

# Our Island Rivers



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## Why are our rivers so important?

Rivers are nature's highways, connecting forested mountains with the coastal plains and sea. Rivers provide resting, foraging, and reproductive habitat for a wide variety of terrestrial and aquatic life. In disturbed areas, heavily used for agriculture or development, the forest fringe along streams may provide the only cover for many species, and connect forested areas. Rivers provide many important functions for society by moving excess water off the land, supplying drinking and irrigation water, providing recreation, recharging aquifers, replenishing sand on the beaches, and re-nourishing floodplain farmlands by depositing fertile sediments.

## River organisms and their habitat

Aquatic life in our rivers includes fish, shrimps, crabs, snails, aquatic insects, and insect larvae. Most of the fish and shrimp species have complex life cycles requiring them to spend a portion of their lives in the estuary or sea. They fill the ecological niches in the rivers from algal, deposit, and filter feeders to top predators. Several fish and shrimp species grow very large, are fun to fish, and good to eat.

Higher, mountainous river reaches are usually very steep with large rocks, waterfalls, and pools forming a variety of aquatic habitats. The form of these rivers helps reduce the energy of water moving quickly downstream. The high, steep streams are dominated by shrimp species and the Sirajo goby, a fish.

Coastal plain streams often have steep banks, many meanders, and a broad floodplain. The meander curves absorb some of the energy of the flowing water and create a series of pool and riffle habitats. These areas are dominated by large shrimp, fish, and eels. The broad floodpains of meandering streams provide significant flood storage and rich farmlands. The lowest parts of the rivers are the estuaries where fresh and salt water meet. River estuaries are usually stratified with the lighter, fresher water on top of denser, saline water. They are important nursery areas for many marine and freshwater fish and shellfish, and also support important sport fish like tarpon and snook.

## Importance of river buffers

Vegetated stream banks (riparian areas) reduce bank erosion, in turn reducing damage to property, while improving water quality by acting as filter strips for runoff, reducing nutrient, sediment, and other pollutant discharges into rivers. Rivers with forested borders provide



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superior streambank protection because of the deep tree roots. Forested streambanks provide superb shelter, travel corridors, and refuge for many birds, reptiles and amphibians; while helping keep water temperatures cooler for fish and shrimp. Forested riparian buffers can serve as linear parks for hiking, biking, fishing, and other recreational uses.

## Risks to river systems

Many island river systems have been modified and impacted for flood control, water supply, and hydropower projects. Rivers have also been impacted either accidentally or deliberately by discharges that carry toxic substances or increase nutrients and organic load, thus decreasing available oxygen.

## River conservation and restoration

New ways are being developed to live with river systems, allowing them to maintain their important natural functions, while providing for many human needs. While regulations exist against discharge of toxic substances in rivers, enforcement of these regulations is difficult. Many communities form river protection societies and develop projects to restore natural functions to impacted rivers.

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