NEW YORK
STATE OF
OPPORTUNITY

Parks, Recreation
and Historic Preservation

THIRD EDITION

New York Safe Boating

New York
Safe Boating

A Course on the Safe Operation of Boats and Personal Watercraft

LESSON PLAN

A New York safe boating certificate may be obtained by completing the New York Safe Boating Course. The course is designed as a comprehensive boating course, teaching the fundamentals of safe boating operation.

This course requires a minimum of eight (8) hours of classroom instruction.

NASBLA

parks.ny.gov

Course Outline

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Course Introduction - Chapter 1

Time Allotted: 25 min

OBJECTIVES:

1. *Introduce each instructor to class.*
2. *Provide students with history and background on program.*
3. *Insure student awareness of all course requirements.*
4. *Complete student information on Student Record Forms (SRF).*
5. *Insure that each student is made fully aware of any fees or charges associated with the course and are entitled to have a receipt for any monies paid.*
6. *Explain the Boating Safety Certificate fee for students over the age of 18.*

This includes ensuring that all students are at least 10 years of age

Introduction of Instructors:

1. *Introduce any instructors present and have each instructor give brief introduction.*
2. *Lead instructor should give contact information (i.e. phone number or e-mail).*

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Course History:

1. *Program established by law in 1959. First mandatory education program in the United States. Originally established to teach youths the principles of safe boating.*
2. *Responsibility for the program was with New York State Conservation Department, which later split to form OPRHP and Department of Environmental Conservation (NYSDEC).*
3. *Safe boating programs remained with OPRHP.*
4. *In 1997 legislation was passed requiring boating safety certificates for the use of personal watercraft (i.e. Jet Skis, Sea-Doos, Waverunners) by the year 2004*
5. *The basic goals of the program are:*
   a. *Teach the basic principles of safe boating*
   b. *Instill in each student a sense of responsibility for their actions when operating a boat*
   c. *Instill an understanding of what may happen if they neglect that responsibility*
   d. *Encourage students to use safe boating practices, courtesy and respect towards other boaters as well as shore residents.*
   e. *Encourage students to learn more by taking courses offered through the US Coast Guard Auxiliary, US Power Squadron, or other organizations.*

Legal Requirements:

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Who is REQUIRED to have a boating safety certificate?

1. *Motor Boat*
    a. *As of January 1, 2020, everyone operating a motorized vessel will need a safety certificate by 2025.*
        i. *Known as "Brianna's Law," there is a 5 year phase in for this requirement.*
        ii. *If you were born on or after January 1, 1993, you will need the certificate by the first time you operate a vessel in 2020*
        iii. *If you were born on or after January 1, 1988, you will need he certificate by the first time you operate a vessel in 2022.*
        iv. *If you were born on or after January 1, 1983, you will need a certificate by the first time you operate a vessel in 2023.*
        v. *If you were born on or after January 1, 1978, you will need a certificate by the first time you operate a vessel in 2024.*
        vi. *If you were born before 1978, you will need a certificate by the first time you operate a vessel in 2025.*

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2. *Personal Watercraft:*
    a. *The operator of a PWC must be at least 14 years of age and hold a boating safety certificate.*

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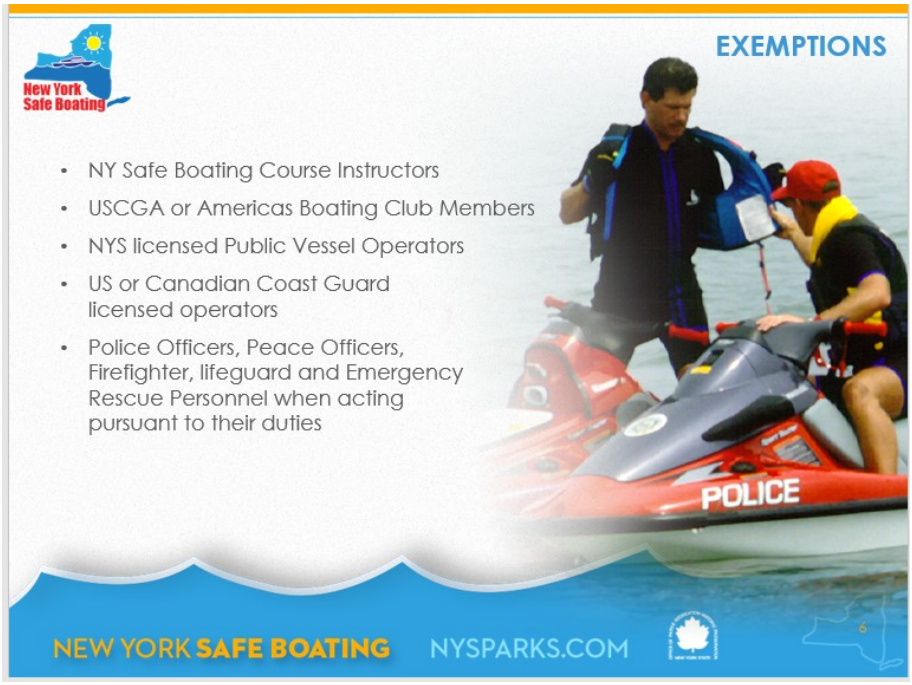
Acceptable certificates:

1. *New York Safe Boating Certificate*
2. *U.S. Coast Guard Auxiliary Boating Safety Certificate*
3. *U.S. Power Squadron Boating Safety Certificate*
4. *Out of state residents with an approved boating safety certificate from their home state or country*
    a. *Residents of New York holding an approved boating safety certificate from a former state or country are granted a one year grace period after moving to New York*



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Exemptions:

1. *NYS Safe Boating Instructor*
2. *Members of the US Power Squadron or US Coast Guard Auxiliary*
3. *Holders of a valid license issued under section 64 of NYS Navigation Law*
4. *Holders of a valid operator's license issued by USCG or Canadian Coast Guard*
5. *Police officer, peace officer, firefighter, emergency rescue personnel or lifeguard acting within the scope of their official duties*
6. *Previously, owners of a recently purchased vessel were able to operate that vessel for 120 days without a certificate. This exemption is no longer in effect.*

**NOTE: A copy of the certification, license, or membership must be carried by the operator claiming an exemption and be presented upon request by a law enforcement officer; the operator may also be required to produce the original within a reasonable period of time.*

Liveries are required to follow all other requirements for boat operation, including applicable age and education requirements, unless the operator meets the specific exemption outlined above.

The operator of a livery must also be the holder of a boating safety certificate.

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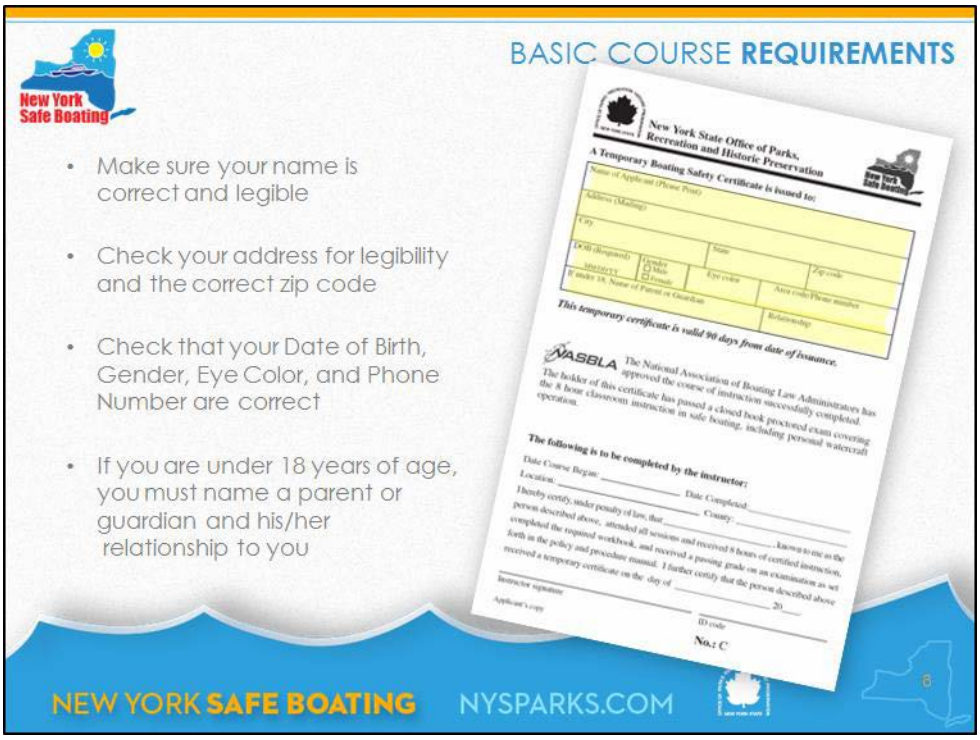
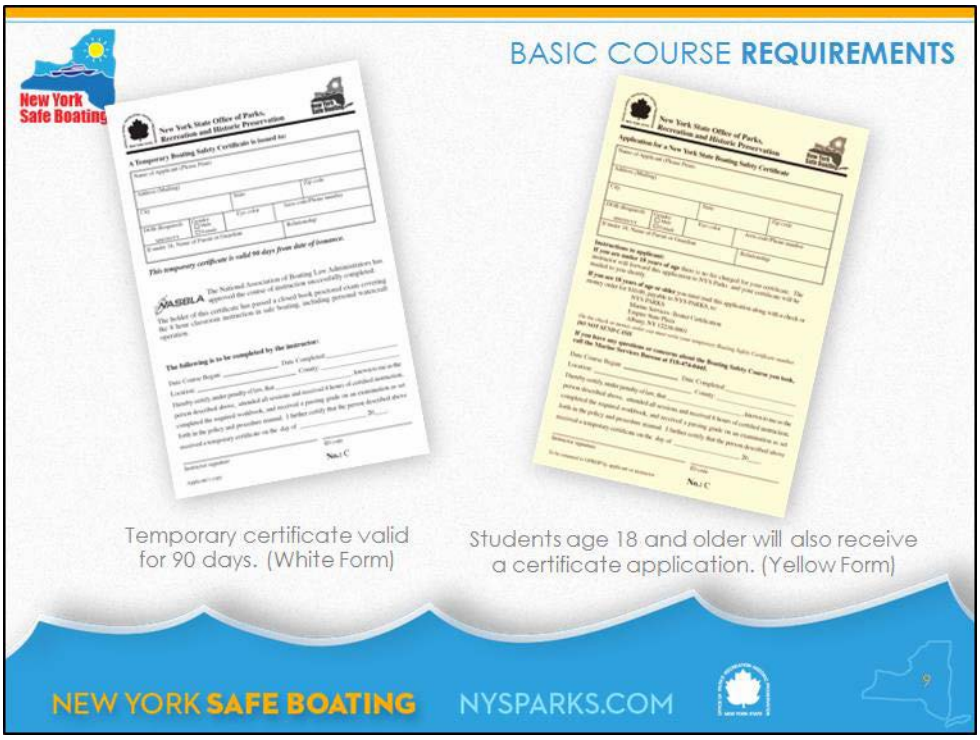
Course Requirements:

1. *Attend all classroom sessions (Minimum of 8 total hours).*
2. *Be at least 10 years of age at the start of the course.*
3. *Provide all information required on the Certificate.*
4. *Pass the final exam with 76% or better.*



Certificate:

1. *Ensure students are filling out certificate completely and accurately.*
2. *Students under 18 years of age must designate a parent or guardian.*
3. *Ensure that all students are at least ten years of age.*
4. *Do not sign certificate until completion of course.*



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Three Parts

1. *Temporary Boating Safety Certificate (white)*
    a. *Valid for 90 days.*
2. *Application for New York Boating Safety Certificate (Yellow)*
    a. *Given to students 18 years of age and older at course completion so that they can apply for a permanent boating safety certificate. Returned to Marine Services for students under 18 years of age.*
3. *Record of Class Attendance*
    a. *Used to take exam on. Sent to Marine Services at completion of class.*

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Replacement Certificate:

1. *Form available at parks.ny.gov*
2. *$10 fee regardless of age.*
3. *Must be check or money order made out to NYS Parks.*

Textbook Pages: 4-10

Boats and Motors - Chapter 2

Time Allotted: 20 min

OBJECTIVES:

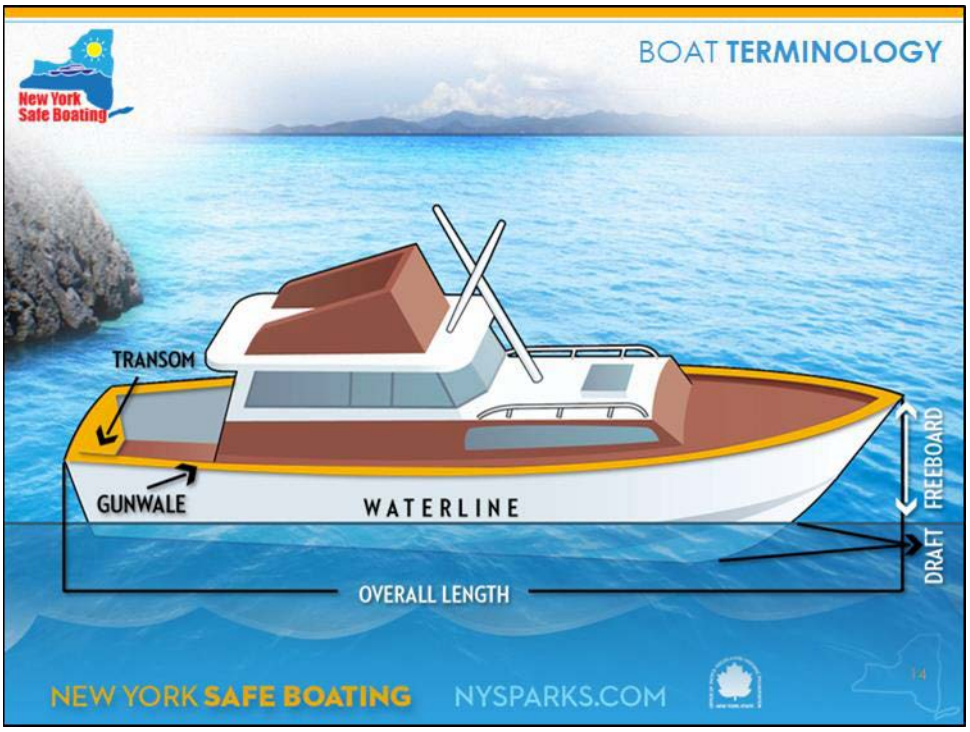
1. *Understand directional terms that describe location on a boat.*
2. *Understand basic boat terms and measurements.*
3. *Be able to identify key hull types and the key features associated with each.*
4. *Be able to identify types of propulsion and the key features associated with each.*

Textbook Pages: 4-6

Basic Boating and Directional Terms:

A. *Directional Terms*
   1. *Forward – ahead of or towards the bow of a boat*
   2. *Aft - towards the stern of a boat*
   3. *Starboard*
      a. *Right side of boat when facing forward*
      b. *Does not change*
   4. *Port*
      a. *Left side of boat when facing forward*
      b. *Does not change*
   5. *Ahead*
      a. *In front of the boat*
      b. *To move forward through the water*
   6. *Astern*
      a. *Behind the boat*
      b. *To move backwards*

B. *Measurements and Parts of a Boat*
   1. *Bow - the forward (front) part of a boat*
   2. *Stern - the rear (back) part of a boat*



Textbook Pages: 4-6

3. *Length*
   a. *Distance from one end of the boat to the other (bow to stern)*
   b. *Measured over the centerline*
   c. *Does not include outboards, outdrives, bow pulpits, non-integral swim platforms, etc.*
4. *Waterline - horizontal intersection of water's surface with boat's hull*
5. *Draft - Vertical distance from bottom of keel to waterline determines depth in which boat can operate*
6. *Freeboard*
   a. *Vertical distance from waterline to lowest point of the gunwale*
   b. *Boats with low freeboard are more easily swamped.*
7. *Transom*
   a. *Vertical surface at rear-most portion of stern*
   b. *Extends across stern from one side to another*
8. *Gunwale - upper edge of a boat's sides*
9. *Hull*
   a. *Basic structural shell of a boat*
   b. *Excludes superstructure, masts, rigging, etc.*
10. *Keel*
    a. *Main structural member*
    b. *Runs fore and aft (front to back)*
    c. *Located on centerline*
    d. *Backbone of boat*

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Types of Watercraft and Hull Design:

A. Hull Designs
1. Displacement Hull
a. Always displaces its own weight in water regardless of speed
b. Not designed to climb bow wave
c. Practical limit to speed determined by length and hull design.
d. Steady and comfortable ride
e. Handles rough water better
f. Economical to operate

Textbook Page: 7

2. *Planing Hull*
   a. *Designed to climb bow wave and ride across top of water*
   b. *Displacement at slow speed, planing at higher speeds*
   c. *Displaces less than its weight when planing*
   d. *Requires considerable power to get on plane*
   e. *Less economical to operate*
   f. *Much faster than displacement hulls*
   g. *Rougher ride in choppy water*

Textbook Pages: 8-9

B. Types of Watercraft

1. Utility Boats

a. Rowboats or small outboards
b. Prams and dinghies: 8-10 ft. with wide beam; Generally used as tenders
c. Skiffs/jon boats: long and narrow; straight sides; flat bottomed; blunt bow
d. Utility outboards: pointed bow handles chop better

2. Runabouts

a. Small sporty craft
b. Very popular
c. Versatile, multiple use; day cruising, fishing, skiing
d. Generally more seaworthy and more stable than utility boats depending on load and freeboard.
e. Bowrider is popular
f. Center console/open fisherman

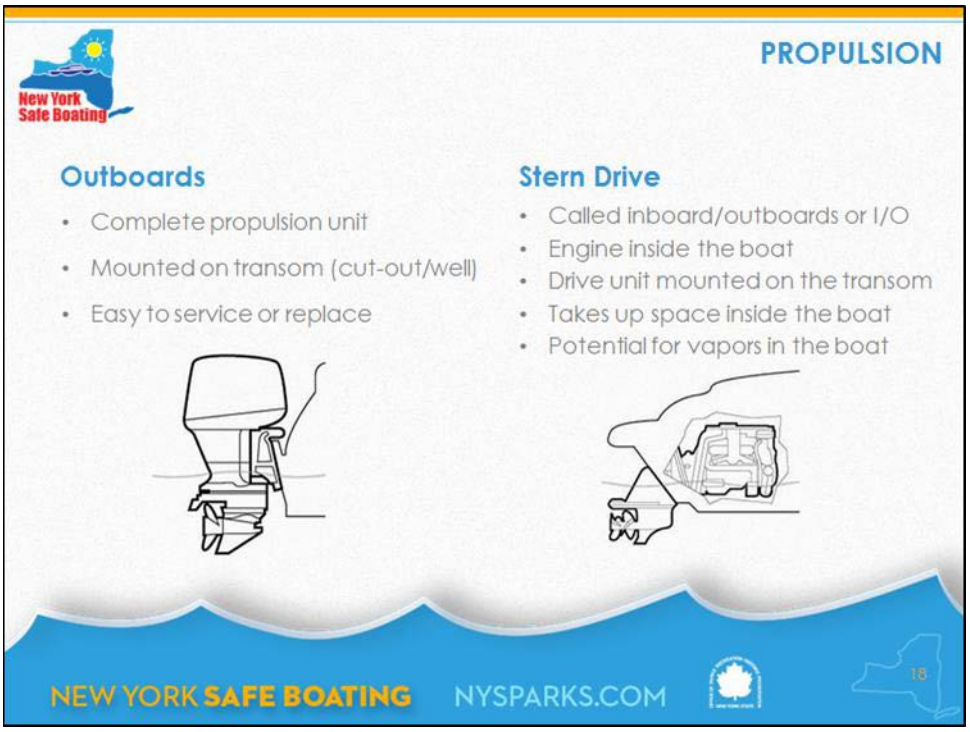
3. Cuddy Cabin

a. Runabout with enclosed cabin area
b. Cabin suitable for overnight
c. Lacks cooking and sanitary facilities (head/shower)
d. Cabin provides dry storage and security

4. Cruisers

a. Generally larger, more comfortable craft
b. Has galley, head, sink, shower
c. More suitable for extended voyages or living aboard
d. More seaworthy than runabouts, some suitable for open waters.

5. *Houseboats*
    a. *Cruiser variation*
    b. *Large and stable*
    c. *All the comforts of home (summer home)*
    d. *Sea keeping stability sacrificed for livability*
    e. *Suitable for sheltered waters*
6. *Pontoon Boats*
    a. *Floating porch/deck*
    b. *Shallow draft*
    c. *Inland waters, lakes, rivers*
    d. *Fair weather boat*
    e. *Party barge, dive boat*
7. *Personal Watercraft*
    a. *Fast, highly maneuverable craft*
    b. *“Motorcycle of the waterways”*
    c. *Water jet propulsion*
    d. *Sit on the craft instead of in it*
    e. *Some carry three or more passengers*
    f. *Jet-Ski, Waverunner, Sea-Doo*
8. *Catamaran / Multi-Hull*
    a. *One or more hulls connected together*
    b. *Very Stable*
9. *Sailboats*
10. *Canoes*
11. *Kayaks*
12. *Inflatables*



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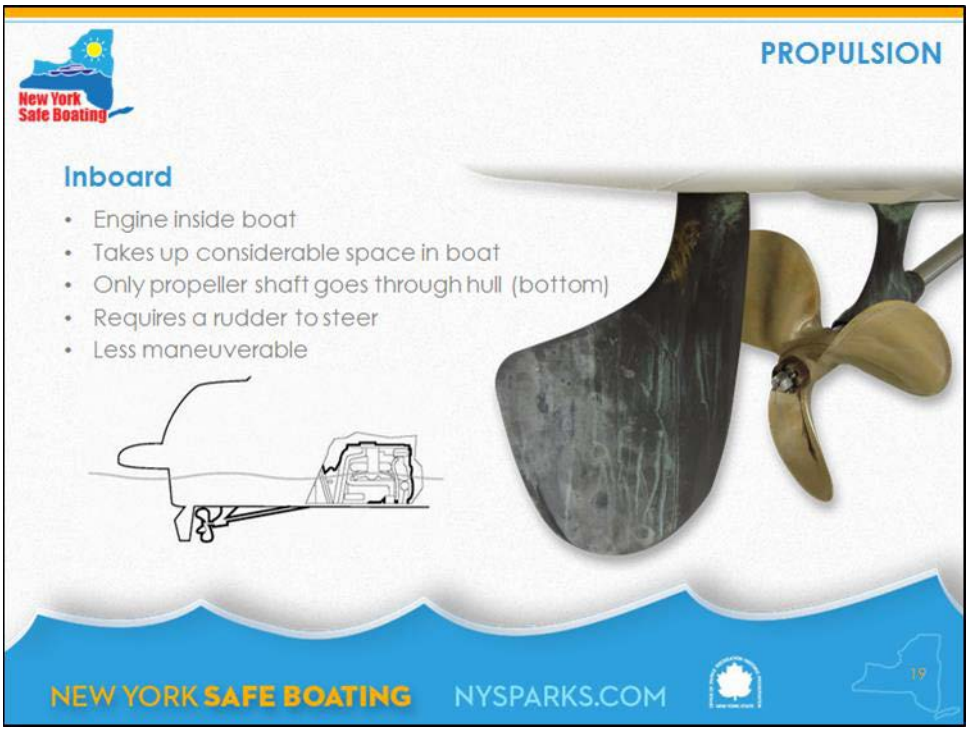
Propulsion:

A. *Outboard*
   1. *Complete propulsion unit*
   2. *Most are mounted on transom (cut-out/well)*
   3. *Can be two-stroke or four strokes*
   4. *Excellent power to weight ratio*
   5. *Easy to service and replace*
   6. *Doesn't take up space in boat*
   7. *Not as efficient or economical to operate*

B. *Stern Drive*
   1. *Engine inside boat*
   2. *Drive unit mounted on transom*
   3. *More efficient than outboards*
   4. *Quieter than outboards*
   5. *Last longer*
   6. *Take up space in boat*



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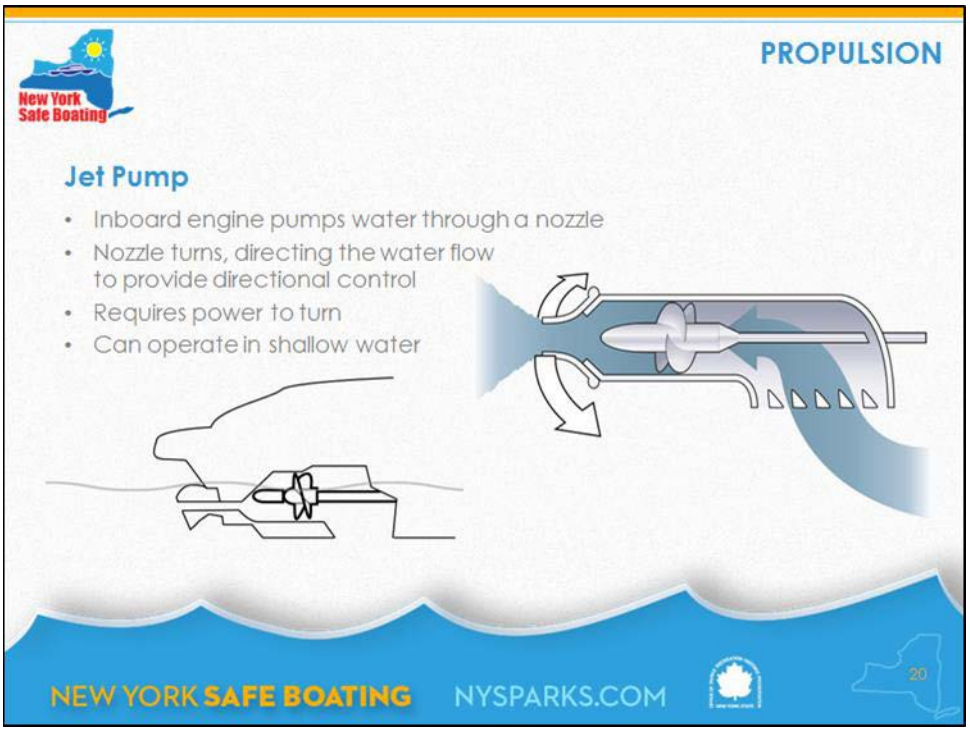
C. Inboard

1. *Engine and transmission mounted in boat*
2. *Take up more space within boat*
3. *No complicated lower unit*
4. *Requires rudder*
5. *Shaft and propeller extend below hull*
6. *Less maneuverable*



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D. Jet Pump

1. *Impeller inside of a casing or housing*
2. *Connected to an inboard engine by a shaft that passes through watertight opening in hull*
3. *Nozzle directs water flow to provide directional control*
4. *No neutral*
5. *Requires power to turn. It is not responsive at idle speed.*
6. *Can operate in shallow water*
7. *Highly maneuverable and responsive*
8. *Intake can clog easily*
9. *Installed on both jet boats and personal watercraft.*

Textbook Pages: 11-13

Registration of Boats - Chapter 3

Time Allotted: 20 min

OBJECTIVES:

1. *Be able to identify whether or not a boat needs to be registered.*
2. *Be able to Identify the requirements for the proper display of both registration numbers and validation stickers on a boat.*
3. *Be able to identify the types of U.S. Coast Guard documentation and describe the New York State requirements for registration of documented boats.*
4. *Identify the correct description and location of a Hull Identification Number (HIN).*

Textbook Page: 11

Registration:

A. *Why do you have to register a boat?*
   1. *Federal law requires that all motor boats be numbered*
   2. *Registration is how states track motorized boat numbers and types within their borders*
   3. *Show who the owner of the boat is*
   4. *Used to help identify stolen boats and boats involved in accidents*

B. *Who registers boats?*
   1. *Boats are registered in New York State by the Department of Motor Vehicles*
   2. *To register go to the nearest DMV office. Information can be found on the DMV website at www.nysdmv.com.*

C. *What type of boats must be registered?*
   1. *Every type of motorized boat other than a seaplane on the water, used or capable of being used as a means of transportation*
   2. *Definition of Boat*
      a. *The key words are "used as a means of transportation on the water."*

D. *What boats exempt from NYS registration?*
   1. *Boats that have a US Coast Guard Document and are being used for commercial activities. This does not include boats that are documented for pleasure.*
   2. *Boats registered in another state as long as they are not in New York State for more than 90 consecutive days*
   3. *Boats owned by a person from a foreign country*
   4. *Boats owned by a government agency*
   5. *Life boats*
   6. *Boats used only for racing*
   7. *Any boat not equipped with a motor such as sailboats, kayaks, canoes, & rowboats*

