

## GEOG 457

### Marine Protected Areas (MPAs)

January 9 – April 2, 2020

**Instructor:** Charlie Short

**Email:** [Charles.short@gov.bc.ca](mailto:Charles.short@gov.bc.ca)

**Office Hours:** Thursdays on request 5pm – 6pm | Location: TBD

**Class Schedule:** Thursdays 6:30pm - 9:20pm | CLE C115 | Jan 9 – April 2, 2020

#### Course Description

This class will focus on many elements inherent in marine protected area (MPA) design, governance, implementation, management, compliance and monitoring. The course will cover foundational topics like ecosystem-based management and key ecological, socio-economic and cultural considerations in the broader field of marine conservation. The practise of marine spatial planning will also be examined in relation to MPAs. There will be a focus on the Canadian context and on temperate MPAs in British Columbia specifically - international examples will also be drawn upon where applicable.

#### Course Format

This will be a lecture and seminar style class. Students are expected to engage in discussions on a variety of topics. A field trip may be possible to local sites.

#### Course Evaluation

Students will be expected to carry out a variety of exercises including presentations, short papers and participate in class discussions. There is no required textbook for this class. Selected course readings will be assigned during term.

1. Mini Paper	10	January 30 <sup>th</sup> , 2020
2. Group Presentations	20	February 13 <sup>th</sup> – March 19, 2020
3. Mid-Term Evaluation	20	February 27 <sup>th</sup> , 2020
4. Final Evaluation	10	April 2, 2020
5. Final Written Assignment - Proposal	30	April 9, 2020
6. Participation	10	
<b>Final</b>	<b>100</b>	

## Learning outcomes

At the end of the course, students will:

- Analyze and connect core principles in ecological and coastal zone management theory to practice;
- Critically evaluate MPA theory and management from an applied perspective;
- Be familiar with the variety of MPA applications and why they may differ from place to place;
- Examine the variety of tools and techniques used in the design and management of MPAs and assess their strengths and weaknesses;
- Hone their critical thinking, written and verbal communication skills through course assignments;

**Prerequisites:** Geog 357 or by permission

Course Schedule	Focused Topics <i>(subject to some change)</i>
<b>Week 1   Jan 9</b>	<ul style="list-style-type: none"> <li>• Introduction to Course</li> <li>• Class Roundtable &amp; Group Assignments</li> <li>• The Big Picture               <ul style="list-style-type: none"> <li>○ Marine Ecology 101                   <ul style="list-style-type: none"> <li>▪ What are MPAs?</li> </ul> </li> <li>○ Ocean Economy</li> <li>○ Ocean Users</li> </ul> </li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Agardy, T. 2018. Justified ambivalence about MPA effectiveness. – ICES Journal of Marine Science, 75: 1183–1185.</li> <li>2. Worm, B, Barbier, E.B. , Beaumont, N, Duffy, E.J., Folke, C, Halpern, B.S., and R. Watson. 2006. Impacts of biodiversity loss on ocean ecosystem services. Science, 314: 778-790.</li> <li>3. Halpern et al. 2012. An index to assess the health and benefits of the global ocean. Nature, 488 (7413): 615-20.</li> </ol>
<b>Week 2   Jan 16</b>	<ul style="list-style-type: none"> <li>• Marine Ecosystem Based Management / Integrated Resource Management</li> <li>• Marine Spatial Planning – Case Study: <i>Marine Planning Partnership for the North Pacific Coast</i></li> <li>• Why MPAs?</li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Leslie, H and K. McLeod, 2007. Confronting the Challenges of Implementation Marine Ecosystem Based management. <i>Frontiers in Ecology and the Environment</i>, 5(10): 540-548</li> <li>2. Visit this website for multiple papers: <a href="http://openchannels.org/literature-library-top-lists/top-15-publications-marine-spatial-planning">http://openchannels.org/literature-library-top-lists/top-15-publications-marine-spatial-planning</a></li> <li>3. Peruse this website: Marine Planning Partnership: <a href="http://www.mappocean.org">www.mappocean.org</a></li> <li>4. Ban, Natalie C., Karin Bodtker, David Nicolson, Carrie Robb, Krista Royle, Charlie Short. 2013. Setting the stage for marine spatial planning: ecological and social data collation and analyses in Canada’s Pacific waters. <i>Marine Policy</i>, 39:11-20</li> </ol>
<b>Week 3   Jan 23</b>	<ul style="list-style-type: none"> <li>• Types of MPAs</li> <li>• Different MPAs for Different Contexts</li> <li>• Benefits and challenges of MPAs               <ul style="list-style-type: none"> <li>○ Economic, Social, Cultural, Ecological</li> </ul> </li> <li>• MPA Effectiveness and Implications</li> <li>• Overview of MPA management issues and challenge</li> </ul>

