New London Lighthouse Beaches

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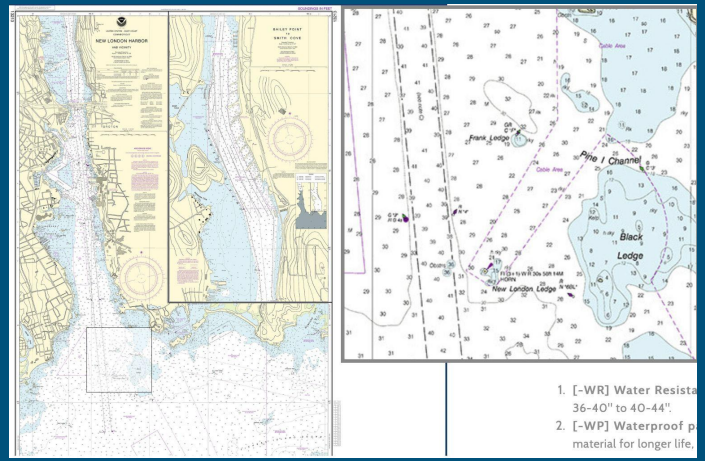
Location

- Co-ordinates: 41 18 18 N 72 04 42 W
- New London Harbor "Ledge light" Lighthouse is located at the mouth of New London Harbor in the Thames River. In addition to this location, water was also studied nearby at beaches including Osprey Beach, Pequot Point Beach, as well as any beach along Pequot Ave. just north of the lighthouse.

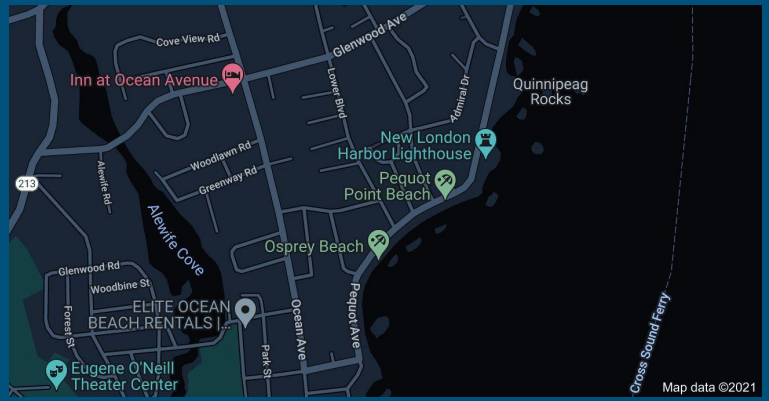


https://www.landfallnavigation.com/noaa-nautical-chart-13213-new-london-harbor-and-vicinity-bailey-point-to-smith-cove.html.

Current Land Use

- The New London Harbor "Ledge light" lighthouse currently serves as an active lighthouse marking the entrance to the New London Harbor and shielding boats from sharp rocks and shallow waters nearby.
- The nearby beaches studied around the lighthouse are currently used for recreational activities such as swimming and summertime leisure.

New London Harbor Lighthouse



Map of the areas studied

Past Land Use

- Previous to the residential and academic areas around the lighthouse it was mostly beaches with some wildlife and trees

- The lighthouse has been around since 1801

- The residential side was all under construction for a very long time (potential hazard prior to buildings)

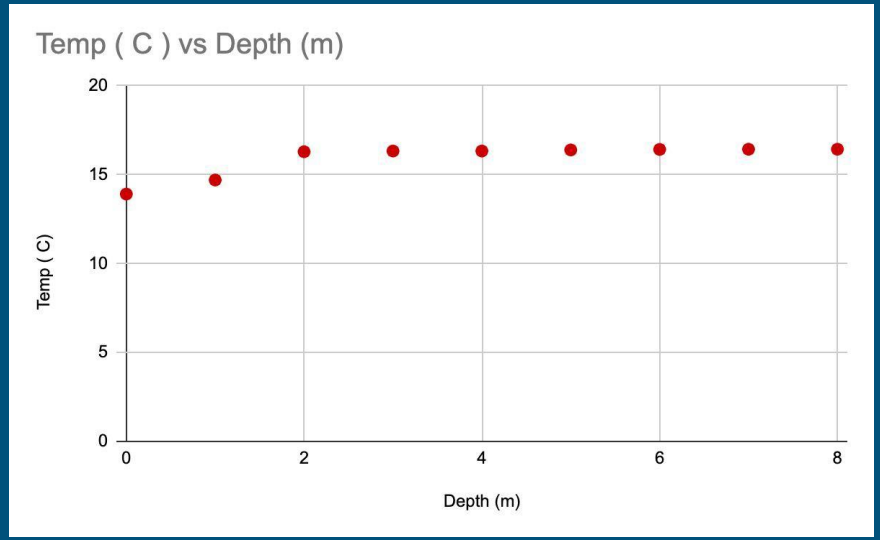
Site Demographics

- Mainly adjacent are residential buildings lined up together (potential human hazard to water)

