaution (risk assessment versus/plus precautionary approach)
- adaptive design and management
- implications for advanced assessment, planning and design

Readings:

Mary O'Brien, "Alternatives assessment: part of operationalizing and institutionalizing the Precautionary Principle," paper prepared for the Wingspread Conference on "Implementing the Precautionary Principle," 23-25 January 1998, Racine, Wisconsin, on course UW Learn site.

Royal Society of Canada Expert Panel on the Future of Food Biotechnology, Conrad Brunk and Brian Ellis, co-chairs, *Elements of Precaution: Recommendations for the Regulation of Food Biotechnology in Canada* prepared at the request of Health Canada, Canadian Food Inspection Agency and Environment Canada (Ottawa: Royal Society of Canada, 2001), on course UW Learn site, also available at <http://www.ic.gc.ca/app/oca/crd/dcmnt.do?id=65&lang=eng>.

Peter Duinker and Lorne Greig, "Scenario analysis in environmental impact assessment: Improving explorations of the future," *Environmental Impact Assessment Review* 27:3 (2007), pp.206-219.

Charles Birchall and John Donihee, "Navigating Environmental Risk: When and How to Apply the Precautionary Principle," (Willms and Shier, 22 December 2017), on course UW Learn site.

Environmental Law Centre, University of Victoria, "The precautionary principle in Canada," (June 2010), <http://www.elc.uvic.ca/associates/documents/Jun14.10-Precautionary-Principle-Background.pdf>, also on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions

Q7a: From the perspective of the interests you are representing, what are the most important ethical and practical considerations in deciding how to organize an assessment of a proposal for a major controversial undertaking that involves considerable complexity and uncertainty (pick one of the following: building a new diluted bitumen (dilbit) pipeline, introducing genetically modified salmon for aquaculture, opening a new area for metal mining)?

Q7b: From the perspective of the interests you are representing, what are the most important ethical and practical considerations in deciding how to organize an assessment of a proposal for a major controversial undertaking that involves

considerable complexity and uncertainty (pick one of the following: a large commercial wind farming operation at the shore of one of the Great Lakes, phasing out fossil-fuel powered vehicles in stages leading to a full ban in 2050, replacement of income taxes with revenue-equivalent taxes on resource extraction, consumer products and waste generation)?

8. March 4 Cumulative effects, scenarios and alternatives

- principles and challenges
- approaches at the project level and strategic level
- case examples: Fort Liard, oil sands and Fort McMurray, Mackenzie Gas Project and induced development, Puslinch gravel

Readings:

A. John Sinclair, Meinhard Doelle & Peter Duinker, "Looking Up, Down, Sideways: Reconceiving Cumulative Effects Assessment as a Mindset" *Environmental Impact Assessment Review* 62 (2016), pp.183-194, on course UW Learn site.

Chris Jones, Cumulative effects assessment: theoretical underpinnings and big problems," NRC Research Press (2016),

<https://www.nrcresearchpress.com/doi/full/10.1139/er-2015-0073?mobileUi=0#.Xg2Mget7k4o>, on course UW Learn site.

CEAA, *Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012 – draft* (December 2014), on course UW Learn site.

Mackenzie Gas Project Joint Review Panel 2009. *Foundation for a Sustainable Northern Future* (December 2009), especially chapter 19, available at <http://www.acee-ceaa.gc.ca/default.asp?lang=En&n=155701CE-1>; on course UW Learn site for week 5.

Petr Cizek and Shelagh Montgomery, *A Choice of Futures: cumulative impact scenarios of the Mackenzie Gas Project Scoping and Development* (Yellowknife: Canadian Arctic Resources Committee, October 2005), available at <http://www.carc.org/pdfs/A%20CHOICE%20OF%20FUTURES%20final.pdf>; and on course UW Learn site.

Peter N. Duinker and Lorne A. Greig, "The impotence of cumulative effects assessment in Canada: Ailments and ideas for redeployment," *Environmental Management* 37:2 (2006), pp.153-161; on course UW Learn site.

Possible additional readings:

Petr Cizek, et al., *Fort Liard Area Cumulative Impact Mapping Project: Technical Report* (Yellowknife: Canadian Arctic Resources Committee, May 2002); on course UW Learn site.

Lorne Greig and Peter Duinker, "Scenarios of future development in cumulative effects assessment: approaches for the Mackenzie Gas Project" (March 2007), on course UW Learn site.

