

**INFORMATION PAPER CONCERNING POSSIBLE CHANGES TO THE REGULATIONS
RELATED TO LIONFISH AND POSSIBLE IMPACTS**

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PROBLEM:

Lionfish are an invasive species in the Southeast region and present a major (and growing) problem in the South Atlantic, Gulf of Mexico, and Caribbean. In addition to increasing pressure on already highly stressed ecosystems, they are preying on and competing with commercially, recreationally, and ecologically valuable snappers, groupers, and other reef fish. Fishing mortality is one way to reduce abundance of lionfish, which have few natural predators. Harvest of lionfish is commonly performed by divers using spears and nets in shallow waters. Lionfish are also taken as bycatch in deeper waters by fishermen who are legally fishing spiny lobster traps. These direct and incidental catches have increased the market demand for lionfish in recent years. As a result, spiny lobster fishermen and others have been requesting authorization to study new trap designs and other gear types that could support the development of a directed lionfish fishery to increase fishing opportunities and enhance economic viability of a lionfish fishery (ex-vessel price per pound of lionfish averaged \$4.96 in 2016) while keeping this invasive species in check.

Federal regulations for managed fisheries currently limit the types of gear that can be used to target lionfish, as well as the amount of lionfish that may be retained as bycatch in authorized trap fisheries. Therefore, there is a need to explore potential regulatory changes that could facilitate harvest and retention of lionfish and help further reduce the abundance of this invasive species and diminish associated impacts on the ecosystem without compromising existing protections to native fish species, protected resources, and their habitats. Federal regulations at 50 C.F.R. § 600.725 (v) (general prohibitions) provide that fish, regardless of whether they are targeted, may be retained only if they are taken within a fishery, with the authorized gear identified in that section, and that they are harvested in a manner that is compatible with all other applicable regulations. Currently, the list of authorized fisheries and gear types does not address lionfish directly but rather as a non-fishery management plan (FMP) species. Modifying those regulations to directly address lionfish or authorize non-FMP species to be taken with additional gear types could increase fishing mortality on lionfish and/or reduce or eliminate unfortunate situations where lionfish have to be discarded as regulatory bycatch.

Additionally, federal regulations at 50 C.F.R. §§ 622.2 (definitions and acronyms) and 622.9 (prohibited gear and methods-general) limit whether and how many lionfish may be retained as bycatch when taken in spiny lobster and other authorized crustacean traps that are being legally fished in the South Atlantic. 50 C.F.R. §§ 622.9 prohibits the use or possession of a “fish trap” in Federal waters of the South Atlantic and 50 C.F.R. §§ 622.2 defines the term “fish trap” such that

fishermen are prohibited from retaining lionfish unless those lionfish, when combined with any other fish bycatch in the trap, constitute less than 25 percent of the trap's contents:

Fish trap means –

(3) In the South Atlantic EEZ, a trap and its component parts (including the lines and buoys), regardless of the construction material, used for or capable of taking fish, except a sea bass pot, a golden crab trap, or a crustacean trap (that is, a type of trap historically used in the directed fishery for blue crab, stone crab, red crab, jonah crab, or spiny lobster and that contains at any time not more than 25 percent, by number, of fish other than blue crab, stone crab, red crab, jonah crab, and spiny lobster).

In addition to limiting fishermen's ability to retain lionfish that are incidentally captured in crustacean traps, this definition presents an enforcement challenge because the percentage of fish in a trap is constantly changing when the fish trap is underwater.

The Florida Fish and Wildlife Conservation Commission (FWC) is currently testing modified wire spiny lobster traps in the Federal waters of the South Atlantic to determine the effectiveness of these traps for attracting and collecting invasive lionfish while avoiding impacts to non-target species, protected species, and habitats. This study will measure the level of bycatch of snapper grouper species in a lobster trap that has been modified to increase the catch of lionfish. While the South Atlantic Council is in favor of increasing fishing pressure on lionfish, care must be taken not to create a loophole where gear could be targeting lionfish and still have a large bycatch of snapper grouper species. Results of the study would inform the South Atlantic Council in evaluating whether to amend the Snapper Grouper FMP to change the definition of fish trap.

POSSIBLE OPTIONS FOR CONSIDERATION¹:

- 1) Add the following gear types to the list of gear authorized for use in commercial and recreational non-FMP fisheries in 50 C.F.R. §§ 600.725 (v) to enable lionfish bycatch to be retained while legally fishing additional gear types (the italicized gear is currently authorized gear for non-FMP species):

Commercial sector: *Trawl, gillnet, longline, handline, hook-and-line, rod and reel, bandit gear, cast net, pot, trap, lampara net, spear, bully net, dip net, hand harvest, hoop net, and snare.*

Recreational sector: *Rod and reel, handline, spear, hook-and-line, hand harvest, bandit gear, powerhead, gillnet, cast net, dip net, bully net, and snare.*

¹ A choice of a combination of options may be appropriate. For instance, one state representative, in reviewing this paper, stated that option 3 appears to be the most effective option, but that a combination of options 2 and 3 may be most appropriate. Another representative preferred option 2 while yet another felt the best option would be 3, 4, or 5. In addition, some of the options could be achieved in the short-term while others are long-term and would require an FMP amendment.

