



Marine Defenders Lesson Plan

Grade Level: **Boater Safety Course**

Subject: **Oil Pollution and Recreational Boaters**

Duration: **30 Minutes**

Written by: **Capt Walt Nadolny, 2012**

For more information about oil pollution,
visit MarineDefenders.com

Marine Defenders is an educational project created by SUNY Maritime College and Common Good Productions with funding from the National Fish and Wildlife Foundation.



**MARINE DEFENDERS
30-MINUTE LESSON PLAN
RECREATIONAL BOATER SAFETY COURSE**



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Credit and Disclaimer

What is the Marine Defenders Project?

While the media tends to focus on dramatic accidental discharges of oil like the recent Deep Water Horizon spill in the Gulf of Mexico, most of the oil spilled into the world's oceans by humans actually comes from intentional spills from ships.

One recent study estimated that more than 88 million gallons of oil is intentionally spilled into US waters each year – nearly eight times more than the amount of oil spilled by the Exxon Valdez into Alaskan waters.

Because chronic oil pollution is intentional, it represents the single most easily controlled aspect of oil pollution in US waters. Changing mariners' attitudes about illegal dumping will decrease the amount of oil entering our waters and improve the health of our coastal environment.

Marine Defenders is an educational program designed to reduce chronic oil pollution along US coastal waters in New Jersey and New York.

The goal is to teach mariners aboard US-registered vessels about the extent of chronic oil pollution, its impact on the marine environment, and the key laws that govern oil pollution.

Marine Defenders has created lesson plans for college students about chronic oil pollution as well as a short educational film and a mobile reporting tool that turns concerned citizens into Marine Defenders.

The Marine Defenders mobile reporting tool allows real-time reports of oil spills and marine debris to be mapped geospatially on the Marine Defenders website and reported to the Coast Guard via the National Reporting Center.

National Fish and Wildlife Credit

Marine Defenders is a public educational project created by the SUNY Maritime College and Common Good Productions with funding from the National Fish and Wildlife Foundation.

National Fish and Wildlife Disclaimer

The views and conclusions contained in this document/website/app are those of the authors and should not be interpreted as representing the opinions or policies of the National Fish and Wildlife Foundation. Mention of trade names or commercial products does not constitute their endorsement by the National Fish and Wildlife Foundation.

Marine Defenders Recreational Boaters and Oil Pollution Lesson Plan

Developed by Capt. Walter Nadolny, August 2012
Asst. Professor Environmental Policy, SUNY Maritime
wnadolny@sunymaritime.edu

Level: Boater Safety Course

Length of Lesson: 30 minutes

Materials Required:

- Internet access for Marine Defender website
- "Oil in Our Waters" DVD, streaming video, or download from marine defenders website.
- Marine Defenders mobile app for smart phone (iPhone, Android)
- Handouts to serve as a guide for each section of the lesson
 - "Chronic Oil Pollution and Recreational Boaters" handout (page 5)
 - "Oil Pollution Laws for Recreational Boaters" handout (page 6)
 - "Tips for Preventing Oil Spills on Your Boat" handout (page 7)

Resources:

- Marine Defenders Website (www.marinedefenders.com)
- "Oil in Our Waters" video is online at www.marinedefenders.com/video

Preparation:

- Download Marine Defenders app on smart phone
- Explore Oil Pollution Facts at www.marinedefenders.com
- Prepare copies of handouts for students
 - "Chronic Oil Pollution and Recreational Boaters" (page 5)
 - "Oil Pollution Laws for Recreational Boaters" (page 6)
 - "Tips for Preventing Oil Spills on Your Boat" (page 7)

Goals of the Lesson:

- To define the problem of chronic oil pollution, and how it relates to boaters
- To inform boaters about the laws related to oil pollution and recreational boaters
- To provide boaters with the knowledge and tools to respond appropriately to oil spill events
- To arm boaters with tips on how to reduce the possibility of spills on their vessel

Suggested Lesson Plan:

- Establish the problem of chronic oil pollution (**10 min**)

- Give boaters “Chronic Oil Pollution and Recreational Boaters” handout (page 5) to serve as a guide to this section.
- Define chronic oil pollution for boaters
- Explain how small amounts of oil can have large impacts on marine environments

- Explain the laws related to oil spills and recreational boaters **(5 min)**
 - Give boaters “Oil Pollution Laws for Recreational Boaters” handout (page 6) to serve as a guide to this section.
 - Explain the legal responsibility of boaters to report oil that they see in the water

- Demonstrate how to report oil spills to the National Response Center **(5 min)**
 - Describe how boaters can call the NRC (or use the Marine Defenders app) to report oil spills
 - Explain what the NRC is and how the NRC will alert the Coast Guard and other local officials

- Discussion of how boaters can prevent oil spills on their own vessels **(8 min)**
 - Give boaters “Tips for Preventing Oil Spills on Your Boat” handout (page 7) to serve as a guide for this section.
 - Engage the boaters in a discussion of how to prevent drips and small spills from their boats.