E. *What is the procedure to register a boat?*
   1. *You must go to the local DMV office*
   2. *Fill out an application for a boat registration*
   3. *Show proof of identity*
   4. *Show a bill of sale for the boat*
   5. *The DMV office will give you a registration certificate and 2 validation stickers for the boat*

Textbook Page: 11

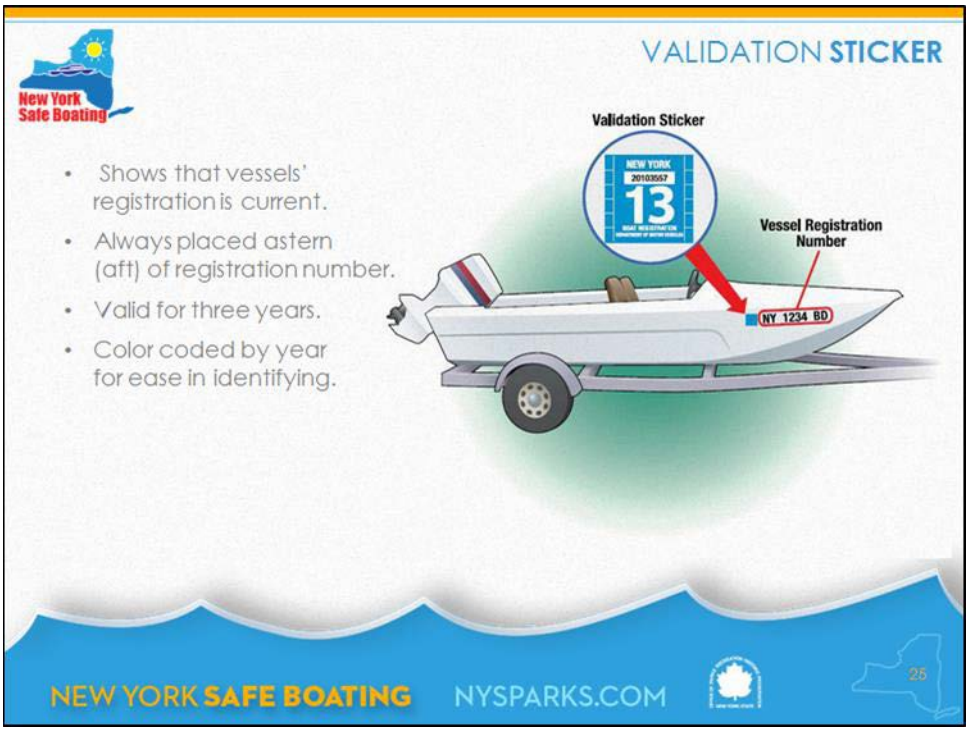
F. What is the registration certificate for?
1. *Shows who is the registered owner of the boat*
2. *Must be carried and produced on demand to any police officer that may stop you on the water*
3. *A photo copy is not acceptable*
4. *Information that appears on the registration certificate includes:*
   a. *Registration number assigned to the boat*
   b. *Year built*
   c. *Make of boat*
   d. *Hull material - wood, fiberglass, steel, aluminum, plastic*
   e. *Type of engine - outboard, inboard, I/O*
   f. *Length of boat*
   g. *Type of fuel*
   h. *Type of use - pleasure, livery (rental), dealer, fisheries*
   i. *Date the registration expires*
   j. *Name and address of owner*
   k. *Hull identification number*

G. How often do you need to register?
1. *Registration is valid for three years*
2. *Before the three years are up DMV will send you a notice in the mail that it is time to renew the registration*

Textbook Pages: 11-12

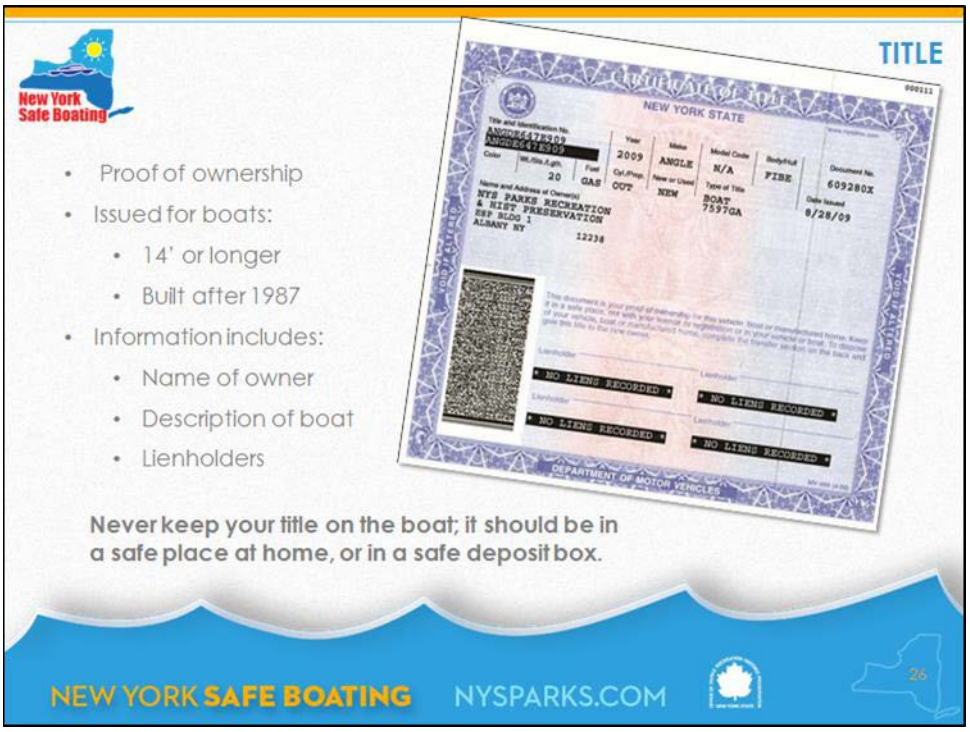
H. How does someone know if your boat is registered?

1. *When a registration number is assigned to a boat it has to be put on the bow of the boat on each side*
2. *The registration number will start with the letters NY, followed by the four numbers and two letters assigned to the boat*
3. *The owner is responsible for obtaining and affixing the registration number to a new boat.*
4. *The registration number always stays with the boat regardless of the owner*
5. *The number must:*
   a. *Read left to right*
   b. *Be in block letters*
   c. *Be at least three inches in height*
   d. *Contrast in color to the hull*
   e. *Be readable from a distance of 100 feet.*
   f. *Letters must be separated from the numbers by a space or a dash*



Textbook Pages: 11-12

I. *What are the validation stickers for?*
   1. *The stickers show that the boat is currently registered*
   2. *Like the registration certificate they are valid for three years*
   3. *The stickers are color coded so that police officers can tell at a glance if the boat is registered*
   4. *When you renew your registration DMV will send you a new set with your registration certificate*
   5. *The two validation stickers must be placed aft of the registration number*
      a. *If you are looking at the starboard side the sticker is placed to the left*
      b. *If you are looking at the port side, the sticker is placed to the right of the number*



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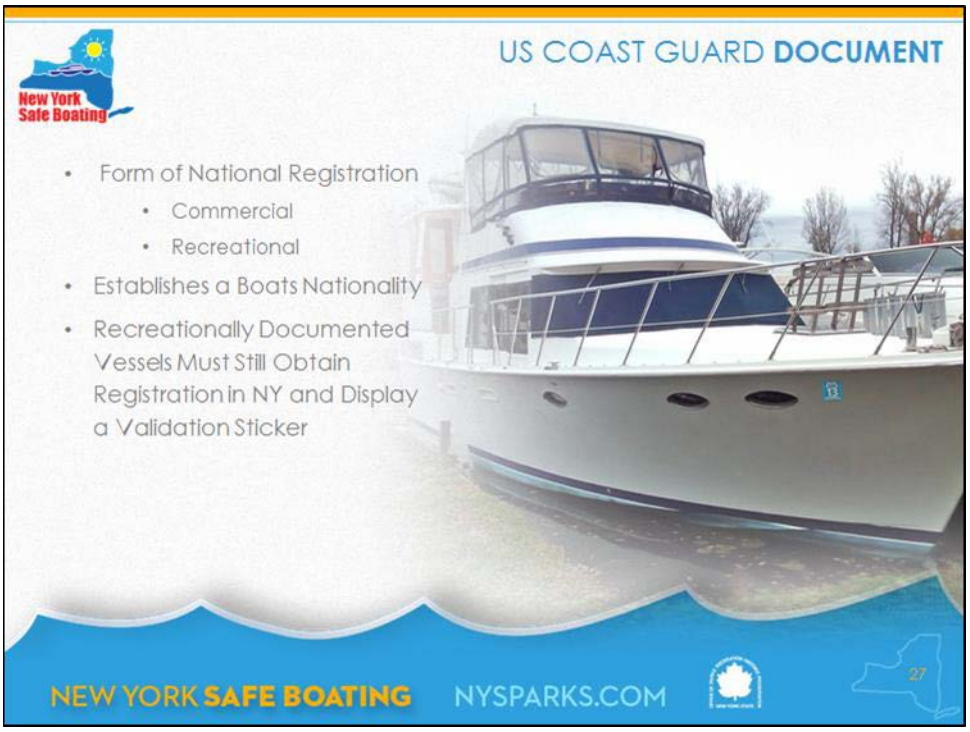
J. What is a title and do I need one?

1. *New York State and other states issue a title to boats.*
2. *A title is a state issued certificate showing the true ownership of the boat.*
3. *The title will show any loans that may have been taken out to pay for the boat.*
4. *Only boats that are 14 foot or longer and model year 1987 and newer will get a title*

K. What do I do if there is a change of ownership?

1. *Certificate of registration or the title must be signed over to the new owner.*
2. *The original owner should contact DMV with the name of the new owner, date of transfer, and the registration number of the boat.*
3. *The original owner should remove the validation stickers (NOT the registration numbers) prior to turning the boat over to the new owner*
4. *If a boat is stolen, lost, abandoned, or destroyed, the owner should notify DMV in writing within 15 days.*



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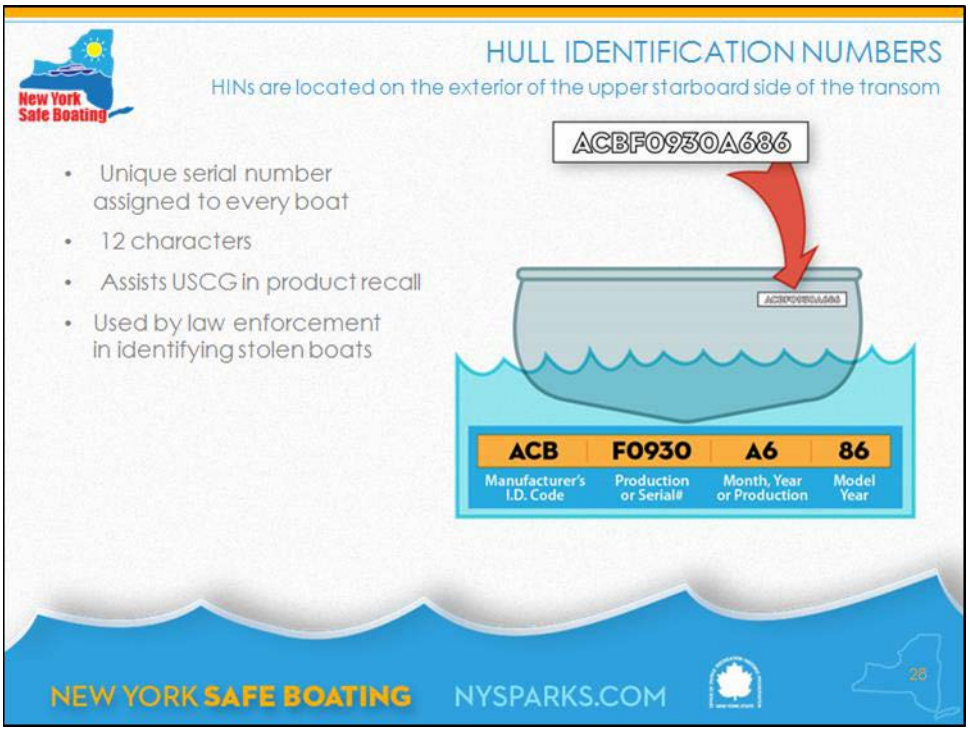
Documentation:

A. *Vessel documentation is a form of national registration*
   1. *Commercial documented vessels are exempt from NYS registration*
   2. *Recreational documented vessels are required to have a NYS registration*
      a. *A NYS registration number is not required to be displayed*
      b. *NYS validation stickers must be displayed on the bow*

B. *Establishes a boat's nationality*

C. *Primarily used by commercial vessels in foreign and coastwise trade*

D. *Documented by the U.S. Coast Guard*



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Hull Identification Number (HIN):

A. *What Is a Hull Identification Number?*
   1. *A unique serial number for each boat*
   2. *Made up of 12 characters in three parts*
   3. *Designed for product recall by the U.S. Coast Guard*

B. *Where Can the HIN Be Found?*
   The HIN should be affixed on the upper starboard side of the transom on the outside

C. *Who Issues HIN's?*
   1. *It is a two part process:*
      a. *The U.S. Coast Guard issues to each manufacturer a Manufacturer's Identification Code to be used on all boats made by that company*
      b. *The manufacturer assigns a serial number and a month of certification to each boat*
         i. *The serial number must be unique to each boat*
         ii. *The date of certification shows the month and year the boat was built*

D. *New York State's Role in Issuing HINs*
   1. *Homemade Boats*
   2. *Boats without a HIN.*
      a. *Apply to NYS Parks for a HIN number.*
      b. *Application can be downloaded from parks.ny.gov.*

Textbook Pages: 14-23

Equipment - Chapter 4

Time Allotted: 40 min

OBJECTIVES:

1. *Be able to give a description of a life jacket or Personal Flotation Device (PFD) and identify the different types.*
2. *Understand how to read the USCG label on PFD and identify the intended use.*
3. *Be able to identify the carriage requirements for PFDs. This includes the number of PFD required, wear requirements, condition, and accessibility.*
4. *Be able to identify at least one type of night and one type of day time Visual Distress Signal, the quantity of each required to be carried, and when they are required to be carried.*
5. *Identify the minimum requirements for a fire extinguisher to be acceptable for use aboard recreational boats and the minimum number required on a given boat.*
6. *Given a description of a backfire flame arrestor be able to identify it and its primary function.*
7. *Be able to identify the length of a boat on which a mouth whistle may be carried instead of a mechanical horn.*
8. *Be able to identify which boats are required to carry an anchor under New York State Law.*

Personal Watercraft have different equipment requirements and are covered latter.

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Personal Flotation Devices (PFD):

A. *Types - defined by the U.S. Coast Guard*
   1. *Type I - Commercial/Off-shore Life Jacket*
      a. *Minimum 22 lbs. of buoyancy for adults and 11 lbs. for children*
      b. *Will turn most unconscious wearers' face-up*
      c. *Effective in all waters, particularly rough remote locations where rescue may be delayed*
   2. *Type II - Near Shore Buoyant Vest*
      a. *Minimum of 15.5 lbs. of buoyancy for adults and 11 lbs. for children*
      b. *Intended for calm inland waters where rescue may be quick*

Textbook Pages: 14-15

3. *Type III - Flotation Aid*
   a. *Same minimum amounts of buoyancy as a Type II*
   b. *Not designed to turn wearer face up*
   c. *Available in a wide variety of styles and colors*
   d. *Some are impact rated for use in waterskiing or on personal watercraft*
   e. *Generally more comfortable to wear*
   f. *Best used on calm inland waters or where rescue is nearby*
4. *Type IV - throwable device*
   a. *Designed to be thrown to someone in the water*
   b. *Not intended to be worn*
   c. *Available in cushion, ring, or horseshoe styles*
   d. *The cushion is the most common on recreational boats*

Textbook Page: 15

5. *Type V (Special Use Device)*
   a. *Designed for use in specific activities or conditions*
      i. *White water*
      ii. *Boardsailing*
      iii. *Cold water*
      iv. *Work vests*
   b. *Counts only when worn and used under the conditions on the label*
6. *Fully Inflatable Devices*
   a. *No inherent buoyancy*
   b. *USCG approved as Type I, II, III, or V*
   c. *Most have greater buoyancy and righting ability than inherently buoyant of the same type*
   d. *Inflated with CO2 cartridge*
   e. *Two types:*
      i. *Automatic - water activated*
      ii. *Manual - pull lanyard*
      iii. *Both equipped with oral inflation tube*
   f. *Not recommended for*
      i. *Children under age 16*
      ii. *Waterskiing or similar activities*
      iii. *Personal watercraft*
      iv. *Non-swimmers*
   g. *Most comfortable to wear*
   h. *Require regular user maintenance*
      i. *Consult owner's manual for requirements*
      ii. *Must replace CO2 cartridge after inflation*

Textbook Page: 15

Always read the label printed or sewn to the life jacket: it contains valuable information for proper usage.

All passengers should be assigned a properly sized life jacket and be able to reach and put it on in case of emergency, if they are not already wearing it.

Textbook Pages: 14-16

B. Carriage requirements

1. *One wearable PFD of the proper size for each person on board or being towed behind*
   a. *Must be U.S. Coast Guard approved*
   b. *Must be readily accessible*
      i. *This means ready to be donned in an emergency; not bagged; or under lock and key; buckles and zipper should be open*
2. *Must be in good serviceable condition*
   a. *No tears or sign of rot on the jacket fabric*
   b. *All buckles, zippers and straps intact and functional*
3. *Type IV Throwable Device required on boats greater than 16 feet in length.*

Textbook Page: 16

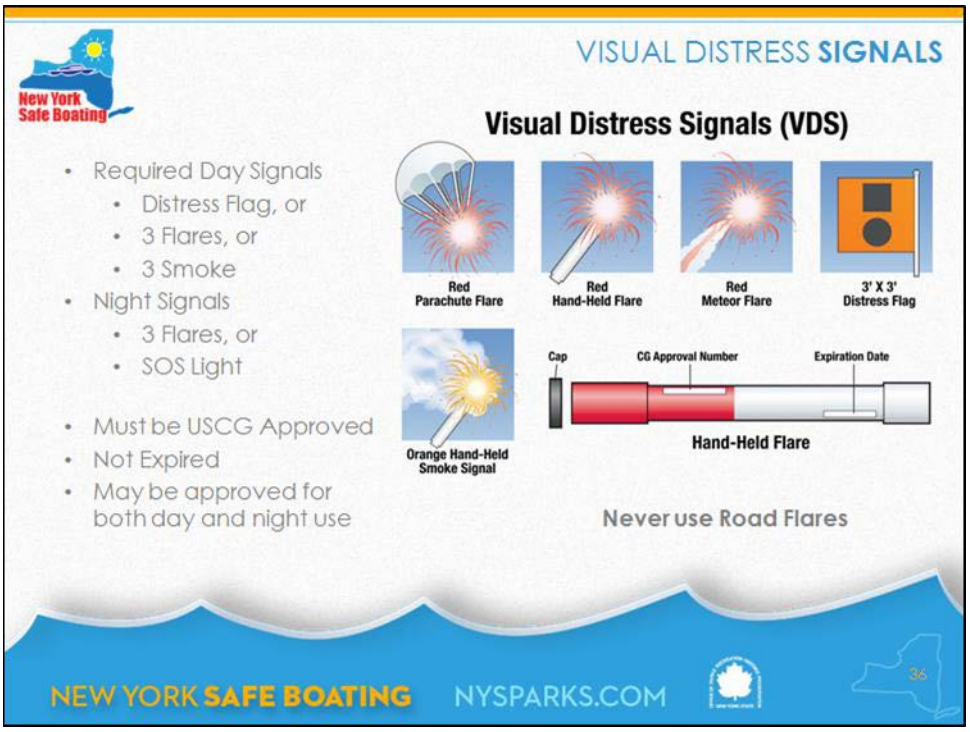
C. Who must wear a personal flotation device?

1. *Children under 12 years of age, unless within a fully enclosed cabin.*
2. *Operator and passengers on board a personal watercraft.*
3. *Person(s) being towed behind a boat*
4. *All persons aboard pleasure boats less than 21 feet in length from November 1 to May 1 regardless of age or type of boat while underway.*

D. Other suggested times to wear a life jacket:

1. *Loading or unloading*
2. *Restricted visibility, in wind and wave conditions or after dark*
3. *Water temperatures below 60 degrees F.*
4. *Moving at high speed or in a congested area*
5. *Standing up in a small boat*
6. *Non-swimmer*
7. *When your children are in the boat with you*
8. *When you are boating by yourself*

Best practice is to always wear your life jacket. When you need a life jacket you need it on.



Visual Distress Signals (VDS):

Textbook Pages: 16-17

A. Types
1. Must be USCG Approved
a. Pyrotechnic Devices
I. Must not be Expired
II. Hand-held flares (day/night)
III. Aerial flares with launcher (day/night)
IV. Smoke signals (day only)
b. Non-Pyrotechnic Devices
I. Orange distress flag (day only)
II. Electric distress light (night only)

B. Carriage requirements
1. Various combinations may be used
a. If a pyrotechnic device, 3 are needed to meet the requirement
b. Some possible combinations are:
I. 3 day/night flares or;
II. 3 smoke signals (day) and SOS light (night) or;
III. Distress flag(day) and SOS light (night)
2. Daytime VDS Requirements:
a. Mechanically propelled 16 feet or greater in length
b. Sailboats 16 feet or greater in length unless open sailboat less than 26 feet and not equipped with mechanical power
3. Nighttime VDS Requirements:
a. All boats except rowboats, canoes, and kayaks

Textbook Page: 18

Fire Extinguishers:

A. Type and size of marine extinguishers (ie B-II):
1. *The B type extinguisher is designed to extinguish flammable liquids such as gasoline oil or grease fires*
2. *The Roman Numeral indicates the extinguisher's relative size and determines the minimum amount of extinguishing agent in the unit*

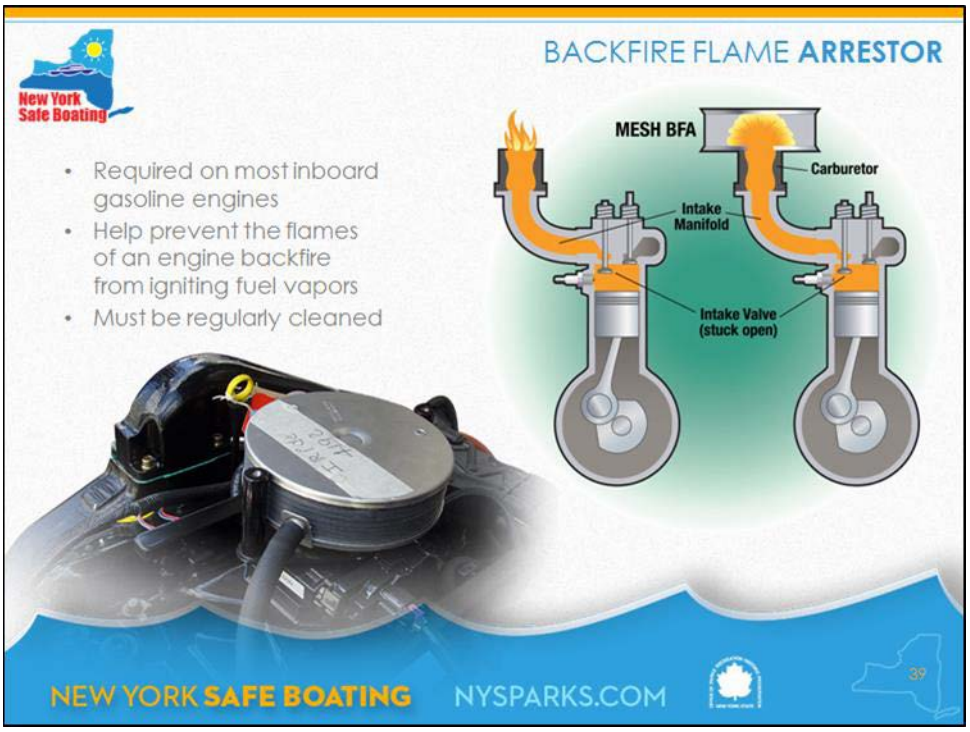
B. Common types of extinguishing agents:
1. *Dry Chemical (powder)*
2. *Carbon Dioxide (gas)*

C. Fire Extinguisher Location and Maintenance
1. *Legal carriage requirements are the minimum*
2. *Must be USCG approved*
3. *Make sure your equipment is capable and maintained*
4. *Read the manufacturer instructions*
5. *Check them frequently*
6. *Extinguishers should indicate full charge*
7. *Nozzles should be clear of debris*
8. *Mount in a readily accessible location*
9. *One should be mounted near the operator station*

Textbook Page: 18

D. Carriage requirements:

1. *Required on mechanically propelled boats*
2. *Open construction is a boat built with no closed compartments or compartments under seats where portable fuel tanks may be stored and no deck under which vapors can accumulate.*



Textbook Pages: 18-19

Backfire Flame Arrestor:

A. *Primary purpose is to prevent the heat and flames of an engine backfire from igniting any flammable vapors that may be present in the engine compartment*

B. *Required on gasoline inboard and inboard/outboard engines*

C. *Must be USCG approved*

D. *May look like an air filter but this is not its function*

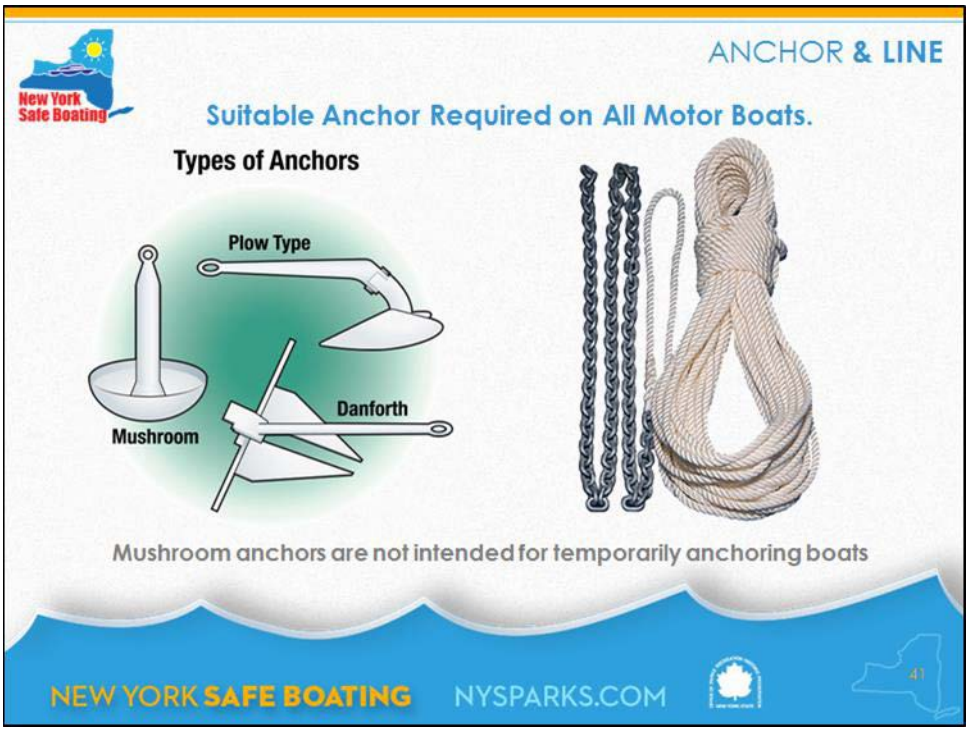
Textbook Page: 19

Sound Signaling Devices:

A. Horn/Whistle
1. *Boats less than 12 meters (39 ft.) in length must carry some means of producing an efficient sound signal*
   a. *Mouth Whistle*
   b. *Air Horn*
2. *Boats 12 meters or more must have a mechanical horn*

B. Bell
1. *Boats 12 meters (39 feet) or more in length must be equipped with a bell*
2. *Used to indicate position in fog while anchored or aground*

Note: NYS has adopted, through regulation, the federal requirements that all rowboats, canoes, and kayaks have a sound signaling device.



