



Indian River Lagoon — Threats to the System

The most serious threats to the health of the IRL include reduced water quality due to manmade hydrologic changes, non-point source pollution, loss and fragmentation of habitats, overuse/overharvest of resources, and the threat of invasive exotic species.

For many decades, human activity has greatly increased the amount of freshwater that drains to the IRL. A network of agricultural and drainage canals has been created that discharges large volumes of freshwater, such that the lagoon currently receives two-and-a-half times more freshwater than the system was naturally required to handle. The natural volume and timing freshwater inputs to the lagoon have been greatly altered and the health of the estuary has been measurably impacted.

Unlike pollution coming from a factory or water treatment facility, non-point source pollution cannot be traced back to a single point of origin. It includes the dilute discharges of contaminant-laden water from residential and agricultural sources, nutrient inputs from septic drainage fields, and pollutants carried to the lagoon as stormwater runoff.

Stormwater runoff problems are compounded in urbanized areas. In undeveloped portions of the watershed, rainfall percolates down into porous soil and nutrients and other contaminants are mechanically and biologically filtered out before stormwater reaches the lagoon. As more and more land is devegetated and paved over, this important natural process is lost.

There are several sources of direct habitat loss within the Lagoon. Development of the IRL shoreline has sometimes necessitated the removal of mangrove stands, salt marsh vegetation, or seagrass meadows. Various state permitting processes aim to minimize such habitat loss.

Less apparent forms of direct habitat loss also impact the IRL. Since the mid-1950's, more than 40,000 acres of highly productive salt marsh and mangrove marsh has been converted into mosquito impoundments designed to thwart the reproductive cycle of salt marsh mosquitoes. Both the productivity and the nursery habitat value of impounded marshes are lost to the rest of the Lagoon.

Small-scale direct habitat loss also occurs in the IRL and the cumulative impact of such damage is significant. One example is prop scarring of slow-growing seagrass beds by motorized watercraft. Increased utilization of the lagoon by recreational users exposes sensitive, vital habitats to accidental damage.

Invasive exotic species occur in all portions of the IRL watershed, from upland habitats to wetlands to aquatic habitats within the lagoon to adjacent coastal habitats. Exotics compete with and often crowd out native species, greatly reducing ecosystem biodiversity and function. Exotic species usually have few natural controls to help keep their numbers in check.