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Q324 - Great Lakes Topics

1. Which is usually the most gentle way of riding out a severe storm on a larger vessel?

- Rig a sea anchor
- Hove to
- Head into the seas at slow speeds
- **Running before the seas**

Note:

Running before the seas minimizes stress on a large vessel during a severe storm by reducing pitching, slamming, and maintaining steerage, making it the most gentle approach compared to other options like heaving to, heading into the seas, or using a sea anchor.

2. Which action reduces the yawing of a vessel in a following sea?

- **Shifting weights to the stern**
- Pumping out tanks aft
- Increasing GM
- Shifting weights to the bow

Note:

Shifting weights to the stern reduces yawing in a following sea by improving directional stability and rudder effectiveness; trimming by the stern keeps the rudder immersed and increases lateral area aft, while trimming by the bow increases yawing risk. Increasing GM affects rolling stiffness, not yawing, and shifting weights to the bow exacerbates yawing.

3. Advection fog holds longest over which portions of the lakes?

- Southeast
- Northeast
- **Northwest**
- Southwest

Note:

Advection fog persists longest over the northwest portions of the lakes because these areas retain colder water, allowing for prolonged cooling of warm, moist air and fog formation.

4. How are aids to navigation on the Great Lakes arranged geographically?

- In a westerly and northerly direction, except on Lake St. Clair
- In an easterly and southerly direction, except on the New York State Barge Canal
- **In a westerly and northerly direction, except on Lake Michigan**
- In an easterly and southerly direction, except on Lake Erie

Note:

Aids to navigation on the Great Lakes are generally arranged westerly and northerly, with Lake Michigan being the exception.

5. Assume that your vessel has just entered Lake Erie by way of the Welland Canal and is proceeding in a southwesterly direction. Which statement about the aids to navigation you can expect to encounter along the route is TRUE?

- All red even-numbered buoys should be kept on your port side when proceeding in this direction.
- Lighted aids, fog signals, and radio beacons maintained by Canada are not included in the Great Lakes Light List.
- **The characteristics of buoys and other aids are as if "returning from seaward" when proceeding in this direction.**
- All aids are maintained by the U.S. Coast Guard, 9th Coast Guard District, Cleveland, Ohio.

Note:

When proceeding southwest on Lake Erie from the Welland Canal, aids to navigation are oriented as if approaching from seaward, following the upbound direction.

6. Assume that your vessel has just entered Lake Michigan via the Straits of Mackinac and is proceeding south to Chicago. Which statement is TRUE with respect to the aids to navigation you will encounter along this route?

- All solid colored buoys are numbered, the red buoys bearing odd numbers and green buoys bearing even numbers.
- Green buoys mark the location of wrecks or obstructions which must be passed by keeping the buoy on the right hand.
- Aids to navigation are serviced jointly by the U.S. and Canadian Coast Guard.
- **Red buoys should be passed down your starboard side.**

Note:

Red buoys are passed on the starboard side when proceeding toward a harbor, following the U.S. Aids to Navigation System (IALA Region B).

7. Which basic category of water level fluctuations on the Great Lakes is the most regular?

- Outflow fluctuations
- Long-term fluctuations
- **Seasonal fluctuations**
- Short-term fluctuations

Note:

Seasonal fluctuations are the most regular due to their consistent annual cycle driven by predictable weather and hydrologic patterns.

8. There are basically three categories of water level fluctuations on the Great Lakes. What is NOT included as one of these?

- Long range fluctuations
- Short period fluctuations
- **Controlled outflow fluctuations**
- Seasonal fluctuations

Note:

Controlled outflow fluctuations are not a basic category of Great Lakes water level fluctuations; the recognized categories are long-range, seasonal, and short-period fluctuations. These three categories describe natural hydrologic behavior over different time scales, unlike controlled outflow which refers to human regulation.

9. A channel is stated as having a controlling depth of 38 feet. Which statement is TRUE?

- The sides of the channel conform to at least 50% of the controlling depth.
- At least 50% of the channel is cleared to the charted depth.
- At least 80% of the channel is cleared to the charted depth.
- **100% of the channel width is clear to 38 feet.**

Note:

A controlling depth of 38 feet indicates the entire charted width of the channel is clear to at least 38 feet.

10. In a following sea, a wave has overtaken your vessel and thrown the stern to starboard. To continue along your original course, which action should you take?

- Decrease speed
- Use more left rudder
- **Use more right rudder**
- Increase speed

Note:

To return to the original course after a following sea pushes the stern to starboard, apply more right rudder to counteract the bow's swing to port.