Textbook Page: 19

Anchor and Line:

A. Required on all mechanically propelled boats

B. Must have an anchor with line (rode) of sufficient weight and strength to provide safe anchorage There are two types of anchors commonly used on recreational boats

1. Danforth
   a. Lightweight
   b. Very good holding power
   c. Designed to bury itself as tension is placed on the line

2. Mushroom
   a. Limited holding power
   b. Requires time to bury itself and maximize holding power
   c. Designed for permanent moorings

Textbook Page: 20

Muffler:

A. *All mechanically propelled boats are required to be equipped with a muffler system designed to reduce engine exhaust noise*
   1. *Boats solely used for racing are exempt*
   2. *Boats being operated by a manufacturer for the purpose of testing and/or development are also exempt*

B. *Most boats come from the manufacturer with systems designed to meet the necessary requirements*

C. *It is illegal to remove, modify, or alter the muffler system*
   1. *Cut outs that bypass the muffler are illegal*

Textbook Pages: 20-22

Other Suggested Equipment:

- *First Aid Kit*
- *Bilge Pump/Bailer*
- *GPS*
- *Extra Line*
- *Compass*
- *Cellphone*
- *Marine Radio*
- *EPIRB*
- *Tool Kit*

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Textbook Pages: 24-26

Fueling and Ventilation - Chapter 5

Time Allotted: 15 min

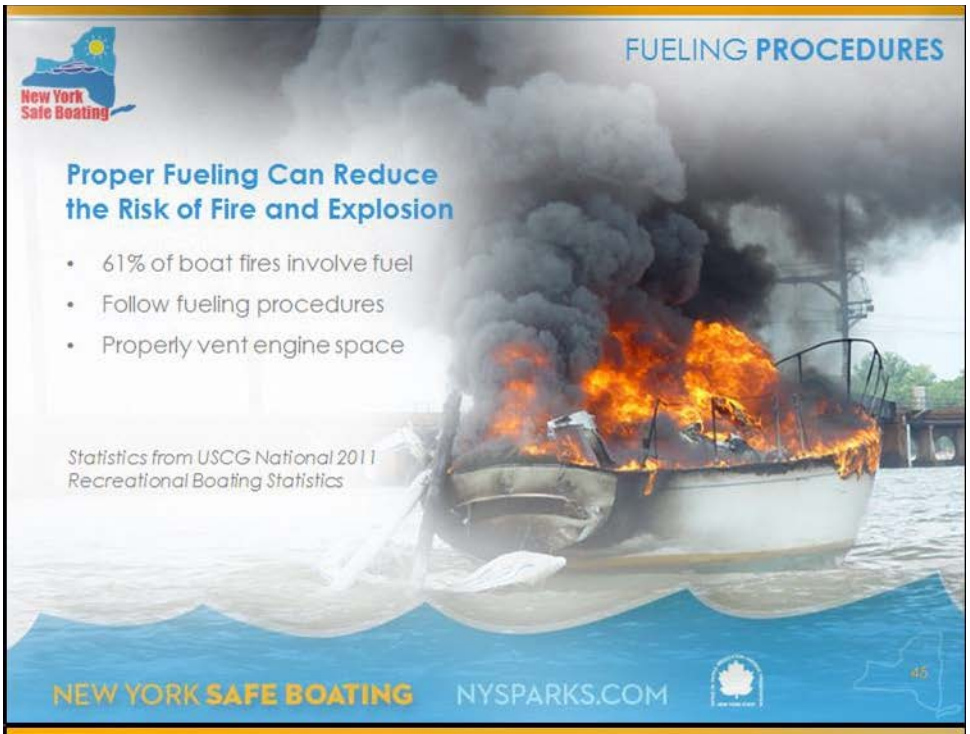
OBJECTIVES:

1. *Be able to identify the safety precautions that must be taken prior to fueling your boat.*

2. *Be able to state the reason for keeping the fuel nozzle in contact with the boat's fuel fill opening during fueling.*

3. *Be able to identify a simple and effective means of detecting the presence of gasoline vapors in the engine compartment of a boat.*

4. *Be able to explain when and for how long a mechanical blower should be operated.*



Textbook Pages: 24-25

Proper Fueling Procedure:

A. Before Fueling

1. Before approaching the fuel dock:

a. Put out all fires including pilot lights on any gas appliances

b. Don't smoke or strike matches and insures all smoking materials are thoroughly extinguished

Textbook Pages: 24-25

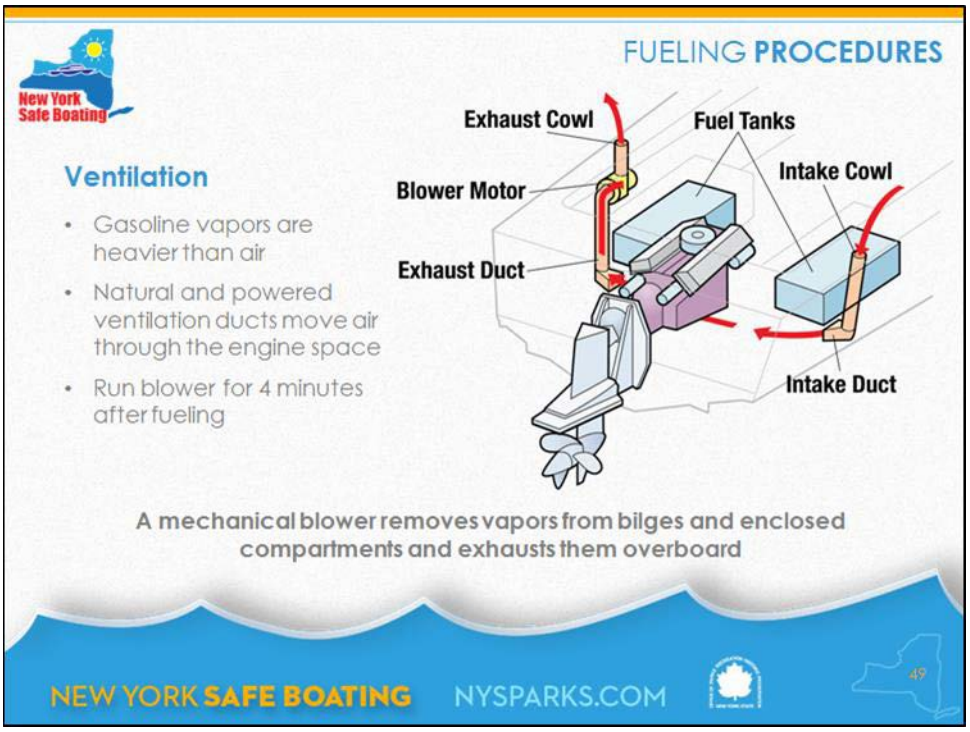
2. *At the fuel dock:*
   a. *Moor the boat securely to the fueling dock*
   b. *Get all passengers off the boat*
   c. *Don't operate electrical switches*
   d. *Stop all engines, motors, fans and other devices that could cause a spark and ignite any flammable vapors that may be present*
   e. *Close all ports, windows, doors and hatches to keep fuel vapors out*
   f. *Check the condition of the fuel tank, the hoses, connections, vents and flame screens*

B. *During Fueling:*
   1. *Don't smoke.*
   2. *Fill all portable fuel tanks on the dock.*
   3. *Keep the nozzle of the hose in contact with the tank or fill opening to prevent the buildup of static electricity which could create a spark.*
   4. *Avoid spilling any fuel; it could end up in the bilges and create a dangerous situation.*
   5. *Estimate how much fuel you need and be sure to leave room in the tank for the fuel to expand; filling the tank right up to the fill opening can result in fuel being spilled into the boat.*
   6. *If you have installed fuel tanks be sure that the fuel is going into the fuel tank and not the water tank or fishing rod holder.*

Textbook Pages: 24-25

C. After Fueling:

1. *Close the fill opening of the tank.*
2. *Properly secure portable tanks in the boat to prevent shifting while underway.*
3. *Wipe up any fuel that may have spilled/*
4. *Check the bilges for leaks.*
5. *Open all ports, windows, doors and hatches.*
6. *Allow the boat to ventilate thoroughly.*
7. *If equipped with a mechanical blower, operate the blower for at least 4 minutes before starting the engine.*
8. *Use your nose. Get down low in the boat and sniff with your nose. This is a simple but effective way to detect fuel vapors. If any vapors are detected, continue to ventilate and don't start the engine.*
9. *If vapors persist, find the source and correct it.*



Textbook Pages: 25-26

Ventilation:

A. Properties of gasoline
1. *Gasoline vapors are heavier than air*
2. *They tend to settle into the lower compartments and bilges of boats*
3. *Unless there is a flow of air to push those vapors out, the vapors remain trapped*
4. *If exposed to a spark, could cause an explosion and fire*

B. Natural Ventilation
1. *Required for any compartment on a boat that:*
   a. *Uses a fuel with a flash point of 110°F or less. This includes gasoline.*
      I. *Contains an engine or generator.*
      II. *Contains a fuel tank that vents to the compartment.*
      III. *Contains a permanently installed fuel tank and an electrical component that is not ignition protected.*
   b. *Not required on boats where the bilges under the engine and fuel tank are exposed to the natural atmosphere.*

2. *Components*
    a. *Intake or supply*
        (1) Cowling or opening located on the exterior of the boat
        (2) Usually facing forward
        (3) Duct must be above the normal accumulation of bilge water
    b. *Exhaust*
        (1) Hose or duct must extend to the lower third of the protected space but above the normal accumulation of bilge water
        (2) Must exhaust to atmosphere or another ventilated space by an opening or cowling
        (3) Normally facing aft near stern of the boat
3. *How it works:*
    a. *Fresh air flows through intake ducts*
    b. *Air flows to fuel and engine compartments*
    c. *Vapors and air mix*
    d. *Flow is directed overboard by exhaust ducts*
    e. *Not effective when the boat is stationary*

C. *Mechanical Blower*
1. *Federal requirement in each compartment on a boat:*
    a. *Built after August 1, 1980.*
    b. *Containing a permanently installed gasoline engine with a cranking motor (starter).*
    c. *Not of open construction or open to the atmosphere.*
2. *Components*
    a. *Utilizes an exhaust fan mounted within the exhaust ducting of a natural ventilation system.*
    b. *A switch located at the steering or helm station.*
    c. *A warning label next to the switch must state “Warning - Gasoline vapors can explode. Before starting engine operate blower for 4 minutes and check engine compartment bilge for gasoline vapors.”*
3. *How it works*
    a. *Removes vapors from bilges and enclosed compartments and blows them overboard*
    b. *More effective than natural ventilation, especially when the boat is stationary.*

Textbook Pages: 27-28

Safe Loading and Powering - Chapter 6

Time Allotted: 15 min

OBJECTIVES:

1. *Be able to identify the location of a boat's capacity plate and the information it contains.*
2. *Have an understanding of some rules for loading a boat safely.*
3. *Be able to identify the dangers of overloading a boat.*
4. *Understand the correct procedures for safely boarding a small boat.*

Textbook Page: 27

Capacity Plate:

A. Manufacturer requirement under Federal Law for:
1. Single hull motorboats under 20 feet in length.
2. Except: sailboats, canoes, kayaks, and inflatable boats
3. Must be located where it is visible to the operator.

B. Provides the following information:
1. For outboard boats:
a. Maximum number of persons and total passenger weight
b. Maximum weight capacity of:
i. People
ii. Gear
iii. motor
c. Maximum engine horsepower
2. For inboard and inboard/outboard boats:
a. Maximum number of persons and total passenger weight
b. Maximum weight capacity
i. People
ii. Gear

Boats without a Capacity Plate:

A. Consult owner's manual or contact the manufacturer for recommended capacity information.

Other Factors to Consider:

A. *Sea State*
   1. *Reduce weight when in rough weather allowing the boat to ride higher in the water and reduce the chance of swamping.*

B. *Recreational Activities*
   1. *Some activities, such as fishing or diving, may necessitate needing additional deck space or carrying additional weight.*

C. *Additional Gear*
   1. *Extra gear can reduce the number of people that can be safely carried. Consider the total combined weight of gear and people.*

Textbook Pages: 27-28

Safe Loading:

A. Some rules to follow to safely load a boat
1. *Distribute the load evenly*
2. *Keep weight low, especially heavy objects*
3. *Don't exceed the limits on the capacity plate*
4. *Secure objects from shifting, especially larger items like a full cooler*

Textbook Page: 28

Safe Boarding:

A. When boarding a boat, especially smaller ones:

1. *Step into the center of the boat*
2. *Stay low and hold onto the sides to move once inside the boat, use three points of contact.*
3. *Keep your fingers inside so as to not get them caught between the boat and the dock or another boat.*
4. *If more than one person is boarding the boat, the operator should get in the boat first then help guests*
5. *Keep your hands free. Load gear from the dock after boarding*
6. *Once a small boat is moving, everyone should stay seated. If it does become necessary to change positions, the boat should be brought to a complete stop first.*
7. *Avoid standing up in a small boat as this can cause capsizing and falling overboard.*

Textbook Page: 28

Safe Powering:

A. Consult your capacity plate
   1. Don't exceed the maximum recommended horsepower
   2. Choosing a suitable size motor is important
      a. A motor which is too small will likely be overworked and have a shorter life
      b. A motor that is too big can cause the boat to go faster than it was designed to go. It can reduce the boat's stability, by weighing down the stern, and making the boat susceptible to swamping and capsizing.

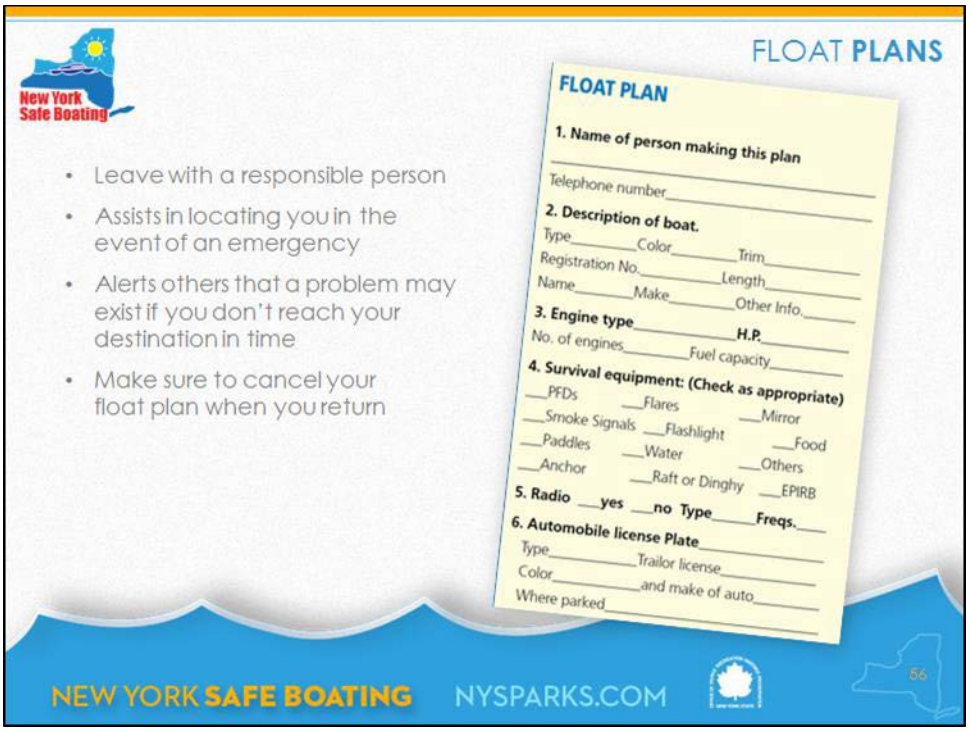
Textbook Pages: 29-39

Preparation for Getting Underway - Chapter 7

Time Allotted: 30 min

OBJECTIVES:

1. *Understand the purpose of a float plan and the key information it should contain.*
2. *Be able to identify hazards that might be encountered on the water*
3. *Understand the danger in approaching a low head dam too closely from both upstream and downstream.*
4. *Understand why you need to check the weather forecast before a boat trip and continue to monitor it.*
5. *Be able to identify three main elements of weather that can greatly affect a boater.*
6. *Understand the importance of a checklist and what types of items should be on it.*
7. *Understand the proper procedures to towing, launching and retrieving of boats.*
8. *Be able to identify the need for preventative maintenance.*



Textbook Pages: 29-30

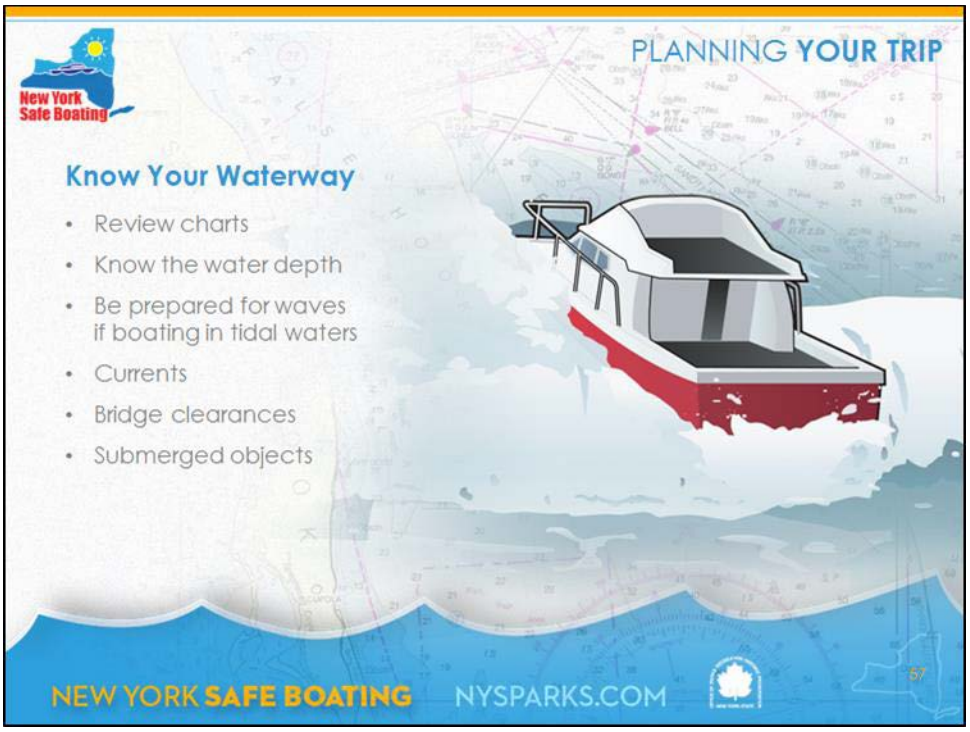
Float Plan:

A. *Purpose*
   1. *To assist in locating you in the event of an emergency.*
   2. *If you do not arrive at your destination as scheduled in the plan it will alert others that a problem may exist.*

B. *Key information*
   1. *Your name and address*
   2. *A description of the boat, including the registration number*
   3. *Where you are going*
   4. *The date and time you are leaving*
   5. *Time you expect to return or reach your destination*
   6. *Names and addresses of all passengers*
   7. *Who can be contacted in case of emergency*

C. *Optional information which may be helpful*
   1. *Communication equipment aboard and radio call sign if applicable*
   2. *Automobile information and where car and/or trailer are parked*
   3. *Safety equipment carried*
   4. *Phone numbers that should be contacted in the event you are overdue*
   5. *Alternate plans in case of an emergency*
   6. *Medical conditions that may be of concern of those on board*

D. *Should be left with a responsible person (parent, relative, marina worker, etc.)*
   1. *Remember to cancel the float plan upon your return*



Textbook Pages: 30-31

B. Planning Your Trip

1. *Review charts of the waterways you plan to boat on*
2. *Know the depth of water*
3. *Be prepared for waves and weather that you may expect*
4. *Know any currents that are in the area*
5. *Check that you make any bridge clearances*
6. *Check for location of any submerged objects or sand bars*

Textbook Pages: 31-32

Low Head Dams:

A. *Low head dams*
   1. *Found on several rivers in New York State*
   2. *Usually a drop of between 5 and 8 feet in river levels*
   3. *Difficult to see from upstream, appears as a line across the horizon at water level*

B. *The Boil Line*
   1. *Water flows over the dam and drops to the bottom as water rises to the surface*
   2. *Water can then flow back toward the dam*
   3. *Where this separation occurs between the upstream water and downstream water it looks as if the water is boiling*

C. *The Danger*
   1. *Boats that go over the dam or approach too close to the boil line from downstream will be dragged into the face of the dam and swamped*
   2. *The boat and anyone on board will be trapped in the re-circulating flow and will likely drown*
   3. *Nearly impossible to escape*

Current (optional):

Textbook Page: 34

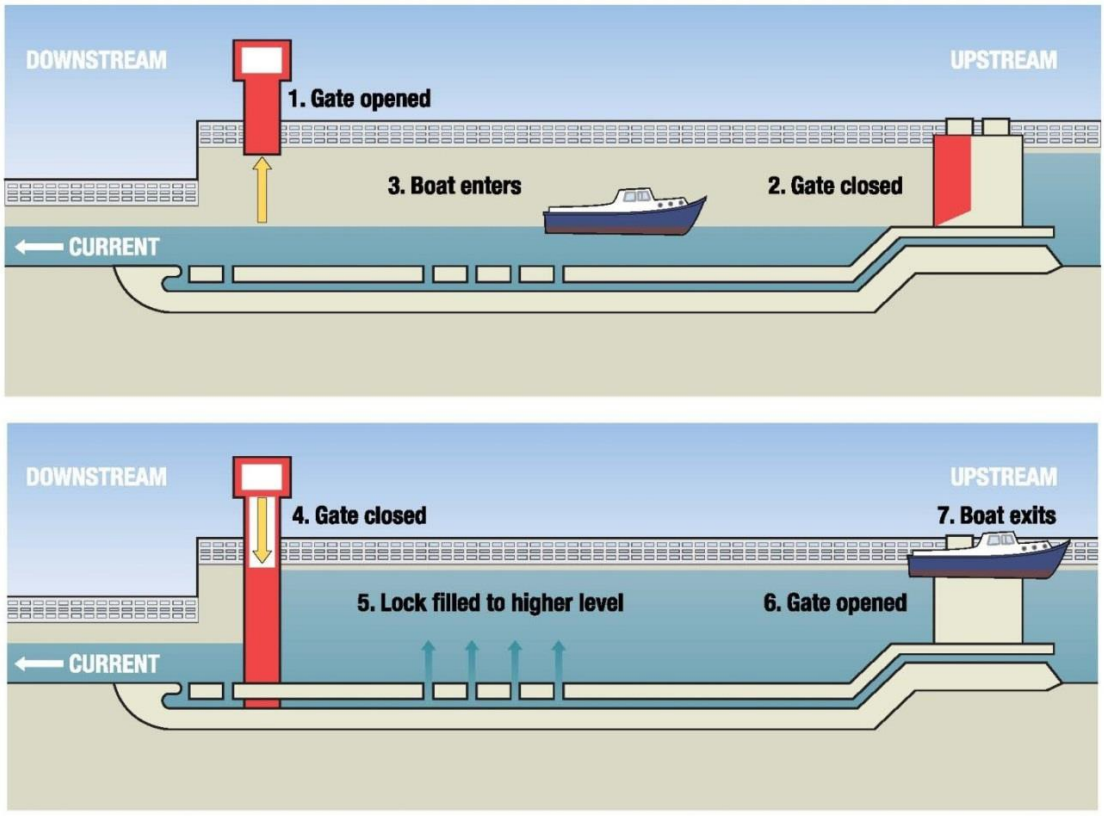
A. *Horizontal motion of water due to various factors*

B. *Two Components are used to describe it.*
   1. *Set*
      a. *Direction water is flowing toward*
      b. *Measured in compass degrees*
      c. *Opposite of wind measurement*
   2. *Drift*
      a. *Speed of movement*
      b. *Measured in knots*

C. *Can exist on most bodies of water*

D. *Affects the handling of nearly all boats*
   1. *Ability to maintain course or speed*
   2. *Can affect maneuvering during docking or anchoring*

E. *How to determine*
   1. *Current Tables*
      a. *Produced by federal government*
      b. *Covers nearly all tidal waters*
   2. *Graphic solution using chart*
   3. *Local publications*
   4. *Local boaters*
   5. *Seaman's eye*



Textbook Page: 32-33

Locks (optional):

A. *NYS has an extensive canal system*
   1. *The Erie, Champlain, Cayuga-Seneca, and Oswego Contains 57 locks along more than 500 miles of waterways*

B. *How to go through a lock*
   1. *Approaching*
      a. *Green light – lock is ready to enter (red light – not ready – hold your position)*
      b. *Enter the lock chamber at a safe and reduced speed*
      c. *Put out your fenders*
      d. *Put on a life jacket when handling the lines*
      e. *Approach the wall and loop (not tie) your line around the snubbing posts*
      f. *Passengers not involved in handling a line should remain safely seated*
      g. *Once the lines are looped, turn off the engine*
   2. *Leaving*
      a. *When the lock has reached the desired water level, start your engine*
      b. *Cast off your lines*
      c. *Proceed at a slow speed out of the lock*
   3. *More canal information is available at www.nyscanals.gov*

Textbook Page: 33-34

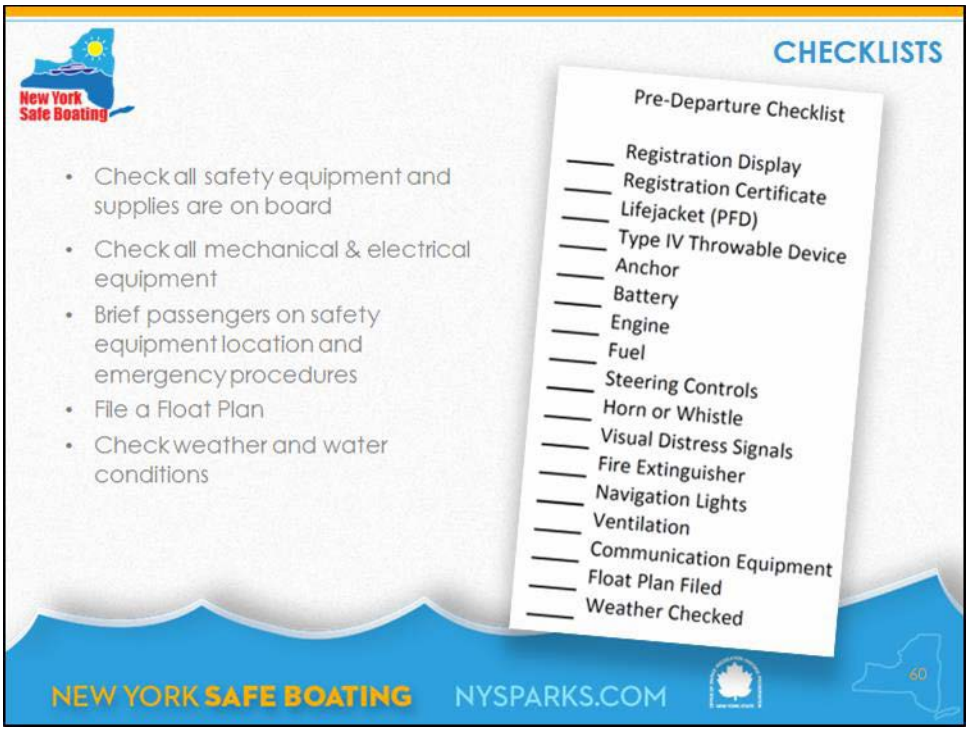
Weather:

A. Three main elements of concern to the boater
- *1. Temperature*
  - *a. Key to fog formation*
  - *b. Air*
  - *c. Water - Hypothermia*
- *2. Precipitation*
  - *a. Rain, hail, thunderstorm (lightning)*
  - *b. Effect on visibility is a major concern*
- *3. Wind*
  - *a. Key weather element affecting boaters*
  - *b. Creates waves*
  - *c. Can affect course*
  - *d. Affects maneuvering, anchoring, docking*

B. Weather Forecasts
- *1. Always check the weather before getting underway.*
- *2. Use VHF radio, cell phone applications or portable AM/FM radio to stay up to date while underway.*
- *3. Be especially alert for Small Craft Advisories which indicate:*
  - *a. Strong winds up to 33 knots (38mph)*
  - *b. Sea conditions dangerous to nearly all recreational boats*
  - *c. Boaters should not leave the dock*
  - *d. If already underway, return to shore*

C. *Keep an eye to the sky*
    1. *Watch for worsening conditions/warning signs*
    2. *Increasing winds*
    3. *Increasing/darkening clouds*

D. *How to weather a storm*
    1. *Make for the nearest shore*
    2. *Ride out the storm on the water*
        a. *Keep the bow headed into the wind and waves*
        b. *At the first sign of lightning – lower fishing poles, antenna, etc*