- Provide boaters with additional resources and answer questions **(2 min)**
 - Show boaters www.marinedefenders.com and invite them to explore the website and watch the film in order to increase their understanding of the issue
 - Answer any questions that the boaters have regarding chronic oil pollution



MARINE DEFENDERS BOATER SAFETY HANDOUT 1: CHRONIC OIL POLLUTION AND RECREATIONAL BOATERS

What is chronic oil pollution?

Chronic oil pollution refers to small amounts of oil constantly going into the water. Chronic oil comes from a variety of sources, from big ships intentionally dumping waste oil into the sea, to the remains of an at-home oil change dripping into a storm drain. Recreational boaters can also be a significant source of small oil spills on the water.

Small spills caused by overfilled fuel tanks, leaky outboard motors, and oily bilges may not seem like a big deal, but drop-by-drop, they can do serious harm to fish, birds, and other wildlife.

Facts about chronic oil pollution:

- A few gallons accidentally spilled over the side of a small boat can quickly create a slick the size of an entire marina.
- Oil floating on the water decreases the amount of light that can penetrate the water, which in turn decreases the amount of oxygen that underwater plants can create.
- Oil can also do serious harm to fish embryos and young shore birds, affecting the size of future populations.
- Oil can coat feathers, destroying insulation, and it can poison birds if they ingest it while preening.

REMEMBER:

If you spill oil in the water, **never use dish soap** to make it disappear. Dish soaps like Dawn are used when cleaning oiled animals affected by a big spill, but they should never be added directly to the marine environment.

Using dish soap dispersants does not get rid of the spill; it simply breaks the oil into smaller droplets, making it only seem to disappear. This makes the spill harder to clean up and ultimately more toxic because of the additional chemicals.

IF YOU SEE OIL ON THE WATER, REPORT IT:

Report all spills by calling the National Reporting Center (NRC): 1-800-424-8802

In New Jersey: Call 1-877-WARN-DEP

In New York: Call 1-800-457-7362 or 1-518-457-7362.



MARINE DEFENDERS BOATER SAFETY HANDOUT 2: OIL POLLUTION LAWS FOR RECREATIONAL BOATERS

Oil Pollution Laws for Recreational Boaters:

Discharging petroleum products like gas or oil into the water is illegal under both US federal and New Jersey state laws.

The **Clean Water Act** forbids the discharge of oil and other hazardous substances within the navigable waters of the US or any waters that affect natural resources in the US exclusive economic zone.

Under the Clean Water Act, any amount of oil spilled into the water causing a sheen or emulsification must be reported to the National Response Center (1-800-424-8802).

The Coast Guard can fine recreational boaters up to \$5,000 for breaking the law, and the New Jersey Department of Environmental Protection may add other fines. Polluters are also responsible for the cost of cleanup.

WHAT IF I SPILL?

If you spill oil on the water, you should **report** the spill to the National Response Center and you should try to **contain** the damage with an oil absorbent pad.

Reporting a spill does not make you automatically liable.

If you report a spill, the Coast Guard will not assume that you caused the spill.

If you did cause the spill, reporting is not a get-out-of-jail-free card. You may still be responsible for the cost of the clean up or other fines.

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MARINE DEFENDERS BOATER SAFETY HANDOUT 3: TIPS FOR PREVENTING OIL SPILLS ON YOUR BOAT

Bilge Tips:

- Prevent oil from entering your bilge water by doing periodic maintenance. Make sure that all fuel lines, hoses, and gaskets are in good condition and don't leak!
- Putting an oil absorbent pad in your bilge can act as a low-tech oily water separator. The pad will absorb oil before it is pumped overboard. Change the pad frequently and always dispose of it at a proper facility.
- Install a filtration system to remove oil from bilge water before pumping overboard.
- Make sure to recycle your oil properly.

Engines and Gas Tanks Tips:

- Keep your engine well tuned.
- Periodically inspect fuel lines, hoses, seals, and connections for leaks or broken parts.
- Fill your fuel tanks just before leaving on a trip to reduce spillage due to thermal expansion and rocking.
- When fueling, go slowly at the start and end of fueling.
- Stay with your craft during fueling.
- Fill your engine or gas tank carefully! Know your tank's capacity and don't overfill it.
- Leave room in your tank for fuel expansion, especially in warm weather.
- Never transfer fuel from tank to tank while on the water. Make sure your reserve tank can connect directly to your engine.
- Keep an oil absorbent pad or drip tray under your engine to catch stray drops or leaks.

An Off-Season Tip:

- When you're done with the boat for the season, leave your fuel tanks full and add stabilizer. This protects your engine and won't leave you with bad fuel to dispose of later.

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