Monique G. Dubé, “Cumulative effect assessment in Canada: a regional framework for aquatic ecosystems,” *Environmental Impact Assessment Review* 23 (2003), pp.723-745, on course UW Learn site.

Douglas Baker and Darryl Shoemaker, *Environmental Assessment and Aggregate Extraction in Southern Ontario: the Puslinch Case*, Ontario case report no. 3 (Waterloo: Environmental Assessment and Planning in Ontario Study, ERS/UWaterloo, 1995), 33pp., on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q8a From the perspective of the interests you are representing, what are the major advantages and limitations of considering cumulative effects in assessments of individual projects? Illustrate with an example (e.g., an individual hydrocarbon pipeline, or hydropower dam, or metal mine, or aggregates extraction project).

Q8b From the perspective of the interests you are representing, what are the major advantages and limitations of considering cumulative effects in regional planning or other strategic level undertakings? Illustrate with an example (e.g., a regional plan for urban growth management, or a regional plan for a watershed with multiple current and potential development activities such as hydrocarbon exploration, mining, power projects, and/or forestry).

9. March 11 Regional and strategic assessment

- principles and the record of Canadian practice
- the relevant provisions of the new federal *Impact Assessment Act*
- case considerations: strategic assessment of climate change mitigation and regional assessment of development in the Ring of Fire

Readings:

Canada, *Impact Assessment Act*, Statutes of Canada 2019, c.28, s.1, <https://laws-lois.justice.gc.ca/eng/acts/I-2.75/index.html>, on course UW Learn site for week 2, see sections 92-103.

Canada, Impact Assessment Agency of Canada, “Regional Assessment under the *Impact Assessment Act*,” <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/impact-assessment-process-overview.html>, on course UW Learn site.

IAIA, *Strategic Environmental Assessment Performance Criteria*; available at <http://www.iaia.org/> go to "publications"; also on course UW Learn site.

Government of Canada, *The Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals* (2010); available at <http://www.acee-ceaa.gc.ca/default.asp?lang=En&n=B3186435-1>, also on course UW Learn site.

Robert B. Gibson, Hugh Benevides, Meinhard Doelle and Denis Kirchhoff, “Strengthening strategic environmental assessment in Canada: an evaluation of three

basic options,” *Journal of Environmental Law and Practice*, 20:3 (2010), pp.175-211, on course UW Learn site.

Strategic assessment of climate change:

See climate change readings from week 3, and

Robert B. Gibson, Karine Péloffy and Meinhard Doelle, “Key considerations for the strategic assessment of climate commitment implications,” Paris to Project Research Initiative, 3 August 2018, on the course UW Learn site.

Meinhard Doelle, “Integrating Climate Change into Environmental Impact Assessments: Key Design Elements,” https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3273499, also on course UW Learn site.

Phillip Byer et al., “Climate Change in Impact Assessment: International Best Practice Principles” (International Association for Impact Assessment (IAIA), March 2018), on the course UW Learn site.

Intergovernmental Panel on Climate Change (IPCC), *Global Warming of 1.5 °C – Summary for Policymakers* (October 2018), on course UW Learn site.

Regional assessment for the Ring of Fire:

Ontario Ministry of Northern Development and Mines, Ring of Fire Secretariat, <http://www.mndm.gov.on.ca/en/ring-fire-secretariat>, and on the course UW Learn site.

Dayna Scott et al., “Formal Request to Minister Wilkinson for a Regional Assessment for the Ring of Fire region,” letter 20 December 2019, on course UW Learn site.

Neil Powers, “Ring of Fire: homeland or frontier? (January 2018), <https://1stories.wixsite.com/firststories/single-post/2018/01/09/Ring-of-Fire-Homeland-or-Frontier>, on course UW Learn site.

Cheryl Chetkiewicz and Anastasia Lintner, *Getting it Right in Ontario’s Far North: the need for a regional strategic environmental assessment in the Ring of Fire (Wawangajing)*, (World Conservation Society Canada and Ecojustice, May 2014), on course UW Learn site.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q9a: From the perspective of the interests you are representing, what would be the main desirable characteristics of a strategic undertaking and assessment under the new federal *Impact Assessment Act* concerning how climate change mitigation should be addressed in policy and project decision making, and what would be the main advantages and difficulties doing such assessments?