	<p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Agardy, T., Claudet, J., and Day, J. 2016. Dangerous targets revisited: old dangers in new contexts plague marine protected areas. <i>Aquatic Conservation: Marine and Freshwater Ecosystems</i>, 1–15</li> <li>2. Edgar, G. J., Stuart-Smith, R. D., Willis, T. J., Kininmonth, S., Baker, S. C., Banks, S., Barrett, N. S., et al. 2014. Global conservation outcomes depend on marine protected areas with five key features. <i>Nature</i>, 506: 216–220.</li> <li>3. Lester and Halpren, (2008). Biological responses in marine no-take reserves versus partially protected areas. <i>Marine Ecology Progress Series</i>, 367: 49-56.</li> <li>4. White et al., 2013. A comparison of approaches used for economic analysis in marine protected area network planning in California. <i>Ocean &amp; Coastal Management</i>, 74: 77-89.</li> </ol>
<p><b>Week 4   Jan 30</b></p> <p><i>1<sup>st</sup> mini paper due</i></p>	<ul style="list-style-type: none"> <li>• MPA Design – techniques, tools &amp; assessments</li> <li>• MPA Networks</li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Sala et al., 2002. A general model for Designing Networks of Marine Reserves. <i>Science</i>, 298: 1991-1993.</li> <li>2. Gleason, et al., 2013. Designing a network of marine protected areas in California: Achievements, costs, lessons learned, and challenges ahead. <i>Ocean and Coastal Management</i>, 74: 90-101.</li> <li>3. Canada-British Columbia Marine Protected Area Network Strategy. 2014. ISBN: 978-1-100-21129-9.</li> </ol>
<p><b>Week 5   Feb 6</b></p>	<ul style="list-style-type: none"> <li>• MPA Governance – International Synopsis</li> <li>• MPA Governance in Canada</li> <li>• MPA Governance in British Columbia</li> <li>• Current Challenges</li> </ul> <p><b>Recommended Readings: <i>Executive Summary from IUCN document:</i></b></p> <ol style="list-style-type: none"> <li>1. Borrini-Feyerabend, G., Dudley, N., Jaeger, T., Lassen, B., Broome, N.P., Phillips, A., 2013. Governance of Protected Areas: From Understanding to Action, in <i>Best Practice Protected Area Guidelines 20</i>. IUCN, Gland.  <a href="https://www.iucn.org/sites/dev/files/content/documents/governance_of_protected_areas_from_understanding_to_action.pdf">https://www.iucn.org/sites/dev/files/content/documents/governance_of_protected_areas_from_understanding_to_action.pdf</a>.</li> </ol>
<p><b>Week 6   Feb 13</b></p>	<ul style="list-style-type: none"> <li>• MPAs in BC and Canada (guest lecture possible) <ul style="list-style-type: none"> <li>○ History, progress and challenges</li> <li>○ Temperate MPAs</li> <li>○ Canadian case study</li> </ul> </li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Whitaker, A. 2014. Marine Protected Areas in Canada: A Comparative Law Analysis of the Nova Scotia and British Columbia Experience. <i>Ocean yearbook</i>, 28(1): 245-268</li> <li>2. Council of the Haida Nation and Her Majesty the Queen in Right of Canada, represented by the Chief Executive Officer of Parks Canada, 2018. Gwaii Haanas Gina 'Waadluxan KilGuhlGa Land-Sea-People Management Plan PDF: R64-464/2018E-PDF ISBN: 978-0-660-27508-6 <ul style="list-style-type: none"> <li>• <b>Grouping assigned readings TBD</b></li> </ul> </li> </ol> <p><b><i>Class Presentations   Round 1</i></b></p>
<p><b>Week 7   Feb 27</b></p>	<p><b>Mid-Term Evaluation</b></p>
<p><b>Week 8   March 5</b></p>	<ul style="list-style-type: none"> <li>• MPAs and Communities (<i>guest lecture possible</i>) <ul style="list-style-type: none"> <li>○ Values, perceptions and social impacts of MPAs</li> <li>○ Indigenous (First Nations) people and MPAs</li> </ul> </li> </ul> <p><b>Recommended Readings:</b></p>