This approach would authorize the use of additional gear types for a wider range of species than compared with option 2 below. For example, option 2 below would allow the use of dip net to harvest lionfish, while option 1 would allow the harvest of more species than just lionfish with dip nets.

- 2) Add lionfish to 50 C.F.R. §§ 600.725 (v) as a non-FMP fishery and identify all commercial and recreational gear types that are otherwise being legally fished as authorized gear types for that fishery. The authorized gear could be the same as listed under the first option.

In June 2019, the Gulf of Mexico Fishery Management Council (Gulf Council) supported NOAA Fisheries' recommendation to modify the regulations consistent with this option, and the Southeast Regional Office is working on that rulemaking. There is urgency to modify the Gulf Council section of those regulations since "trap" is not currently included in the list of gear types authorized for use in commercial non-FMP fisheries in the Gulf of Mexico. That is not an issue in the South Atlantic section of the regulations. This approach would retain consistency between the Gulf of South Atlantic regions as lionfish would be added as a non-FMP species for each region.

- 3) Modify the definition of fish trap at 50 C.F.R. §§ 622.2 to exempt lionfish from the 25 percent criterion or remove the 25 percent criterion.

One option would be to add "and lionfish" to the end of the definition so it reads:

Fish trap means –

(3) In the South Atlantic EEZ, a trap and its component parts (including the lines and buoys), regardless of the construction material, used for or capable of taking fish, except a sea bass pot, a golden crab trap, or a crustacean trap (that is, a type of trap historically used in the directed fishery for blue crab, stone crab, red crab, jonah crab, or spiny lobster and that contains at any time not more than 25 percent, by number, of fish other than blue crab, stone crab, red crab, jonah crab, spiny lobster, **and lionfish**).

The Council could consider the exclusion of other species, such as those targeted by the marine life aquarium fishery.

- 4) Consider other ways to achieve the intent of the 25 percent criterion at 50 C.F.R. §§ 622.2 that would enable all lionfish bycatch by traps to be retained while also addressing the issue that the composition of fish traps is constantly changing.
- 5) Create a special endorsement for lionfish similar to what the Florida Fish and Wildlife Conservation Commission (FWC) has done for the aquarium trade fishery, which allows fishermen to take aquarium trade finfish in lobster traps in state and federal waters.

IMPACTS:

Options 1 and 2, by adding additional gears to the authorized gear table in 50 C.F.R. §§ 600.725, could lead to positive biological, economic, and social impacts if the additional gear results in additional harvest of lionfish. Option 2 would provide additional clarity to fishermen, fishery managers, and law enforcement personnel as it would list the authorized gear specific to lionfish. Also, there could be advantages to having consistent authorized gear types for the South Atlantic and Gulf of Mexico Region since lionfish are harvested in both areas. The addition of other gear types to the table would allow their use without prior notification to the South Atlantic Fishery Management Council (South Atlantic Council) and possible subsequent delay, as outlined in 50 C.F.R. §§ 600.725 (v).

During a review of this information paper, a reviewer noted, that under Option 2, a fisherman north of Florida could use a modified trap and legally target lionfish. There would be an unknown level of bycatch of snapper grouper species and, if the catch of fish exceeded 25%, it would be an illegal fish trap. If there was limited enforcement, the bycatch could be retained.

But the positive impacts could be limited. Traps are already listed as an authorized gear for the commercial sector for non-FMP species such as lionfish, and lionfish bycatch is already being retained in both commercial and recreational fisheries with limitations. Fishing behavior may not change if authorized gear specific to lionfish is added to the table in 50 C.F.R. §§ 600.725, as proposed under option 2, as it is questionable whether the general public is aware of the authorized gear table in the regulations. There could be negative impacts if clarification that traps can be used to harvest lionfish leads to illegal retention of snapper grouper species above the 25 percent criterion using spiny lobster traps.

Options 3-5 would require an amendment to the Snapper Grouper FMP and an impact analysis. The amendment would need to evaluate the potential impacts on compliance and enforcement of the regulations. We would want to ensure that exempting lionfish from the current fish trap definition would not substantially increase the number of traps deployed in the South Atlantic or increase the illegal use of traps to harvest snapper grouper species. Two of the commercial crustacean trap fisheries that operate off Florida, stone crab and spiny lobster, are managed under trap reduction programs and the number of traps used in those fisheries will not increase. However, the amendment would evaluate the possibility of a shift in the distribution of traps used in these fisheries (including a shift into Federal waters) and the possibility of a shift from the use of wood and plastic traps to wire traps. The National Marine Fisheries Service and the Office of National Marine Sanctuaries have evaluated the impacts of testing traps to target lionfish through a Programmatic Environmental Assessment (<https://www.fisheries.noaa.gov/southeast/resources-fishing/lionfish-traps-exempted-fishing-permit-applications>) that was completed in 2018.

The South Atlantic Council may want to wait for the results of the research FWC is conducting under an exempted fishing permit if they intend to consider changes to the fish trap definition. FWC is currently testing modified wire spiny lobster traps in the Federal waters of the South Atlantic to determine the

effectiveness of these traps for attracting and collecting invasive lionfish while avoiding impacts to non-target species, protected species, and habitats.