Textbook Page: 34

Checklists:

A. Purpose
1. *Guide to insure all proper equipment and supplies are on board*
2. *Guide to ensure all mechanical and electrical equipment is functioning properly*

B. What to carry/check
1. *Depends on type and size of boat*
2. *Depends on boating activity planned*

C. Importance
1. *The better prepared you are, the greater your chances of a safe, enjoyable boating trip*
2. *Better equipped to respond to an emergency, breakdown or other problem*

D. Two types of Checklists
1. *Supplies and Equipment*
   a. *Create your own based upon*
      (1) *Type of boating (fishing, skiing, cruising)*
      (2) *Conditions expected*
      (3) *Length of voyage*
   b. *Should include required equipment as a minimum*

2. *Operations*
    a. *Check condition of fuel tank(s) and hoses*
    b. *Insure you have enough fuel*
    c. *Use the one third rule*
        i. *One third out;*
        ii. *One third to return and;*
        iii. *Keep one third in reserve as a safety precaution*
    d. *Check oil level, look for leaks, check bilges*
    e. *Check the local marine weather forecast*
    f. *Check all electronic equipment (VHF, Radar, G.P.S., etc.)*
    g. *Insure that battery, lights, horn, motor, blower and bilge pump are all in good working order*
    h. *Insure that the propeller and/or lower unit are in good condition and not fouled in weeds, debris, etc.*
    i. *Make sure the boat plug is in*
    j. *Stow and secure all gear*
    k. *Insure all passengers are seated, life jacket's are serviceable and preferably worn or readily accessible, and brief them on basic emergency procedures*

Textbook Page: 35

Operator's Responsibilities:

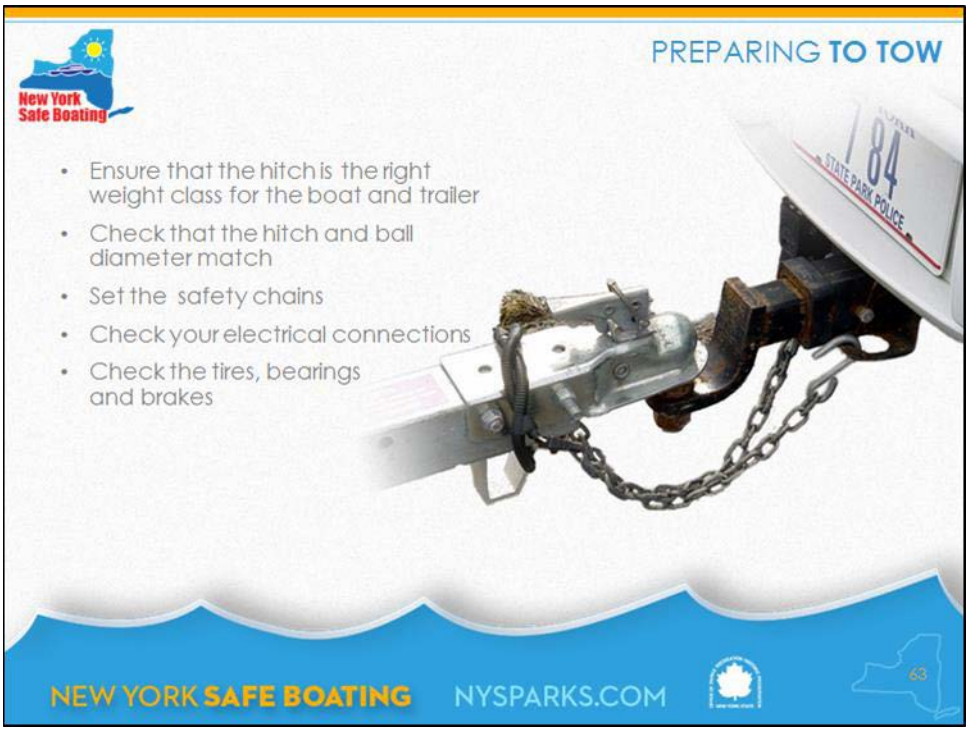
A. *Responsibilities*
   1. *Follow the Rules of the Road*
   2. *Exercise Courtesy*
   3. *Follow buoys and navigational markers*
   4. *Refrain from acting recklessly*
   5. *Supervise your passengers*
      i. *Encourage passengers to wear a lifejacket*
      ii. *Require passengers to remain inside the boat and seated*
   6. *Know your boat's position and course*
   7. *Know your boat's handling characteristics*

Trailering:

Textbook Pages: 35-36

***NOTE** Instructors are encouraged to use their discretion in determining the extent and detail to which you go in teaching this segment. If you are teaching students who are too young to drive they may be unable to relate to this topic. Students should at least be aware that there are certain safety principles to follow when trailering.*

A. Trailering Preparations - Check the following to insure a safe and proper tow:
1. *Boat properly loaded and balanced on the trailer*
   a. *Tie downs in place and tight*
   b. *Outboard or outdrive in trailering position*
   c. *Distribute the weight of gear in the boat evenly over the axle(s) with heavier gear down low.*
2. *Secure it from shifting*
3. *Hitch the trailer to the tow vehicle*
   a. *Insure the hitch is the right weight class for the boat and trailer*
   b. *Check that the hitch ball diameter matches the trailer coupler*
   c. *Coupler is properly engaged and secured*
4. *Safety chains or cables are properly attached and crisscross under the coupler*
5. *Plug in the electrical connector and test all lights*
6. *Check tires for wear and correct pressure*
7. *Make sure the wheel bearings are freshly greased*
8. *Test the brakes*



Textbook Page: 36

B. Choose the right trailer

1. *Generally, the size of the trailer is determined by the length, beam and weight of the boat*
2. *The data plate/sticker usually located on the tongue of the trailer will display the load capacity and what size tires the trailer uses*
3. *The combined weight of the boat, motor and equipment should never exceed the rated trailer capacity*

Textbook Pages: 36-37

C. Launching - The four phases to launching

1. Preparation

a. Remove all tie downs
b. Unplug the trailer electrical connection
c. Make sure drain plug is in and secure
d. Attach a line to the bow
e. Perform applicable checks from boat operation checklist
f. For an inboard or I/O check the engine compartment for vapors and start the blower

2. Approaching the ramp

a. Insure the ramp area is clear
b. Back vehicle down as close to the water as possible but try to avoid submerging the trailer wheel bearings
c. Put the transmission in "park" and set the parking brake.
d. If necessary, put chocks behind the rear wheels of the vehicle

3. Launching the boat

a. With one person on the boat and one at the winch, start releasing the winch
b. Lower the engine or outdrive
c. If the blower has been running for at least 4 minutes, double check for vapors and start the engine
d. Insure that water is passing through the cooling system
e. Continue releasing the winch and let the boat roll off the trailer into the water
f. Secure the boat to the dock
g. Clear your vehicle from the ramp as soon as the boat is secure

Textbook Page: 37

D. Retrieving

1. *In general, reverse the steps outlined for launching*
2. *Be thorough, but do not attend to matters while on the ramp that can be handled after leaving the ramp area such as unloading the boat*

E. Ramp Courtesy and Etiquette

1. *Busy launch ramps can be a source of aggravation and friction between boaters*
2. *Everyone wants to get on the water as soon as possible and enjoy boating*
3. *Most problems can be resolved by boaters being courteous to others by:*
   a. *Preparing your boat for launching before pulling into the ramp area*
   b. *Loading most of the gear at home or before launching*
   c. *Leaving the ramp as quickly as possible when launching or retrieving your boat*
   d. *Being careful not to block others from launching if the ramp is designed to launch more than one boat at a time*
   e. *Waiting your turn if there is a line*
   f. *Practicing backing the vehicle with the trailer at home so it takes only one attempt to approach the ramp*

Textbook Pages: 37-38

Maintenance:

A. *Preventive maintenance*
   1. *Developing sound preventative maintenance habits will reduce the likelihood of problems or emergencies while underway*
   2. *Follow recommended maintenance schedules as outlined in the owner's manual*
   3. *Develop a good operations checklist that covers all systems*
   4. *Use your checklist prior to each outing and correct problems when found*

B. *Emergency Repairs*
   1. *Good preventative maintenance and proper planning will greatly reduce, but not eliminate, emergencies*
   2. *Learning how to do some small repair jobs may be just enough to get you back in and out of danger*
      a. *Broken drive belt*
      b. *Broken pipe or hose*
      c. *Broken shear pin*
      d. *Taking on water*
      e. *Oil leak*
   3. *Carry a basic tool kit (wrenches, pliers, screw drivers, duct tape)*
   4. *Carry some important spare parts (spark plugs, drive belt, shear pins)*

Storage (optional): *Textbook Page: 38*

A. *Reasons for Proper Storage*
   1. *Will reduce the chance of damage to your boat, motor, and trailer when not in use*
   2. *Saves time and trouble for the next boating season*
   3. *Helps reduce rust, dry rot, and other problems*
   4. *Protects your engine, fuel, and cooling systems*
   5. *Protects and preserves your electronic equipment*

B. *Storage Tips*
   1. *Remove the drain plug*
   2. *If using a canvas cover, allow an opening where fresh air can circulate through the boat*
   3. *Re-pack wheel bearings on the trailer*
   4. *Leave your fuel tank full; prevents buildup of water from condensation inside the tank, consider using a fuel stabilizer especially with E-10 gasoline*
   5. *For a closed cooling system, leave it filled with antifreeze during winter storage*
   6. *For open cooling systems (outboards and stern drives), flush with fresh water before storing*
   7. *Use a marine mechanic to winterize your boat if you are unfamiliar with the proper procedures*

C. *Storage in the Water*
   1. *Adjust mooring lines, consider the range of tides*
   2. *Use chafing gear to protect mooring lines*
   3. *Turn off the battery*
   4. *Consider providing a periodic heat source inside the cabin to reduce the accumulation of moisture*
   5. *Consider extra precautions when storms are forecast*
   6. *Check your boat periodically and especially after bad weather*

Textbook Pages: 38-39

Boat Theft and Security (optional):

A. *Prevention*
   1. *Lock all compartments and take your keys with you*
   2. *Don't leave valuables out when you leave the boat*
   3. *Stow loose gear or take it with you*
   4. *Mark all your equipment*
   5. *Make a list of your equipment with serial numbers*
   6. *Photograph your boat*
   7. *Don't leave important documents (i.e. registration or title) on your boat*
   8. *Personalize your boat so it stands out*
   9. *Take an insurance policy out on your boat*
   10. *When trailering your boat, lock the trailer to the towing vehicle*
   11. *When storing a boat on a trailer*
      a. *Park it in a back yard or fenced in area, or*
      b. *Park near a tree and chain your boat to it, or*
      c. *If you leave it in a driveway or a front yard take a wheel off*
      d. *Purchase and use a tongue lock.*

B. *If theft occurs:*
   1. *Contact the police*
   2. *Provide list of equipment and serial number's*
   3. *Provide photos*
   4. *Provide registration/title*
   5. *Contact your insurance company*

Textbook Page: 37-38

C. *When buying a boat:*
   1. *Don't buy a bargain unless all registration documents are accurate*
   2. *Check that the registration number and HIN on the registration certificate and match the numbers found on the boat*
   3. *If they don't match, don't buy the boat – you may not be able to register it.*

Textbook Pages: 40-42

The Marine Environment - Chapter 8

Time Allotted: 15 min

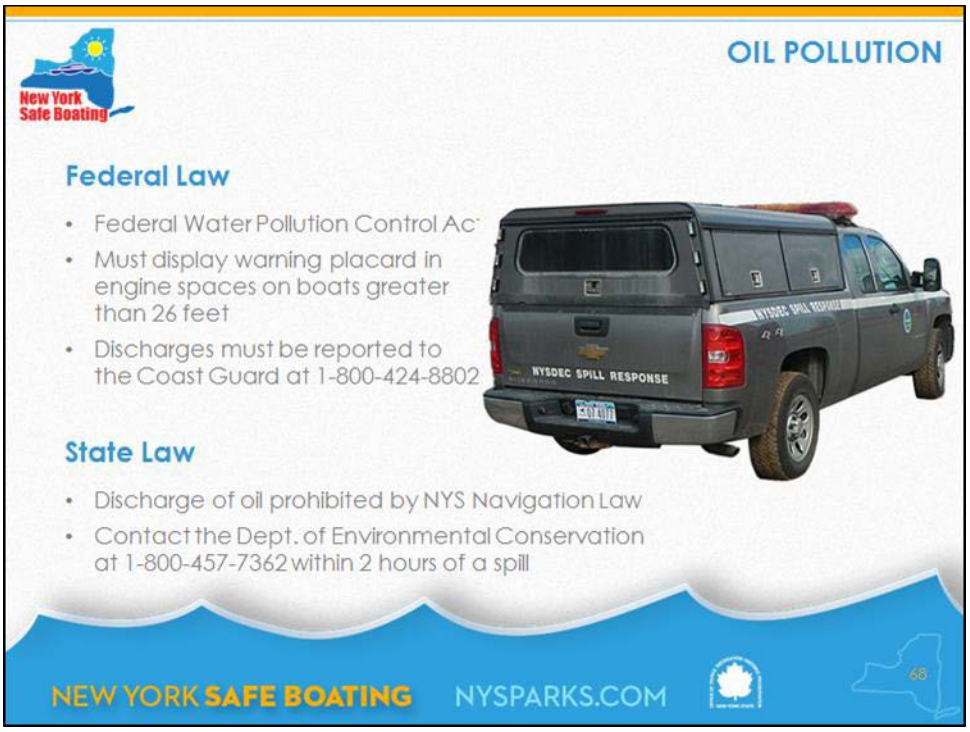
OBJECTIVES:

1. *Understand the reporting requirements for oil pollution under the Federal Water Pollution Control Act and the NYS Navigation Law.*

2. *Understand the requirements restricting the dumping of trash, garbage or plastics under federal law and NYS law.*

3. *To be able to identify the requirements for the discharge of sewage.*

4. *To be able to identify what are aquatic invasive- species and how to avoid transporting them.*



Textbook Page: 40

Oil Pollution:

A. *Federal Law*
   1. *Discharge of oil prohibited by the Federal Water Pollution Control Act*
   2. *Boats 26 ft. and greater in length must display a 5" X 8" warning placard in engine space*
   3. *Any discharges must be reported to U.S. Coast Guard (800-424-8802)*

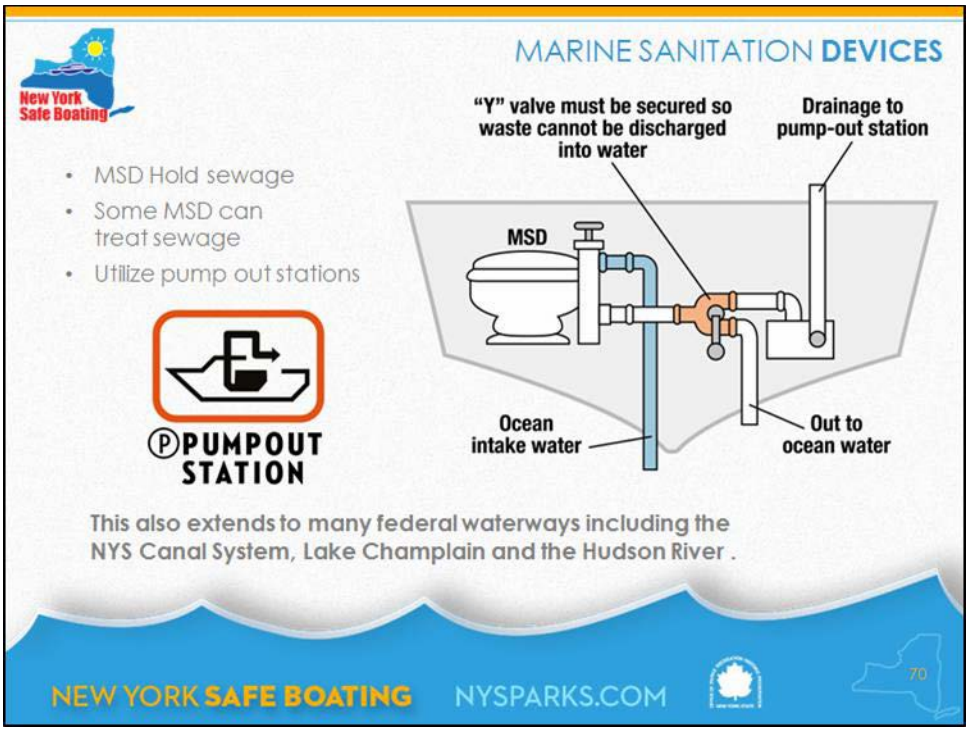
B. *State Law*
   1. *Discharge of oil prohibited by the NYS Navigation Law Section 173.1*
   2. *The person causing the oil spill is required to contact the NYSDEC within 2 hours (800-457-7362) of an oil spill of any amount*

Textbook Page: 40

Dumping of Trash / Garbage:

A. *Federal Law*
   1. *Prohibited by U.S. adoption of Annex V of the international Marine Pollution (MAROPL) agreement to reduce pollution from boats*
   2. *Sets distances from shore for discharge of various types of garbage.*
   3. *Prohibits the discharge of plastics anywhere*
   4. *Illegal to dump:*
      a. *Inside 3 miles (and lakes, bays, sounds)*
         i. *Plastic*
         ii. *Dunnage (wood, particle board)*
         iii. *Lining and packing materials that float*
         iv. *Any garbage except dishwater, gray water, or fresh fish parts*
      b. *From 3 to 12 miles offshore*
         i. *Plastic*
         ii. *Dunnage*
         iii. *Lining and packing materials that float*
         iv. *Any garbage not ground to less than one square inch*
      c. *From 12 to 25 miles offshore*
         i. *Plastic*
         ii. *Dunnage*
         iii. *Lining and packing materials that float*
      d. *Outside 25 miles*
         i. *Plastic*

B. *State Law - Prohibits the depositing of any garbage into the waters of the state*



Textbook Pages: 40-41

Discharge of Sewage:

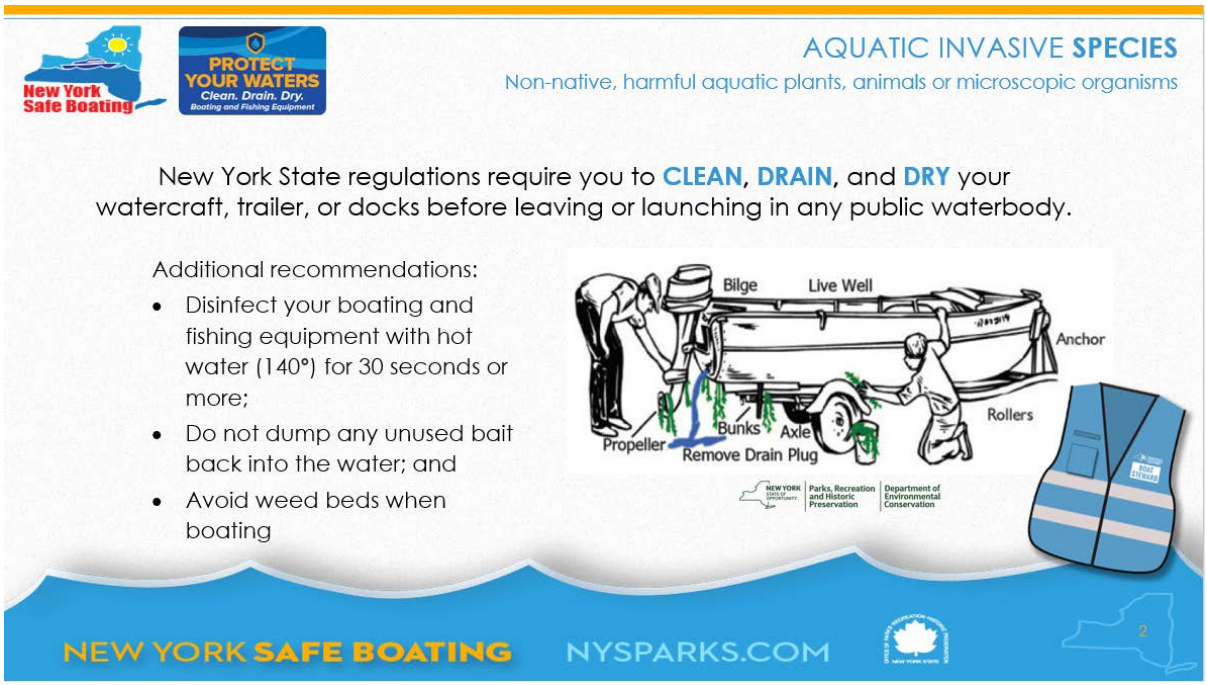
A. *Federal law*
   1. *Permits the discharge of sewage only after having been treated in a U.S. Coast Guard approved marine sanitary device (MSD)*
   2. *Not applicable beyond the 3 mile limit*
   3. *Certain concurrent waters may also prohibit any discharge if approved by federal authorities*

B. *State Law - Section 33-c of the NYS Navigation Law*
   1. *No discharge (treated or untreated) on any sole state fresh water, Hudson River, and NYS Canal System.*
   2. *Must use holding tank or portable toilet*
   3. *Prohibition is extended to federal bodies of water with concurrent jurisdiction and federal approval*
   4. *Section 33-d specifically prohibits discharge on Lake Champlain and requires disconnecting hoses and overboard discharges*
   5. *Discharge of gray water (showers/sinks) is also prohibited on some lakes*
   6. *Discharge requirements vary on different bodies of water*

Aquatic Invasive Species: *Textbook Pages: 41-42*

A. Help protect your waters by preventing the spread of aquatic invasive species (AIS)! Invasive species are non-native plants, animals, insects and diseases that cause harm to the environment, economy or human health.
   1. Plants, animals or other tiny organisms may hitch a ride on your clothing, pets, fishing equipment, boats, and any other items used in the water. When you travel to another lake or stream, aquatic invasive species can be unintentionally introduced.
   2. Some invasive species are introduced into a new waterbody via the dumping of bait buckets.
   3. AIS examples: hydrilla, zebra mussels, and non-native baitfish (round goby).

B. If the conditions are right, these introduced species may become established and may drastically impact our waterbodies.
   1. Reduce game fish populations
   2. Ruin boat engines and jam steering equipment
   3. Make boating, swimming and fishing difficult in lakes and rivers
   4. Reduce native plant and animal species
   5. Alter and degrade ecosystems
   6. Affect human health
   7. Reduce property values
   8. Affect local economies of water-dependent communities.
   9. Increase the operating costs of drinking water, plants, power plants, dam maintenance, and industrial processes



Textbook Pages: 41-42

C. Quick and easy steps to help protect our waters from aquatic invasive species:

CLEAN

- Inspect your boat, trailer, motor, and other equipment for any plant or animal material.
  Tip: Chat with your local Boat Steward to learn how to properly inspect your watercraft and gear. Stewards are at the launch to educate, not enforce. Look for the blue vest!
- Remove visible mud, plant or animal material at the ramp and leave in areas designated for disposal. DO NOT PUT BACK IN THE WATER.

DRAIN

- Drain all water from the boat's bilge, live wells, ballast tanks and other equipment that may hold water; **prior to leaving the launch**.
- Wash all boat and trailer parts with tap water, preferably hot (140°) and high pressure. This will remove all debris and any plant or animal material that may be too small to see with the naked eye.
  Tip: Find a decontamination station, self-service carwash or wash at home.

DRY

- Allow the boat and trailer to dry completely before trailering to another body of water.

Textbook Pages: 43-50

Rules of the Road - Chapter 9

Time Allotted: 50 min

OBJECTIVES:

1. *Understand safe speed and how it can change depending on conditions.*
2. *Understand why keeping a safe lookout is important.*
3. *Understand how to determine if risk of collision exists.*
4. *To be able to identify different traffic situations, which boat is Stand-on and which is Give-way and what action you should take.*
5. *To be able to identify each of the sound signals used by boats maneuvering, in accordance with the Rules of the Road, and the meaning of each signal.*
6. *Understand the boat hierarchy and how it applies when on the water.*
7. *To be able to identify the times when navigation lights must be displayed.*
8. *To be able to identify the type of boat from its navigation lights as well as its direction of travel.*
9. *Understand that the New York Safe Boating Course does not cover all the Rules of the Road.*

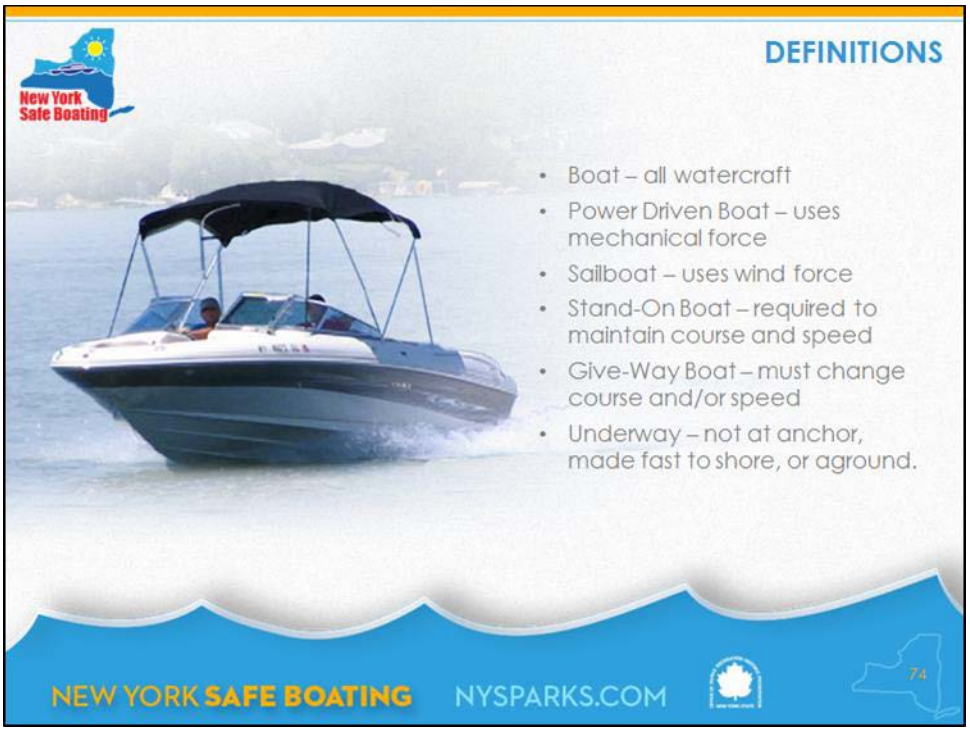
Note: NYS has adopted, through regulation, the federal requirements for Rules of the Road.

“DISCLAIMER”

For a complete listing of all the navigation rules, refer students to “Navigation Rules of the Road” published by the U.S. Coast Guard
How to obtain a copy:
U.S. Government Printing Office
U.S. Coast Guard website

Additional and more in-depth rules apply regarding various waterways and operation in relation to commercial boats.

Boaters are responsible for knowing all the rules of the road, not just those summarized in this course.



Textbook Page: 43

Definitions:

A. *Boat - Any description of water craft that can be used as a means of transportation*

B. *Power Driven Boat - A boat that is propelled by machinery*

C. *Sail Boat – Any boat under sail, provided that propelling machinery if equipped is not being used*

D. *Stand-On Boat - Maintains course or speed*

E. *Give-Way Boat – Takes early and substantial action to avoid collision*

F. *Underway – Not at anchor, made fast to shore, or aground. Drifting is considered to be underway*

Textbook Page: 43

Safe Speed:

A. Every boat shall at all times proceed at a safe speed so that she can take proper and effective action to avoid collision and be stopped within a distance appropriate to the prevailing circumstances and conditions.

