



PROJECT OCEANOLOGY



Standard Ranges for Fresh and Salt Water Chemistry

Temperature- Celsius (°C)

1-24 °C Range for Long Island Sound

Salinity- Parts per thousand (ppt)

Fresh Water 0 ppt

Long Island Sound 28 ppt

Open Ocean 35 ppt

Dissolved Oxygen- Parts per million (ppm)

Lethal 0-3 ppm

Stressful 3-5 ppm

Healthy 5-14 ppm

Forel Ule Color Scale

Blue I Yellow XIV

Green X Brown XXI

The Forel-Ule scale for measuring water colour



- **Indigo blue to greenish blue with high light penetration** (1-5 FU scale). These waters have often low nutrient levels and low production of biomass. The colour is dominated by microscopic algae (phytoplankton).
- **Greenish blue to bluish green** (6-9 FU scale). The colour is still dominated by algae, but also increased dissolved matter and some sediment may be present. Typical for areas towards the open sea.
- **Greenish** (10-13 FU scale). Often coastal waters which usually display increased nutrient and phytoplankton levels, but also contain minerals and dissolved organic material.
- **Greenish brown to brownish green** (14-17 FU scale). Usually with high nutrient and phytoplankton concentrations, but also increased sediment and dissolved organic matter. Typical for near-shore areas and tidal flats.
- **Brownish green to cola brown** (18-21 FU scale). Waters with an extremely high concentration of humic acids, which are typical for rivers and estuaries.

Secchi Disk

Disappears at 10-20% of available Surface light.

>2.28 m (A- to A+)

2.12 to <2.28 (B- to B+)

1.95 to <2.12 (C- to C+)

1.8 to <1.95 (D- to D+)

0 to < 1.8 (F)

**calculated by Save the Sound*

Density

Fresh water 1.000

Long Island Sound 1.021

Ocean 1.026

