



Photo by Jason Arnold



# Lionfish- Florida Update

## GULF & SOUTH ATLANTIC REGIONAL PANEL ON AQUATIC INVASIVE SPECIES

**Florida Fish and Wildlife Conservation Commission**

April 2014



# Lionfish in Florida

- Exotic invasive species
- Represent a significant threat to native species and ecosystems
- First reported near Dania Beach in 1985
- Additional reports from Florida and Bermuda in the 1990's
- Population spread rapidly after 2000
- Currently distributed throughout the U.S. Southeast coast, Bermuda, Bahamas, Caribbean, South America, and the Gulf of Mexico



Map by USGS





# Outlook

- Complete eradication of lionfish is unlikely
  - Population is widespread throughout the Atlantic, Gulf of Mexico, and Caribbean
  - Lionfish found in deep water are difficult to harvest
  - Deepwater lionfish repopulate shallow reefs
- Localized removal efforts can significantly reduce densities
- Harvest by divers is currently the primary means of lionfish removal
  - Spears and hand-held nets
- Other means of removal include bycatch in other fisheries



Photo by Bob Cox





# FWC Research

- Recreational lobster harvest surveys to gather information on lionfish encounters
  - Proportion of respondents observing lionfish increased from 2010-2011 then stabilized
  - Number of lobster fishermen that kill/remove lionfish increased from 2010-2013
- Recent research on mercury content of lionfish
- Study recolonization rates and species abundance and diversity after removal
- Tagging and acoustic tracking/video monitoring to observe behavior and movement
- Fishery independent trawl and camera surveys in the Gulf of Mexico
  - Identified presence in deepwater habitats





# Recent FWC Efforts

## Management/Rulemaking

- FWC Lionfish Team – staff from across the agency
- Waived license requirements for harvest by specific gears
- Removed the bag limit for recreational and commercial fishermen
- Removal of Collier County spearfishing ban

## Outreach/Collaboration

- Cooperating with other Gulf Coast states, REEF, Sea Grant, and other organizations
- Online and print publications
- New budget request submitted to facilitate additional outreach efforts for 2014-2015
- Non-native species roundups and pet amnesty events
- Outreach and social media
- FWC Lionfish Summit 2013





# FWC Lionfish Summit 2013

## Purpose

- To develop a collaborative framework between scientists, managers, and stakeholders for lionfish management
- Identify research gaps and collect stakeholder input on management

## Outcomes

- 127 attendees – wide variety of ideas
- Examine potential incentive programs
- Develop a formal lionfish management plan
- Relax area-specific spearfishing regulations
- Consider development of a directed trap areas with high densities
- Create a vehicle license tag with funds going to lionfish control
- Continue research to fill information gaps





# Suggested Management Approach

## Regulatory Measures

- Curtail the introduction of new lionfish
- Facilitate removal and localized population control

## Non-Regulatory Strategies

- Development of a FWC Lionfish Control and Action Plan
- Provide education on the issue of lionfish and how the public can help
- Encourage stakeholder involvement and provide incentives where feasible





# Curtail the Introduction of Lionfish

Prevent the introduction of additional lionfish into Florida waters

- Prohibit the importation of live lionfish
- Prohibit aquaculture of lionfish

*Staff is currently working with the Legislature on a bill in aid of these initiatives*





# Curtail Introduction (continued)

## Prohibiting Live Imports

- Limit further introductions
- Prevent introduction of other lionfish species
- Allow continued live harvest/sale of Florida-caught lionfish
- Create additional demand for Florida-caught fish

## Prohibiting Aquaculture

- Prevent development of lionfish aquaculture in Florida
- Eliminate the potential for large-scale accidental aquaculture-related releases





# Eliminating Regulatory Barriers – Part 1

## Allow the harvest of lionfish when diving with a rebreather

- Harvest of marine organisms while diving on a rebreather is prohibited in state waters
- Increasing number of divers using rebreathers for deep or extended dives
- Provide opportunities for additional lionfish harvest



Photo by Bob Cox





# Eliminating Regulatory Barriers – Part 2

Allow the Executive Director or his designee to issue permits to events for the use of spearing gears (in areas where spearfishing is otherwise prohibited by FWC rules) to remove lionfish or other non-native invasive species.

- Lionfish tournaments operating in areas where spearfishing is prohibited by rule
- Recently handled via an Executive Order
  - Permit would be more appropriate
- A permit facilitates removal while limiting impacts to public safety



Photo by Jason Arnold





# Ongoing Non-regulatory Strategies

- Coordination on a national level
- Outreach
  - Web pages dedicated to lionfish issues
  - Marketing programs to encourage public participation
  - FWC-designed t-shirts distributed as an incentive to participate in lionfish removal efforts
  - Sponsoring lionfish derbies
  - Attendance at seafood festivals and events
  - Development of a Lionfish Reporting App





# Next Steps

- Development of an FWC Lionfish Control and Action Plan
- Pursue a grant to research additional incentive programs
- Continue to evaluate rules that inhibit removal efforts
- Identify additional opportunities to remove regulatory impediments to lionfish control efforts
- Continue conducting lionfish research
- Coordinate with universities, other research institutions, and stakeholders to identify potential management options



Photo by Carol Cox





# Thank you





**The following slides are considered back up material and are not anticipated to be part of the actual presentation to the Commission**





# Cooperation with Parks

- Florida Department of Environmental Protection (FDEP) and the National Park Service (NPS) have regulations specific to parks
- Staff has coordinated with FDEP, NPS, and the Florida Keys National Marine Sanctuary on the development of the proposed rules
  - Park permits would still be required in addition to the Saltwater Harvest Exception Permit when harvesting from these areas





# Proposed Draft Rules

## 68-5.005 Lionfish (NEW)

- *Prohibit the importation of live lionfish and the aquaculture of lionfish in Florida*

## 68B-4.012 Diving: Powerheads and Rebreathers, Use to Harvest Fish in State Waters Prohibited; Definition; Spearfishing Marine Species in Fresh Water Prohibited

- *Allow divers using rebreathers to harvest lionfish*

## 68B-5.006 Lionfish

- *Modify language to specifically allow divers using rebreathers to harvest lionfish and reference rule 68B-4.012*
- *Reference new rules in 68-5 prohibiting importation and aquaculture*





# Proposed Draft Rules - Spearfishing

## 68B-20.004 Exception to Statewide Spearing Prohibitions (NEW)

- *Allow the Executive Director or his designee to issue permits to events for the use of spearing gears (in areas where spearfishing is otherwise prohibited by FWC rules) to remove lionfish or other non-native invasive species.*

## 68B-20.003 Spearing, Statewide Regulation; Prohibition Against Powerheads, Bangsticks, and Rebreathers; Repeal of Certain Special Acts

- *Create a reference to the new rule that provides an exception to statewide spearing prohibitions*



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