B. In determining a safe speed the following factors shall be among those taken into account:

1. By all boats:

a. the state of visibility;

b. the traffic density including concentration of fishing boats or any other boats;

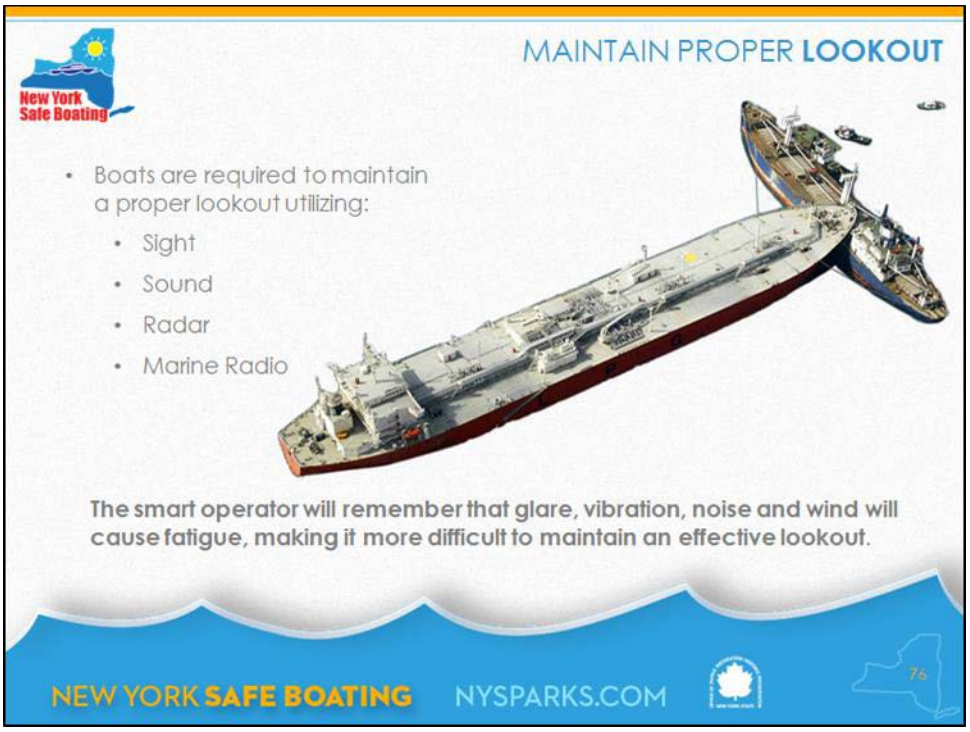
c. the maneuverability of the boat with special reference to stopping distance and turning ability in the prevailing conditions;

d. at night the presence of background light such as from shore lights or from back scatter of her own lights;

e. the state of wind, sea, and current, and the proximity of navigational hazards;

f. the draft in relation to the available depth of water.

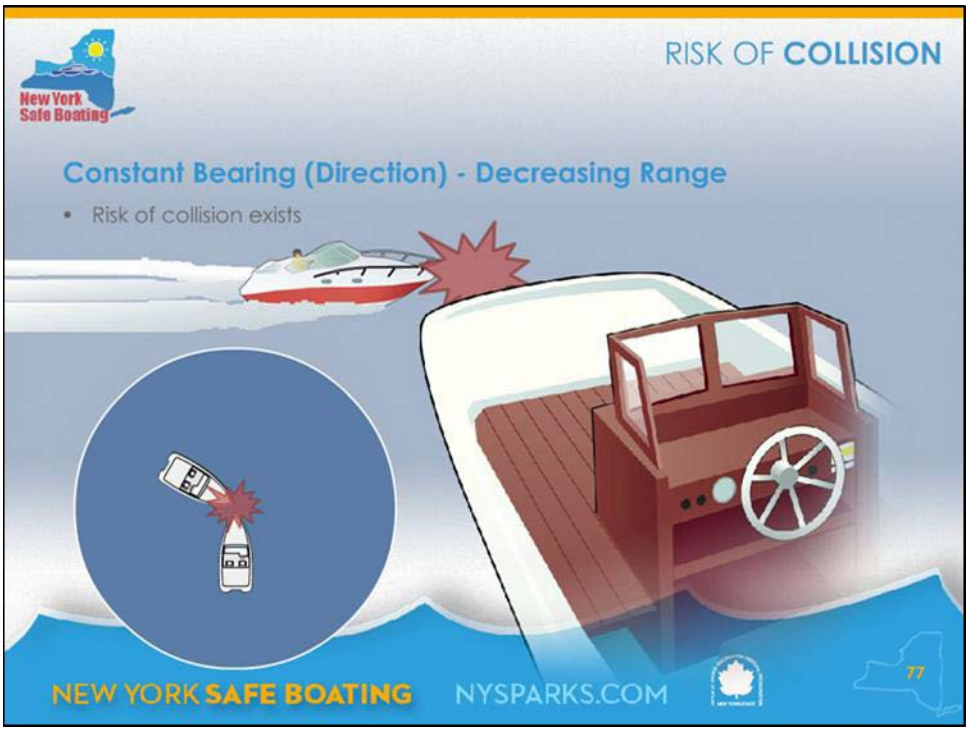
2. *Additionally, by boats with operational radar:*
    a. *the characteristics, efficiency and limitations of the radar equipment;*
    b. *any constraints imposed by the radar range scale in use;*
    c. *the effect on radar detection of the sea state, weather, and other sources of interference;*
    d. *the possibility that small boats, ice and other floating objects may not be detected by radar at an adequate range;*
    e. *the number, location. and movement of boats detected by radar; and*
    f. *the more exact assessment of the visibility that may be possible when radar is used to determine the range of boats or other objects in the vicinity.*



Textbook Page: 43

Risk of Collision:

A. Collisions are a leading cause of boating accidents
1. Proper lookout is required at all times
a. Using sight - look all around frequently, don't just look at the scenery, be aware of what other boats are doing
b. Using hearing - at night and in the fog you may hear another boat before you can see it
c. Using all available means which also includes:
I. An additional lookout - if the visibility is restricted or traffic is heavy; have a passenger help keep a lookout
II. Radar - if you have it use it in addition to the first three methods
III. Radio - You may hear someone (Commercial Boat) asking you to move out of the way



Textbook Page: 44

B. *Constant Bearing, Decreasing Range (CBDR)*
   1. *When you see another boat watch its path of movement over time*
   2. *If the bearing (direction) to the boat appears not to change as it gets closer to you, there is risk of collision*

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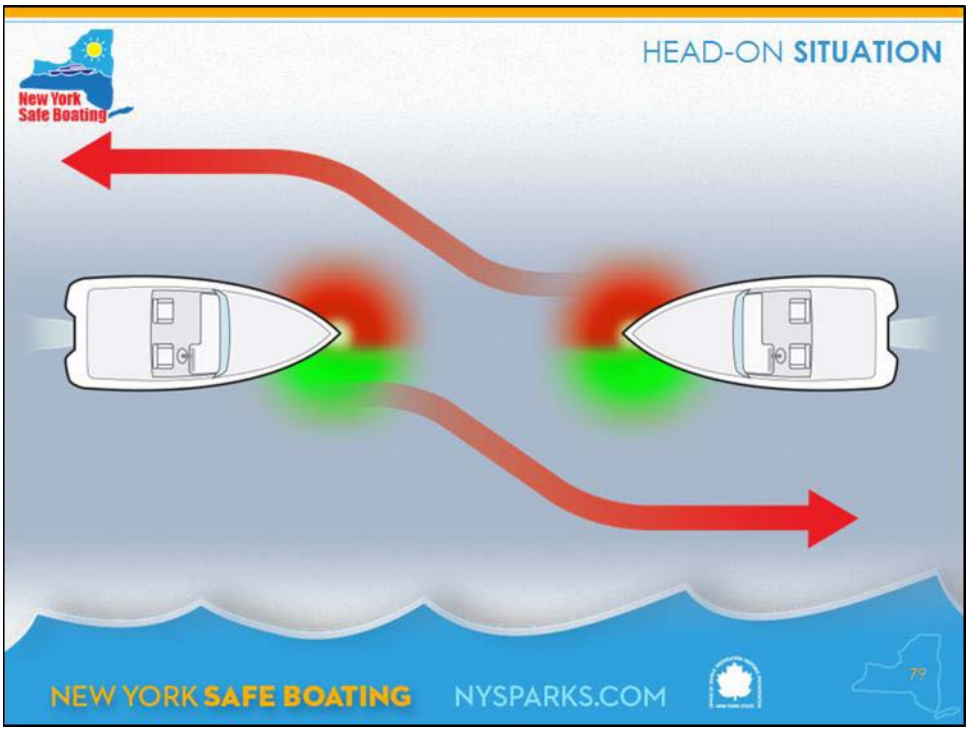
Textbook Page: 44

Traffic Situations:

A. *Give-Way Boat:*
   1. *Every boat which is directed to keep out of the way of another boat shall, so far as possible, take early and substantial action to keep well clear.*
      a. *Turn*
      b. *Reduce speed*
      c. *Stop*
      d. *Reverse engines*
   2. *Any action taken must be:*
      a. *Positive - a large enough change so that the other boater knows that you have taken action*
         I. *Make a large turn*
         II. *Back off quickly on the throttles*
      b. *In Ample Time - take action early on to avoid a close quarter's condition*
      c. *Follow Good Seamanship - pass far enough away, watch out for other traffic*

B. *Stand-On Boat:*
   1. *Maintains course and speed*
   2. *May take action to avoid collision by her maneuver alone, as soon as it becomes apparent to her that the boat required to keep out of the way is not taking appropriate action in compliance with these Rules.*



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C. Meeting or Head-On Situation:
1. *Boats will meet head on or nearly so*
2. *Both boats are Give-Way boats*
3. *Action:*
   a. *Both boats should alter course to starboard unless otherwise agreed upon*
4. *Lights Visible:*
   a. *Both sidelights – red and green*
   b. *Masthead light(s)- white*
5. *Sound Signal:*
   a. *One short blast for altering course to starboard*

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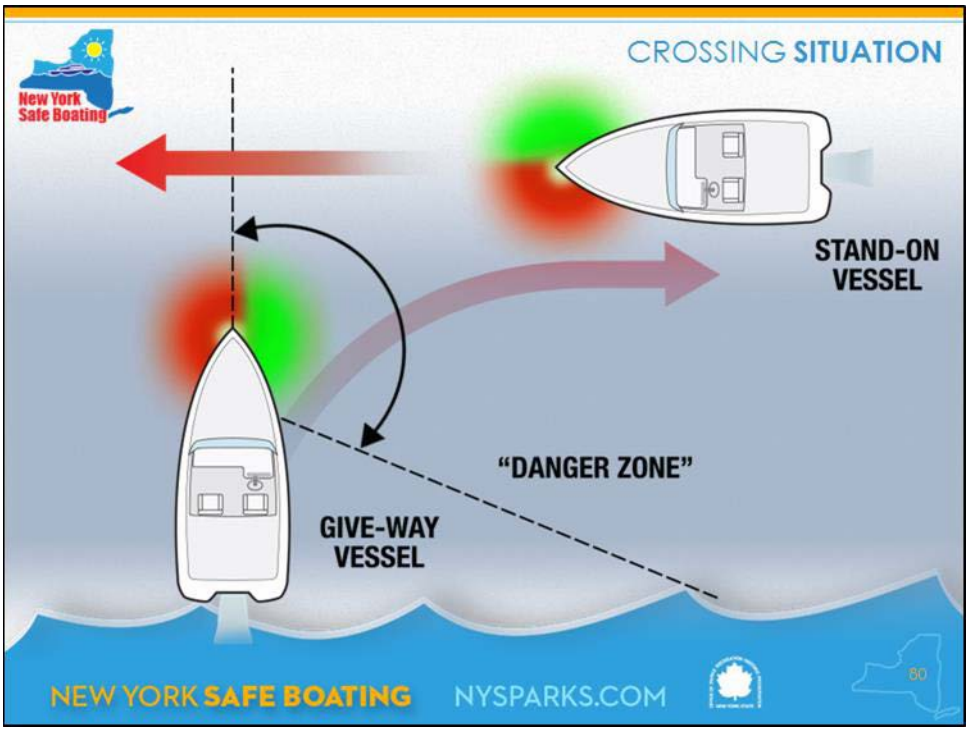

Textbook Pages: 44-45

D. Crossing Situation:

1. *Boat paths cross each other*
2. *Boat which has a boat on its starboard (right) side is the Give-Way boat*
3. *Boat which has a boat on its port (left) side is the Stand-On boat*
4. *Action:*
   a. *Stand-On boat maintains course and speed*
   b. *Give-Way boat must alter its course, reduce speed or stop*
5. *Give-Way boat should turn*
   c. *To starboard*
   d. *If it turns to port it will be turning into the path of the Stand-On boat*
6. *Speeding up will likely hasten a collision.*
7. *Lights Visible:*
   a. *Give-Way boat will see the other boat's port (red) sidelight*
   b. *Stand-On boat will see the starboard (green) light of the other boat*
   c. *Each boat will also see the masthead light (white)*
8. *Sound Signal:*
   a. *One short blast to turn to starboard*
9. *General Rule:*
   a. *Red = Give-Way*
   b. *Green = Stand-On*

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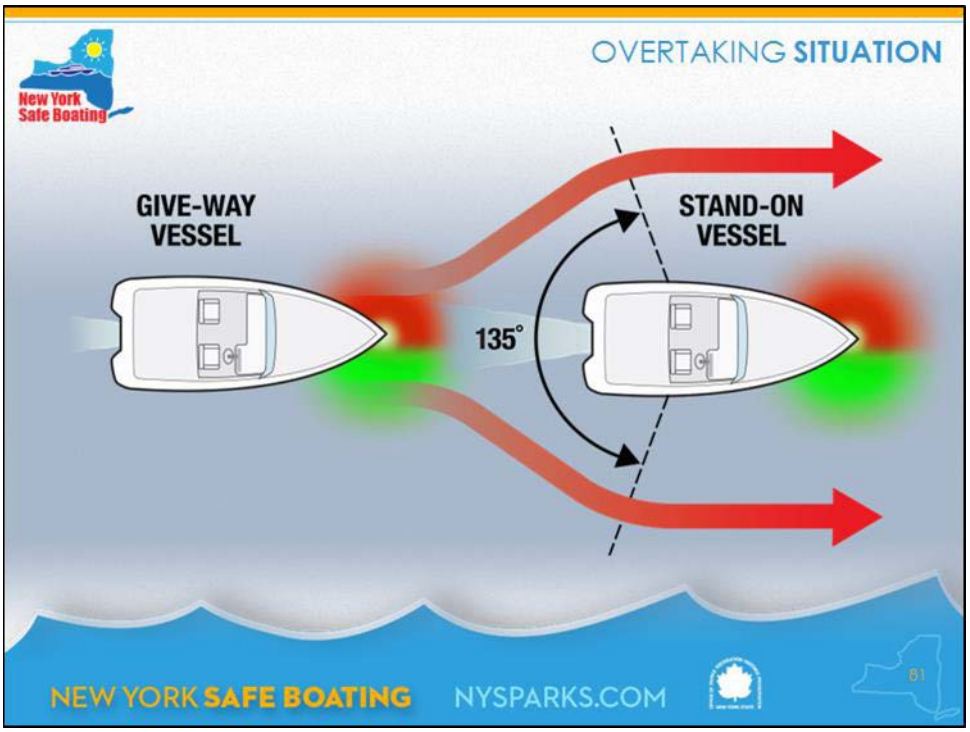

Textbook Page: 45

E. Overtaking

1. *One boat is coming up behind another boat.*
2. *Boat that is overtaking (passing) the other is the Give-Way.*
3. *Boat being passed is the Stand-On boat.*
4. *Action:*
   a. *Stand-On boat maintains course and speed.*
   b. *Give-Way boat must take action by turning either to starboard or port and must stay out of Stand-On boats way until well past and clear.*

2. *Lights Visible:*
   a. *Give-Way boat will see*
      I. *Stern (white) light or*
      II. *All-round (white) light*
   b. *Stand-On boat will see*
      I. *Masthead (white)*
      II. *Sidelights (red and green)*

3. *Sound Signal :*
   a. *Give-Way boat turning to starboard gives one short blast*
   b. *Give-Way boat turning to port gives two short blasts*

Animation Slide

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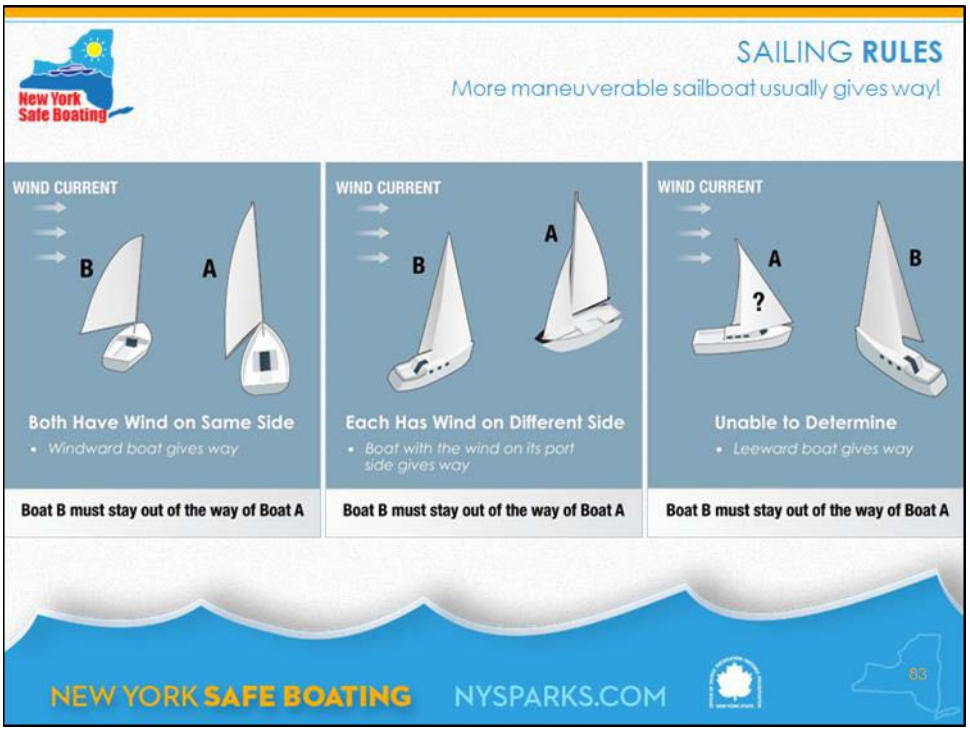
Textbook Page: 45

Sound Signals:

A. Maneuvering signals tell other boats what you intend to do
1. *1 short blast*
   a. *"I intend to leave you on my port side"*
   b. *turning to starboard*
2. *2 short blasts*
   a. *"I intend to leave you on my starboard side"*
   b. *turning to port*
3. *3 short blasts*
   a. *"I am operating astern propulsion"*
4. *5 or more short blasts*
   a. *Danger Signal*
   b. *When you are in doubt that enough action has been taken to avoid a collision*
5. *1 prolong blast*
   a. *Leaving a slip*
   b. *Rounding a bend*



Textbook Pages: 45-46

Sailing Rules:

A. *Both have wind on same side*
   1. *Boat to windward gives way*

B. *Each has wind on a different side*
   1. *Boat with wind on its port side gives way*

C. *Unable to determine*
   1. *Leeward boat gives way*

In general the more maneuverable boat gives way.

Textbook Page: 45

Hierarchy of Boats:

A. *There is an order to the types of boats and who must stay out of the way of the other*

B. *Boats with a low priority must stay out of the way of those with a higher priority (i.e. Power boats must stay out of the way of all other boats). The order is based on boats that are more maneuverable staying out of the way of those that are less maneuverable.*

C. *A boat engaged in fishing means that the boat is restricted in its ability to maneuver as a result. Most boats engaged in sport fishing with rod and reel, tolling lines or other apparatus do not meet this requirement.*

D. *There is no mention of kayaks, canoes, or rowboats. These boats should maintain caution and a good look out. They are not granted any special privileges because of the lack of a motor.*

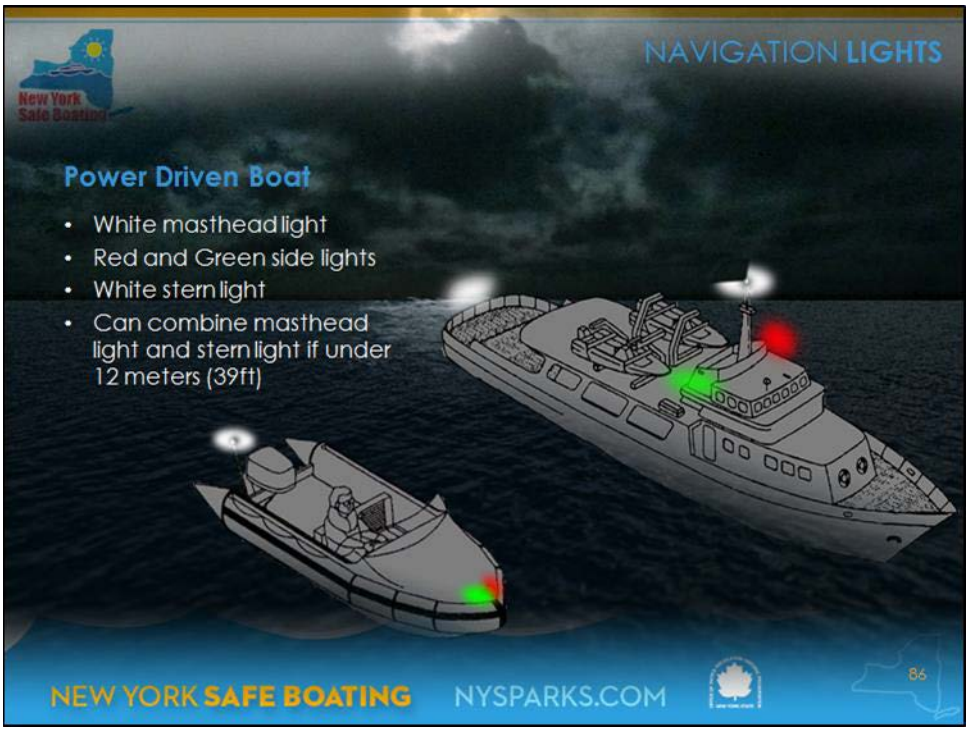
E. *Boats towing skiers are considered power boats and get no special privileges.*

F. *This should not be used as a substitute for good sense. The rules can't be used as an excuse to cause a collision (i.e.: a sailboat insisting on the right of way over a large ship operating in a channel).*

Textbook Pages: 46-47

Restricted Visibility:

A. *Reduce Speed*
   1. *Remember that "safe speed" is dependent on the conditions.*
B. *Maintain a sharp lookout.*
C. *Utilize fog signals*
   1. *Tell other boats that you are in their vicinity*
   2. *A power boat must sound:*
      a. *One prolonged blast (4-6 seconds) every 2 minutes if moving through the water*
      b. *Two prolonged blasts (4-6 seconds) every 2 minutes if not moving through the water*
   6. *Sailboats must sound one prolonged blast followed by two short blasts*
   7. *A boat over 12 meters (39ft.) at anchor must do a rapid ringing of a bell for 5 seconds every minute*
   8. *Boats under 12 meters (39ft.) may make some other efficient sound at intervals of not more than 2 minutes*



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Navigation Lights:

A. Boat lights can tell you:
1. *Direction of travel*
2. *Activity of the boat (type, mode of operation)*
3. *Length of a boat*

B. Lights must be displayed:
1. *From sunset to sunrise*
2. *During periods of reduced visibility*

C. Types of lights found on a boat:
1. *Masthead*
   a. *White light*
   b. *Visible from dead ahead to 112.5 degrees on either side*
2. *Side lights*
   a. *Green on starboard side*
   b. *Red on port side*
   c. *Visible from dead ahead to 112.5 degrees on respective side*
3. *Stern*
   a. *White light*
   b. *Visible from dead astern to 67.5 degrees on either side*
4. *All-round*
   a. *Visible 360 degrees*
   b. *All around the horizon*

D. Required Lights:

1. Power Boats

a. Masthead light

b. Side lights

c. Stern light

d. Power boats less than 12 meters (39 ft.) may combine the masthead and stern light into one all-round light

e. Power boats 50 meters (165 ft.) or longer must carry a second masthead light aft and higher than the first. Any powerboat may carry the second masthead light.

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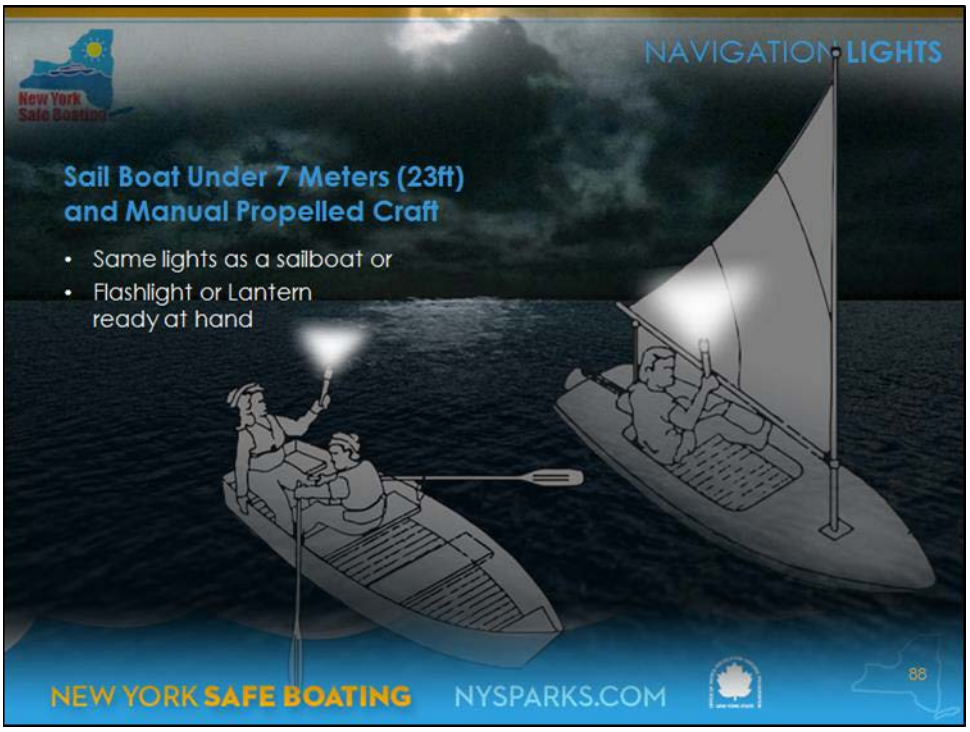
2. *Sail Boats*
   a. *Side lights*
   b. *Stern lights*
   c. *No masthead light*
   d. *May show two all-round lights, red over green, at the top of the mast in addition to side and stern lights*
3. *Sail boats less than 20 meters (65 ft.) in length:*
   a. *May combine side lights and stern light in a combined lantern at the top of the mast*
   b. *Two all-round lights, red over green, cannot be shown with combined lantern*



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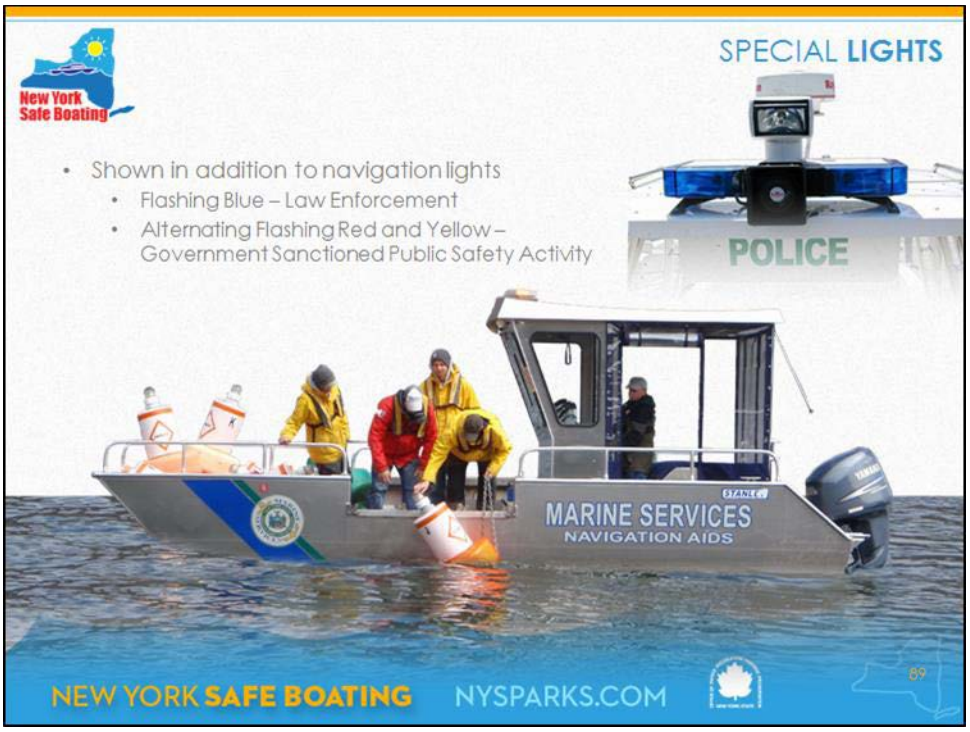
4. *Sails boats less than 7 meters (23 ft.)*
   a. *Display required lights, if practical OR;*
   b. *Have ready at hand a flashlight or lantern, showing a white light, to be show in sufficient time to prevent a collision*
5. *Manually propelled boat*
   a. *May exhibit side and stern lights OR;*
   b. *Have ready at hand a flashlight or lantern, showing a white light, to be show in sufficient time to prevent a collision*



