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The Swamp Eel: A New Invasive Fish

A new invasive fish, the swamp eel also known as the Asian rice eel, has been recently discovered in South Florida in urban canals at the edge of the Everglades. It appears to be a nearly unstoppable invader. Scientists at the USGS Florida Caribbean Science Center in collaboration with state, water management district, and university scientists are studying this problem in an effort to develop control strategies and evaluate biological impacts.

Unidentified eels were discovered almost simultaneously in two widely separated places in Florida in late 1997. Florida International University scientists found eels in a storm water retention pond near Miami, and USGS scientists discovered them in several small ditches near Tampa. Investigations by USGS scientists at the Florida Caribbean Science Center in Gainesville, Florida, identified the eels as *Monopterus albus*, a species with a broad distribution in Asia. Records also show these eels have invaded Hawaii, and an isolated population has existed in Atlanta, Georgia, since at least 1990.

These eels most likely originated from an aquarium release. Recent USGS surveys in the Miami vicinity suggest the eel is widespread and abundant in urban canals. Fortunately, the swamp eel may not yet have invaded the natural areas of the Everglades National Park.

Like other exotic species, the swamp eel has the potential to adversely affect native species, specifically by eating them or by competing with them for food or other resources.

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Although Florida has about 30 nonindigenous fish species, the swamp eel has certain biological characteristics that have raised concerns about its persistence, potential to spread, and possible damage it may cause. The eels may grow to a length of more than 3 feet and are not restricted to the tropics in its native range in Asia. It can travel over land during rains and can "breathe" air. It eats a wide variety of prey and can survive droughts by burrowing in the mud. Sex reversal occurs with aging, helping to ensure that only a few individuals are needed to colonize new areas. Also, these eels appear resistant to standard chemicals used to control fish.

It is very possible this species will soon invade the Everglades National Park. At a minimum, there is an urgent need to assess its current distribution and evaluate possible methods to contain its spread. Information on the eel's basic life history and characteristics are needed to develop control methods and strategies. Information on swamp eel behavior and biological requirements will help to identify potentially vulnerable aspects of its life history. Moreover, research is needed to determine the possible impacts this species may be having on native biological communities.

Relevant Web Sites:

http://www.nfrcg.gov

http://nas.nfrcg.gov

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