	<ol style="list-style-type: none"> <li>1. Ban, N., E. Wilson, and D. Neasloss. 2019. Strong historical and ongoing indigenous marine governance in the northeast Pacific Ocean: a case study of the Kitasoo/Xai'xais First Nation. <i>Ecology and Society</i>, 24(4):10. <a href="https://doi.org/10.5751/ES-11091-240410">https://doi.org/10.5751/ES-11091-240410</a></li> <li>2. McNeill A, Clifton, J and E. S.Harvey. 2018. Attitudes to a marine protected area are associated with perceived social impacts. <i>Marine Policy</i>, 94:106-118</li> </ol> <p><b>Class Presentations   Round 2</b></p>
<b>Week 9   March 12</b>	<ul style="list-style-type: none"> <li>• MPAs – The Art of Engagement and Process Design <ul style="list-style-type: none"> <li>○ Who needs to play ball?</li> <li>○ Critical components to success</li> </ul> </li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Kelly, R., Pecl, G., and A. Fleming. 2017. Social licence in the marine sector: a review of understanding and application. <i>Marine Policy</i>, 81: 21-28</li> <li>2. Fox et al., 2013. Enabling conditions to support marine protected area network planning: California's Marine Life Protection Act Initiative as a case study. <i>Ocean &amp; Coastal Management</i>, 74: 14-23</li> </ol> <p><b>Class Presentations   Round 3</b></p>
<b>Week 10   March 19</b>	<ul style="list-style-type: none"> <li>• Management of MPAs and Challenges <ul style="list-style-type: none"> <li>○ Role of Education, Awareness, and Capacity Building</li> <li>○ Compliance and Enforcement</li> </ul> </li> </ul> <p><b>Recommended Readings:</b></p> <ol style="list-style-type: none"> <li>1. Day, J. 2008. The need and practice of monitoring, evaluating and adapting marine planning and management—lessons from the Great Barrier Reef. <i>Marine Policy</i>, 32: 823–831.</li> <li>2. Ban, N. C., Kushneryk, K., Falk, J., Vachon, A., and Sleigh, L. 2019. Improving compliance of recreational fishers with Rockfish Conservation Areas: community–academic partnership to achieve and evaluate conservation. – <i>ICES Journal of Marine Science</i>, doi:10.1093/icesjms/fsz134.</li> <li>3. McCook et al., 2010. Adaptive Management of the Great Barrier Reef: A globally significant demonstration of the benefits of networks of marine reserves. <i>Proceedings of National Academy of Sciences</i>.</li> </ol> <p><b>Class Presentations   Round 4</b></p>
<b>Week 11   March 26</b>	<ul style="list-style-type: none"> <li>• Course Wrap Up and Summary</li> <li>• Course Evaluation</li> <li>• Applications in the field</li> </ul>
<b>Week 12   April 2</b>	<ul style="list-style-type: none"> <li>• Final Evaluation</li> </ul>
<b>Week 13   April 9</b>  <i>Final Writing Assignment Due</i>	<ul style="list-style-type: none"> <li>• Final Papers Due</li> </ul>