Q9b: From the perspective of the interests you are representing, what would be the main desirable characteristics of a regional strategic undertaking and assessment under the new federal *Impact Assessment Act* concerning whether and how development of the Ring of Fire region of Ontario should be pursued, and what would be the main advantages and difficulties doing such assessments?

10. March 18 Tiered strategic/regional and project assessment

- reasons for and theory of tiering strategic and project level assessments
- tiering experience in growth management planning: smart growth, identification and public assessment of alternative futures, use of scenarios, links to planning and assessment of particular projects
- interjurisdictional, regional/sectoral and multi-tier planning and assessment
- particular case examples from planning: regional growth management planning (Greater Golden Horseshoe planning, Ontario's Greenbelt and the Oak Ridges Moraine, Waterloo Region, Greater Vancouver Regional District and Capital Regional District in BC)
- potential tiering under federal assessment law: climate change, regional cumulative effects in the Ring of Fire and other places, etc.

Readings:

Arts, J., Tomlinson, P. & Voogd, H., "Planning in tiers? Tiering as a way of linking SEA and EIA," in Barry Sadler, Jiri Dusik, Thomas Fischer, Maria Partidario, Rob Verheem, R. & Ralf Aschemann, eds., *Handbook of Strategic Environmental Assessment* (CRC Press, 2012), pp. 415-433.

Michelle Boyle, Robert B. Gibson and Deborah Curran, "If not here, then perhaps not anywhere: urban growth management as a tool for sustainability planning in British Columbia's Capital Regional District," *Local Environment* 9:1 (2004), pp.21-43; on course UW Learn site.

Region of Waterloo, Regional Official Plan (website also outlining the current review), https://www.regionofwaterloo.ca/en/doing-business/Regional_Official_Plan.aspx; also see the original growth management strategy: *Planning our Future: Regional Growth Management Strategy* (June 2003), <https://www.regionofwaterloo.ca/en/resources/RegionalGrowthManagementStrategy.pdf>; also on course UW Learn site.

See also the Greater Golden Horseshoe and Greenbelt readings from week 3.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q10a: From the perspective of the interests you are representing, how might linked strategic and project assessments facilitate more effective and more efficient sustainability-based assessments? Provide an illustrative example involving a strategic level assessment of a growth management or sustainable futures plan for a large Canadian metropolitan area.

Q10b: From the perspective of the interests you are representing, how might linked strategic and project assessments facilitate more effective and more efficient sustainability-based assessments? Provide an illustrative example involving a regional strategic assessment of a sustainable futures plan for the Ring of Fire region of northern Ontario.

11. March 25 Cooperation, collaboration and engagement: multi-jurisdictional assessments including with Indigenous partners, public involvement, modern science and traditional knowledge

- inter-and multi-jurisdictional applications, project level and strategic level
 - challenges of wildly divergent laws, policies and practices
 - imperative for and barriers to cooperation and collaboration
 - case examples
- tools for cooperation and collaboration
 - scenario building, socio-ecological systems and public choices about alternatives
 - citizens and experts: combining conventional science and technical knowledge and public consultation, citizen experts, traditional knowledge
 - addressing equity effects, including gender equity
 - Indigenous rights, respect and reconciliation
- case examples: growth management in BC's Capital Regional District; community-based traditional expert monitoring in Lutsel 'Ke

Readings:

Multi-Interest Advisory Committee (MIAC), *Advice to the Expert Panel Reviewing Environmental Assessment Processes*, 9 December 2016, especially "Overarching policy issues - Indigenous Rights," (pp.8-17), "Principles of meaningful public participation," (pp.41-48), "Cooperation in a multi-jurisdictional context," (pp.49-52), on course UW Learn site and posted at <http://eareview-examenee.ca/what-weve-heard/multi-interest-advisory-committee/>.

Patricia Fitzpatrick, P. and A.J. Sinclair, "Multi-jurisdictional environmental impact assessment: Canadian experiences," *EIA Review* 29:4 (2009), pp.252-260, on course UW Learn site.

Arlene Kwasniak, "Environmental assessment, overlap, duplication, harmonization, equivalency, and substitution: interpretation, misinterpretation, and a path forward," *Journal of Environmental Law and Practice* 20:1 (Oct 2009), pp.1-35, on course UW Learn site.