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Special Lights:

A. Police and Law Enforcement Boats
1. *Flashing blue lights*
2. *Used when engaging in law enforcement activities:*
   a. *Boat stops*
   b. *Pursuits*
   c. *Emergencies*
3. *This light does not give the boat any special privileges*
4. *Fire Department boats cannot display blue lights*

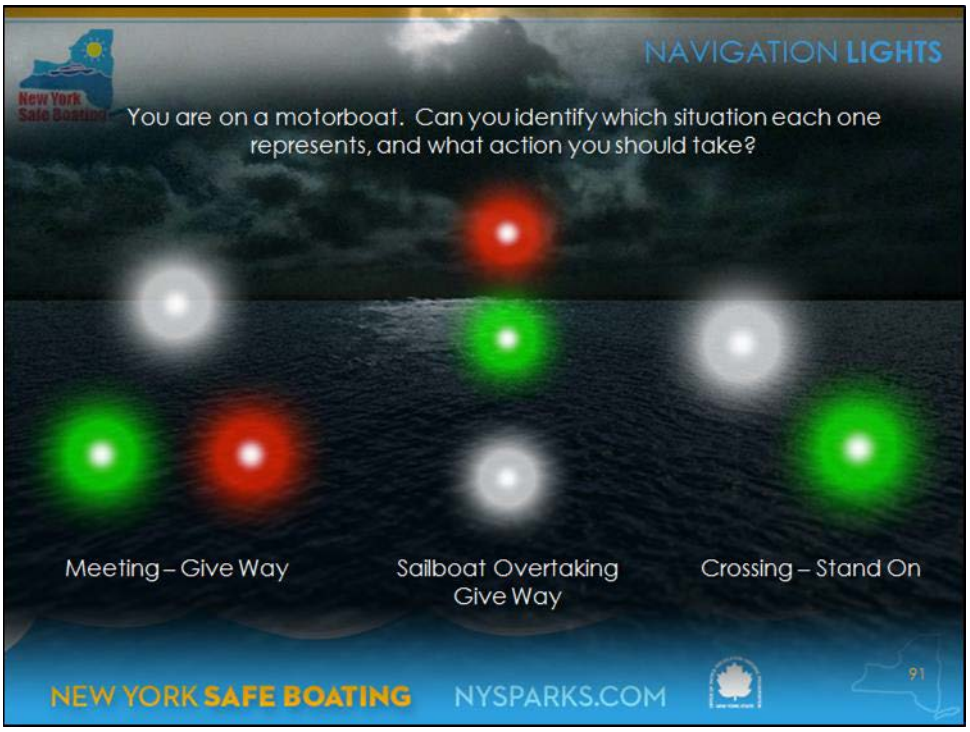
B. Boats engaged in government sanctioned public safety activities
1. *Alternating yellow and red flashing light*
2. *Public safety activities include:*
   a. *Safety patrol for a marine regatta*
   b. *Search and rescue*
   c. *Assisting disabled boats*
   d. *Navigational aids maintenance*
3. *This light does not give the boat any special privileges*
4. *These lights may be displayed by Fire Department boat*

Textbook Page: 48

Anchor Lights:

A. A boat at anchor

1. *In the fore part, an all-round white light and a second all-round white light near the stern and at a lower level.*
2. *A boat less than 50 meters (165 ft.) may exhibit instead one all-round white light where it best can be seen.*
3. *During the day a ball may be displayed in lieu of lights.*
4. *A boat of less than 7 meters (23 ft.) in length, when at anchor, not in or near a narrow channel, fairway or anchorage, or where other boats normally navigate, is not required to exhibit anchor lights or day shape*
5. *A boat of less than 20 meters (65 ft.) in length, when at anchor in an approved special anchorage area is not required to exhibit anchor lights or day shape.*



Textbook Pages: 47-49

Textbook Page: 49

Operating Near Commercial Traffic:

A. Watch out and stay clear of commercial traffic, you can be in danger because:
1. *They cannot slow down and stop easily*
2. *They cannot as easily see traffic that is close by*
3. *They typically must stay inside channel*

B. Precautions to be taken:
1. *Stay out of channels where possible*
2. *Do not pass between a tug and its tow*
3. *Do not anchor or fish in a channel*
4. *Do not tie up to a channel marker*
5. *Cross a channel at right angles*

Textbook Pages: 51-54

Boat Operations - Chapter 10

Time Allotted: 15 minutes

OBJECTIVES:

1. *Understand the state speed limit when within 100 feet of shore.*

2. *Be able to Identify and understand behaviors that can be considered reckless operation.*

3. *Be able to identify several of the adverse effects of drinking alcohol and know the BAC at which a person is considered to be legally intoxicated.*

4. *Identify the BAC levels that are unacceptable for an operator under 21 years of age.*

5. *Be able to identify "boating stressors", the effect stressors have on a person's ability to operate a boat, and how the consumption of alcohol affects the impact of those stressors.*

Textbook Page: 51

Speed and Reckless Operation:

A. Speeding
1. *Law requires all boats maintain a speed of 5 MPH or less when within 100 feet of:*
   a. *Shore*
   b. *Dock*
   c. *Pier*
   d. *Raft*
   e. *Float*
   f. *Anchored or moored boat*
   g. *Local laws may extend this distance to 200 feet*
   h. *Except for the purpose of enabling a person engaged in water skiing to take off or land.*
2. *All boats must continue to proceed at a safe speed for the conditions:*
   a. *Weather*
   b. *Traffic*
   c. *Proximity to shore*
   d. *Operator experience*
   e. *Boat handling characteristics Local Laws*
3. *State law allows cities, towns, and villages to regulate speed and boat operations out to 1500 feet from shore*
   a. *To find out what they are you should contact the local marine patrol or government*

Textbook Pages: 51-52

B. Reckless Operation

1. *Operators are required to operate a boat in a careful and prudent manner in such a way as not to interfere with the free and proper use of the navigable waters or endanger any boat or person.*
2. *Recklessness may be the result of ignorance, inattention, indifference, or carelessness.*
3. *Examples of what can be considered reckless operation:*
    a. *High speed in a congested boating area*
    b. *Following another boat too closely*
    c. *Operating too closely to swimmers or divers*
    d. *Towing skiers in an unsafe area or crowded area*
    e. *Operating near dams*
    f. *Cutting through a regatta or marine parade*
    g. *Overloading a boat*
    h. *Overpowering a boat*
    i. *Passengers riding on bow, gunwale or transom while underway*
    j. *Playing chicken*
    k. *High speed in restricted visibility*

Textbook Page: 52

C. Boating While Intoxicated

1. *It is against NYS law to operate a boat while intoxicated or while ability is impaired by the use of alcohol or drugs*
2. *Intoxication is defined as a blood alcohol content of .08 percent or greater.*
3. *Drinking while boating is very dangerous and can affect:*
   a. *Reaction Time*
   b. *Balance*
   c. *Coordination*
   d. *Vision*
   e. *Judgment*
   f. *Susceptibility to hypothermia*
4. *Drinking by those under 21 years of age*
   a. *Separate law for operating a boat with a BAC between .02 and .07*
   b. *If BAC is greater than .07 it is treated as a regular BWI / BWAI*
   c. *Boating Safety Certificate may be suspended or revoked*
   d. *Boating privileges may be suspended*

Textbook Pages: 52-53

Law Enforcement:

A. On all waters of the state you may see:
1. *Local marine patrols funded by a city, town or village police department*
2. *County Sheriff's Departments*
3. *NYS Park Police*
4. *NY State Police*
5. *NYS Department of Environmental Conservation*

B. On Long Island Sound, New York Harbor, Hudson River or the Great Lakes you may also see the U.S. Coast Guard patrolling the waters

C. Termination of Voyage
1. *Law enforcement officers may terminate the voyage of any boats, including kayaks, canoes, and rowboats if they find an imminently hazardous condition*
2. *Examples are but not limited to:*
   a. *Insufficient or inadequate life jackets*
   b. *Overloaded boat*
   c. *Operating while intoxicated*
   d. *Fuel in the bilge*

Textbook Pages: 53-54

Marine Radio:

A. *If you have a radio maintain a watch on Channel 16*
   1. *Frequency used to call other boats and make a distress call*

B. *How to make a distress call when there is an immediate danger*
   1. *Say MAYDAY MAYDAY MAYDAY*
   2. *Followed by the boat name and description*
   3. *Position and/or location*
   4. *Nature of the emergency*
   5. *Number of people on board*

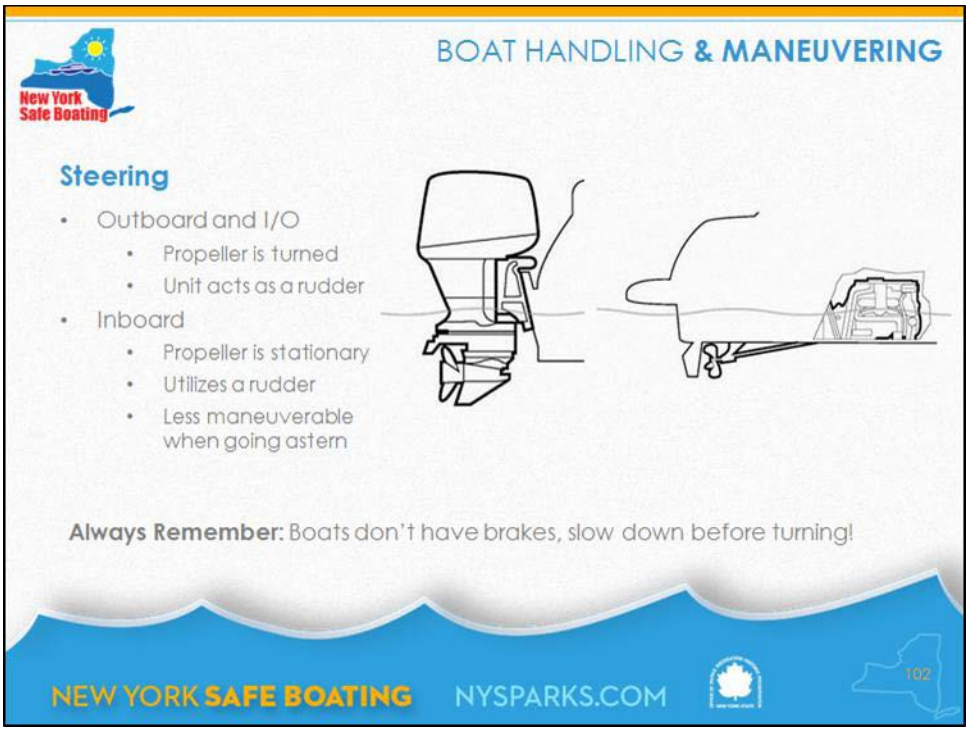
Textbook Pages: 55-58

Seamanship - Chapter 11

Time Allotted: 20 minutes

OBJECTIVES

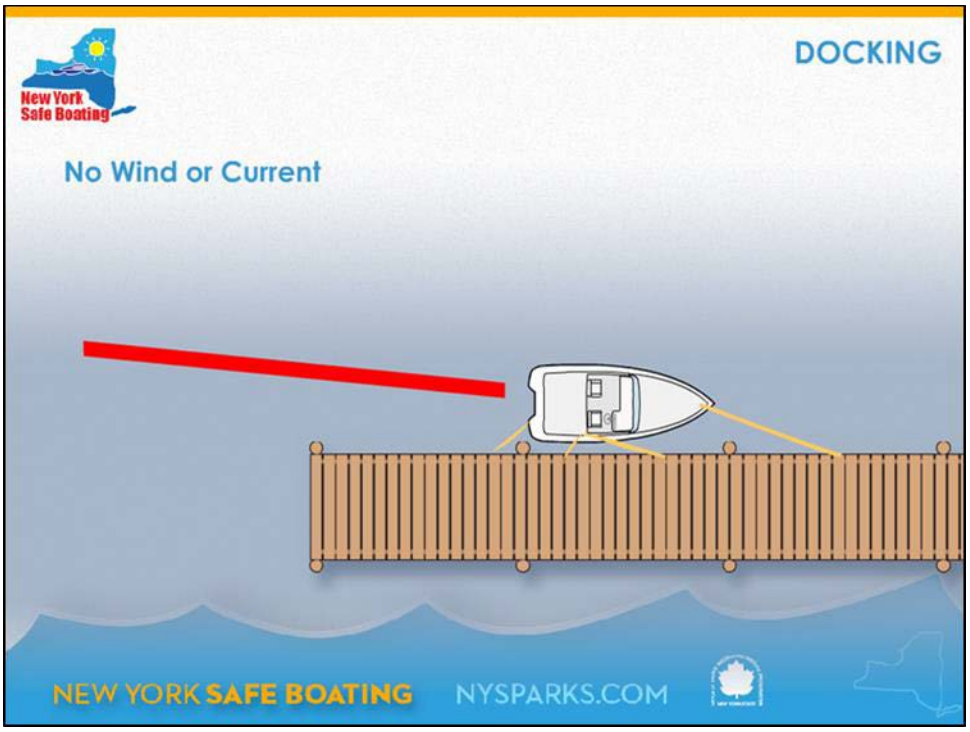
1. *Be able to identify what causes a boat to turn.*
2. *Understand how best to approach a dock with no wind, wind blowing off the dock, and wind blowing into the dock.*
3. *When anchoring, be able identify the correct approach in relation to the wind or current.*
4. *Understand the procedures for safe anchoring, including the proper scope, direction and location.*



Textbook Page: 55

Boat Handling and Maneuvering:

A. *When you steer a boat what you are doing is changing the direction of thrust.*
B. *Two main types:*
   1. *by propeller*
   2. *by rudder*
C. *Steer by propeller*
   1. *Outboards - steers by turning the whole motor by tiller or wheel*
   2. *Stern drives - steers by turning a lower unit*
   3. *Outboard and stern drive act additionally as a rudder*
D. *Steering by rudder - Inboard*
   1. *Propeller stays in one direction*
   2. *The rudder moves to direct the propeller thrust*
   3. *Reduced maneuverability in reverse as propeller thrust is not directed over rudder*
   4. *Otherwise maneuvering characteristics are the same*
E. *Tiller steering - it is the opposite of using a wheel. Whatever direction that you move the tiller the opposite will happen, you want to go to starboard, you move the tiller to port*
F. *Faster speeds will increase the turning response.*



Textbook Page: 55

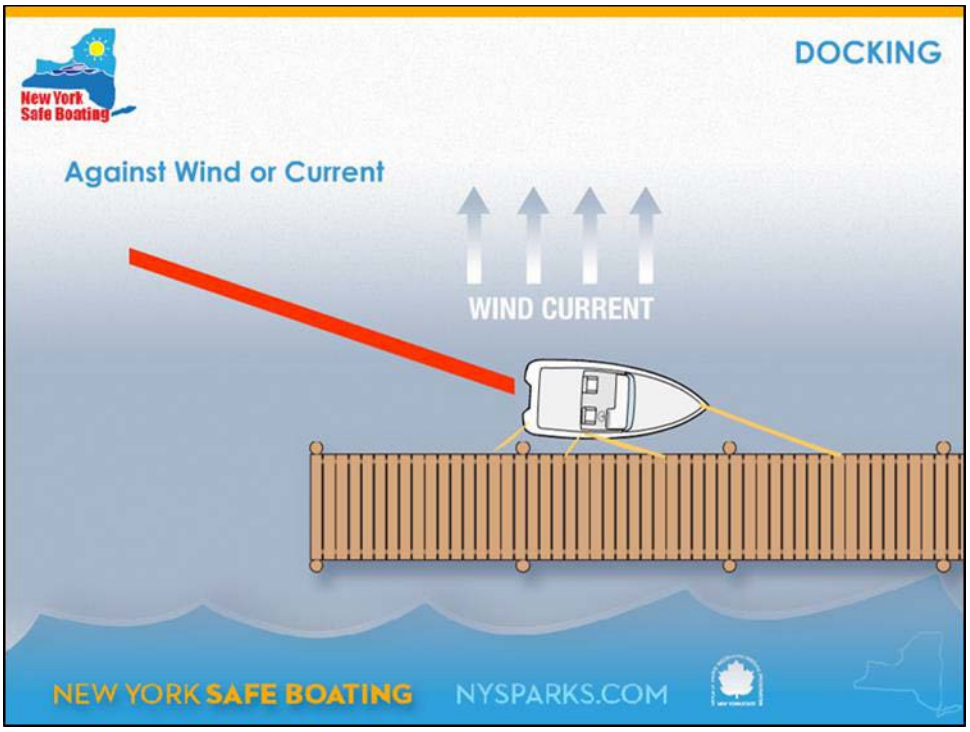
Docking:

A. *Practice docking in open water first*
   1. *Whenever you are near a dock go slowly*
   2. *Come to a complete stop or nearly so to read the wind and current*
   3. *If you don't make it the first time, back off and try again*

B. *No Wind or Current*
   1. *Approach slowly at a shallow angle of 10 to 20 degrees.*
   2. *Turn boat parallel to dock.*
   3. *Stop headway and come to a stop.*
   4. *Secure boat to the dock.*

Animation Slide

To play the animation, click on the dock. Clicking there again will start the animation over. The slide will begin wherever the animation was left at. Instructors will need to click outside of the slide in order to advance the presentation.



Textbook Page: 56

C. *Against the Wind or Current*
   1. *Approach at a steep angle and slow speed.*
   2. *Turn boat parallel to the dock.*
   3. *Stop headway and come to a stop.*
   4. *Secure a spring line from the side of the boat to the dock.*
   5. *Wind or current will push the boat away from the dock. To bring the boat in turn the wheel away from the dock and give a small burst forward on the engine. This will cause the boat to swing towards the dock on the spring line.*
   6. *Secure the boat completely to the dock.*

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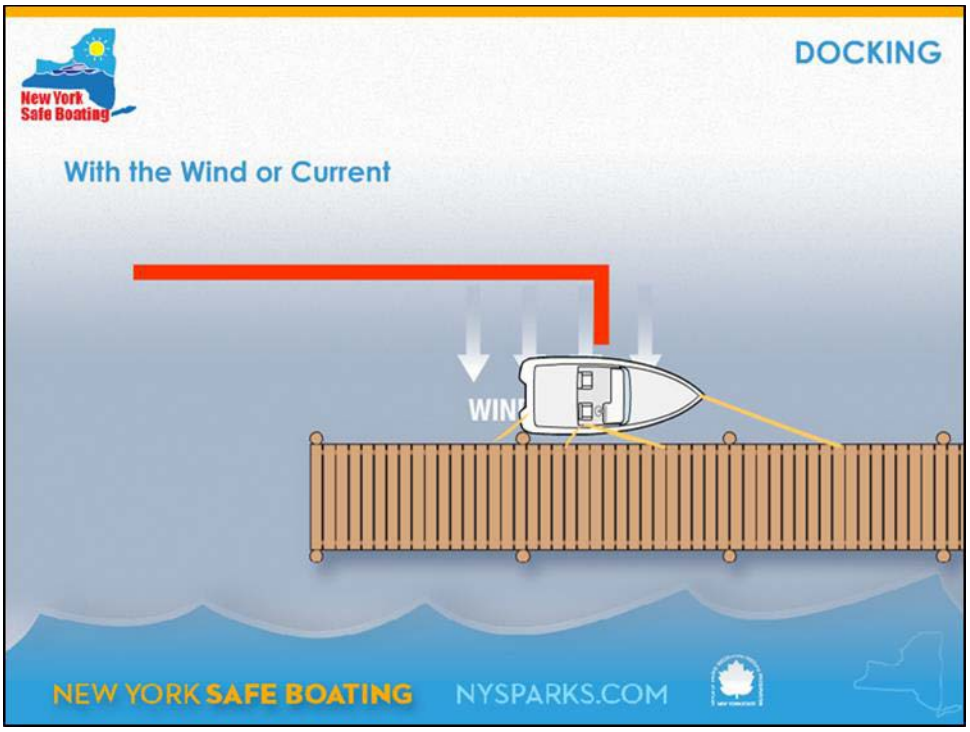

Textbook Page: 56

D. With Wind or Current

1. *Approach slowly parallel to the dock.*
2. *Stop headway and come to a stop.*
3. *Allow wind or current to push boat on to the dock.*
4. *Secure the boat completely to the dock.*

Animation Slide

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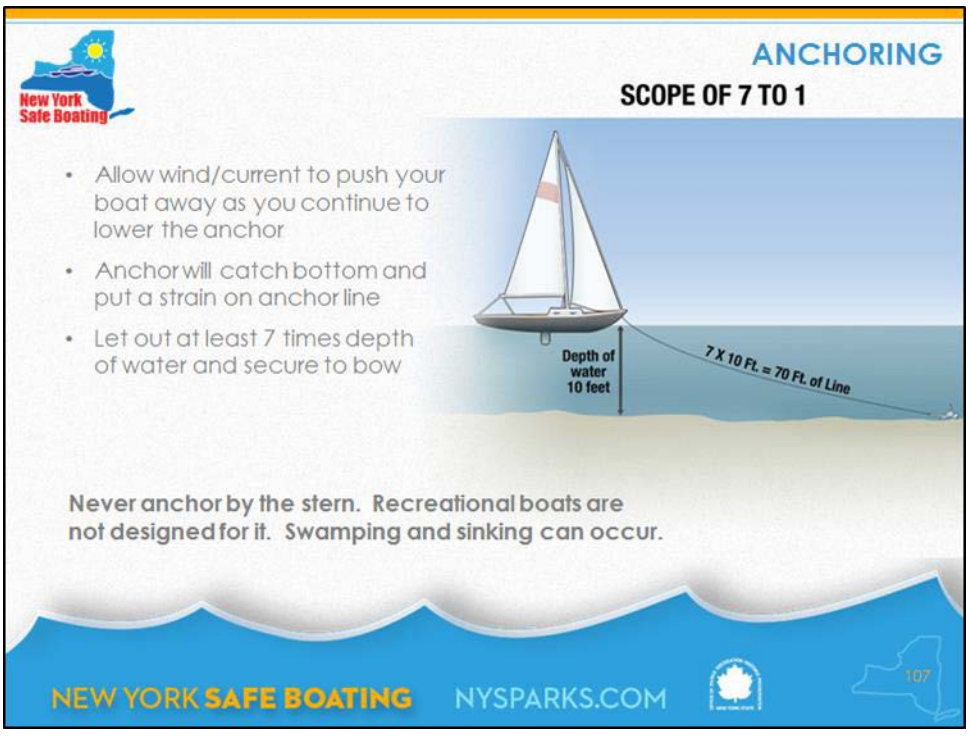


Textbook Page: 56

Anchoring:

A. *Anchoring Procedure*
   1. *Steer the boat into the wind or current, whichever is stronger*
   2. *Approach at low throttle and use the wind / current as a brake to slow you down*
   3. *Come to a complete stop before lowering your anchor*
   4. *Lower the anchor hand over hand over the bow until it touches the bottom. Do not throw it.*
   5. *Slowly back the boat or allow wind / current to.*
   6. *Pull on the anchor to see if it is set. Strain will be put on the line.*
   7. *Scope*
      a. *Let out at least 7 times the depth of the water.*
   8. *Secure the anchor line to a bow cleat*

B. *Never Anchor from the Stern.*
   1. *The transom of a boat is not designed to cut through the water.*
   2. *Water may wash over the stern and swamp the boat.*

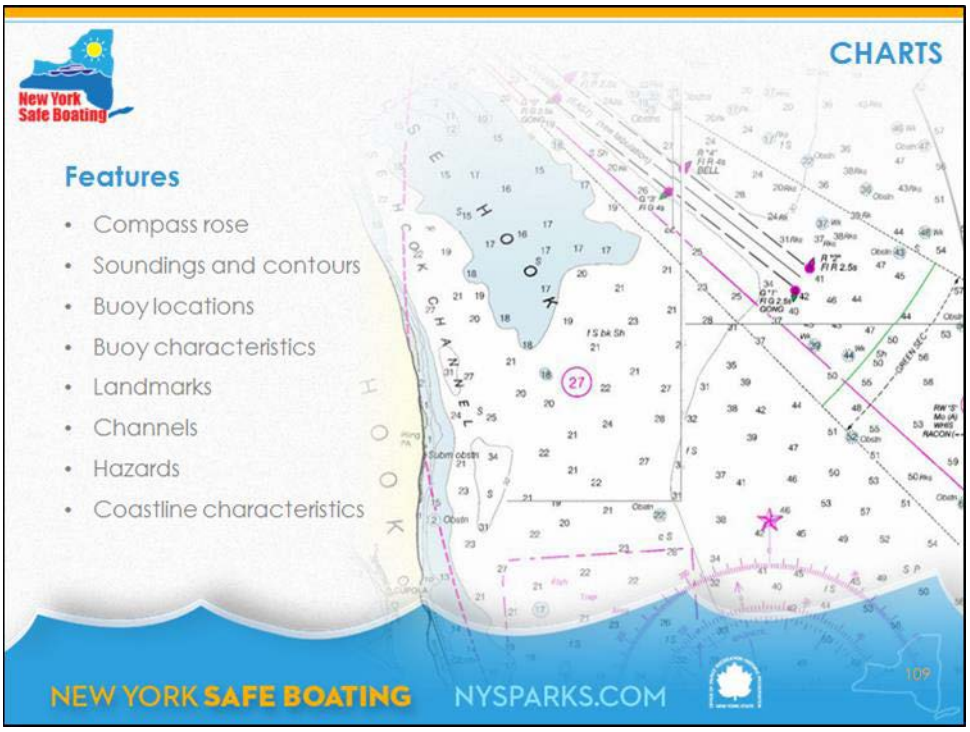
Textbook Pages: 59-61

Navigation - Chapter 12

Time Allotted: 15 min

OBJECTIVES:

1. *Be able to identify information that can be found on nautical charts.*
2. *Be able to identify the Head of Navigation and understand the rule for using channel markers when proceeding toward it.*
3. *Identify the four symbols used with Special Markers and the meaning of each.*



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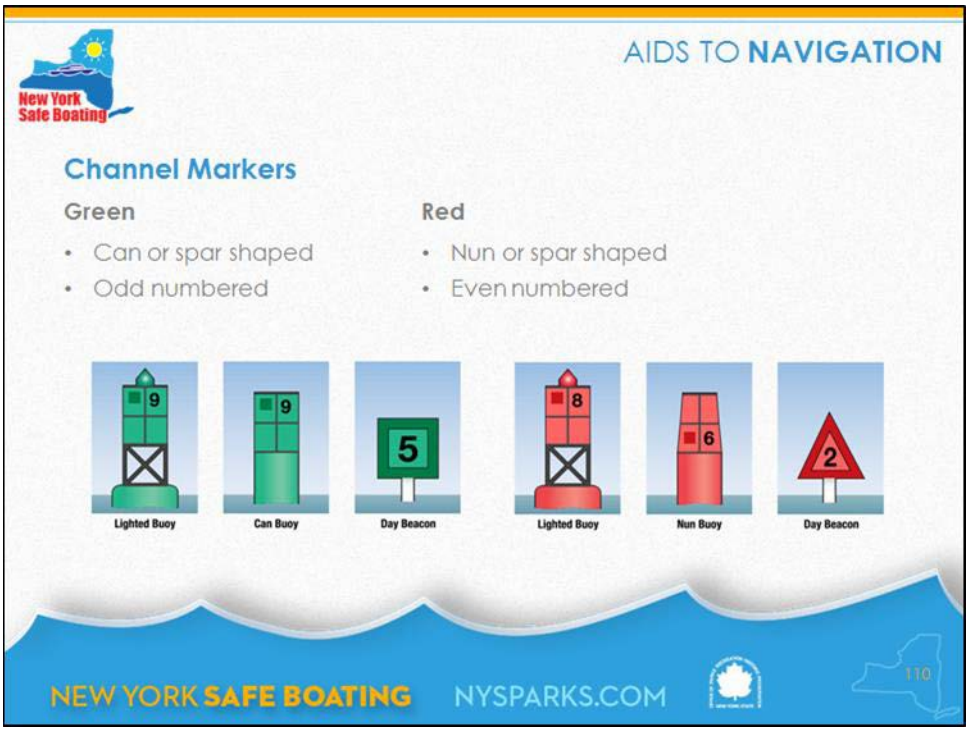
Charts:

