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GLOSSARY

Glossary includes terms for the CCMP and Appendix B technical explanations.

Acidification (ocean) – Increased concentrations of carbon dioxide in sea water causing a measurable increase in acidity (i.e., a reduction in ocean pH). This may lead to reduced calcification rates of calcifying organisms such as corals, mollusks, algae, and crustaceans.

Adaptation Plan – A plan developed by a community to proactively adapt to future changes in climate and plan for associated riparian and coastal impacts.

Adaptive Management – A systematic approach for improving resource management by learning from management outcomes.

Anadromous – see Diadromous.

Anoxic – In the absence of oxygen. In some cases, management may functionally define water below a certain threshold (e.g., 1 mg/L) as anoxic, since it supports very little life. To be truly anoxic, the concentration must drop to zero.

Anthropogenic – Caused by, or resulting from, human activities.

Aquaculture – The farming of aquatic organisms such as fish, shellfish and even plants. The term aquaculture refers to the cultivation of both marine and freshwater species and can range from land-based to open-ocean production.

Best Management Practice (BMP) – A practice or combination of practices considered by an entity to be the most effective means (including technological, economic, and institutional considerations) of preventing or reducing the amount of pollution by nonpoint sources to a level compatible with water quality goals.

Benthic – Pertaining to, or living on, the seafloor or river bottom.

Biodiversity – The number and variety of organisms found within a specified geographic region.

Bioextraction – Nutrient bioextraction (also called bioharvesting) is the practice of farming and harvesting shellfish and seaweed for the purpose of removing nitrogen and other nutrients from natural waterbodies.


Biota – All living organisms within an area or region; includes both plants and animals.

Climate Resilience Plan – A plan developed by a community to assess the risks, evaluate vulnerability, and identify resilience and adaptation priorities to extreme weather events on the natural and built environment, as well as social and economic systems.

Combined Sewer Overflow (CSO) – A combined sewer system collects rainwater runoff, domestic sewage, and industrial wastewater into one pipe. Under normal conditions, it transports all the wastewater it collects to a wastewater treatment plant, where it receives treatment, before it is then discharged as treated effluent to a nearby waterbody. During wet weather (e.g., rainfall events or snowmelt), the volume of combined wastewater can sometimes exceed the capacity of the combined sewer system or wastewater treatment plant. When this occurs, untreated or partially treated combined wastewater discharges from an outfall directly to nearby streams, rivers, and other water bodies. This is called a combined sewer overflow.

Contaminant – Any physical, chemical, biological, or radiological substance found in air, water, soil, or biological matter that has a harmful effect on plants or animals (including humans); harmful or hazardous matter introduced into the environment.

Demersal – A species living close to the bottom (sediment) of the water body.



Diadromous – A species, which spends part of its life cycle in fresh water and part in salt water. Diadromous species can be anadromous, living in the ocean and migrating to fresh water to breed (e.g., salmon, alewife, herring) or, less commonly, catadromous, living in fresh water but migrating to the ocean to breed (e.g., American eel).

Dredged Material – Sediment removed from the bottoms of navigable waters to maintain navigation channels and docks.

Ecosystem – A cohesive system formed by the interactions between a community of living organisms in a particular area with each other and with the nonliving environment around them.

Ecosystem-based Management – An environmental management approach that recognizes the interactions within an ecosystem, rather than considering single issues, species, or ecosystem services in isolation.

Ecosystem Health – A measure of the stability and sustainability of ecosystem functioning or ecosystem services that depends on an ecosystem being active and maintaining its organization, autonomy, and resilience over time.

Ecosystem Service – The processes by which the environment produces resources that support human well-being such as clean water, timber, habitat for fisheries, flood management, natural spaces for recreation, and pollination of native and agricultural plants.

Ecosystem Service Valuation – The term for the process of quantifying the value of the ecosystem service benefits to people provided by a given landscape or habitat type in a defined location.

Eelgrass – A marine flowering plant rooted in the sediment. It is the most abundant seagrass in Long Island Sound and is an important habitat for many species of fish and invertebrates. The Latin species name eelgrass is *Zostera marina*.

Embayment – A protected coastal body of water with an open connection to the sea in which saline sea water is measurably diluted by fresh water, including tidal rivers, bays, lagoons, harbors, and coves.

Environmental Education – Environmental education allows individuals to explore environmental issues, engage in problem solving, and improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.

Environmental Indicator – Documented measurement, statistic, or value of a substance or effect in an environment. Used as a barometer to identify the presence or level of the factor or characteristic impacting the environment. The overall condition or quality of the environment is detailed by the set of such indicators and their periodic trend points.

