



**Spiny Lobster – Commercial Dive
Fishery**
Review and Discussion
November 20, 2014



Florida Fish and Wildlife Conservation Commission
Division of Marine Fisheries Management

Version 1

This presentation is a review and discussion of issues related to the Commercial Dive (CD) endorsement, an endorsement on the Saltwater Products License that is required to commercially harvest spiny lobster while diving. This presentation will review the history of the lobster fishery and the CD endorsement program, the historical use of illegal artificial lobster habitat commonly referred to as “casitas,” the moratorium on issuing CDs that is scheduled to expire next year, and other closely related issues within the commercial lobster fishery.

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Photo: A diver uses a lobster snare to capture a spiny lobster. A tickle stick and net (additional legal tools that are often used to aid in harvest of lobster) lie nearby.

Presentation Outline

- History of the commercial spiny lobster fishery
- Aspects of the lobster dive fishery including use of casitas*
- Commercial Dive (CD) endorsement program
- Pending expiration of the moratorium on issuing new CD endorsements*



** Commission direction needed on these items*

The presentation will begin with information about the history of the commercial lobster fishery, with particular attention paid to issues related to management of the dive fishery. It will include a review of illegal artificial lobster habitat (casitas) used historically by some members of the dive fishery and an overview of the Commission's CD endorsement program. It will also include a discussion on the moratorium on issuing new CD endorsements that is scheduled to expire next year.

Staff will be requesting Commission direction on how to proceed with respect to management of the lobster dive fishery, including addressing requests to legalize the use of casitas and how to proceed with management of the CD endorsement program.

Commercial Lobster Fishery

- One of Florida's top three most valuable commercial fisheries
 - Ex-vessel landings of \$20–50 million annually
- Culturally important fishery to South Florida
 - Commercial harvest dates back to early 1800s
- Florida's lobsters spawned elsewhere in the Caribbean
 - Harvest rates have little impact on fishery productivity in subsequent years
- Recent development of the live market for export overseas
 - Increase in price
 - Increased participation in the fishery



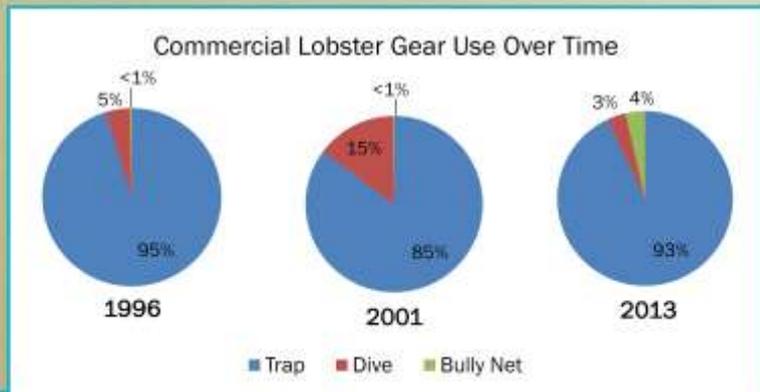
Spiny lobster is one of Florida's most valuable commercial fisheries. It is consistently one of the top three commercial fisheries for Florida fishermen, with the value to the fisher at the dock (ex-vessel value) averaging \$20-24 million annually in many of the most recent years. However, increases in the landings and the price per pound led to a value of approximately \$50 million in 2013. In addition, it accounts for 98% of all spiny lobsters landed commercially in the entire U.S. This particular fishery also has a long, rich cultural history in Florida, particularly in south Florida. The commercial fishery in the Lower Keys dates back to the 1800s, when lobsters were harvested primarily for use as bait. The decline in the prosperity of Key West during the late 1800s and early 1900s prevented this fishery from flourishing during those early years. Nonetheless, these years also saw the development of a food market for spiny lobster and the fishery was primed for expansion by the time Key West was revitalized in the 1940s. Although there was some variability in lobster harvest during the decades that followed, the lobster fishery continued to grow through the early 1970s, when it eventually peaked and then leveled out.

The lobster population is somewhat unusual because the stock appears to extend well beyond the waters off Florida. The adult lobster harvested in state and federal waters of Florida are actually spawned elsewhere in the Caribbean and thus the productivity and sustainability of the state's lobster fishery is more heavily impacted by harvest patterns in the greater Caribbean than by the activities of our own fishery. Nonetheless, the species is subject to a federal management plan that includes traditional fishery management targets, such as annual catch limits and a total allowable catch.

Declining prices have plagued the fishery in recent years, but the recent development of an export market for live lobster has helped bring profitability back to the fishery. With live lobsters now selling for roughly twice the price of dead lobsters, there has been a resurgence in interest in this fishery and an expansion in the number of participants.

