

# SS&S Chapter 9 Instructor Guide

## Inland Boating

The PowerPoints (PPT) slides for this SS&S chapter were copied from the BS&S-13<sup>th</sup> Ed PPT because they are identical. Only the chapter numbers have been changed. Therefore, the Instructor Guide notes remain in the same format as published for the BS&S which are slightly different from the sailing chapters.

### Slide 1: Title Slide

Instructor:

Student:

### Slide 2: Lesson Objectives

Instructor:

Student:

(click to show bullets)

Review the objectives

### Slide 3: Inland Boating

Instructor:

Student:

(click to show bullets)

Ask the class for differences between coastal and inland water boating.

Answers could be:

- Less room, crowded on inland waters
- Proximity to shore
- Water type and depth

### Slides 4: Inland Waters

Instructor:

Student:

(click to show bullets)

Discuss bullets and point out:

- There are more than 30,000 miles of navigable waters in U.S.
- Discuss lake and canals.
- Emphasize speed restrictions in narrow waterways.

### **Slide 5: Inland Navigation**

Instructor:

(click to show bullets)

Ask students for differences in navigating in inland waters versus coastal or off shore waters.

Student:

Expected answers:

- shallow water
- can see shore continuously
- different rules
- little need to plot course
- Use chart and mile markers
- Need local knowledge

### **Slide 6: Inland Navigation/Rules**

Instructor:

(click to show bullets)

Discuss following:

- Inland Navigation Rules in force on all navigable waters.
- Non navigable waters are lakes and streams within a single state
- Although not applicable in non navigable waters the rules should still be followed.

Student:

### **Slide 7: Inland Navigation/ATONS**

Instructor:

(click to show bullets)

Discuss the bullets

Student:

### **Slide 8: Inland Navigation/Western River ATONS**

Instructor:

(click to show bullets)

Discuss Bullets

- Right bank has green ATONS when traveling down stream.
- Left bank has red ATONS when traveling down stream.

Student:

### **Slide 9: Inland Navigation/Western River ATONS**

Instructor:

(click to show bullets)

Have class explain the importance of passing day marks.

Student:

Answers should include:

- red triangle
- green square
- mark side of the river that channel is on
- continue past the day mark
- back of day mark will signal upcoming crossing day mark

### **Slide 10: Inland Navigation/Western River ATONS**

Instructor:

(click to show bullets)

Discuss:

- Crossing day marks help you determine when the channel is crossing from one side of the river to the other.
- Diamond shape is on opposite side of river from channel you have been following and shows that the channel is about to cross to other side. Head for diamond shape. Checkerboard to contrast with foliage on land.

Student:

### **Slide 11: Inland Navigation/Western River ATONS**

Instructor:

(click to show bullets)

What are some considerations a boater should have about River Buoys?

Student:

Answers should include:

- Continuously added or removed due to fluctuations in water depth
- Do not have letters or numbers
- Not usually shown on charts

### **Slide 12: Inland Navigation/Western River ATONS**

Instructor:

(click to show bullets)

Ask: What are some advantages of mile markers?

Student:

Answers should include:

- Placards attached to day markers are easily seen.
- Distance from mouth of river in statute miles.
- Help obtain a position on chart.

Point out that the Ohio River is an exception whereby distance is measured from the headwaters.

### **Slide 13: Inland Navigation/Uniform State Waterways Marking System**

Instructor:

(click to show bullets)

Explain:

Until recently states marked their waters with the USWMS but are switching to US ATON System. Until conversion complete, boaters have to find out what system is being used on local state waters.

Student:

**Slide 14: Inland Navigation/Uniform State Waterways Marking System**

Instructor:

(click to show bullets)

Ask: What is importance of the Regulatory Markers?

Student:

Answers should include:

Four types:

- boat exclusions
- danger
- controlled areas
- information or directions.  
white signs have orange borders.  
white buoys have orange band

**Slide 15: Inland Seamanship**

Instructor:

(click to show bullets)

Ask: What are some of the challenges of boating on inland waters?

Student:

Answers should include

- Shallow water
- Ice build up
- Narrow channels

**Slide 16: Inland Seamanship**

Instructor:

(click to show bullets)

Explain:

- Monitor river reports
- Watch posted depth gauges

Student:

### **Slide 17: Inland Seamanship**

Instructor:

(click to show bullets)

Ask: What are some hazards of lakes?