Environmental Literacy – The most widely accepted meaning of environmental literacy is that it comprises an awareness of and concern about the environment and its associated problems, as well as the knowledge, skills, and motivations to work toward solutions of current problems and the prevention of new ones (NAAEE, 2004).


Estuary – A partially closed coastal body of water where freshwater and saltwater mix.

Eutrophication – The process by which a body of water becomes enriched in dissolved nutrients that stimulate the growth of aquatic plant life, usually resulting in the depletion of dissolved oxygen.

Formal Education – A structured system of education that is organized and regulated in a traditional school-based setting. Formal educational programs follow state-mandated or federally mandated education and curriculum regulations.

Gray Infrastructure – Traditional infrastructure such as gutters, drains, pipes, sewers, and retention basins to manage stormwater and wastewater or built structures such as dams, seawalls, and roads.

Green Infrastructure – Describes an array of technologies, approaches, and practices that protect and use natural systems, or systems engineered to mimic natural processes, to manage rainwater as a resource, to solve combined sewer overflows (CSOs), enhance environmental quality, and achieve other economic and



community benefits, such as flood protection and climate regulation. Examples of green infrastructure include permeable pavement, rain gardens, bioretention cells (or bioswales), vegetative swales, infiltration trenches, green roofs, planter boxes, rainwater harvesting (rain barrels or cisterns), rooftop (downspout) disconnection, and urban tree canopies. Also, this term can be synonymous with natural infrastructure, in contrast with gray infrastructure, which uses traditional practices, such as sewers and pipes, for stormwater management and wastewater treatment.

Habitat – The physical and chemical environment in which a plant or animal lives.

Habitat Connectivity – Refers to how and to what degree distinct habitat patches are connected, which influences the distribution, genetic diversity, and health of wildlife.

Habitat Patches – A discrete habitat area (or patch) that is isolated.

Hard-Armored Shoreline – Traditional approach to shoreline protection which typically involves hard structures (e.g., bulkheads, seawalls, breakwaters, jetties).

Harmful Algal Bloom – A bloom of algae (often phytoplankton) that causes negative impacts to other species often through the production of, but also through mechanical or other means.

Hazard Mitigation Plan – A municipal plan developed to reduce or eliminate long-term risk to human life and property from natural hazards.

Heavy Metals – A loosely defined term often used to refer to the group of metals and metalloids, which are associated with contamination or ecotoxicity. Typically includes transition metals, lanthanoids, actinoids, and some metalloids.

Hypoxic – Low in dissolved oxygen. While no universal threshold exists for what is considered hypoxia, most organizations use an operational definition of less than approximately 3 mg/L of oxygen (also see Anoxic).

Impervious Cover – Any surface in the landscape that cannot effectively absorb or infiltrate rainfall.

Invasive Species – Non-native species whose introduction does, or is likely to, cause economic or environmental harm or harm to human health.

Informal Education – Typically refers to education that occurs outside of a traditional school-based setting and which may or may not follow state or federal curriculum standards. Examples can include educational programs at nature centers, afterschool programs, and museums.

Legacy Contaminants – Pollutants or chemicals that remain in the system long after they are discharged, such that their ecological impact continues even after discharge has been curtailed.


Light Detection and Ranging (LiDAR) – A remote-sensing method used to examine the Earth's surface (see Remote Sensing).

Living Shorelines – Engineered structures made of natural materials such as plants, oysters, sand, or rock installed to control shoreline erosion while allowing natural sediment movement. Unlike hardened shoreline structures, which impede the growth of plants and animals, living shorelines grow and adapt over time to changing conditions. Additionally, living shorelines improve, restore, and maintain the connection between upland and water habitats; serve as carbon sinks; provide nutrient pollution remediation; provide wildlife habitat; and act as storm buffers.

Management Conference – The Long Island Sound Partnership Management Conference involves federal, state, interstate, and local agencies, universities, environmental groups, industries, and the public working together to implement the goals and objectives set forth in the CCMP. It includes committees and working groups.

Marine Spatial Planning – A future-oriented process of evaluating and managing the spatial and temporal components of three-dimensional marine environments to achieve ecological, economic, and social objectives.

Monitoring – Measurements of water quality or other parameters that detect the status and trends in the environment.



Moraine – An accumulation of boulders, stones, and debris carried and deposited by a glacier.

Nekton – Aquatic living organisms that can swim and move independently of currents.

Nitrogen – A nutrient that is a natural part of aquatic ecosystems, supporting the growth of algae and aquatic plants, which provide food and habitat for fish, shellfish and smaller organisms that live in water. When too much nitrogen enters the environment—usually from a wide range of human activities—the air and water can become polluted. Water pollution caused by excess nitrogen and phosphorus (see Phosphorus) is one of the most widespread and challenging environmental problems faced by our nation.