Methods of Harvest

- Three traditional methods of commercial harvest: traps, diving, bully nets
- Shifts in the proportion of the catch harvested by each method have historically resulted in user conflicts



The fishery today is carried out by three different means of harvesting: traps, harvest while diving, and bully netting. Although the bully net fishery (described later in this presentation) is the oldest method of traditional harvest that is still active in the fishery, the lobster trap has been the dominant method of harvest ever since it was first introduced in the 1940s. In the 1950s, even as bully netting was declining, a new fishery carried out by skin divers and scuba divers developed. This graph shows the total percentage of the commercial catch in recent years (by pounds landed) attributable to each of the three methods of harvest.

In recent years, the commercial lobster catch has been variable and the proportions of the catch attributed to each harvest method has been a source of user conflicts within the commercial fishery. During the 1990s, the fishery settled into a harvest pattern where roughly 95% of the landings were harvested by the trap fishery, with the dive fishery responsible for less than 5% of the harvest and the bully net fishery harvesting less than 1% of the overall commercial landings. These proportions essentially became de facto allocations maintained by the participants in the fishery. However, in the late 1990s and early 2000s, the catch began to shift to the dive fishery. This shift in harvest corresponded with a severe decline in the available number of lobsters due to the proliferation of a lobster virus. The expansion of the dive fishery, coupled with the decline in the lobster population culminated in the 2001/2002 fishing year, when the dive fishery harvested 15% of the landings. This shift in landings away from the trap fishery was a financial blow to many of the fishery participants and resulted in requests from the trap fishery for the Commission to develop additional management measures aimed at ensuring the sustainability of all aspects of the commercial fishery. Management measures implemented since that time, including the CD endorsement program, have contributed to the fishery returning to harvest patterns within the dive and trap fisheries that are more consistent with the historical norms.

The bully net fishery is now experiencing a resurgence, landing 4% of the overall catch in 2012/2013.

Trap Fishery

- Historically, trap landings consisted of greater than 90% of total catch
 - Effort limitation program
 - Trap reduction program in place since 1993



Dive Fishery

- Late 1990s, landings shifted toward dive-related harvest
 - Coupled with overall catch declines
 - Some dive landings associated with illegal casita harvest
 - No effort limitation program at that time
- CD endorsement was created to limit effort in the dive-based fishery beginning in 2004



In recent history, the trap fishery has been responsible for greater than 90% of the total commercial catch. As this fishery and the number of participants grew, so did the number of traps in the water. With increasing participation, fishermen placed more and more traps in the water in attempts to maintain their individual portion of the catch. This eventually resulted in an overcapitalized fishery, with more traps in the water than were needed to harvest the available lobsters. Thus, in 1993, the Marine Fisheries Commission, in conjunction with the Florida Legislature, developed an effort limitation program called the Lobster Trap Certificate Program. This program limited the number of traps allowed in the water in a given year to those that had been issued a trap certificate by the state. This program was designed to not only cap the number of traps in the fishery, but to reduce the number of traps and increase the efficiency of the trap fishery by lowering the number of certificates issued over time. The lobster trap fishery has been under some version of a trap reduction program since that time.

Although the dive fishery developed in the 1950s, it has always been a relatively minor component of the commercial fishery. During the early to mid 1990s, the dive fishery accounted for only about 3% of the total commercial harvest. However, the catch harvested by the dive fishery began to increase in the late 1990s. This increase in the dive catch was not solely due to an increase in participation. During the late 1990s, illegal use of artificial lobster habitat commonly referred to as casitas (described later in this presentation) also contributed to the growing dive harvest. Anger associated with the increasing use of illegal gear by some divers, compounded by the decline in the overall fishery, led to increasing user conflicts between participants in the trap fishery that was managed by a limited effort program and the dive fishery that was not subject to any sort of effort limitation. These factors contributed to the reevaluation of the dive fishery and ultimately resulted in the development of the CD endorsement program.

Bully Net Fishery

- Historically a minor component of the commercial catch
 - Harvest opportunities limited
 - Effort and landings expanding
 - Future management considerations related to this portion of the commercial sector may be warranted



Despite its history as one of the earliest methods of commercial lobster harvest, the bully net fishery has been responsible for less than 1% of the total commercial harvest over the last several decades. The bully net fishery operates at night in shallow water using lights directed at the seafloor to help the harvester locate lobsters that are walking around on the bottom. Once the harvester locates a lobster, he or she uses the bully net, which is essentially a specialized dip net, to capture the lobster. This harvest method is dependent on calm seas and a relatively dark night in order to operate effectively. However, with the recent increase in the price of lobster and the lack of an effort management program directed at this aspect of the fishery, the bully net fishery has been expanding.

