

Divers Alert!

Report Marine Invaders

1-877-STOP-ANS

Non-native, invasive plants and animals can seriously damage Florida's marine environments and the economy they support. People introduce organisms via bilge water, on boat hulls, or by releasing live plants and animals from aquaria. In a handful of cases, introductions cause harm. Please help prevent potentially devastating introductions by cleaning dive gear and boats and by not moving or releasing live organisms. Report sightings of introduced species, with GPS coordinates if possible, by calling a toll free hotline (1-877-STOP-ANS). To learn more about marine invasions or report a sighting on-line go to: <http://nas.er.usgs.gov/>.

The species below are already present in Florida waters:



Green Mussel

Perna viridis

Florida Locations:

Tampa Bay (1999) to 10,000 Islands (2002), Ponce de Leon Inlet (2002) past Jacksonville (2003), Pensacola (2002)

Suspected Vector:

ballast water release from ship

Description: Green mussels in the United States were first reported from Tampa Bay, where they clogged the intake pipes at several power plants during the summer of 1999. Since then, these mussels have spread south (probably larvae drifting on currents) and to the east coast of central Florida (possibly in ballast water or on ship hulls). Green mussels grow to 7 inches (18 cm), their shells are brilliant to dark green, and they survive best in saltwater (salinity of 27–33 ppt).

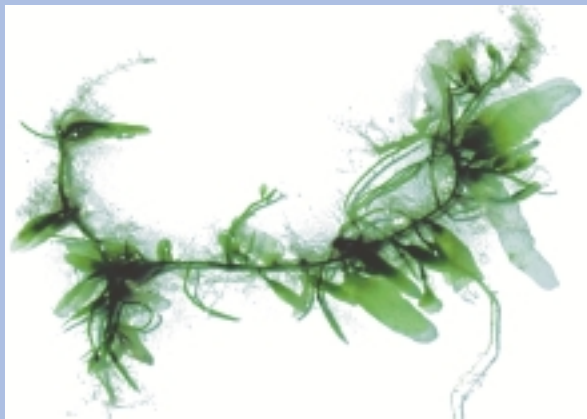
Description: Thousands of basketball-size Australian spotted jellyfish were seen in the Gulf of Mexico during the summer of 2000. In many areas, the jellyfish were packed so tightly that fishing gear was damaged and trawling was impossible. The bell of this jellyfish is white (semi-transparent to opaque) with bright white spots. Frilly tentacles extend below the bell. The Australian spotted jelly has a very mild sting.

Australian Spotted Jellyfish

Phyllorhiza punctata

Florida Locations: Gulf of Mexico (2000), Indian River Lagoon (2001)

Suspected Vector: ship ballast or hull fouling



Caulerpa

Caulerpa brachypus

Florida Locations:

Palm Beach County (2002) to Fort Pierce (2003)

Suspected Vector:

aquarium release or ballast water from ship

Description: *Caulerpa brachypus* produces small, undivided, elongate to oval fronds (blades) that are up to 1.25 inches (3 cm) long and less than 0.5 inches (1.3 cm) wide. The fronds are attached to a green, creeping stem (rhizome or stolon). This plant grows on rocks or in sediments down to 100 feet (30 m). It can overgrow corals and seagrasses. *C. brachypus* resembles both a native *Caulerpa* and the rare Johnson's seagrass, so divers should not collect specimens.

Description: The spectacular lionfish grows to 17 inches (43 cm). It has distinctive white and red stripes, fleshy tentacles around its face, fanlike pectoral fins, and 13 dorsal spines that inject extremely painful, but generally non-fatal, venom. This fish inhabits turbid lagoons and reefs down to 180 feet (55 m). It is generally found under ledges and feeds on small crustaceans and fishes. It spends most of its daylight hours immobile and may not swim away when disturbed. Instead, it may point its dorsal spines toward the intruder.

