



Deck General – Safety

Great Lakes

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Your vessel is on a voyage from Ogdensburg, NY, to Chicago, IL, via the Great Lakes. The date is October 3 of the current year. If your vessel is subject to the load line requirements, using illustration D031DG below, to which of her marks should she be loaded? Illustration D031DG

Fresh water - Intermediate

Illustrations: D031DG_WM_081318

See REF238

Which statement is TRUE with respect to the load line markings shown in illustration D031DG below?

A vessel displaying these marks may load in the salt waters of the St. Lawrence River.

Illustrations: D031DG_WM_081318

See REF238

What does the line labeled "MS" indicate on the Great Lakes load line model shown in illustration D031DG below?

Midsummer

Illustrations: D031DG_WM_081318

See REF238

Where on a vessel are the load line markings shown in illustration D031DG inscribed?

port and starboard sides

Illustrations: D031DG_WM_081318

See REF238

In illustration D031DG below, what does the single line located directly above the diamond indicate?

deck line

Illustrations: D031DG_WM_081318

See REF238

Using sheet 25 in the Guidance Manual for Loading M.V. Grand Haven, determine the amount of ballast required in tank No. 5 (P & S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 33 lbs.

1070 tons each

Which of the Great Lakes is most affected by short-term Lake level fluctuations?

Lake Erie

Your vessel is underway and approaching an overhead obstruction on Lake Superior. Given the following information, determine the clearance between your vessel and the obstruction. Highest point on vessel: 74 ft. Lowest point of obstruction: 126 (LWD) Monthly lake level: +2 (LWD) International Great Lakes Datum: 600.0 (182.88 meters)

50 feet

Which statement is TRUE concerning weather conditions on the Great Lakes?

When a vessel is north of an eastward-moving storm center, changes in the weather are less distinctive than when sailing south of the center.

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatches 8 & 12 while using a single belt loader to arrive at a desired mean keel draft of 28'-03"? (use the Guidance Manual for Loading M.V. GRAND HAVEN).

690 tons per hatch

Which of the Great Lakes experiences the least amount of water level fluctuation between seasonal high and low water marks?

Lake Superior

A list man would expect to see any of the following light signals EXCEPT _____.
one amber light

Which statement concerning storm surges on the Great Lakes is FALSE?

They are common along the deeper areas of the lakes.

Your vessel's existing draft is FWD 24'-08", AFT 25'-04". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 180 long tons are loaded in No. 23 hatch.

FWD 24'-06 1/2", AFT 25'-08 2/3"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatch No. 20 while using a single belt loader to arrive at a desired mean keel draft of 29'-06"? (Use the Guidance Manual for Loading M.V. GRAND HAVEN.)

2920 tons

Which of the Great Lakes is generally the last to reach its seasonal low and seasonal high water marks?

Lake Superior

A vessel operating on the Great Lakes, and whose position is south of an approaching eastward-moving storm center, would NOT experience _____.

a southwest to west wind

Your vessel's existing draft is FWD 29'-05", AFT 30'-07". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 540 long tons are loaded in No. 18 hatch.

FWD 29'-05", AFT 31'-03"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatch No. 23 while using a single belt loader to arrive at a desired mean keel draft of 28'-00"? (Use the Guidance Manual for Loading M.V. GRAND HAVEN.)

3240 tons

Which of the Great Lakes lies entirely within the United States?

Lake Michigan

On the Great Lakes, winter storms compound the ice threat by bringing a variety of wind, wave, and weather problems on an average of every _____.

four days

Your vessel's existing draft is FWD 17'-03", AFT 18'-09". Using the Guidance Manual for Loading M.V. Grand Haven, determine the new draft if 450 long tons are loaded in No. 16 hatch.

FWD 17'-04", AFT 19'-03 3/4"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatch No. 3 while using a single belt loader to arrive at a desired mean keel draft of 27'-07"? (Use the Guidance Manual for Loading M.V. GRAND HAVEN.)

2500 tons

Which of the Great Lakes generally has the shortest navigation season?

Lake Superior

A vessel is loaded to her summer marks for a voyage from Montreal, Canada to Duluth, MN via the Great Lakes System. The voyage has been estimated to take nine (9) days. If the vessel departs Montreal on September 28th, which of the following statements is TRUE?

The vessel's intermediate load line marks may not be submerged after September 30.

Fog can form in any season on the Great Lakes, but it is most likely to occur over open waters in _____.
spring and early summer

See REF242

Your vessel's existing draft is FWD 19'-08", AFT 20'-04". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 840 long tons are loaded in No. 1 hatch.