If the bully net fishery continues to expand, additional management measures may be warranted to address this portion of the fishery as well. However, this presentation does not address this aspect of the lobster fishery any further.

Background – Casitas

- Spanish for “little house”
- Artificial structure to attract and aggregate lobsters
- Anchored to the seafloor
- Used for commercial lobster harvest outside of Florida
- Illegal in Florida
- An estimated 1,000 – 1,500 were illegally placed in the Lower Keys
- Commercial dive industry requested Commission consider legalizing use



The remainder of this presentation will focus on issues directly related to the commercial dive fishery.

This slide provides an overview of casitas. The term “casita” is Spanish for “little house” and references the fact that lobsters treat these artificial structures as habitat, or a home base. These structures were placed on the seafloor by dive fishermen for this reason, to attract and aggregate lobsters so that they would be easier for divers to locate and harvest. Although the early casitas were highly variable in size and the materials used to construct them, the most sophisticated casitas were constructed of concrete and rebar and were anchored to the seafloor. Although similar structures have been traditionally used by lobster fishermen elsewhere in the Caribbean, their use is illegal in Florida. Placement of casitas is considered illegal dumping and harvest from these structures is explicitly prohibited in rule. Despite being illegal, an estimated 1,000-1,500 casitas were placed in the Lower Keys during the height of their use in the late 1990s and early 2000s.

With the development of additional management measures aimed at the dive industry, including the CD endorsement, the Commission has received a series of requests from commercial divers to consider legalizing the use of casitas.

Casita Research Results

- Casitas shifted landings from traps to divers early in the season
- Resulted in minor changes to the bottom
- Significant jurisdictional hurdles identified related to possible legalization of casitas



Prompted by requests from the dive industry to consider legalizing casitas, the Commission directed Fish and Wildlife Research Institute (FWRI) staff to conduct research into the impacts of these structures in 2009. The results of this research were presented to the Commission in 2011. The research indicated that these structures were indeed capable of shifting harvest from the trap fishery to the dive fishery, especially early in lobster season. Lobsters that would otherwise have found their way into lobster traps over the course of several months began aggregating in casitas before the season opened and continued to do so into the beginning of the season. The lobsters then remained at these casitas (the locations of which were known only to the persons who placed them and harvested from them) until they were harvested by the diver.

The presence of casitas also resulted in minor changes to the bottom and the ecosystem immediately around the structure. These changes included an increase in bottom-dwelling organisms under and on top of the casita and aggregations of some fish species, as well as lobster. Halos of relatively barren seafloor also developed immediately around the structure due to feeding activities conducted by mobile organisms that aggregated under and around the casita.

As part of the research report, FWRI staff also highlighted a series of complications related to the possibility of legalizing casita placement and use. These complications included potential jurisdictional issues related to authorizing use of the gear and placement on the bottom, the need to regulate casita size and structure, consideration for limiting the areas in which they could be placed, creation of a mechanism to ensure all members of the fishery contributed equitably to the financial costs associated with managing the fishery (economic rent) and the burden of ensuring sustainable harvest, and concerns over the enforceability of casita regulations. The Commission viewed the potential for jurisdictional conflicts related to casita placement the most substantial hurdle to developing a casita fishery and directed staff to return with additional information on that topic.

Jurisdictional Issues Related to Casitas

- If legalized, multiple state and federal entities claim regulatory authority over the placement of casitas
 - Florida Keys National Marine Sanctuary (FKNMS)
 - Florida Department of Environmental Protection (DEP)
 - U.S. Army Corps of Engineers (USACOE)

Management of a casita fishery appears impractical due to these jurisdictional hurdles



Commission direction needed

In an effort to gauge the scope of agencies that might be involved in developing or allowing a casita fishery, FWRI staff in the Keys reached out to state and federal personnel representing a wide variety of agencies, including the Florida Department of Environmental Protection (DEP), the Florida Keys National Marine Sanctuary (FKNMS), and the Army Corps of Engineers (USACOE). Of the agencies contacted, all expressed belief that they have some measure of authority related to the placement of casitas.

Federal regulations already prohibit placement of casitas in the FKNMS. The majority of the area where casitas were originally placed (as reported by industry participants and represented by the red oval on the graphic above) was within the boundary of the FKNMS. The Commission has the authority to regulate fishing with traditional fishing gear inside the FKNMS. However, the FKNMS does not believe casitas are traditional fishing gear in Florida and are therefore subject to federal regulations that prohibit construction or placement of structures on the seabed within the sanctuary.