Student:

Answers should include:

- Watch for underwater trees, fences, buildings
- Cold water and hypothermia can develop quickly
- Turbulence and anchoring problems

### **Slide 18: Inland Seamanship**

Instructor:

(click to show bullets)

Ask: What are four safety precautions boaters should take before going on a river trip?

Student:

Answers should include:

- Know phone numbers of facilities
- Know where the services and facilities are located
- Take along emergency numbers for sheriff and park ranger
- Take a cell phone.

### **Slide 19: River Currents**

Instructor:

(click to show bullets)

Ask: What dangers could you encounter when boating on rivers?

Student:

Answers should include:

- Powerful currents
- Shallow waters
- Traffic
- Debris

### **Slide 20: River Currents**

Instructor:

(click to show bullets)

Discuss bullets

Student:

Emphasize that extreme caution must be taken when boating on rivers especially if you are not familiar with the area.

### **Slide 21: River Currents**

Instructor:

(click to show bullets)

Explain:

- Channel is deepest part of river
- Channel can be lost under broader river
- Can move from bank to bank
- Strong current results in loss of control of boat

Student:

### **Slide 22: River Currents**

Instructor:

(click to show bullets)

Discuss each:

Outside bend

- Water is deeper
- Current usually flows faster inside bend
- Water is shallow and shoaling may occur.

Student:

### **Slide 23: River Currents/Other River Challenges**

Instructor:

(click to show bullets)

Discuss:

- Tows make rapid heading changes to navigate bends and crossings.
- Maneuver out of channel away from tows.
- If there is a river in your area discuss some of its characteristics and challenges.

Student:

### **Slide 24: Maintaining Inland Waterways**

Instructor:

(click to show bullets)

Discuss:

- Responsibility of US Corps of Engineers
- Levees – prevent flooding of towns
- Revetments – prevent bank erosion

Student:

### **Slide 25: Maintaining Inland Waterways/Other Devices**

Instructor:

(click to show bullets)

Ask: What are some of the other devices and what do they do?

Student:

Answers should include:

- Dikes or wing dams direct the river flow
- Wing dams provide overnight calm water and anchorage downstream.

### **Slide 26: Maintaining Inland Waterways/Dredging**

Instructor:

(click to show bullets)

Discuss Fig. 9-12 (Slide begins with picture of dredge operation. Click again to show and discuss light patterns of fig 9-12 in book)

Student:

### **Slides 27: Dams**

Instructor:

(click to show bullets)

Discuss the bullets

Student:

Emphasize how dangerous they are.

### **Slide 28: Lowhead Dam**

Instructor:

(click to show bullets)

Explain the illustration.

Student:



### **Slide 29: High Dams**

Instructor:

(click to show bullets)

Discuss each item:

Student:

- Water passes over them.
- Water flow from bottom of dam

### **Slide 30: Fishing Below dams**

Instructor:

(click to show bullets)

Discuss

- Tailrace is whitewater below
- Turbines create a wall of water that can swamp a boat

Student:

### **Slide 31: Locks**

Instructor:

(click to show bullets)

Discuss:

Student:

- Give as an example the Panama Canal Locks
- If there are locks in your area describe their operation.

### **Slide 32: Locks**

Instructor:

(click to show bullets)

Student:

Have a brief discussion on priorities. Point out that if the vessels are not too large, recreational vessels may share the lock with commercial vessels.

### **Slide 33: Lock Master**

Instructor:

(click to show bullets)

Ask: Who can describe the duties of the Lock Master?

Student:

Answers should include:

- Operation of lock
- Communicate with vessels on channel 16 or 13
- Plans traffic flow

### **Slide 34: Locking Through**

Instructor:

(click to show bullets)

Go through the locking procedure pointing out that lines must be tended carefully. Bulkheads may have sharp protrusions which may cause injury.

Student:

### **Slide 35: River Charts**

Instructor:

(click to show bullets)

Ask: What features should a river chart have?

Student:

Answers should include:

- Small scale or simple drawing
- Navigation lights
- Bridge information – vertical clearances  
Information blocks
- Structures close to banks

(If possible, bring a chart of local river and show characteristics of that chart)

**Slide 36: Commercial Traffic**

Instructor:

(click to show bullets)

Discuss each item:

Student:

Blind spot – tug pushing string of barges  
cannot see approx. 600 feet in front of his tow.

Call on channel 16, operate channel 13

**Slide 37: Before You Go**

Instructor:

(click to show bullets)

Discuss each item:

Student:

Emphasize that being prepared will  
contribute greatly to an enjoyable and  
safe trip.