A. Map used for navigation on the water.

B. Contain important information for the boater
   1. Water Depths
   2. Dangers / Obstructions
   3. Aids to Navigation
      a. location
      b. characteristics
   4. Useful Land Features
      a. Shoreline
      b. Harbors
      c. Prominent Landmarks (natural or man-made)

C. Charts for most federal waterways can be obtained through U.S. Government (NOAA).

D. Locally produced charts may exist for some state lakes. Check with local marinas



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Buoys:

A. Aids to Navigation System (ATON) – used throughout the United States
1. ATONS placed by the U.S. Coast Guard
a. Coastal Waters
b. Great Lakes
c. Hudson River to Troy, NY
d. Lake Champlain
2. ATONS placed by New York State
a. Lakes, rivers, canals and other waters not marked by Coast Guard
b. NYS Parks places buoys on most sole state waters
c. NYS DEC places buoys in the Catskill and Adirondack Parks

B. Channel Buoy Characteristics
1. Can
a. Cylindrical shape
b. Green
c. Odd Numbers
d. May be lighted with green flashing light
2. Nun
a. Blunted conical shape
b. Red
c. Even Numbers
d. May be lighted with red flashing light

3. *Spar*
    a. *Slender tapering shape*
    b. *Narrower and rounded at top*
    c. *Much smaller than can or nun*
    d. *Never lighted*
    e. *May be used in place of can or nun*
    f. *Used as winter replacements and markers*

Textbook Page: 60

C. Using Channel Markers

1. Head of Navigation used to determine placement of channel markers

a. River

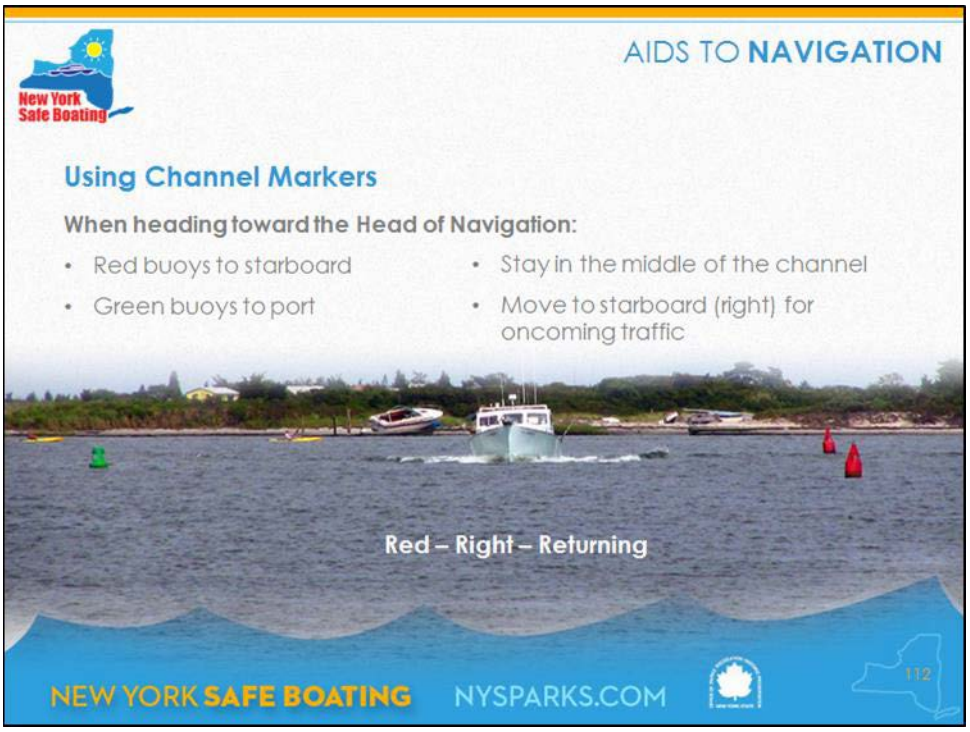
i. Upstream

b. Lake

i. Major inlet

c. Harbor Entrance

i. Landward side



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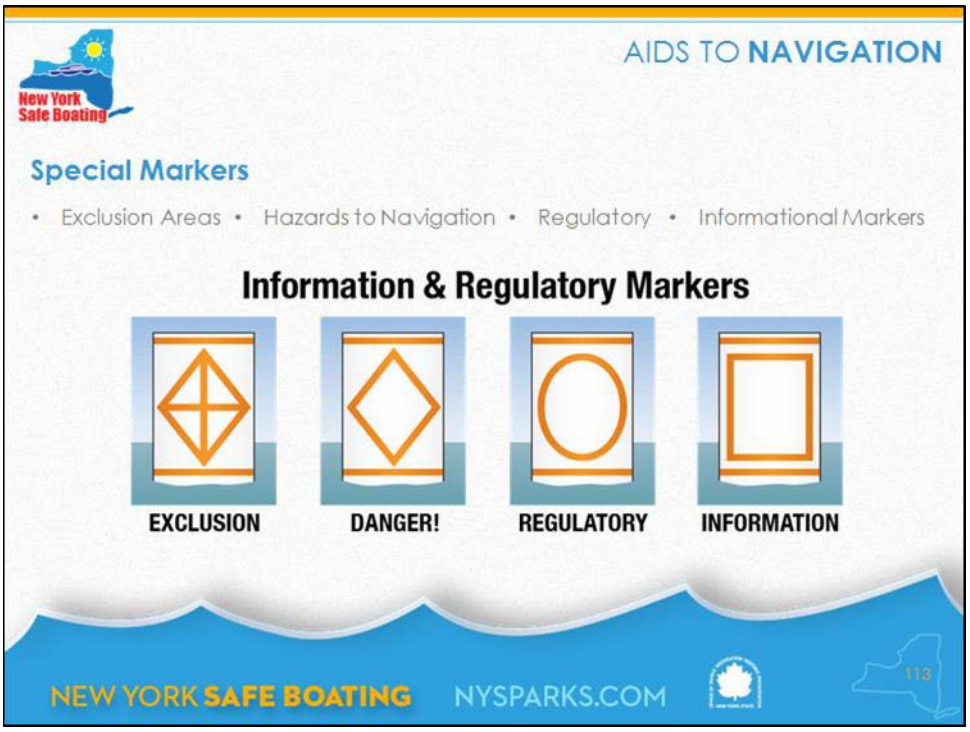
2. *When in a channel proceeding toward the Head of Navigation:*
   a. *Red buoys mark the right side*
   b. *Green buoys mark the left side*
   c. *Red Right Returning*



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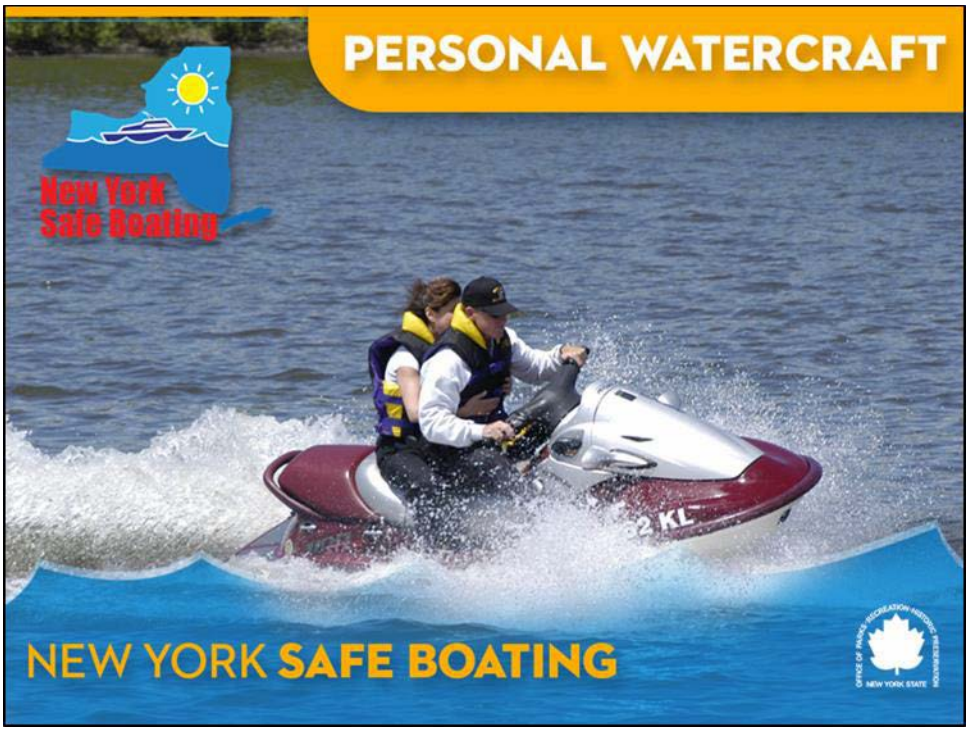
D. Special Markers
- *1. Buoy Characteristics*
  - *a. White can buoy with orange markings*
    - *i. May be lighted with a flashing white light*
    - *ii. May be lettered*
  - *b. Spar buoy*
    - *i. Never lighted*
- *2. Symbol conveys meaning*
  - *a. Diamond with Cross*
    - *i. Exclusionary*
    - *ii. Boats must keep out*
    - *iii. Marks swim areas, waterfalls, dams, low head dams.*
  - *b. Diamond*
    - *i. Danger*
    - *ii. Boats should not enter*
    - *iii. Marks hazards such as rocks, shoals, wrecks*
  - *c. Circle*
    - *i. Regulatory*
    - *ii. Controls boat operations*
    - *iii. Speed limits, no anchoring zones, regulatory control areas*
  - *d. Square*
    - *i. Information*
    - *ii. Locations, services available, directions, distances*
    - *iii. Used to mark end of navigational aids*



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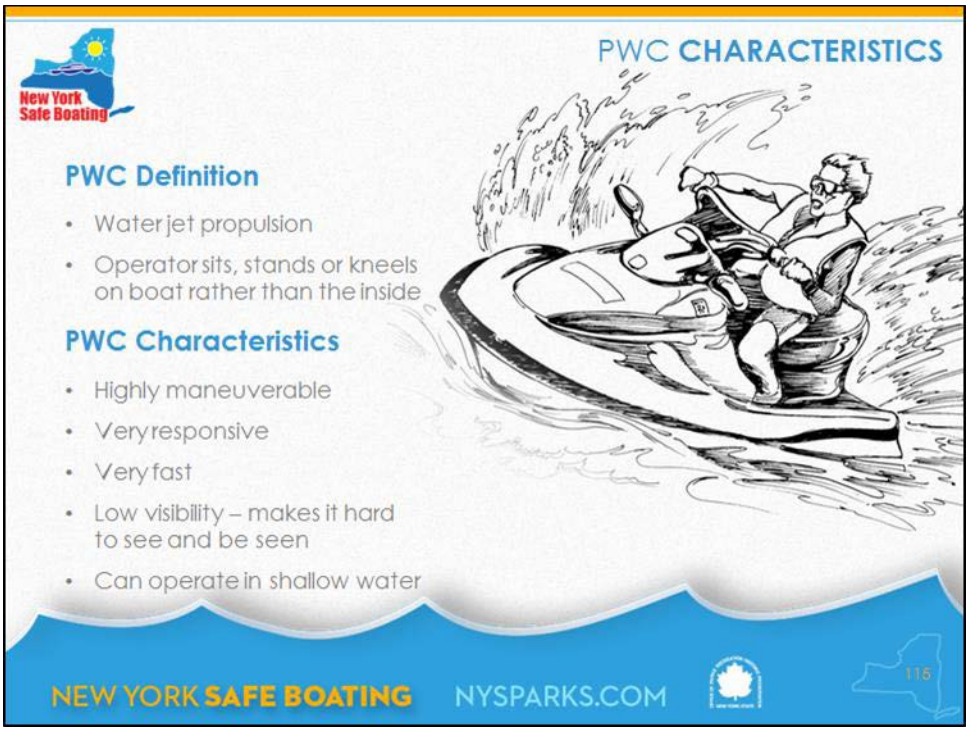
Personal Watercraft - Chapter 13

Time Allotted: 30 min

OBJECTIVES:

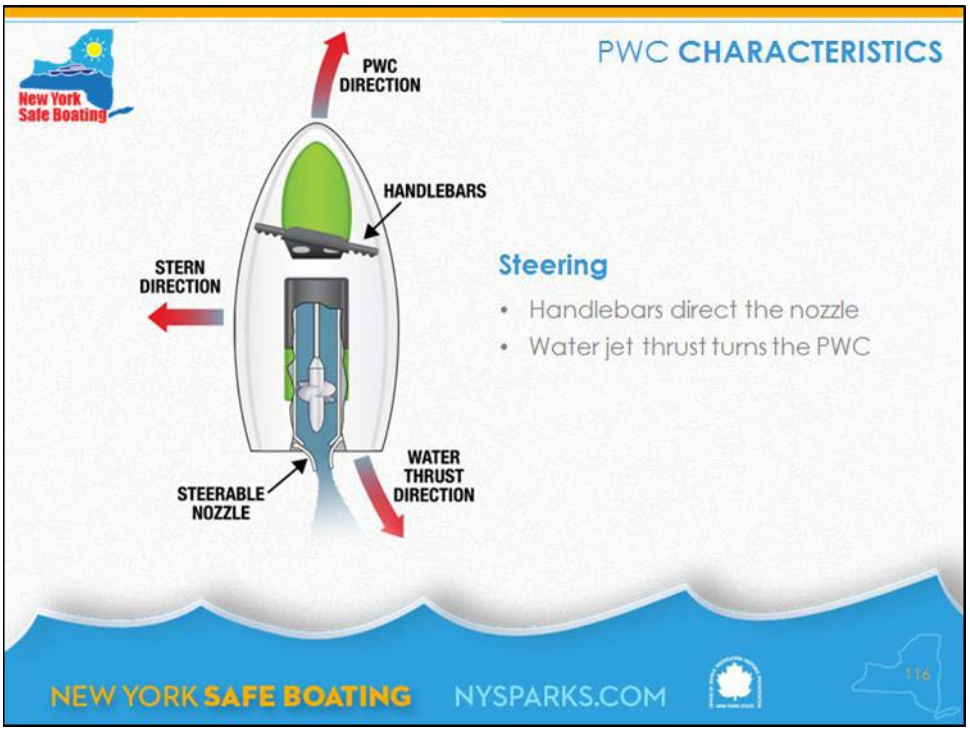
1. *Understand and recognize that Personal Watercraft are boats and be able to identify the two key elements in the definition of a PWC that make them unique.*
2. *Understand how most PWC will respond when moving at a high speed if the throttle is released and the handlebars are turned hard to either side. The concept of no off throttle steering.*
3. *Understand that there are special equipment requirements that apply only to PWC and what these requirements are.*
4. *Be able to identify the time of day during which PWC operation is prohibited.*
5. *Be able to identify the three actions that are specifically listed in NYS law as reckless operation of a PWC.*
6. *Identify the restrictions that apply to a PWC when operating near a designated swimming area.*
7. *Be able to identify what the boating safety certificate requirements are to legally operate a personal watercraft.*



Textbook Page: 62, 64

PWC Characteristics:

A. *Definition of a Personal Watercraft*
   1. *Two key elements that distinguish PWC from other boats*
      a. *Water jet pump propulsion*
      b. *Operated by sitting/standing/kneeling on instead of sitting in as in a conventional motor boat*
B. *What Makes A PWC Unique?*
   1. *Water jet drive combined with a relatively large horsepower to weight ratio make the PWC:*
      a. *Highly maneuverable*
      b. *Very responsive*
      c. *Very fast*
   2. *Low visibility*
      a. *Difficult to see and be seen*
      b. *Sit low to the water*
      c. *Reduces the distance the rider can see*
   3. *Can operate in shallow water*
      a. *No components extend below the hull*



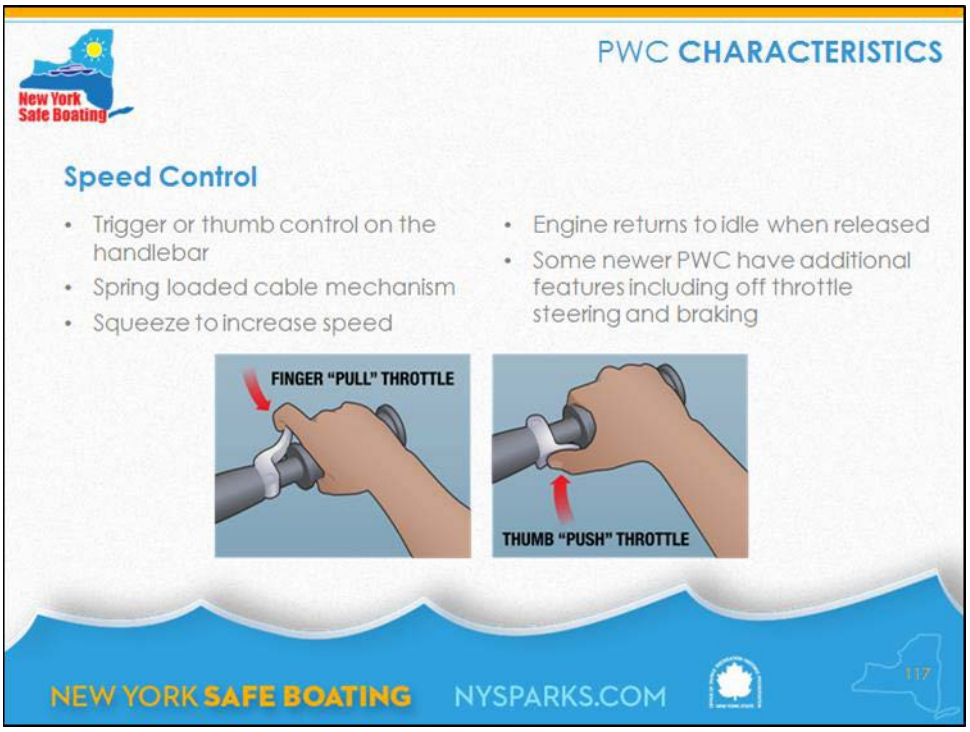
Textbook Pages: 62-63

C. Steering - Jet Pump

1. *Impeller inside of a casing or housing*
2. *Connected to an inboard engine by a shaft that passes through watertight opening in hull*
3. *Nozzle directs water flow to provide directional control*
4. *No neutral*

D. Off Throttle Steering

1. *Many PWCs will not respond to handlebar movements when throttle is released*
   a. *Require thrust to turn*



Textbook Pages: 62-63

E. Speed Control
1. *Trigger or thumb control on the handlebar*
2. *Spring loaded cable mechanism*
3. *Harder the throttle control is squeezed the more engine power is produced*
4. *Engine returns to idle when throttle control is released*

F. Know Your Own Machine
1. *Read the owner's manual*
2. *Learn the location and operation of all controls*
3. *Be familiar with any unique characteristics of your machine. Some PWC have additional features.*
4. *Learn with an experienced operator*

Textbook Pages: 64-65

Equipment:

A. PWC are exempt from the equipment section of the NY Nav. law that applies to all other boats.

B. Required Equipment (Operator's Responsibility)
- *1. Personal Flotation Device (PFD) or Life Jacket*
  - *a. U.S.C.G. approved*
  - *b. Proper size*
  - *c. Worn by each person on board or being towed*
  - *d. Type III impact rated life jackets are recommended*
  - *e. Inflatable PFDs are not approved for use on PWCs*
- *2. Engine Cut-off Lanyard*
  - *a. Stops engine if operator falls off*
  - *b. Must be attached to operator if equipped*
  - *c. Usually a wrist cuff or clips on to the life jacket*
  - *d. Clipping on to the life jacket is recommended*
- *3. Sound Producing Device*
  - *a. Horn or whistle*
  - *b. Mouth whistle on a lanyard clipped to the life jacket is recommended*
- *4. Visual Distress Signal*
  - *a. Fluorescent orange flag (1 sq. ft. minimum) OR;*
  - *b. Any U.S.C.G. approved VDS*

Textbook Pages: 64-65

C. Required Equipment (Usually Provided by Manufacturer)

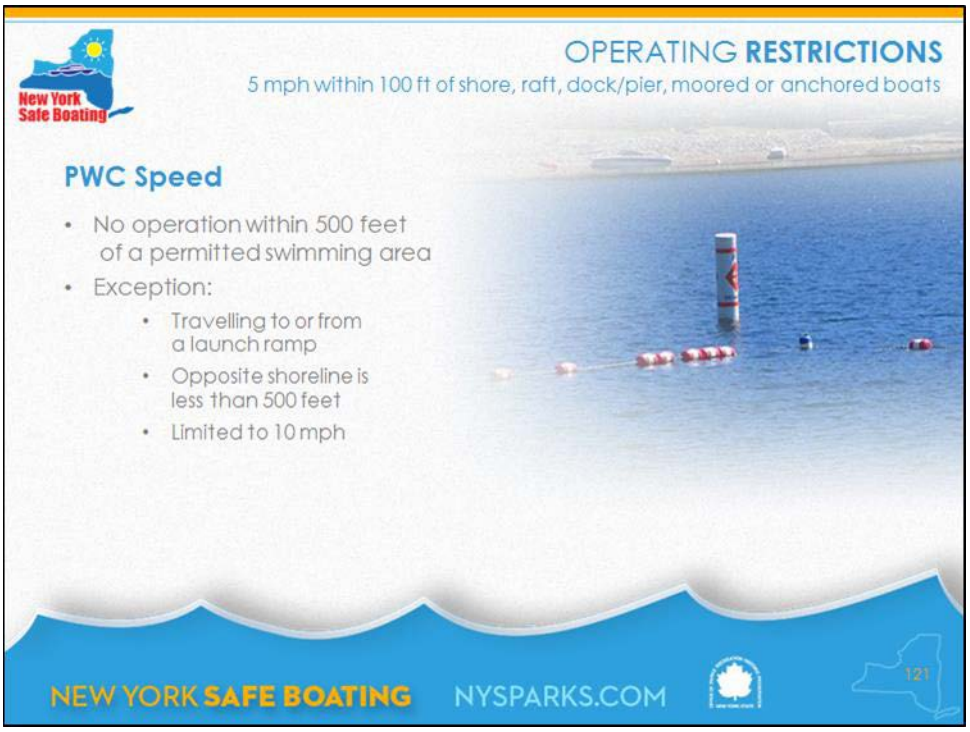
1. *Backfire Flame Arrestor*
2. *Natural Ventilation*
3. *Muffled exhaust system*
4. *New PWCs should come from manufacturer in compliance and should not be modified by the operator.*

Textbook Pages: 65-66

Operating Restrictions:

A. *No Night Time Operation*
   1. *Operation prohibited between sunset and sunrise*
   2. *Adding lights to machine doesn't change this prohibition*
   3. *Sunset occurs 20-30 minutes before dark*
   4. *Leave time to get back to the launch site*

B. *Reckless Operation*
   1. *Same law that applies to all other motor boats*
   2. *NYS Navigation Law additionally lists three actions as reckless operation for a PWC:*
      a. *Weaving through congested traffic*
      b. *Jumping the wake of another boat*
      c. *Swerving at the last possible moment to avoid collision (playing chicken)*



Textbook Pages: 65-66

C. Stay Clear of Marked Swim Areas (Exclusionary Buoys)

1. *PWC prohibited within 500 feet of a marked swim area*
2. *Exceptions:*
   a. *Opposite shore less than 500 ft. away*
   b. *Launching or returning to launch ramp*
   c. *Limited to 10 mph*
3. *Within 100 feet of shore, dock, pier, raft, float, or an anchored or moored boat, PWC must not exceed the state speed limit of 5 mph.*

Textbook Pages: 66-67

Troubleshooting and Emergencies:

A. *Reserve Fuel*
   1. *1/3 of fuel outbound*
   2. *1/3 of fuel to return*
   3. *Keep 1/3 of fuel in reserve*

B. *Capsized PWC*
   1. *Consult owner's manual for proper righting instructions*
   2. *Many PWC have sticker on the transom detailing righting directions*

C. *Fire*
   1. *Swim clear of PWC*
   2. *Protect yourself from injury*

Textbook Page: 67

D. Overheated Engine

1. Intake grate may be clogged

a. Roll craft over and clear grate

b. Do not stick fingers in grate

E. Flooded Engine

1. Engine will start and then stop

2. Can result from improper righting of craft or capsizing

3. Tow craft to shore

Textbook Page: 65

Boating Safety Certificate Requirements:

A. Personal Watercraft:

1. Operators may not operate a PWC unless they are at least 14 years of age and hold a boater safety certificate.

OR

An operator may operate a PWC when accompanied by someone over 18 years of age who is the holder of a boater safety certificate.

Textbook Page: 65

B. Renting a Personal Watercraft

1. *Must be at least 16 years old*
2. *Must show proof of ID and age*
3. *The rental business operator must show rider:*
   a. *Correct operating procedures*
   b. *Proper use of safety equipment*
4. *Must meet boating safety certificate requirements for PWC*

OR

Operator is age 18 or older and;
Under livery operator supervision in a designated area within 2,500 feet of the livery or within 500 feet of an escort by livery owner or agent

Textbook Pages: 68-73

Boating Related Activities - Chapter 14

Time Allotted: 20 min

OBJECTIVES:

1. *When engaged in activities where a person is towed behind a boat, such as waterskiing, understand the following:*
   a. *The three members required for a towed activity and their roles*
   b. *The hours during which these activities are permitted*
   c. *The proper life jacket requirements*

2. *Be able to identify the flags used for diving.*

3. *Understand several safety practices that hunters and fisherman should practice.*

4. *Understand several safety practices for river running whether in a canoe, kayak, or raft.*

5. *Understand several safety practices when swimming from a boat.*

6. *Understand several safety practices kayakers should be familiar with.*

7. *Understand that standup paddleboards (SUPs) and Wind Surfing are considered boating under NYS Law and that all boating requirements must be met.*

Textbook Page: 68

Towed Activities:

A. *Included activities*
   1. *Water-skiing*
   2. *Tubing*
   3. *Barefoot skiing*
   4. *Para-sailing*
   5. *Knee-boarding*
   6. *Aquaplaning*
   7. *Any other activity in which a person is towed behind a boat*

B. *Towed activities require a team of three*
   1. *Operator*
      a. *Responsible for the boat, other boats, avoiding hazards in the water*
   2. *Observer*
      a. *Responsible for keeping an eye on the skier, and letting the operator know if the skier falls, needs to stop, etc.*
      b. *Must be at least 10 years old*
      c. *Should be familiar with accepted hand signals*
   3. *Skier*
      a. *Responsible for his/her own safety*

Textbook Page: 68

C. Applicable laws

1. Hours

a. These activities are permitted only between the hours of sunrise and sunset

2. PFDs

a. Everyone being towed must wear a properly fitted U.S.C.G. approved PFD, ideally an impact rated type III life jacket

3. Boat Capacity

a. All persons being towed are considered passengers and must have a seat available in the boat

b. Total passengers in the boat and being towed may not exceed the boat's rated capacity

D. Safe Practices

1. Minimum recommended tow line length of 75 feet

2. Keep double the tow line distance from shore, moored boats, swimmers, etc.

3. Know common water ski hand signals

4. Avoid sharp fast turns

5. Don't show off or engage in horseplay

6. If the person(s) being towed falls:

a. Circle them slowly

b. Position the tow line

c. Turn off the motor before they re-board

Textbook Page: 69

SCUBA and Skin Diving:

A. Dive Operation Flags
  1. Diver down flag
    a. Red with a diagonal white stripe
    b. Used to mark location of Divers
    c. Displayed on a float by diver
  2. Alpha flag
    a. Blue and white
    b. Used by boats engaged in diving operations
    c. Indicates a boat restricted in its ability to maneuver according to the rules of the road
    d. Internationally recognized

B. Boater's responsibility
  1. Keep back 100 feet of either flag unless you are actively servicing surfaced divers.
  2. Give right of way to boats displaying the alpha flag.
  3. Outside of 100 feet approach with caution and communication.