There is a small area outside of the FKNMS that is of the proper depth and habitat to potentially support productive casitas (represented by the yellow ovals). However, because these large structures would need to be anchored to the bottom to prevent movement and minimize environmental damage, DEP has responded that they would likely be subject to permitting requirements, including approval by the Board of Trustees of the Internal Improvement Trust Fund (Governor and Cabinet). In addition, because they could be considered artificial reefs, placement may also require permits from the USACOE.

In light of the significant jurisdictional issues related to casita placement, the potentially substantial permitting requirements, and the limited appropriate habitat for placement, staff believes that management of a casita fishery in Florida is impractical. Staff is seeking Commission direction regarding whether or not to further pursue potential legalization of this gear.

Commercial Dive (CD) Endorsement

- Required to commercially harvest lobsters while diving
- Created in 2003 – first required during 2004/2005 fishing year
 - Previous commercial dive landings required
 - Not transferable
 - Moratorium on new endorsements
- Harvest from casitas currently illegal
- Daily commercial vessel limit of 250 lobsters per day for dive and bully nets
- Endorsement must be renewed each year
- 404 endorsements issued initially
 - 258 endorsements remaining



Commercial harvest of spiny lobster requires a Saltwater Products License with a Restricted Species endorsement and a Crawfish endorsement, regardless of which method of harvest is used. In order to harvest lobster while diving, the harvester's Crawfish endorsement must also be a CD endorsement. The CD endorsement program was created by the Marine Fisheries Commission in 2003 in order to prevent further expansion of the dive fishery and maintain the historic proportions of harvest among the commercial subsectors related to the various catch methods. The CD has been required since the 2004/2005 fishing year for the commercial harvest of lobsters when diving. In order to receive the endorsement in 2004/2005, a fisher had to demonstrate previous commercial lobster landings that were harvested by diving. The CDs are non-transferable, except that they may be transferred to an immediate family member in the case of death or disability of the CD holder. There is also a moratorium on the issuance of any new or additional endorsements beyond those issued the first year of the program.

Additional regulations implemented in conjunction with the CD endorsement program reiterated the fact that harvest from casitas was illegal and created a commercial trip limit for lobster harvested in south Florida by any gear other than traps. This commercial limit is 250 lobsters per person and per vessel per day for harvest while diving or by bully net and was established based on the historical maximum catch rates associated with the these fisheries prior to casita use.

While there are no requalification requirements for the CD once a diver receives it, the endorsement holder must renew it each year. There were 404 CDs issued during the first year of the endorsement program. Because the endorsement is non-transferable, endorsements not renewed by the original endorsement holder are surrendered to the agency. Since 2004/2005, approximately 35% of the CD endorsements have been lost to attrition, leaving 258 endorsement remaining during the current 2014/2015 fishing year.

CD Endorsement – Moratorium

- Moratorium originally set to expire July 1, 2010
- Moratorium extended until July 1, 2015 to allow for research on the effects of casitas
 - Commission directed staff to explore jurisdictional hurdles relative to possibly legalizing casita use



When the CD was originally created in 2003, the moratorium on issuing new, additional endorsements was set to expire on July 1, 2010. However, the Commission extended the moratorium in order to allow the agency to conduct research on the effects of casitas on the fishery and the south Florida ecosystem and to investigate the jurisdictional issues related to managing a casita fishery. The results of research on both of these items were summarized earlier in this presentation.

The moratorium is now scheduled to expire on July 1, 2015, unless the Commission takes further action.

Status of the CD Endorsement Program

- Number of CD endorsements has decreased over time
 - Some of the latent effort has been eliminated
 - Current participation similar to historical average
 - Staff believes the current number of endorsements is appropriate and sustainable
- The CD is one of the few endorsements that is not transferable
- Transferability coupled with continuing the moratorium would allow the fishery to continue to operate at the current level



Commission direction needed

As previously stated, the number of CD endorsements has decreased over time, due partly to the fact that the endorsement is not currently transferrable. This reduction in the number of endorsements has eliminated some of the latent effort in this fishery, and the current level of participation and harvest is more similar to its historical average, as compared to 2004 when the program was implemented. Based on this information and the current productivity of the lobster fishery, staff believes the current number of endorsements is appropriate and sustainable.