Nonpoint Source – A source of pollutants not restricted to a clearly identifiable discharge location like a river, pipe, or culvert (see Point Source).

Nutrient Loading – The mass of reactive nitrogen entering an aquatic system from external sources, e.g., wastewater treatment plants (WWTPs), OWTs, atmospheric deposition, and fertilizer.

Nutrients – Essential elements required by an organism for growth. In a marine context, this term is typically used to refer to nitrogen and phosphorus, but can also include silica (required by diatoms) and micronutrients such as iron, zinc, and magnesium.

Offshore Habitat – Habitat found beyond the 10-foot contour depth at Mean Low Lower Water including sponges and cold-water corals.

Onsite Treatment and Onsite Wastewater Treatment System (OWTS) – Onsite wastewater treatment systems are used to treat sanitary wastewater from a home or business and return treated wastewater back into the receiving environment. Septic systems and cesspools (a dry well that receives untreated sanitary waste containing human excreta, which sometimes has an open bottom or perforated sides) are common examples of onsite wastewater treatment systems.

Open Science – Open Science refers to the movement that aims to make scientific research, data, code, and publications freely accessible to everyone without barriers. It promotes transparency, collaboration, and reproducibility in research to increase the accessibility and impact of scientific knowledge.

Open Space – Includes all unbuilt areas, whether publicly or privately owned, protected, or unprotected.

Participatory Science – The involvement of the public in the scientific process, often in collaboration with professional scientists and scientific institutions (EPA, 2022).


Pathogen – Disease-causing bacteria, viruses, and protozoan often transmitted to people when they consume or come in contact with contaminated water.

Pelagic – The pelagic zone consists of the water column of the open ocean and can be further divided into regions by depth. The word pelagic is derived from Ancient Greek for open sea. Conditions in the water column change with depth: pressure increases, temperature and light decrease, and salinity, oxygen, and nutrients all change. Fish and other organisms inhabit the pelagic zone.

Phosphorus – A nutrient that is a natural part of aquatic ecosystems, supporting the growth of algae and aquatic plants, which provide food and habitat for fish, shellfish and smaller organisms that live in water. When too much phosphorus enters the environment—usually from a wide range of human activities—the water can become polluted. Water pollution caused by excess phosphorus and nitrogen is one of the most widespread and challenging environmental problems faced by the U.S. (also see Nitrogen).

Point Source – A specific localized and stationary source of a pollutant (e.g., nutrients, sediment, toxic metals) such as a pipe, culvert, or outfall (see Nonpoint Source).

Public Access – Any site along the Long Island Sound shoreline and the vegetated areas around streams and lakes that flow into the Sound that is open to the public for boat launching, swimming, fishing, birding, hiking, or



any other general passive enjoyment of scenic waterfront views and vistas.

Remote Sensing – The science of obtaining information about objects or areas from a distance, typically from aircraft or satellites.

Resilience – The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and function.

Resilience Plan – A community plan that evaluates the vulnerability of infrastructure and riparian and coastal areas and develops strategies for making them more resilient to hazardous events (e.g., sea level rise, weather events). The plan should include the preservation of natural means to protect the built environment where practical and preserve and protect ecosystem services.

Riparian Buffer – The vegetated area adjacent to a river, stream, or other water body.

Runoff – Flows of water into a stream, lake, or estuary; typically, from a rainfall event where rate of accumulation exceeds losses from infiltration and evapo-transpiration.

Sanitary Sewer Overflows (SSOs) – Discharges of raw sewage from sanitary sewers. SSOs are prohibited under the Clean Water Act. Depending on where the problem occurs in the sewer system, SSOs can release untreated sewage out of manholes and onto city streets, into basements or into waterbodies.

Sea Level Rise – An increase in the total volume of ocean water. Sea level rise results from the addition of melting glaciers and polar ice sheets, as well as from the natural expansion of water as it warms.

Sense of Belonging – The subjective feeling of deep connection with social groups, physical places, and individual and collective experiences. A sense of belonging is a fundamental human need that predicts numerous mental, physical, social, economic, and behavioral outcomes (Allen et al., 2021). The Partnership

uses the term to refer to people's feelings of connection with and attachment to Long Island Sound and its coastal and riverine environments.

Septic System – A system serving a single parcel of land, including residences and small businesses, that provides for the treatment or disposition of the combination of human and sanitary waste with water not exceeding 1,000 gallons per day.

Social Media – The strategies by which people interact and create, share, or exchange ideas and information through the Internet (e.g., Facebook, X, and LinkedIn).

Species of Greatest Conservation Need – Species designated by State Wildlife Action Plans as most in need of conservation action in that state or U.S. territory.