FWD 22'-00", AFT 19'-02"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatch No. 20 while using a single belt loader to arrive at a desired mean keel draft of 24'-10"? (Use the Guidance Manual for Loading M.V. GRAND HAVEN.)

1645 tons

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?

Red buoys should be passed down your starboard side.

What is NOT characteristic of the conditions which would be experienced by a vessel located southeast of an approaching eastward-moving storm center on the Great Lakes?

Falling barometer

Your vessel's existing draft is FWD 25'-04", AFT 24'-08". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 634 long tons are discharged from NO. 19 hatch.

FWD 25'-05 1/4", AFT 23'-08 5/8"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatches 2, 6, & 10, while using a single belt loader, to arrive at a desired mean keel draft of 27'-07"? (use the Guidance Manual for Loading M.V. GRAND HAVEN)

530 tons per hatch

The Lake Carriers Association and the Canadian Shipowners Association prescribe separation routes for upbound and downbound vessels on the Great Lakes. The recommended courses for these routes are shown on the Great Lakes Charts in the form of _____.

red or magenta figures over a segmented course line track

"Seiche" is defined as a(n) _____.

oscillation caused by the diminishing of forces which cause lake level fluctuations

Your vessel's existing draft is FWD 14'-00", AFT 16'-00". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 350 long tons are discharged from No. 13 hatch.

FWD 13'-08 4/5", AFT 15'-08 4/5"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatches 5 & 7 while using a single belt loader, to arrive at a desired mean keel draft of 25'-02"? (Use the Guidance Manual for Loading M.V. GRAND HAVEN.)

1520 tons

Nautical charts published by the Canadian Hydrographic service which are referenced in the United States Coast Pilot are identified by _____.

an asterisk preceding the chart number

On the Great Lakes, short-term fluctuations in water levels may be a result of any of the following EXCEPT _____.
below normal rain fall

Your vessel's existing draft is FWD 17'-04", AFT 18'-08". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 765 long tons are discharged from No. 7 hatch.
FWD 15'-11 3/5", AFT 18'-11"

Assuming that the recommended hatch loading sequence is followed, how many long tons of iron ore may be loaded through hatch No. 1 while using a single belt loader to arrive at a desired mean keel draft of 29'-11"? (use the Guidance Manual for Loading M.V. GRAND HAVEN)
2230 tons

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?
The characteristics of buoys and other aids are as if "returning from seaward" when proceeding in this direction.

On Great Lakes vessels, when do midsummer load lines apply?
May 1 through September 15

On which of the Great Lakes would shore ice be the most pronounced?
Lake Superior

Your vessel's existing draft is FWD 19'-02", AFT 20'-10". Using the Guidance Manual for Loading M.V. GRAND HAVEN, determine the new draft if 170 long tons are discharged from No. 8 hatch.
FWD 18'-10.8", AFT 20'-10.4"

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

How are aids to navigation on the Great Lakes arranged geographically?
In a westerly and northerly direction, except on Lake Michigan

Which vessel is exempt from the load line and marking requirements for vessels operating on the Great Lakes System?
A 500 GT dry cargo river barge operated continuously between Calumet Hbr Chicago, IL and Burns Hbr, IN
See REF239

Generally speaking, the more destructive storms occurring on the Great Lakes usually come from the _____.
southwest or west

Using the Guidance Manual for Loading M.V. Grand Haven, determine the amount of ballast required in tank No. 5 (P & S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 35 lbs.
880 tons each

You are transiting the Straits of Mackinac by way of an improved channel. You have information which indicates that the channel's Federal project depth is 28 ft. Which of the following statements is true with regards to this channel?
The design dredging depth of the channel is 28 ft.

Your vessel is approaching the International Bridge on the St. Marys River. If the gage on the bridge, read from top to bottom, indicates 124 ft. and the IGLD (1955) is 600 ft., determine the actual vertical clearances between the existing water level and the lowest point of the bridge over the channel.
124 feet

Advection fog, a common occurrence on the Great Lakes, forms when _____.
relatively warm air flows over cooler water

See REF240

A vessel operating on the Great Lakes, and whose position is southeast of an eastward-moving storm center, would NOT experience _____.

a northeast wind

Using the Guidance Manual for Loading M.V. Grand Haven, determine the amount of ballast required in tank No.1 (P&S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 39.5 lbs.

170 tons each

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

100% of the channel width is clear to 38 feet.

The vertical reference for all water levels and bench marks on the Great Lakes - St. Lawrence River System is known as _____.

International Great Lakes Datum

Advection fog holds longest over which portions of the lakes?