## Undergraduate Grading\*\*

<b>Undergraduate Grading Scale</b>			
<b>Passing Grades</b>	<b>Grade Point Value</b>	<b>Percentage *</b>	<b>Description</b>
A+ A A-	9 8 7	90 – 100 85 – 89 80 – 84	An A+, A, or A- is earned by work which is technically superior, shows mastery of the subject matter, and in the case of an A+ offers original insight and/or goes beyond course expectations. Normally achieved by a minority of students.
B+ B B-	6 5 4	77 – 79 73 – 76 70 – 72	A B+, B, or B- is earned by work that indicates a good comprehension of the course material, a good command of the skills needed to work with the course material, and the student's full engagement with the course requirements and activities. A B+ represents a more complex understanding and/or application of the course material.
C+ C	3 2	65 – 69 60 – 64	A C+ or C is earned by work that indicates an adequate comprehension of the course material and the skills needed to work with the course material and that indicates the student has met the basic requirements for completing assigned work and/or participating in class activities.
D	1	50 – 59	A D is earned by work that indicates minimal command of the course materials and/or minimal participation in class activities that is worthy of course credit toward the degree.
COM	Excluded Grade	N/A	<b>Complete</b> (pass). Used only for 0-unit courses and those credit courses designated by the Senate. Such courses are identified in the course listings.
CTN	Excluded Grade	N/A	<b>Continuing</b> . Denotes the first half of a full-year course.
<b>Failing Grades</b>	<b>Grade Point Value</b>	<b>Percentage *</b>	<b>Description</b>
E	0	0 – 49	Conditional supplemental. Supplemental examinations are not offered by all departments and the allowable percentage may vary by program (e.g. 35-49). Students will be advised whether supplemental will be offered and if the percentage range varies when assessment techniques are announced at the beginning of the course.
F	0	0 – 49	F is earned by work, which after the completion of course requirements, is inadequate and unworthy of course credit towards the degree.
N	0	0 – 49	Did not write examination or complete course requirements by the end of term or session; no supplemental.
N/X	Excluded Grade	N/A	Did not complete course requirements by the end of the term; no supplemental. Used only for Co-op work terms and for courses designated by Senate. Such courses are identified in the course listings. The grade is EXCLUDED from the calculation of all grade point averages.
F/X	Excluded Grade	N/A	<b>Unsatisfactory</b> performance. Completed course requirements; no supplemental. Used only for Co-op work terms and for courses designated by Senate. Such courses are identified in the course listings. The grade is EXCLUDED from the calculation of all grade point averages.

Undergraduate Grading Scale (Continued)			
Temporary Grades	Grade Point Value	Percentage *	Description
INC	N/A	N/A	<b>Incomplete.</b> Used only for those credit courses designated by the Senate, to be replaced with a final grade by June 1 for Winter Session courses and by October 1 for Summer Session courses. Such courses are identified in the course listings.
DEF	N/A	N/A	<b>Deferred status</b> granted. Used only when deferred status has been granted because of illness, an accident or family affliction. See "Deferred Status" (page 50).
INP	N/A	N/A	<b>In Progress.</b> Used only for courses designated by Senate, to be replaced with a final grade by the end of the next Winter Session except for TIED courses (identified in the Calendar). In TIED courses the INP must be replaced with a final grade by the end of the subsequent term (including Summer Session) or, where a COOP Work Term, or other activity approved by the academic unit, intervenes, within eight months. If a student fails to complete the second course of a TIED course sequence, then the final grade will be N.
CIC	N/A	N/A	<b>Co-op Interrupted Course.</b> See "General Regulations: Undergraduate Co-op" (page 64).
Grade Note			Description
AEG	N/A	N/A	<b>Aegrotat.</b> Transcript notation accompanying a letter grade, assigned where documented illness or similar affliction affected the student's performance or prevented completion of all course work.
WE	N/A	N/A	<b>Withdrawal under extenuating circumstances.</b> The WE registration status will replace a course registration or grade when approved by the Dean following a request for academic concession from a student. This registration status is excluded from the calculation of all grade point averages; it will appear on the official transcript.
<p>* The grading scale for the evaluation of course achievement at the University of Victoria is a percentage scale that translates to a 9 point GPA/ letter grade system. The 9 point GPA system is the sole basis for the calculation of grade point averages and academic standing. Standardized percentage ranges have been established as the basis for the assignment of letter grades. The percentage grades are displayed on the official and administrative transcripts in order to provide fine grained course assessment which will be useful to students particularly in their application to graduate studies and for external scholarships and funding. Comparative grading information (average grade [mean] for the class), along with the number of students in the class, is displayed for each course section for which percentage grades are assigned.</p>			

\*\* As stated in the 2019-20 UVic Undergraduate Calendar

**Geography Departmental web site:** [uvic.ca/socialsciences/geography](http://uvic.ca/socialsciences/geography)

**Undergraduate Advising:** [geogadvising@uvic.ca](mailto:geogadvising@uvic.ca)

*Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations [uvic.ca/services/cal/](http://uvic.ca/services/cal/). The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

*The University of Victoria is committed to promoting, providing and protecting a positive and safe learning and working environment for all its members.*