Stewardship – The conserving and managing of natural areas to plan for multiple uses, increase public access, and protect important habitats.


Stewardship Area – One of 33 areas in Long Island Sound identified by the Partnership as having significant recreational or ecological value to the Sound. Stewardship Area boundaries are not strictly defined.

Stewardship Site – A property, with defined parcel boundaries, within a Stewardship Area that has been identified as representing the values or features for the Area that is being highlighted. The landowner of each Stewardship Site has granted permission for the land to be designated as a Stewardship Site.

Stormwater Runoff – Generated from rain and snowmelt events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and that does not soak into the ground. Stormwater runoff picks up pollutants like trash, chemicals, oils, dirt, or sediment that can harm our rivers, streams, lakes, and coastal waters.

Stormwater – The rain and melting snow that falls on rooftops, streets, and sidewalks.

Storm Surge – An abnormal rise of water generated by a storm, over and above the predicted astronomical tide.



Sustainability – Meeting the needs of the present without compromising the ability of future generations to meet their own needs; in particular, using natural resources wisely to ensure their availability in the future.

Targeted Habitat Types – Twelve habitat types that are targeted by the Long Island Sound Partnership Thriving Habitats and Abundant Wildlife Work Group for restoration and management. The twelve habitat types are Beaches and Dunes, Cliffs and Bluffs, Estuarine Embayments, Coastal and Island Forests, Freshwater Wetlands, Coastal Grasslands, Intertidal Flats, Rocky Intertidal Zones, Riverine Migratory Corridors, Submerged Aquatic Vegetation Beds, Shellfish Reefs, and Tidal Wetlands.

Tidal Wetland – A type of habitat that is frequently or continually inundated with water, influenced by the motion of the tides and characterized by emergent soft-stemmed vegetation adapted to saturated soil conditions.

Total Maximum Daily Load (TMDL) – The total maximum amount of a pollutant a waterbody can assimilate while still meeting water quality standards.

Toxic Contaminant – Any element, substance, compound, or mixture, including disease-causing agents, which after release into the environment and upon exposure, ingestion, inhalation, or assimilation in to any organism, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.

Turbidity – Measure of the amount of suspended particulate matter in water, which is inversely related to water clarity.

Wastewater Treatment – A process designed to clean and treat raw sewage to remove pollutants. Generally, a three-part process, consisting of primary treatment involving screening and settlement of large particles, secondary treatment involving anaerobic digestion (in the absence of oxygen) of organic sludge. Water is then chlorinated or treated with ultraviolet sterilization to remove bacterial contaminants and discharged into the receiving waterbody. Tertiary or advanced wastewater treatment removes inorganic nutrients (nitrogen or phosphorus) from effluent prior to discharge.

Watershed – The region draining into a river, lake, or other body of water.

Wildlife – Any wild and living species, including fauna and flora.

ACRONYMS

BMP – Best Management Practice
CAC – Citizens Advisory Committee
CCMP – Comprehensive Conservation and Management Plan
CLEAR – Center for Land Use Education and Research (University of Connecticut)
CSO – Combined Sewer Overflows
CT DEEP – Connecticut Department of Energy and Environmental Protection
CT NERR – Connecticut National Estuarine Research Reserve
CTSG – Connecticut Sea Grant
CWHW – Clean Waters and Healthy Watersheds
EPA – Environmental Protection Agency
GIS – Geographic Information System
IEC – Interstate Environmental Commission
IEP – Informed and Engaged Public
LiDAR – Light Detection and Ranging
LISCIF – Long Island Sound Community Impact Fund
LISFF – Long Island Sound Futures Fund
LISSN – Long Island Sound Schools Network
NCCA – National Coastal Condition Assessment
NEIWPCC – New England Interstate Water Pollution Control Commission
NOAA – National Oceanic and Atmospheric Administration
NPDES – National Pollutant Discharge Elimination System
NPS – Nonpoint Source
NYSDEC – New York State Department of Environmental Conservation
NYSG – New York Sea Grant
OWTS – Onsite Wastewater Treatment System
PAHs – Polycyclic Aromatic Hydrocarbons
PCBs – Polychlorinated Biphenyls
PFAS – Per- and Polyfluoroalkyl Substances
SMART – Specific, Measurable, Achievable, Relevant, and Time-bound
SRC – Sustainable and Resilient Communities
SRC EPs – Sustainable and Resilient Communities Extension Professionals
SSO – Sanitary Sewer Overflow
THAW – Thriving Habitats and Abundant Wildlife
TMDL – Total Maximum Daily Load
UConn – University of Connecticut
URI – University of Rhode Island
USFWS – United States Fish and Wildlife Service
USGS – United States Geological Survey
WWTP – Wastewater Treatment Plant