- Most are higher to medium class and the population is high especially with the mass amount of houses

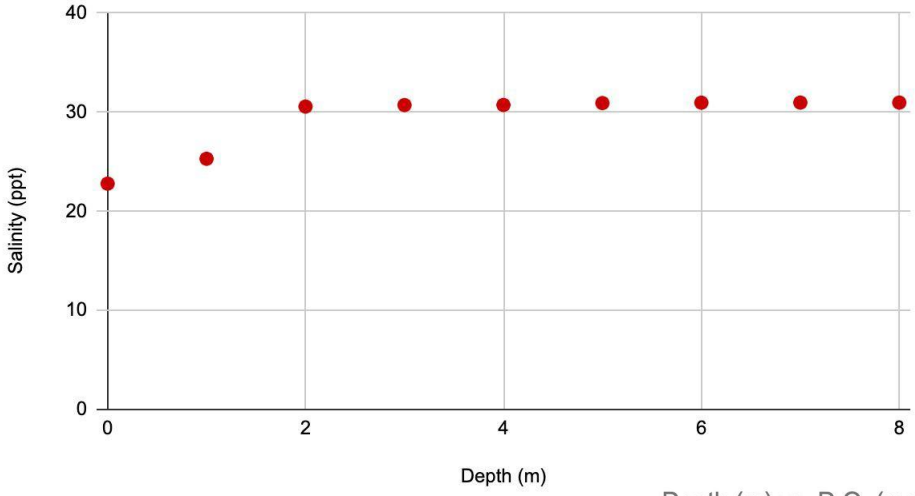
- Restaurants and fueling docks adjacent as well cluttering the shoreline (oil spill risk)

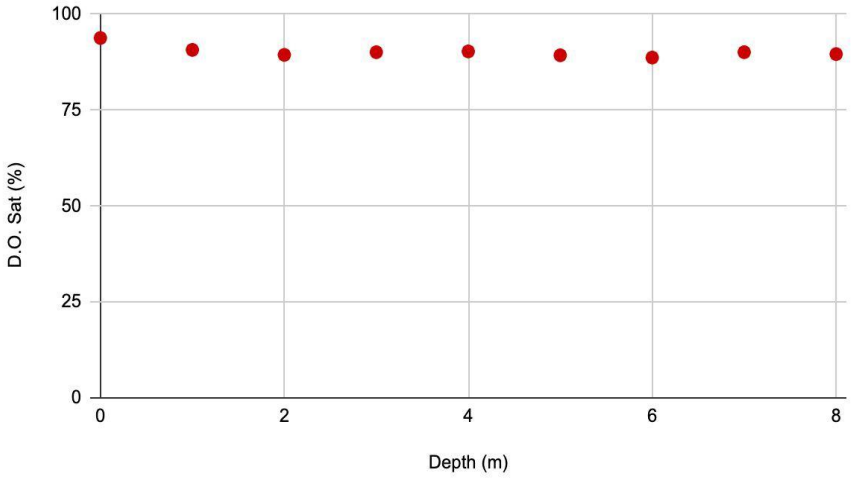
Enviro-lab Data

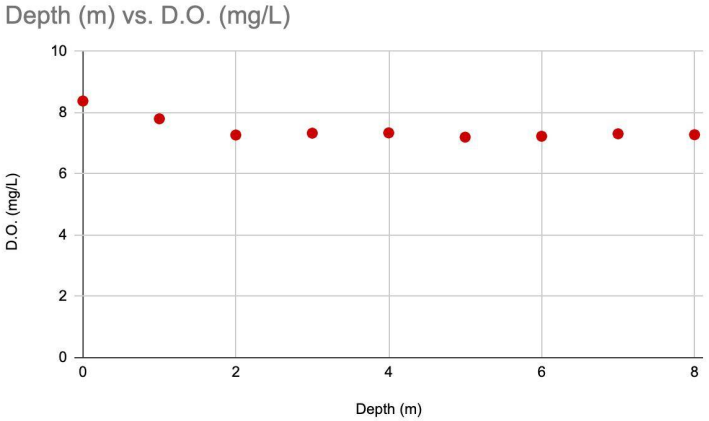


- This data was taken on November 4th at about 9am which had temperatures at 30 - 50 C. The temperature increased as the ocean depth increased because the temperatures from the earlier days/weeks were warmer. Since the surface level is in direct contact with the colder air, the surface level will be colder than the deeper waters.

