

Water Quality Parameters Information Sheet

Water Test	What It Measures	Natural Reading	Danger Reading	Influenced by	Comments
Water Temperature	Amount of heat in water	0° - 30° C	Generally above 27 C (81 F)	-- solar heat -- groundwater -- industrial cooling	Many estuarine organisms have a narrow temperature tolerance range
pH	Acidity or alkalinity of water,	Freshwater is typically between 6 and 8; salt water generally 8 or higher	Below 6 or above 8.5; some freshwater areas may have natural pH of 5 - 6	-- local plants and soils -- acid rain -- atmospheric CO ₂ -- chemical spills	Low pH levels affect the ability of organisms to incorporate calcium carbonate
Turbidity	Clearness of the water (NOT color)	0-10 NTU, Nephelometric Turbidity Units	Above 20 NTU	-- sediment -- excessive algae growth -- storms	Turbidity determines how much light can penetrate to reach seagrasses. It is an indicator of the level of phytoplankton or silt in the water and is closely linked with eutrophication.
Dissolved Oxygen	Amount of available oxygen in water (in between water molecules)	5-12 ppm (parts per million)	Below 5 = stress 1-3 = poor 0 = anoxic (no oxygen)	-- photosynthesis -- wind -- waves -- running water	D.O. is vitally important to estuary organisms. Warmer temps allow less O ₂ to be dissolved. Decomposers may deplete d.o.
Dissolved Oxygen Percent Saturation	Amount of oxygen in water relative to calculated saturation level	0% (anoxia) to 200% (supersaturation)	Below about 70% = stress Below 50% = poor 0% = anoxic, fatal for many organisms Supersaturation, > about 120% can be harmful	~ photosynthesis ~ respiration ~ temperature ~ salinity ~ wind and wave action	A wide variation in d.o. saturation over the course of a day is a sign of eutrophication. Warm water holds less d.o. than cold; salty water holds less d.o. than fresh.
Salinity	Amount of salt in the water	0 ppt (parts per thousand) for freshwater; about 5 – 30 ppt for estuaries; about 35 ppt for oceans	Salinity can be 40 ppt or higher in salt marsh tide pool on a hot day; lethal for most estuary creatures.	-- tide level -- rain events -- evaporation -- local geology & soils	Most marine and aquatic organisms are adapted to either fresh water (0 ppt) or sea water (35 ppt). Some estuarine organisms and anadromous fish can tolerate a wide salinity range
Water level	Depth of water	0 m (meters) if uncovered at low tide; up to tens of meters in estuaries	Depends on location; if normally submerged, 0 m is danger reading.	-- tides -- wind direction -- wind speed -- storms -- atmospheric pressure	Estuaries have wide variation in water levels. Some organisms must be able to survive both salt water inundation and exposure to air.