Northwest

See REF240

Which statement concerning storm surges on the Great Lakes is FALSE?

They are common along the deeper areas of the lakes.

Using the Guidance Manual for Loading the M.V. Grand Haven, determine the amount of ballast required in tank No. 5 (P & S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 33 lbs.

1070 tons each

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

Seasonal fluctuations

Your vessel has been ordered to proceed to the United Grain Growers Wharf at Thunder Bay, Lake Superior, for the purpose of taking on a load of wheat. Which publication(s) would you consult for such information as the length of the wharf, the depth of the water alongside, and the loading capacity at the facility?

The United States Coast Pilot #6

The phenomenon known as a "seiche" is most likely to occur on Lake Erie _____.

when strong winds from the Northeast suddenly diminish

See REF241

Using the Guidance Manual for Loading the M.V. Grand Haven, determine the amount of ballast required in tank No. 3 (P & S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 34 lbs.

1220 tons each

On the Great Lakes, the term "controlling depth" means the _____.

least depth within the limits of the channel which restricts the navigation

Which publication offers information on Great Lakes ice services?

U.S. Coast Pilot #6

Nearly half of all storms that enter the Great Lakes Basin during the period from October through May come from _____.

lows which originate in the central and western USA

Using the Guidance Manual for Loading the M.V. Grand Haven, determine the amount of ballast required in tank No. 1 (P&S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 43 lbs.
23 tons each

Which two Great Lakes are considered hydraulically as one?
Lakes Michigan - Huron

Who publishes the "Canadian List of Lights, Buoys and Fog Signals"?
The Canadian Coast Guard

Storms that enter the Great Lakes Basin from the west and northwest at a peak in October are the products of pressure systems known as _____.
Alberta lows

Using the Guidance Manual for Loading M.V. Grand Haven, determine the amount of ballast required in tank No. 3 (P & S) to maintain drafts of 17'-00" forward and 22'-06" aft for a vessel loaded with grain which has a test weight of 37.6 lbs.
975 tons each

Distances on the Great Lakes System are generally expressed in _____.
statute miles

Which statement is FALSE with regard to the Great Lakes Light List?
The Light List does not contain information on any of the navigational aids maintained by Canada.

Which type of fog is the most dense and widely spread of those that occur on the Great Lakes?
Advection fog

REF238

Subpart B—Load Line Marks § 45.31 Deck line.

REF239

45.15 Exemptions. (d) Any unmanned river service dry cargo barge that is operated between Calumet Harbor, Chicago, Illinois and Burns Harbor, Indiana and intermediate ports in Lake Michigan that meets the definition in subpart E of this part is exempt from load line and marking requirements but is subject to the certification and special operating requirements listed in subpart E.

REF240

Advection Fog : a type of fog that results from the advection of moist air over a cold surface and the cooling of the air to its dew point that follows; this type of fog is most common in coastal regions. Fog resulting from the transfer of warm, humid air over a cold surface, especially a cold ocean surface, or (comparatively rarely) from the transport of air that is relatively very cold over an ocean surface that is relatively very warm.

REF241

If you have observed water sloshing back and forth in a swimming pool, bathtub, or cup of water, you may have witnessed a small-scale seiche (pronounced saysh). On a much grander scale, the same phenomenon occurs in large bodies of water such as bays and lakes. A seiche may occur in any semi- or fully-enclosed body of water. Seiches are typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. In a similar fashion, earthquakes, tsunamis, or severe storm fronts may also cause seiches along ocean shelves and ocean harbors. Lake Erie is known for seiches, especially when strong winds blow from southwest to northeast. In 1848, a 22-foot seiche breached a 14-foot-high sea wall killing 78 people and damming the ice to the extent that Niagara Falls temporarily stopped flowing. As recently as 2008, strong winds created waves 12 to 16 feet high in Lake Erie, leading to flooding near Buffalo, New York. Lake Pontchartrain, Louisiana, is also known to routinely form small seiches after the passage of afternoon squall lines during summer months. In some of the Great Lakes and other large bodies of water, the time period between the "high" and "low" of a seiche can be as much as four to seven hours. This is very similar to the time period between a high and low tide in the oceans, and is often mistaken as a tide.

REF242

Advection Fog : a type of fog that results from the advection of moist air over a cold surface and the cooling of the air to its dew point that follows; this type of fog is most common in coastal regions. Fog resulting from the transfer of warm, humid air over a cold surface, especially a cold ocean surface, or (comparatively rarely) from the transport of air that is relatively very cold over an ocean surface that is relatively very warm. Dew Point : The temperature to which the air must be cooled for water vapor to condense and form fog or clouds.