Sharon Mascher, "Aligning Canadian Impact Assessment Processes with the Principles of UNDRIP," June 27, 2019, <https://www.cigionline.org/articles/aligning-canadian-impact-assessment-processes-principles-undrip>, also on course UW Learn site.

Rosie Simms et al., "Collaborative consent as a path to realizing UNDRIP," *Policy Options (January 2018)*, <https://policyoptions.irpp.org/magazines/january-2018/collaborative-consent-as-a-path-to-realizing-undrip/>, also on course UW Learn site.

Isabelle Brideau, "The Duty to Consult Indigenous Peoples" (Library of Parliament, 12 June 2019), https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/201917E, on course UW Learn site.

Stephen Ellis, "Meaningful consideration? a review of traditional knowledge in environmental decision making," *Arctic* 58:1 (March 2005), on course UW Learn site.

Deborah Carver et al., *Interjurisdictional coordination of EA: challenges and opportunities arising from differences among provincial and territorial assessment requirements and processes* (Halifax: East Coast Environmental Law Association, November 2010), sections 1-4 and 7-8, on course UW Learn site.

Canada, Impact Assessment Agency of Canada, “Fact Sheet: What is Meaningful Public Participation?” <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/public-participation-impact-assessment-fact-sheet.html>, also on course UW Learn site.

Canada, Impact Assessment Agency of Canada (IAAC), *Practitioner’s Guide to the Impact Assessment Act* (2019), <https://www.canada.ca/en/impact-assessment-agency/services/policy-guidance/practitioners-guide-impact-assessment-act.html>, especially sections

[3.2 Policy Context: Indigenous Participation in Impact Assessment](#)

[4.1 Guidance: Indigenous Participation in Impact Assessment](#)

[4.1 Policy Context: Public Participation in Impact Assessment](#)

[4.2 Guidance: Public Participation in Impact Assessment](#)

IAIA, “Public participation: international best practice principles,” (August 2006), http://www.iaia.org/publicdocuments/special-publications/SP4_web.pdf; also on course UW Learn site.

A. John Sinclair, Alan Diduck and Patricia Fitzpatrick, “Conceptualizing learning for sustainability through environmental assessment: critical reflections on 15 years of research,” *Environmental Impact Assessment Review* 28 (2008), pp.415-428.

Notes questions:

[same as the discussion questions below, except that you are to address the questions recognizing the perspectives of many different particular interests]

Discussion questions:

Q11a: From the perspective of the interests you are representing, what would be the five most important considerations in designing a collaborative joint assessment or set of assessments involving the Canadian government, a provincial government and Indigenous authorities representing one or more remote Indigenous communities?

Assume that the assessment

- would be sustainability-based,
- would address anticipated proposals for mining and/or other non-renewable resource extraction and associated transportation and energy projects in a region that has not previously experienced much industrial development, and
- could involve a combination of strategic, regional and/or major project assessments.

Consider how the process(es) might be organized; who should be involved; what major difficulties could arise and how would you address them.

Q11b: From the perspective of the interests you are representing, what would be the five most important considerations in designing a collaborative joint assessment or set of assessments involving the Canadian government, a provincial government and Indigenous authorities representing one or more Indigenous communities? Assume that the assessment

- would be sustainability-based,
- would address anticipated potential expansion of industrial and other activities in a region that has already experienced many decades of industrial development, and
- could involve a combination of strategic, regional and/or major project assessments.

Consider how the process(es) might be organized; who should be involved; what major difficulties could arise and how would you address them.

12. April 1 Onwards from here: course summary, opportunities for application and implications for professional practice

- the wide world of professional practice in assessment, broadly defined to go well beyond formally legislated assessment processes
- what it's like working in environmental and sustainability assessment and related areas
- various pathways to getting employed and pursuing a career
- where the biggest challenges and most attractive opportunities lie

Recommended readings:

IAIA Guidelines Standard for IA Professionals, on course UW Learn site

Discussion questions:

Q12a: What would be the most important and interesting assessment improvement initiative(s) to be hired to work on for a future federal, provincial, territorial or Indigenous authority in Canada?

Q12b: Beyond impact assessment law reform, what are the most significant needs (and attractive job opportunities) for improving the practice of planning, approving and implementing new undertakings in Canada and what are the most promising possible means of making these improvements?