

# South Florida Ecosystem Restoration Task Force

## Invasive Exotic Species Strategic Action Framework

### *Containment Case Study: Argentine Black and White Tegu*

The Argentine black and white tegu is a large, invasive lizard native to South America that has established in southern Miami-Dade County. In their native range, tegus are habitat generalists and eat a wide variety of fruits, insects, small vertebrates, and specialize in eating the eggs of ground-nesting animals. Their reproductive capability (30 - 40 eggs per year), lack of potential predators, and adaptability to a wide variety of food sources, habitats, and environmental conditions make them a threat to a Florida's wildlife and environment. From their current location, tegus are dispersing west towards the sensitive habitats in Everglades National Park (ENP), south toward the Florida Keys, and east towards Biscayne National Park and American crocodile nesting habitat at Florida Power and Light's Turkey Point power plant. Since they are already widely established, the goal is to contain them to their current range and decrease the population.

#### **Case Presentation**

A breeding population of tegus was discovered in Florida City, a town just west of ENP, in 2008 by members of the Everglades Cooperative Invasive Species Management Area (ECISMA). The following year, more investigation and limited trapping efforts confirmed multiple size classes present in the area, indicating that the tegus were breeding. There were no dedicated staff from any agency to trap these animals at the time. The National Park Service (NPS) and Florida Fish and Wildlife Conservation Commission (FWC) were able to hire one trapper and utilize members of their fire crew to develop trapping methods and track five telemetered animals, including one female that led to the discovery of the first tegu nest in Florida. The stomach contents of 30 animals were analyzed to determine diet.

During subsequent years, volunteer trapping efforts by more ECISMA partners enabled the continued assessment of tegus, but did not appear to limit the expansion of the tegu population. There was no dedicated funding for trapping efforts until 2011. Private trappers had also become involved with trapping te-

gus, and many of their captured tegus are re-sold into the pet trade. The exact number of tegus removed by private trappers and their ultimate fate is not available; however, the general number given by at least one trapper is that hundreds of individuals have been taken out of the wild and placed back into the pet trade.

From the first reports of tegus in 2008 in Florida City through 2013, the tegu population has continued to grow and expand its range, despite trapping efforts. Currently, tegus occur across over 100 square miles, including many natural areas and conservation lands. Despite being readily trappable, there is a consensus that eradication now appears unlikely, and containment is the appropriate objective. No permit is required to possess tegus in Florida.

#### **The Tegu Curtain**

The Argentine black and white tegu is a large, invasive lizard native to South America that has become established in southern Miami-Dade County. The goal is to protect sensitive habitats, including nearby national parks and crocodile nesting areas, by containing them within their current range and decreasing the population.



Photo: Dennis Giardina.

## Management Actions and Outcome

After their discovery, ECISMA members and partners quickly put together whatever resources they could to begin trapping and removing tegus. Members of the Miami-Dade County Venom One Team began responding to calls in residential areas and provided traps to neighborhood associations that citizens could use.

Different traps and baits were tested, and telemetry was conducted to learn about dispersal patterns and behavior. Stomach contents were analyzed to determine what native species might be at risk. These initial efforts led to relatively rapid determination of effective trapping methods and confirmation that the tegu may represent a significant threat to wildlife. These studies were conducted within 1-2 years of discovery.

In 2012, a brochure was created to inform citizens living in areas with tegus on how to prevent them from taking up residence on their property and how to report sightings. FWC and Venom One have given several community presentations to inform the public and conducted media outreach to improve awareness. The IVE-GOT1 hotline and Early Detection & Distribution Mapping System ([www.EDDMapS.org](http://www.EDDMapS.org)) have also been advertised to improve tegu reporting. These outreach efforts have increased public awareness and reporting of tegus, leading to broader documentation. However, they have also indicated the need for greater capacity to respond to the public and to tegus in more areas.

After initial trapping efforts, ECISMA partners expanded on previous efforts by increasing trapping locations and season, more animals were tracked using radio telemetry, and new methods for monitoring were added including camera trapping and driving surveys. The University of Florida, Zoo Miami, South Florida Water Management District, and the U.S. Geological Survey began providing staff to trap and track tegus starting in 2011, with FWC providing staff specifically to support tegu removal in 2012. In 2013, the idea of creating a "Tegu Curtain" was proposed, which includes utilizing camera traps and driving surveys to monitor the perimeter of the population and conduct intensive

trapping in core areas that would expand to correspond with seasonal dispersal. The U.S. Department of the Interior provided support for this effort and NPS provided additional staff and volunteers in the field. This containment effort, coordinated among many partners was expanded in 2014. Although each participating organization is contributing available resources, it still lacks dedicated funding.

The dedication and persistence of ECISMA members and cooperators has led to increased efforts and larger numbers of tegus removed every year. The tegu population may well have been larger and more widespread without these efforts. The knowledge base about the species and control options and methods has also been significantly improved.

## Key Recommendations

- Outreach to the public promoting early reporting can lead to more discoveries of newly established populations, possibly in time to eradicate them.
- Dedicated resources are needed to successfully respond, and resources must be consistent with the scale of the threat. Potentially significant threats warrant application of all available resources.
- A pre-existing coordination framework among agencies, researchers, and partners would be helpful to expedite response and increase effectiveness.
- When new species are identified, it is possible to prioritize removal/eradication while still collecting valuable research information.
- If eradication is not possible, an assessment should be conducted to determine possible impacts and inform next steps and develop strategies to protect key resources.
- Time is of the essence – developing methods and initial assessments should be quick, because incipient populations may grow rapidly, leading to larger costs and effort.
- Volunteer efforts are valuable but dedicated staff/work would likely be more effective.

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7500 SW 36th Street, Davie, FL 33314  
(954) 377-5971

[www.EvergladesRestoration.gov](http://www.EvergladesRestoration.gov)

This document is part of a series of case studies developed for the Invasive Exotic Species (IES) Strategic Action Framework. This particular case study highlights issues within the Containment Phase of the IES Invasion Curve. 6/1/15