Textbook Page: 69

Other Boating Activities:

A. Fishing / Hunting

1. *Fishermen and hunters sometimes do not consider themselves to be boaters, but sportsmen.*
2. *All boating laws apply.*
3. *Stay out of main boating channels.*
4. *Because these activities frequently take place during cold weather time periods, these boaters should take extra precautions against the dangers of cold water including wearing their life jackets.*
5. *Everyone is required to wear a life jacket on all recreational boats less than 21 feet from November 1 to May 1 when underway.*
6. *According to NYS Environmental Conservation Law, a handgun that is legally registered and licensed in New York State can be carried on a boat.*
7. *Long guns (rifle or shotgun) can be carried, but must not be loaded with the boat underway. When the boat is tied up or at an anchor, the weapon may be loaded and discharged for the purpose of hunting. (example – duck hunting from a boat)*

Textbook Page: 69

B. Swimming

1. Anchor or moor your boat before swimming

a. A boat adrift may float away from a swimmer

b. Wear a PFD

I. Especially if swimming in cold water

II. Especially if swimming in a strong current

c. Stay near your boat; other boats may not see you in the water

d. Always swim with a buddy

e. Make sure that you have a ladder or other way to re-enter your boat from the water

f. Shut off the boat motor to help eliminate the chance of a propeller injury.

g. Shut off the boat motor and gasoline powered generators with transom exhaust outlets when using the swim platform. This eliminates the chance of carbon monoxide (CO) poisoning which can result in death. CO related deaths are often mistaken as drowning.

h. Do not allow "teak surfing" or "dragging". Participants hold on to the swim platform while boat is in motion and body surf along the wake of the boat. This puts the person at risk for CO poisoning, propeller injury and drowning.

Textbook Page: 70

C. River Running

a. Wear a PFD
b. Don't overload your boat
c. Know the river before you go on it
d. Do not boat alone, a three boat team is recommended
e. Beware of strainers, overhanging branches, submerged rocks and floating debris
f. Fast water is often cold water. Dress for the water temperature.
g. If you fall in moving water stay with the boat on the upstream side, if possible.
h. Do not try to stand, your feet could be trapped and rushing water force you underwater.
i. Float down river in a sitting position with your feet up.
j. Try to angle your body toward shore

Textbook Pages: 70-71

D. Kayaking

1. *Wear your life jacket, required by law to have one available for each person in the kayak*
2. *Learn how to do a wet exit and to empty and re-enter your kayak*
3. *Paddle with a group*
4. *Be aware that your low profile makes kayaks sometimes difficult to see in the water*

Textbook Page: 72

E. Stand Up Paddleboards (SUPs), Wind Surfing and Sail Boarding

1. *Considered boats under the NYS Navigation Law*
2. *A life jacket and sound producing device (whistle) must be carried and be readily accessible. The best place is on your body.*

Textbook Pages: 74-81

Accidents and Emergencies - Chapter 15

Time Allotted: 30 min

OBJECTIVES:

1. *Understand when and to whom a boating accident must be reported.*

2. *Understand the requirements a boater has for rendering assistance.*

3. *Fire aboard boats:*
   a. *Be able to identify different types of fires and extinguishers as well as their uses.*
   b. *Understand the steps an operator should take when a fire breaks out.*

4. *Be able to identify the action you should take if a passenger fell overboard.*

5. *Be able to identify the safest actions for a boater to take in the event his or her boat capsizes.*

6. *Be able to describe the four stages of cold water immersion, the physiologic impact on a person, and prevention.*

7. *Be able to identify ways to prevent running aground and the proper responses to a grounding emergency.*

8. *Be able to identify ways to prevent collisions and the proper responses should one occur.*

9. *Be able to identify the danger, unsafe activities, avoidance practices, and safety equipment to mitigate and prevent propeller strike injuries.*

10. *Understand the dangers, symptoms, treatment of carbon monoxide poisoning and identify how to avoid practices associated with carbon monoxide poisoning.*

11. *Understand the situations that many result in stray current and practices for prevention.*

Textbook Page: 74

Accident Reporting:

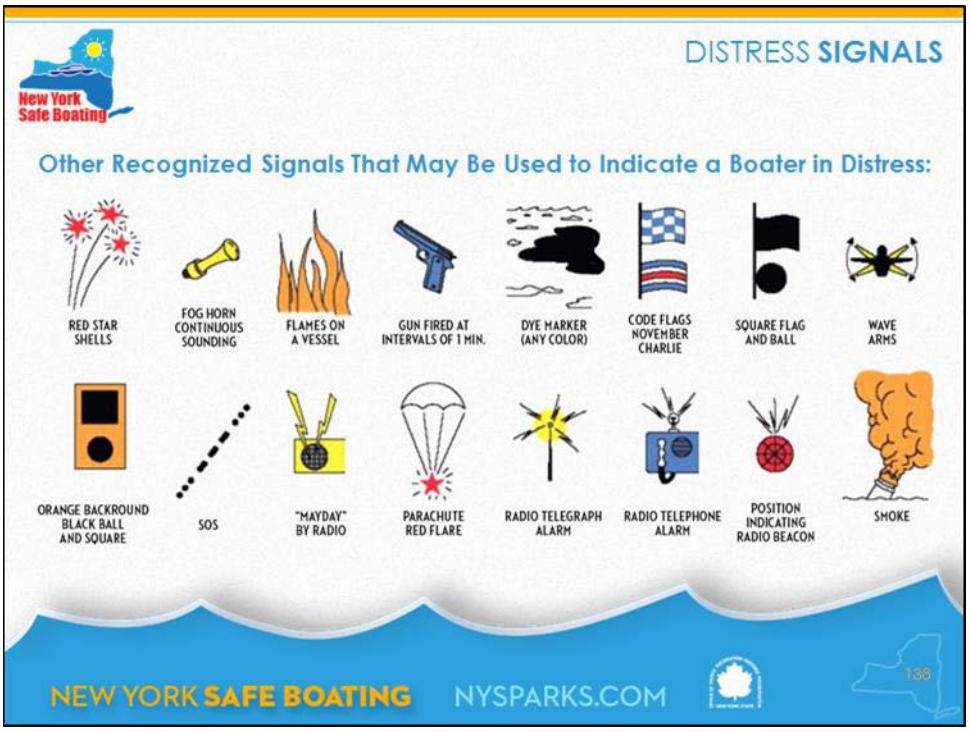
A. When to report an accident
1. *Loss of life*
2. *Injury requiring professional medical attention*
3. *Total damage above $1000 to any one party*

B. Reporting requirements
1. *Owner of other boat or damaged property (no hit and run allowed)*
2. *To police department or other law enforcement agency*
3. *To NYS Parks*
   a. *Must be reported within 5 days*

Textbook Page: 74

Rendering Assistance:

A. When involved in an accident
1. Render all practical and necessary assistance but not if:
a. It endangers your own boat
b. It endangers your passengers
c. It interferes with rescue or law enforcement
d. It can cause further or more extensive damage



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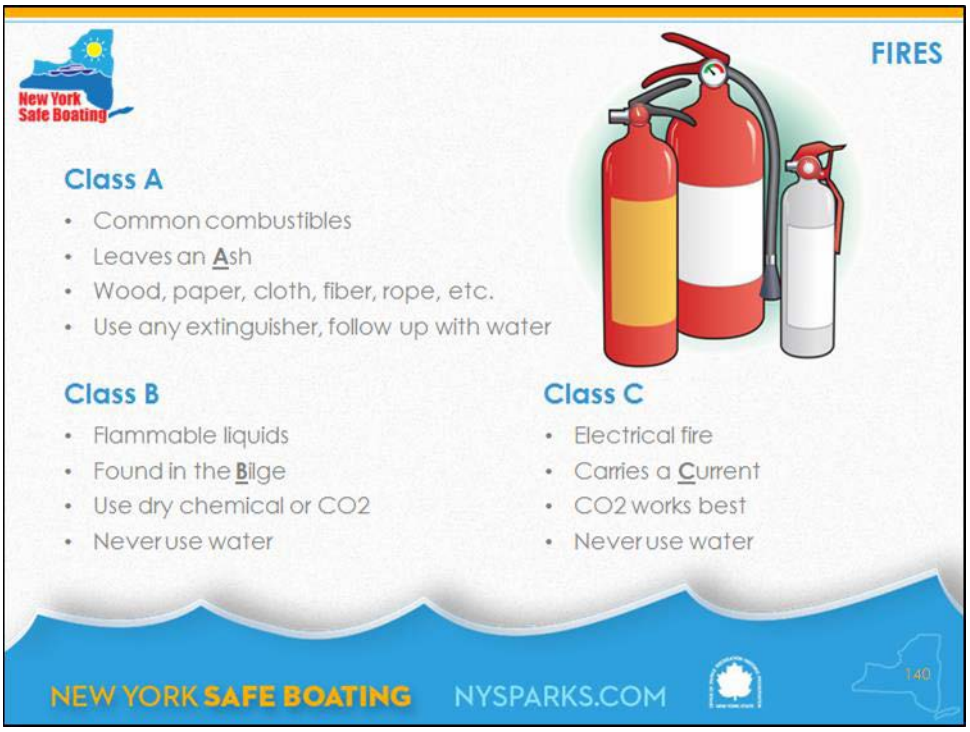
These are internationally recognized signals and may be used in addition to VDS for indicating distress.

Textbook Page: 75

B. Rescue Sequence

1. *REACH*
   a. *Try using a pole, ladder, stick, etc.*
2. *THROW*
   a. *Throwing a line*
   b. *Throwing a floatable object*
3. *ROW*
   a. *Use a boat to approach the victim and help them out*
   b. *Don't let them capsize your boat*
   c. *Don't overload your boat and put yourself at risk*
   d. *Consider having the victim hold on to the transom or a type IV throwable device on a line and tow them to safety*
4. *GO*
   a. *Get in the water yourself*
   b. *Only if you are trained in water rescue / lifesaving techniques*
   c. *Consider wearing a life jacket and bringing a life jacket or type IV throwable device for the victim*



Textbook Page: 75-76

Types of Accidents:

A. FIRES
1. Types of fires:
a. Class A
I. Common combustibles (Wood, paper, cloth, fiber rope, etc.)
*II. Leaves an **A**sh*
III. Use any extinguisher and follow up with water
b. Class B
I. Flammable liquids (oil, gas etc.)
*II. Found in the **B**ilge*
III. Use dry chemical or Carbon Dioxide extinguishers
IV. Do not use water
c. Class C
I. Electrical fire
*II. Carries a **C**urrent*
III. Live / energized electrical wiring or equipment
IV. Carbon dioxide works best
V. Never use water. It conducts electricity

Textbook Page: 76

2. *Response to fires*
   a. *Everyone should put on PFDs*
      I. *May not be accessible later*
      II. *Increases chance of survival if you must abandon the boat*
   b. *Position the boat so the wind blows the fire away and over the side (fire downwind)*
   c. *Call for help*
      I. *Marine Radio*
      II. *Visual Distress Signals*
      III. *Cell phone*
   d. *Use extinguisher to fight the fire if it is safe to do so*
      I. *Remove the extinguisher from its bracket*
      II. ***P**ull the safety pin*
      III. ***A**im the nozzle at the base of the flames*
      IV. ***S**queeze the handle in short (½ second) bursts*
      V. ***S**weep the nozzle from side to side*
   f. *If the fire is out of control, abandon the boat*
3. *The best way to fight a fire is to prevent one with:*
   a. *Good preventative maintenance*
   b. *Safe fueling practices*
   c. *Good housekeeping / cleanliness*

Textbook Pages: 76-77

B. Capsizing and Falls Overboard

1. *Approximately 75% of boating deaths are the result of capsizing / falls overboard. In most of these cases, a PFD would have saved that person's life*
2. *Causes*
   a. *Overloaded boat*
   b. *Passenger movement*
   c. *Passenger's riding on the bow or gunwale*
   d. *Rough weather / hazardous waters*
   e. *Sharp turns at high speeds*

Textbook Page: 76-77

3. *How to respond*
   a. *Capsizing*
      I. *Grab a PFD and put it on if you're not already wearing one*
      II. *Check for others who need assistance*
      III. *Climb in or on the boat if possible*
      IV. *Stay with the boat*
   b. *Falls Overboard*
      I. *Toss a Type IV Throwable PFD or other PFD to the person who fell over*
      II. *Have a passenger keep an eye on the victim*
      III. *Approach the victim from downwind*
      IV. *Turn off the engine and keep victim away from the propeller*
      V. *Assist the person aboard*

Textbook Pages: 77-78

C. Cold Water Immersion

1. Stage 1: Cold Shock

a. Time: 0 to 5 minutes after immersion

b. Involuntary gasp reflex and inability to control breathing

c. Increased heart, breathing rate and blood pressure

d. Wearing a life jacket will minimize this risk by keeping the head above water and allowing the victim to regain control of their breathing

e. Major cause of drowning

2. Stage 2: Swimming Failure

a. Time: 5 to 30 minutes after immersion

b. Muscles and nerves cool and are unable to coordinate swimming strokes and breathing

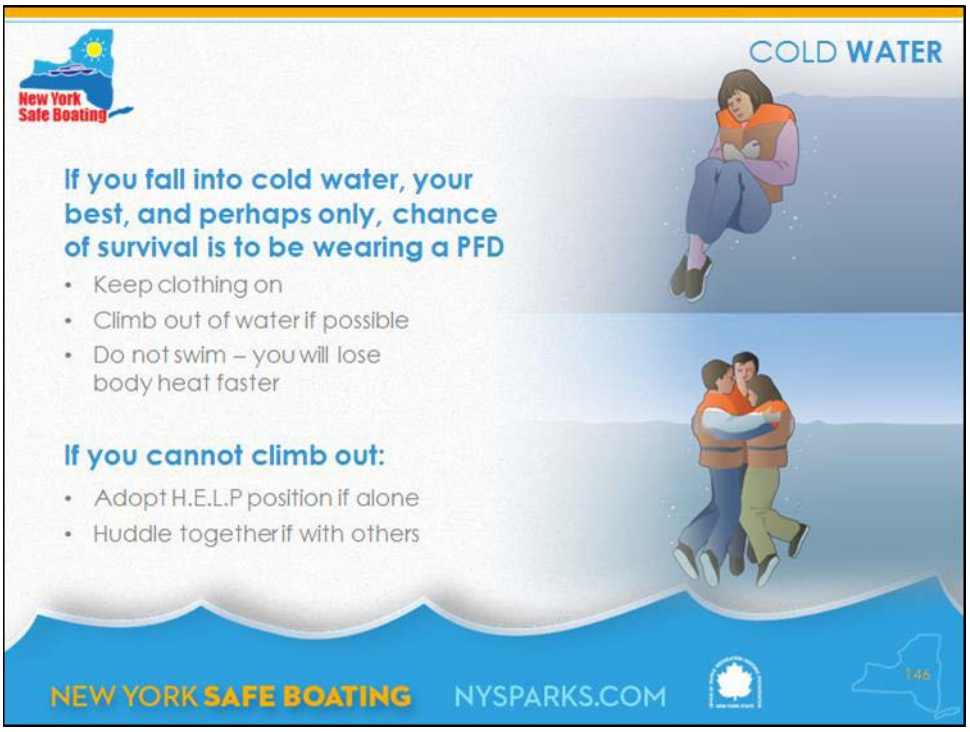
c. Results in difficulty holding the head above water

d. Even excellent swimmers experience swimming failure

e. May lead to drowning

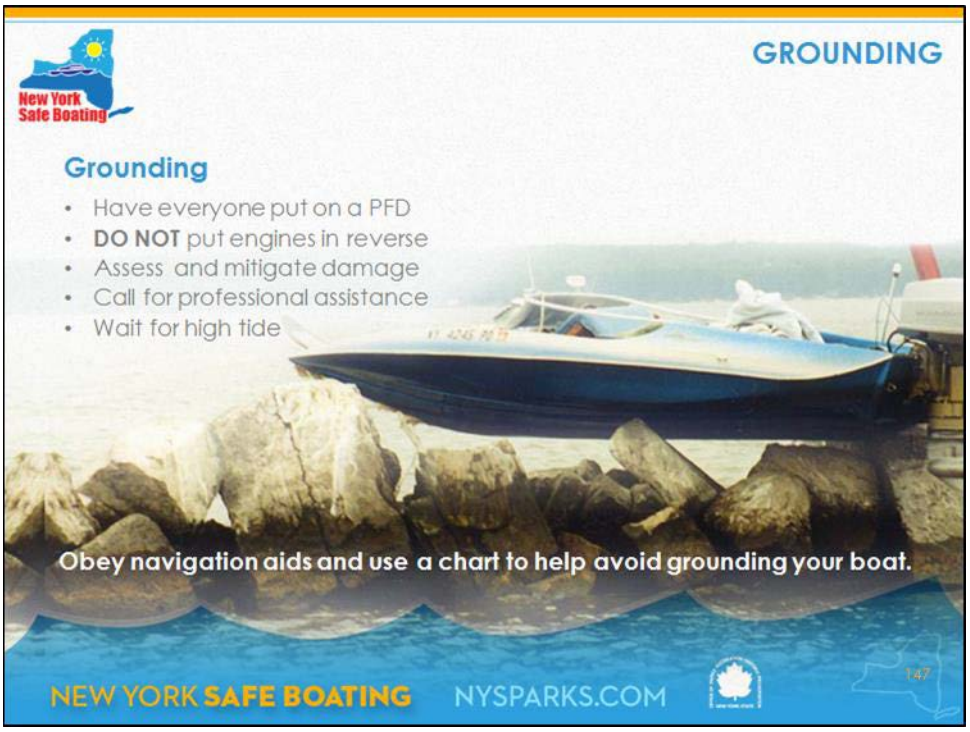
Textbook Pages: 77-78

3. *State 3: Hypothermia*
   a. *Time: 30+ minutes from immersion*
   b. *The body loses heat to the cold water*
   c. *The core temperature decreases and affects the brain, heart, and internal organs*
   d. *Results in shivering, reduced blood flow to skin and extremities*
   e. *Occurs quicker when wet*
4. *Stage 4: Post –Rescue Collapse*
   a. *People rescued from cold water may still not survive due to significant physiologic changes*
   b. *Handle a victim gently*
   c. *Do not allow the victim to stand or walk*
   d. *Place the victim in a horizontal position to keep blood in the core region*
   e. *Seek professional medical help*



Textbook Pages: 77-78

4. *Survival*
   a. *Wear a PFD*
   b. *Do not shed clothes*
   c. *Climb in or on top of a swamped or capsized boat*
   d. *Do not swim. You will lose body heat faster.*
   e. *Use the HELP or HUDDLE positions*
      I. *Heat Escape Lessening Position – one person, curl into the fetal position supported by your life jacket*
      II. *HUDDLE – group places their arms over each other's shoulders, remain as still as possible, others can help to support victims without life jackets*



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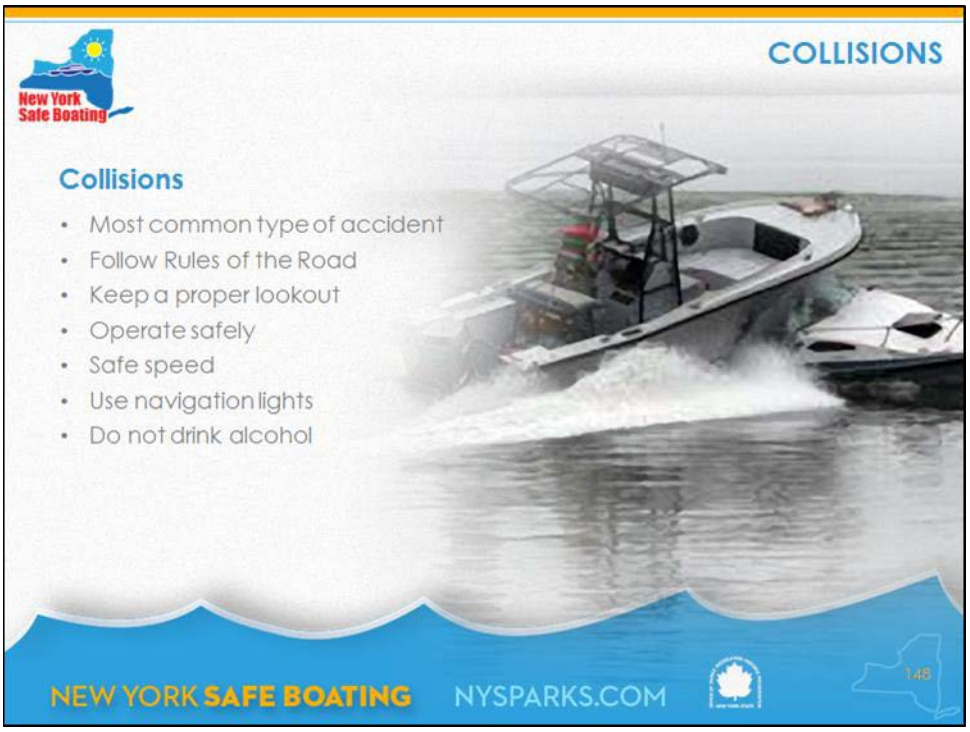
D. Grounding

1. *Obey danger buoys marking dangerous water*
2. *Obey channel markers showing safe channels*
3. *Know the waters you are in and use a chart if possible*
4. *Travel at a safe speed*
5. *If you do ground your boat:*
   a. *Everyone puts on a life jacket if they are not already wearing one*
   b. *Do not put the engines in reverse to power yourself off*
   c. *Check for possible hull damage. Stuff towels or clothing into leaking areas*
   d. *Call for professional assistance*
   e. *Consider waiting for a high tide to float your boat*



Textbook Page: 78

E. Collisions
1. *Most common type of accident*
2. *How to help prevent*
   a. *Know the rules of the road*
   b. *Keep a proper look out*
   c. *Operate safely*
   d. *Maintain safe speed*
   e. *Use navigation lights*
   f. *Do not drink alcohol*

Textbook Page: 78

F. Propeller Strike Injuries

1. Safety Practices

a. Use an engine cut-off switch lanyard if equipped

b. Be sure that water skiers and swimmers are well away from the stern of the boat

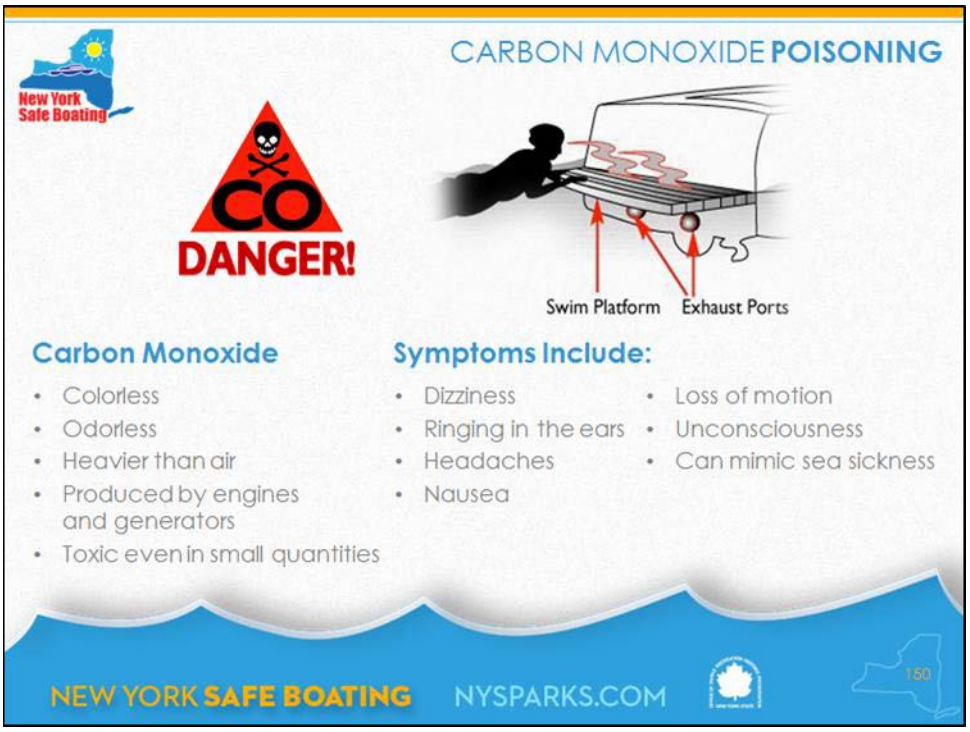
c. Keep track of fallen water skiers

d. Check stern before starting engine

e. Watch for swimmers in the water

f. Never let anyone enter or exit the water if the engine is running.

g. Consider installing a propeller guard, a safety device that surrounds the blade.



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G. Carbon Monoxide

1. *Caused by incomplete combustion*
   a. *Colorless*
   b. *Odorless*
   c. *Heavier than air*
   d. *Produced by engines and generators*
   b. *Keeps the body from getting the oxygen it needs*
   c. *Toxic in small quantities*
2. *Symptoms*
   a. *Dizziness*
   b. *Ringing in ears*
   c. *Headache*
   d. *Nausea*
   e. *Loss of motion*
   f. *Unconsciousness*
   g. *Can mimic seasickness*
3. *Treatment*
   a. *Get fresh air*
   b. *Turn off engines, generators, stoves, etc.*
   c. *Rescue breathing or CPR if necessary*
   d. *Call for emergency medical assistance*
4. *Prevention*
   a. *Have a CO detector on your boat*
   b. *Do not swim around a running boat*
   c. *Be sure that generators and stoves are vented properly*
   d. *Be sure cabins have adequate ventilation*

H. Stray Current

1. *Electricity leaking into the water from improperly grounded shore or boat electrical systems.*
2. *Can damage boats and equipment*
3. *Seeks out swimmers as a conductive path*
4. *Swimmers can become paralyzed*
   a. *Results in death which appears to be drowning*
   b. *Feel an overwhelming tingling and numbing sensation in extremities*
5. *Safety practices*
   a. *Never allow passengers to swim in and around marinas*
   b. *Never swim in or around a boat using a generator or DC-AC inverter*
6. *Prevention*
   a. *Equip outlets and shore power connections with a Ground Fault Circuit Interrupter (GFCI). Helps to stop electrical current from leaking into the water.*


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Final Exam

Time Allotted: 60 min

OBJECTIVES:

1. *Understand who is eligible to take the final exam.*

2. *Understand what the instructor's re-test policy is.*

3. *Understand that review of course material and any questions that students may have must be done prior to the exam.*

4. *Understand that students successfully completing the exam will be issued a temporary boating safety card and that students 18 years and older will be issued the application for a permanent boating safety certificate.*

Who is eligible to take the exam, missed a class and re-test policy?

A. *Requirements to take exam:*
   1. *Attend all classroom sessions (8 hours min.)*
   2. *Be at least 10 years of age*
   3. *Provide all information required on the certification*
   4. *Must receive a 76% to pass. (12 questions can be missed)*

B. *Missed a class.*
   1. *This is at the discretion of the instructor.*
   2. *Must not contradict or supersede OPHRP Policies & Procedures or Rules and Regulations.*
   3. *Suggested that a written policy be in place prior to beginning course.*

C. *Re-test policy*
   1. *This is at the discretion of the instructor.*
   2. *Must not contradict or supersede OPHRP Policies & Procedures or Rules and Regulations.*
   3. *Suggested that a written policy be in place prior to beginning course.*

Review of Course Material:

A. *Highlight important areas and cover any questions.*
   1. *Do not use exam questions for review.*
   2. *Do not give students specific information about exam questions.*
   3. *All review of material must be completed prior to exam*

Exam:

A. *Distribute exam*
   1. *Students should put away all textbooks and notes*
   2. *Cell phones should be turned off and put away (use of a phone during an exam is grounds for denial of a certificate)*
   3. *Students should mark answers on student record form with an X*

B. *Collect and grade exam*
   1. *Students are not allowed to take the exam from the classroom.*
   2. *Instructors may grade and give each student their temporary certificate in the order that they finish the exam, allow them to review their questions and then leave*

   Or

   Instructors may grade all the exams, review the questions with the entire class, then issue the temporary certificates and conclude the course

Successful Completion:

A. *Complete temporary boating safety certificate and hand to student*

B. *Give students 18 years of age and over the Application for a New York Boating Safety Certificate.*

C. *Explain that the $10 fee for the issuance of the permanent certificate for students 18 years of age and over. Instructors do not collect this fee*

D. *Explain that there is no fee for students under the age of 18 and that certificates are automatically.*

E. *Explain that $10 fee is separate and distinct from any charges for the course itself.*

Administrative Requirements:

A. *Assemble documents for mailing to the Marine Services Bureau or your commercial organization.*

B. *Mail Course Roster and Student Record Forms to the Marine Services Bureau or your commercial organization within 7 days of completion.*

C. *If you have any questions on procedures or incidents during the course or exam please call the Marine Services Bureau at 518-474-0445.*