Indo-Pacific Lionfish (Red Lionfish)

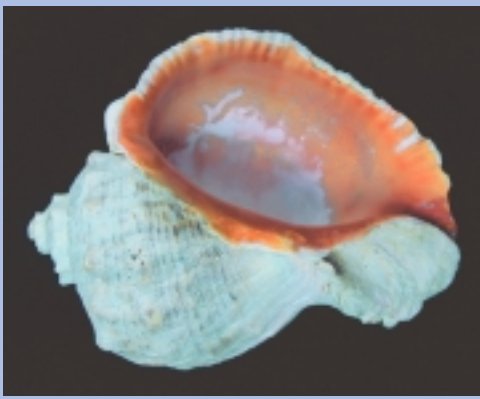
Pterois volitans

Florida Locations: Miami area (early 1990's), Jacksonville (2002)

Suspected Vector: home aquarium releases



The species on this side are likely to invade soon:



Veined Rapa Whelk

Rapana venosa

Vulnerable Locations:
sandy bottom areas in
northeast Florida

Description: Native to Asia, the veined Rapa whelk was first reported along the U.S. east coast (Chesapeake Bay) in 1998. Rapa whelks may have been introduced via ballast water or as egg masses associated with marine farming. Larvae of this whelk will probably float on ocean currents to places beyond Chesapeake Bay. Adult whelks can reach 7 inches (18 cm) and they can consume large numbers of oysters, clams and other shellfish.

Description: In 1984, *Caulerpa taxifolia* was accidentally introduced into the Mediterranean Sea. It now dominates these shorelines by overgrowing native plants and animals, which has caused local fishing and tourism to plummet. This plant was discovered in California in 2000 and in Australia in 2001, and both areas are spending millions of dollars on eradication. A native *C. taxifolia* strain occurs in the Florida Keys; only the Mediterranean (or aquarium) strain is a problem.

Feather Caulerpa

Caulerpa taxifolia

*Mediterranean strain
(or aquarium strain)*

Vulnerable Locations:
all marine waters where
aquarium dumping
occurs



Carnivorous Jellyfish (or Big Pink Jellyfish)

*Drymonema
dalmatinum*

Vulnerable Locations:
Gulf coast. Huge
numbers were recorded
in the Gulf of Mexico
in the fall of 2000.

Description: Pink, carnivorous jellyfish reach 3 feet (90 cm) in diameter, and their densely packed tentacles can stretch to 70 feet (21 m). Pink jellyfish often float upside down on the surface of the water. Their sting ranges from mild to severe. In the Gulf of Mexico, pink jellyfish primarily eat moon jellyfish, *Aurelia aurita*. This jellyfish may have been swept into the Gulf by currents coming north from Caribbean waters.



Description: Chinese mitten crabs were first recorded in San Francisco Bay in 1992, and they have spread both north and south in California. Chinese mitten crabs also have been sighted in Lake Erie and Louisiana. The common name for these crabs comes from the distinctive, hairy "mittens" on their front claws. Adults average 3 inches (8 cm) across their backs (carapaces). Mitten crabs spend most of their lives in freshwater, and adults migrate to saltwater to reproduce. A single female can produce up to 1 million larvae that can be spread by ocean currents for up to 2 months. Mitten crab burrows accelerate the erosion of stream banks and levees.

Chinese Mitten Crab

Eriocheir sinensis

Vulnerable Locations:
freshwater and estuarine
areas in northern half of
the state



Produced by the Tampa Bay Estuary Program

(727) 893-2765 • www.tbep.org



Green mussel FL Fish & Wildlife Conservation Commission.
Lionfish Bishop Museum, HI. Rapa Whelk U.S. Geological Survey.
Caulerpa brachypus South Florida Water Management District.
Spotted & carnivorous jellyfish Dauphin Island Sea Lab, AL.
Caulerpa taxifolia Dr. Linda Walters. Mitten crab CA Dept. of Fish & Game.