Depth (m)	Temp: (C)	Salinity (ppt)	D.O. Sat. (%)	D.O. (mg/L)
Surface	13.91	22.79	93.8	8.38
1	14.70	25.3	90.7	7.27
2	16.29	30.57	89.4	7.27
3	16.33	30.72	90.1	7.33
4	16.33	30.73	90.3	7.34
5	16.39	30.92	89.3	7.20
6	16.42	30.96	88.7	7.23
7	16.43	30.97	90.1	7.31
8	16.43	30.97	89.6	7.28

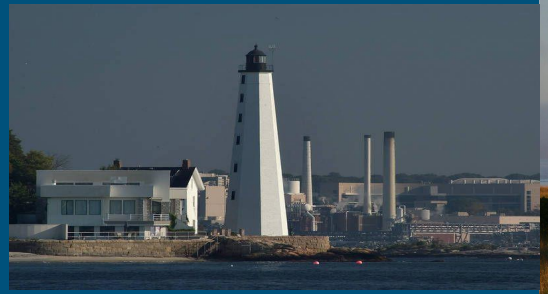






- Overall, all the data collected and measured in New London Harbour Light had healthy and normal readings. Just where it's supposed to be at.

Environmental Justice Issues



- Disadvantages that compromise the health community:
  1. Chronic disease one of the biggest public health issue.
  2. Poor nutrition
  3. Tobacco use
  4. Lots of poverty especially single mother families about 13.1%
  5. Racism
  6. They have the largest population that has no health insurance and people who don't have health insurance will suffer more health problems from air pollution than the people who have health insurance. (disabled people)
  7. People with less than a high school education which is about 15.9%.
  8. Living in mobile homes which can be dangerous and can be damaged in bad weather.
  9. Having poor English skills makes it harder for some people to get jobs or higher wage jobs or even access to health care.

Questions for Further Investigation

1. How does the data of the New London Lighthouse Beaches compare to the other sites located on the Thames River? How is the data similar in trends and how does it differ from other locations?
   a. To calculate this data, calculations would be needed to be taken in Winthrop Cove, and Eastern Point Beach, and Electric Boat. The data would have to be taken around the same time of day and weather conditions in order to have consistent data
2. In the data given, as depth increased, temperature increased. This usually is not normal. As well, as temperature increased, salinity increased. This usually isn't the case because usually high temperature means low density, therefore leading to lower salinity. How could one verify the data?
   a. Retrials
   b. If data is true and solidified after several trials of consistent data, what is allowing this odd trend to happen?

