

Safe Waters-LIS

Plotting Exercise #01

The Chart

1. What is the name of this chart?
2. What is the edition date?
3. What unit of measurement is used for the soundings?
4. What reference is used to measure the heights of objects on this chart?
5. What is the projection?
6. What is the scale of this chart?
7. What information is found on the outer ring of the Compass rose?
Is this true for all charts?
8. Where is the variation for the area found?
 - 8a. What is the variation in the western part of this chart?
 - 8b. What is the annual change?
 - 8c. What would the variation be at the location today?
9. What color represents land? Deep water? Shoal water?
10. Demarcation lines are rendered in what color?
11. The broken magenta line from Roanoke Point to Orient Point indicates what?
12. The chart symbol located at $40^{\circ}58.6'N$ and $072^{\circ}43.4'W$ is _____.
13. The symbol located at $41^{\circ}10.0'N$ and $072^{\circ}28.0'W$ represents what?

14. The symbol located at $41^{\circ}10.0'N$ and $072^{\circ}26.0'W$ represents what?
- 14a. Near this symbol are the letters "PA", what does this indicate?
15. Saybrook Breakwater Light (approx. $41^{\circ}17.0'N$ & $072^{\circ}20.6'W$) is surrounded by _____.
16. What type of bottom is found between $072^{\circ}40.0'W$ and $072^{\circ}30.0'W$ near latitude $41^{\circ}07.0'N$?
17. If you want a more detailed chart of Cherry Harbor (SW of Gardiners Island), what chart would you go to? Would you expect the scale of this chart to be larger or smaller?
18. The easternmost section of this chart joins what chart?
19. At the north end of Gardiners Island is a danger area, why?
20. Is there any tidal information on this chart?

Aids to Navigation

21. The buoy located at $41^{\circ}09.4'N$ and $072^{\circ}30.3'W$ is what type of buoy?
- 21a. What color is the light on the buoy?
- 21b. What is the period of the light?
- 21c. Next to the buoy appears the symbol "24", what does it mean?
- 21d. What type of bottom is in the vicinity of this buoy?
22. What color is Falkner Island Light (approx. $41^{\circ}12.7'N$ & $072^{\circ}39.3'W$)?
- 22a. What type of bottom is nearby?
23. Is New London Harbor Light a minor or major navigational light? (approx $41^{\circ}19.0'N$ & $072^{\circ}05.4'W$)
- 23a. Note that this light is a sector light, what does that mean? How are the sectors measured?
- 23b. What is the characteristic of this light?

24. What type of buoy is the "NH" buoy? (approx 41°12.1'N & 072°53.8'W)

24a. What color is the retro-reflective material used on this buoy?

24b. What is the light characteristic of this buoy?

24c. Is there a sound signaling apparatus on this buoy?

25. There is a range light to guide you into the first leg of the New Haven channel, what color is it?

25a. Where are the range lights located?

26. What light is located at 41°03.6'N and 073°06.1'W?

26a. What is the light characteristic and period?

26b. What is the nominal range of this light?

26c. What is the height of this light?

Coast Pilot

27. The Coast Pilot is divided into 9 volumes, which volume is used for our area? (Western part, LIS)

28. According to the CP, LI Sound is _____.

29. Do foreign flagged vessels require a pilot for LIS?

30. NOAA weather forecasts can be found on what channel(s) in the LIS area?

31. The main entrance to LIS from Block Island Sound is called ____?

32. What is the distance from Greenport, NY to the Battery, NY?

33. What is the speed limit on the Niantic River, CT?

34. What is the sound signal used to request a drawbridge opening?

35. What is the coastal warning symbol for a small craft advisory?

Light List

36. The light at Old Field Point has what type of light characteristic?
37. What color lights are used to mark the centerline of navigable channels through fixed bridges?
38. What is the radio beacon signal of Horton Point Light?
39. What is the fog signal from Little Gull Light?
40. What type of structure is New London harbor Light?
41. Whom does a mariner notify if an aid to navigation is not operational?
42. Which Coast Guard district does Long Island sound fall within?
43. What is the difference between a radio beacon and a RACON?

Chart Plot

44. What is the depth of water at $41^{\circ}04.4'N$ & $072^{\circ}43.7'W$?
45. Your position is one mile due north of Mattituck Inlet Breakwater Light. What is your latitude and longitude?
46. You depart this position on your way to New haven "NH" buoy. What is the true course to the buoy?
47. What would your compass course to the buoy be if your deviation was 0 degrees? (assume the year is 1990)
48. Approximately 5 miles along your track, what type of bottom is present?
49. What is the distance from your departure point to the "NH" buoy?
50. If you were traveling at 6 knots and departed at noon, what time would you arrive at buoy "NH"? (assume no set, drift or leeway)
51. Lay out a DR along the course for a speed of 6 knots.

- 51a. At what position along your track will you be abeam of Falkner Island?
 - 51b. How many miles down your track is this?
 - 51c. What time will you be abeam of Falkner Island?
 - 51d. What is the depth of the water at this point?
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- 52. Given average visibility conditions, would Falkner Island Light be visible?

Chart Exercise #01

Answer Key

The Chart

1. Long Island Sound Eastern Part
2. Feb. 15,1992
3. feet
4. Mean High Water
5. Mercator
6. 1:80,000
7. true degrees, yes
8. center ring of Compass rose
 - a. 14°00'
 - b. increase by 3'
 - c. 51'
9. buff, white, blue
10. magenta
11. fish trap area
12. wreck with a portion of hull showing above tidal datum
13. wreck dangerous to surface navigation
14. wreck
 - a. position approximate
15. riprap
16. sand waves/sand, mud, shells
17. chart 13209, larger scale
18. 13205
19. unexploded ordnance
20. yes

Aids to Navigation

21. bifurcation (junction) buoy
 - a. red
 - b. 6 sec
 - c. wire dragged to 24 ft
 - d. sand

- 22. white
 - a. soft (mud)
- 23. major, fixed (lighthouse)
 - a. red in danger sector, measured in degrees true from your boat to the light
 - b. isophase 6 sec
- 24. Safe Water (sea buoy)
 - a. white
 - b. Morse Alpha
 - c. yes, whistle
- 25. green
 - a. west side of the harbor
- 26. Stratford Shoal Middle Ground
 - a. flashing white, every 5 sec.
 - b. 13 nm
 - c. 60 ft.

Coast Pilot

- 27. Volume 2
- 28. ...is a deep navigable waterway lying between the shores of CT and NY and the northern coast of Long Island.
- 29. yes
- 30. 162.55MHz, 162.475MHz, 162.40MHz
- 31. The Race
- 32. 107nm
- 33. 6mph
- 34. one prolonged followed by one short
- 35. one red pennant by day; one red light over one white light at night

Light List

- 36. alternating red and green, 24 sec.
- 37. green
- 38. Morse Code HP (.... . _ _.)
- 39. one blast every 15 sec.
- 40. white octagonal pyramidal
- 41. USCG
- 42. District 1

43. RACON- radar conspicuous beacon... produces a coded response when triggered by RADAR signal

Radio beacon-electronic apparatus which transmits a radio signal for use in providing a mariner a line of position

Chart Plot

44. 93 ft.

45. $41^{\circ}01.9'N$ & $072^{\circ}33.6'W$

46. $305^{\circ}T$

47. 319° psc

48. sand and mud

49. 18.4 nm

50. 1504

51. See chart for DR's

a. $41^{\circ}07.2'N$ & $072^{\circ}43.9'W$

b. 9.6 nm

c. 1336

d. 94 ft.

52. yes, it's visible to 13nm in average visibility conditions