The majority of the Commission's commercial fishing endorsements are transferable. The CD is one of the few that is not transferable. If the moratorium on issuing new endorsements is maintained and the endorsement is not allowed to be transferred, this traditional fishery will eventually be phased out. However, allowing the CD to be fully transferable and extending the moratorium indefinitely will allow the fishery to continue at its current level while simultaneously preventing unsustainable expansion.

If the Commission does not take action before July 1, the CD endorsement will remain non-transferable and become open access. This would eliminate any potential future value of the current CDs to the original endorsement holders and likely lead to expansion of the dive fishery. This no-action alternative is not likely to be supported by any sector of the commercial lobster fishery.

Staff is seeking Commission direction on how to proceed with management of the CD endorsement program.

Commission Direction Requested

Staff Suggests:

- Not pursuing legalization of casitas for lobster
- Extending the moratorium on issuing new CDs indefinitely
- Allowing the CD endorsement to be transferred

If directed, staff will return with a draft rule addressing the CD endorsement moratorium in February



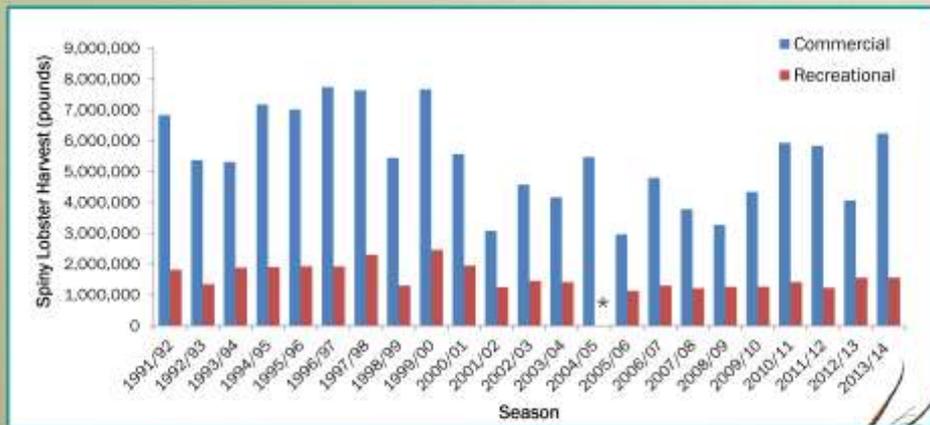
Staff is seeking direction on how to proceed with management of the lobster commercial dive fishery. Specifically, direction is requested on whether or not to continue to pursue possible legalization of the use of casitas and whether or not to address the pending expiration of the moratorium on issuing new CD endorsements.

Staff suggests the Commission not pursue legalization of lobster casitas. Staff suggests extending the moratorium on issuing CDs indefinitely while making any remaining CDs fully transferable. If directed, staff will return with a draft rule addressing CD issuance and transferability in February.

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



Lobster Landings by Sector

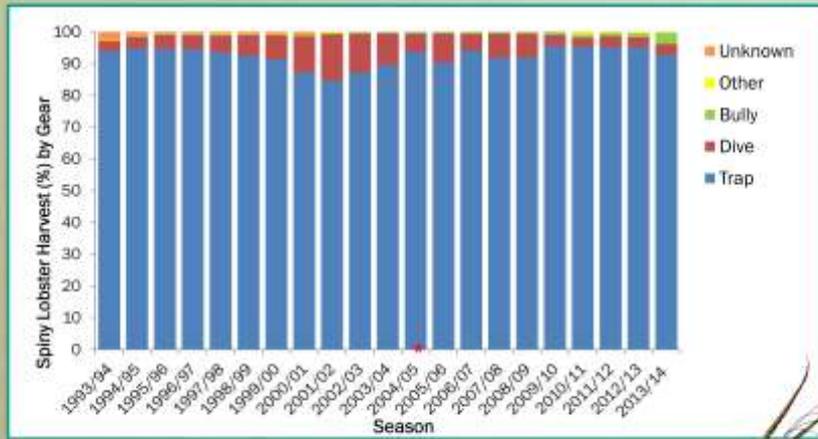


* Recreational landings are not available for 2004/2005



This graph shows the distribution of lobster landings (in pounds) by the recreational and commercial sectors since 1991. Recreational lobster landings are not available for the 2004/2005 fishing season.

Commercial Landings by Harvest Method



* CD endorsement program began



This graph shows the proportions of the catch harvested by each fishing method over time. The dive fishery was historically responsible for about 3% of the total commercial harvest. But that proportion rose to 15% in the early 2000s. It also demonstrates the recent resurgence of the commercial bully net fishery, which surpassed the dive fishery in total pounds of lobster harvest in 2013 for the first time in decades.