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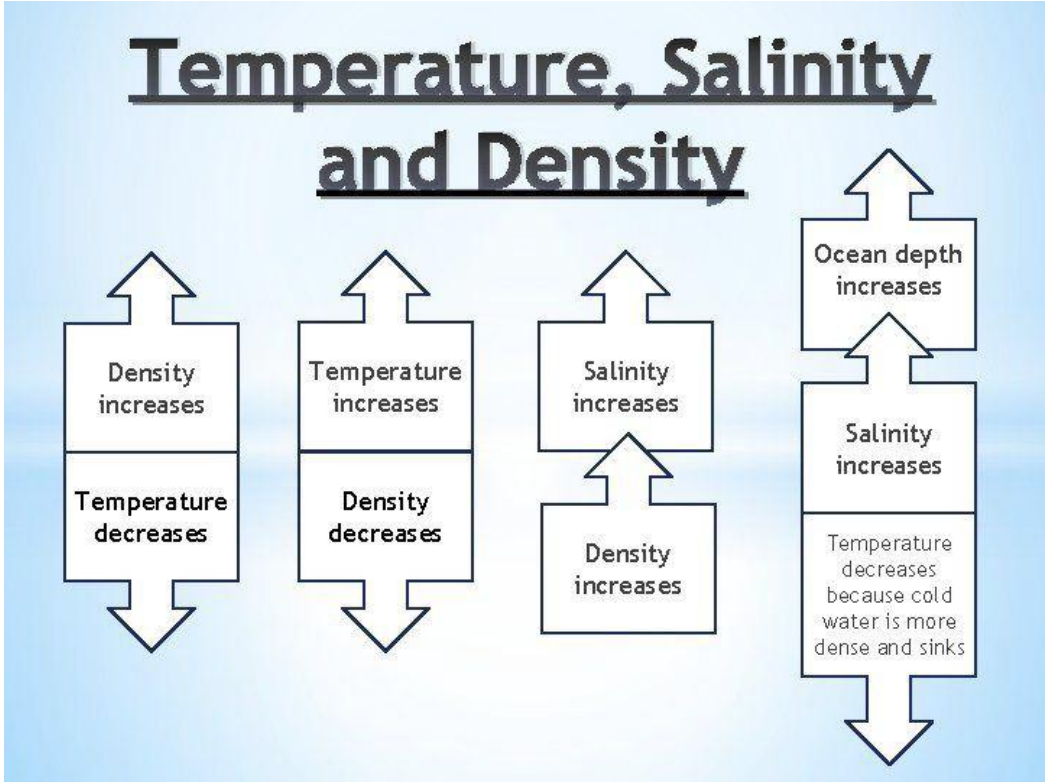
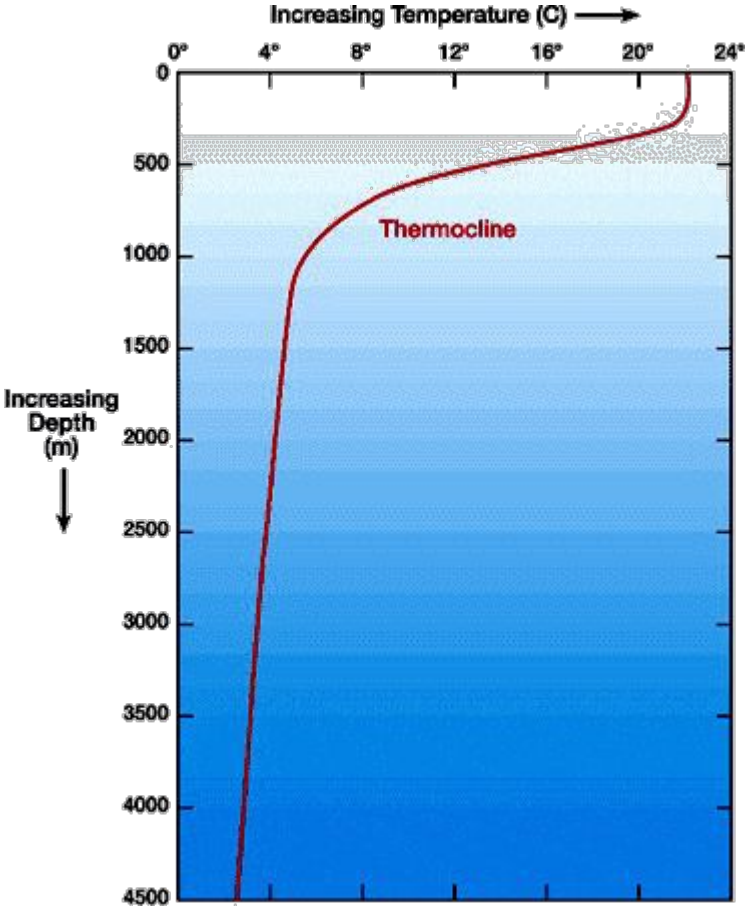

Temperature, Salinity and Density
Density increases
Temperature decreases
Temperature increases
Density decreases
Salinity increases
Density increases
Ocean depth increases
Salinity increases
Temperature decreases because cold water is more dense and sinks


Increasing Temperature (C)
0°
4°
8°
12°
16°
20°
24°
Increasing Depth (m)
0
500
1000
1500
2000
2500
3000
3500
4000
4500
Thermocline

Action!

- Community Beach Debris Cleanups
  - Organized by beach club or public
  - Clean up trash
  - Prevents marine pollution
- Volunteer Habitat Restoration/Water Quality Control
  - Beneficial to organisms that inhabit specific beaches
  - Monitors water quality and establishes baseline
- Watershed protection laws/policies (Streams, Rivers, etc.)
  - Thames river watershed most likely source of pollutants
  - Stream habitat conservation, consultation with land owners, minimize threats to watershed/wetlands
- Beach protection policies (Stormwater runoff control)
  - Encouraging not washing cars in the driveway, picking up after pets, not fertilizing before storms, fixing oil leaks