

Glossary

Aerobic	The presence of oxygen in the water.
Aeration	To supply (the soil or a liquid) with air, a critical variable for waterway health. Nutrient surges can cause oxygen depletion, even when there is a floating wetland. If oxygen is depleted, fewer species can grow in the water, and monocultures take over.
Algae	Small, often microscopic, aquatic plants in a water body.
Algal bloom	A rapid increase or accumulation in the population of algae (typically microscopic). Algal blooms may occur in freshwater as well as marine environments.
Anchor Attachment	Every BioHaven® Floating Island leaves the factory with an anchor attachment fixed to its underside – several in the case of large islands.
Anaerobic	Where free and dissolved oxygen is unavailable.
Bio-film	Microbes and their residue, or slime, which is critical for aerobic microbial activity. It takes 4 – 6 weeks to create and 3 – 5 years to reach maturity. Biofilm forms on plant roots growing beneath the islands. Suspended solids in the water column (organics / heavy metals in the form of particulates) stick to biofilm and eventually slough off and wind up in the sediment.
Biodiversity	The variety, distribution and abundance of living things and ecological processes in an ecosystem.
Carbon sequestration	Carbon dioxide released into the atmosphere is a 'greenhouse' gas, and contributes to global warming when it exceeds the amount that can be taken up by trees, plants, soil etc. Carbon sequestration refers means capturing and storing carbon dioxide to remove it permanently from the atmosphere and mitigate against global warming. We are attempting to measure the rate of carbon sequestration that can be achieved by a floating island and its eco-system.
Constructed wetlands	Artificial or engineered wetlands used to remediate surface water or waste water.
Consumer	An organism which obtains food by eating plants and other animals.
Decomposer	Eats dead and decaying organisms, recycling the nutrients to be used by a new generation of plants (includes insects, worms, bacteria and fungi).
Ecosystem	The system of living organisms, their physical environment and all their interactions and relationships. Ecosystem can also be used to describe the area where these interactions occur.
Eutrophication	a natural process of nutrient enrichment of the water, accelerated by waste products produced by human activities entering water (untreated sewage, livestock waste, agricultural and domestic fertilisers and industrial waste products). This produces a population explosion of organisms such as algae. When these organisms die, bacteria have a population explosion of their own, feeding on the decomposing algae. This results in a reduction in the oxygen content of the water and the death of the lake or pond.
Food web	Complex and interlocking food chains.
Food chain	The sequence of transfers of food energy from one organism to another.
Producer	Consumer – Decomposer (Hierarchy of “who eats what”).
Habitat	A place that has the minimum required amounts of food, water, shelter and space for a particular species.
Hydroponic	Growing plants directly in a solution of nutrients, without the medium of soil. Plants can be grown hydroponically on a floating island by placing them directly into the matrix.



Island Modules	A floating island made to a standard size, 5' x 8' x 10", which can be joined together to form large islands. The island module is the basic building block for large projects such as boardwalks, piers, docks etc.
Matrix	The basic material floating islands are made from is a non-woven matrix, made from recycled polyester, a plastic, also referred to as a polymer, extruded and spun.
Microbes	Microbes – in the form of biofilm - are the biggest factor in removing nutrients from water. Microbes occur naturally in waterways, and they can also be bought commercially. Microbes work really well on floating islands, even without plants.
Nitrates	Highly soluble compound that gets into lakes from human agricultural practises. Can contribute to harmful algal blooms.
Nutrients	Typically nitrogen and phosphorus, which are used in fertilisers. Not all nutrients are undesirable in some areas. phosphorus is added to ponds to cause algae to grow to provide fish food. Most waterways are considered polluted if nutrients are too concentrated and algal blooms occur. There are regulations limiting the nutrient levels allowed in municipal waterways.
Organic matter	Any molecules containing carbon produced by plants, animals and humans.
Photosynthesis	The process by which plants and some bacteria use energy from light to form organic matter from inorganic substrates.
Phosphates	Result from rural and domestic drainage and contribute to harmful algal bloom and weed growth.
Phytoplankton	Predominantly single cell plants inhabiting the water mass.
Pollutants	Substances released into the air, water or land, that reduce the quality of that resource, making it unfit for a specific purpose.
Predator	An animal that obtains food mainly by killing and consuming other animals.
Prey	An animal taken by a predator as food.
Producer	Any organism (such as a green plant) which produces its own food. They are food sources for other organisms.
Zooplankton	A community of invertebrate organisms inhabiting water, usually feeding on bacteria, phytoplankton and/or detritus.