



EDGEWISE
ENVIRONMENTAL

Canada - Marine Mammal Observer (MMO)

Course Syllabus

COURSE SYLLABUS: CANADA – MARINE MAMMAL OBSERVER

Instructor: TBD
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(709)-770-0492

Course Description:

The course shall focus on mitigation processes of offshore and coastal programs that may impact marine mammals. Offshore and coastal activities covered include, but are not limited to seismic exploration (2D, 3D, VSP, etc.), renewable energy, dredging, and pile driving. These activities and associated mitigative actions shall be discussed in relation to the “Statement of Canadian Practice with Respect to the Mitigation of Sound in the Marine Environment” and “The Species at Risk Act”. This course includes a field component.

Course Objectives:

By the end of the course trainees should be able to:

- ✔ Identify marine wildlife and accurately assess their range and movements
- ✔ Identify various marine wildlife behaviour
- ✔ Describe potential acoustic sensitivities of marine mammals
- ✔ Understand and interpret the “Statement of Canadian Practice with Respect to the Mitigation of Sound in the Marine Environment”
- ✔ Understand and interpret the “Species at Risk Act”
- ✔ Fill out various recording pro forma and create daily, weekly and final reports
- ✔ Understand various offshore oil and gas activities in which MMO’s would be required and have the ability to communicate this rationale

Learning Outcomes:

The course(s) will include the following learning outcomes:

- ✔ A review of the “Statement of Canadian Practice with Respect to the Mitigation of Sound in the Marine Environment”
- ✔ A review of the “Species at Risk Act”
- ✔ Basic theory of seismic exploration
- ✔ Identification of marine mammals within (Atlantic / Pacific) Canadian waters*
- ✔ The ecology of marine mammals
- ✔ Instruction on completing various recording pro forma
- ✔ Essential information to be included within the MMO report
- ✔ Offshore decorum, equipment requirements

*(The focus of species identification shall depend on where the course is located)

Pre-Requisites:

There are no formal pre-requisites for this course. It is recommended personnel have a knowledge of marine mammal biology and identification.

Course Material:

All course material will be provided. This includes all presentation material and various supplemental documents.

Required Course Reading:

BEFORE ATTENDING it is required that all trainees have reviewed:

- ✦ The “Statement of Canadian Practice with Respect to the Mitigation of Sound in the Marine Environment”
- ✦ The “Species at Risk Act”

It is also highly recommended that trainees have familiarized themselves with general species knowledge before attending.

Required Items:

It is expected that all trainees will have access to the following items during the online theory portion of the course:

- ✦ A laptop with stable internet access, Zoom, Microsoft Word and Microsoft Excel

It is expected that all trainees will arrive to the practical portion of the course with the following items:

- ✦ A marine mammal identification guide. (See pg. 4 for recommendations)
- ✦ Clothing suitable for inclement weather (this will be required for the field portion of the course). Suggested items include: light layers of cotton, wool, or breathable material; rain pants and jacket, hat, gloves, sunglasses, sunscreen, and waterproof footwear.
- ✦ A suitable (water resistant) bag to store items
- ✦ Wrist watch
- ✦ Binoculars (7x50 or better preferred) **be aware: binoculars with magnification powers greater than 10 amplify the movements of your hands, making steady viewing difficult.*

Schedule:

The theory portion of the course will be conducted online. Links to course material will be provided by your instructor. A weekly meeting will be organized for review and quiz purposes. Trainees will be expected to complete 2 modules per week. Quizzes shall be conducted throughout the course, at your own pace as well as with the instructor during your weekly meetings. A date for the practical session shall be discussed towards the end of the course.

Grading Scheme and Certification:

Module Exams:	40%
Final Exam:	40%
Practical (at sea):	20%

The certification scheme is as follows:

0% - 60%:	Fail. Trainee will require remedial training.
60% - 80%:	Certified
80% +:	Certified with Merit

Identification Guide Recommendations

- 1) Smithsonian Handbooks Whales Dolphins and Porpoises
Author: Mark Carwardine
Publisher: DK ADULT (2002)
Amazon.ca: <https://www.amazon.ca/Smithsonian-Handbooks-Whales-Dolphins-Porpoises/dp/0789489902>
Chapters: <https://www.chapters.indigo.ca/en-ca/books/handbooks-whales-dolphins-the-clearerest/9780789489906-item.html>
- 2) National Audubon Society Guide to Marine Mammals of the World
Authors: National Audubon Society, Pieter Folkens (Illustrator)
Publisher: Knopf (April 2002)
Amazon.ca: <https://www.amazon.ca/National-Audubon-Society-Marine-Mammals/dp/0375411410>
- 3) Whales, Dolphins, and Other Marine Mammals of the World
Authors: Hadoram Shirihaï (Author), Brett Jarrett (Illustrator)
Publisher: Princeton University Press (Oct. 2006)
Amazon.ca: <https://www.amazon.ca/Whales-Dolphins-Other-Marine-Mammals/dp/0691127573>