

Audubon Nature Institute



G.U.L.F.

— Gulf United for Lasting Fisheries —

G.U.L.F. Florida Blue Crab Action Plan

Marine Advancement Plan (MAP)

July 2015

Prepared for:

Florida Fish and Wildlife Conservation Commission
Florida Blue Crab MAP Committee
Gulf States Marine Fisheries Commission

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TABLE OF CONTENTS

1. INTRODUCTION.....	1
1.1 About G.U.L.F.	1
1.2 Marine Advancement Plans.....	1
1.3 Florida Blue Crab MAP.....	3
2. BACKGROUND.....	5
2.1 Species Information.....	5
2.2 Habitat.....	6
2.3 Stock Status	6
2.3.1 Gulf Coast.....	7
2.3.2 Atlantic Coast	7
2.4 Environmental Factors.....	7
2.4.1 Habitat Loss, Restoration, and Freshwater Inflow.....	7
2.4.2 Predation	8
2.5 History of Fishery.....	9
2.6 Ecosystem Considerations.....	10
2.6.1 Habitat Impacts.....	10
2.6.2 Bycatch and Discards.....	11
2.6.3 Species of Concern	11
2.6.4 Derelict Traps	12
2.7 Fishery Interactions	13
3. MANAGEMENT.....	14
3.1 Management Structure.....	14
3.2 Brief History of Management Changes.....	14
4. MAP OUTREACH.....	16
4.1 Potential Stakeholders.....	16
4.2 G.U.L.F. Participating Stakeholders.....	16
4.3 Meetings.....	17
5. ACTIONS.....	17
5.1 Action Development	17
5.2 Actions.....	18
APPENDIX A: CURRENT REGULATIONS.....	25
APPENDIX B: FLORIDA BLUE CRAB SUSTAINABILITY BENCHMARKING RATINGS	53
APPENDIX C: CADDY CHECKLIST.....	56
APPENDIX D: FLORIDA BLUE CRAB MAP TIMELINE.....	77
WORKS CITED	81



I. INTRODUCTION

1.1 About G.U.L.F.

Gulf United for Lasting Fisheries (G.U.L.F.) was founded in 2012 and is the sustainable seafood program of Audubon Nature Institute, a not-for-profit network of facilities dedicated to “Celebrating the Wonders of Nature.” A home-grown, regional program, G.U.L.F. is dedicated to advancing the fisheries of the Gulf of Mexico towards greater sustainability. Through education and outreach, advancement plan development, and third-party assessment and certification of our fisheries, G.U.L.F. highlights what makes the region’s seafood special and encourages our fisheries to go above and beyond to meet the highest standards for responsible fisheries management.

1.2 Marine Advancement Plans

This project has been conducted under the Gulf States Marine Fisheries Commission (GSMFC) Oil Disaster Recovery Program (ODRP), Grant Award No. NA10NMF4770481, at the request of GSMFC to create Marine Advancement Plans (MAPs) based on assessments of U.S. state fisheries in the Gulf of Mexico. Assessments are conducted by benchmarking the fishery against internationally recognized standards of sustainability. Comprehensive information on the fishery was gathered through interviews with management and industry representatives, public documents, and research publications, and compared to the United Nations Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries (CCRF) in a G.U.L.F. Sustainability Benchmarking Report (SBR). The CCRF is the foundational document for the FAO Ecolabelling Guidelines, as well as many sustainability certification standards currently used in the marketplace. “A Checklist for Fisheries Resource Management Issues Seen from the Perspective of the FAO Code of Conduct for Responsible Fisheries” in FAO Fisheries Circular No. 917 FIRM/C917 known as the “Caddy Checklist” (Appendix C), was used as the basis for the SBR based on its functionality as an operationalized version of the CCRF. The Caddy Checklist focuses on the sustainability of the fishery by addressing five key areas: fisheries management, fishing operations, integration of fisheries into coastal area management, post-harvest practices and trade, and fisheries research. By taking clauses of the CCRF and transforming statements into questions, it is possible to quantify and score the system used to manage the



fishery, measuring the robustness of management and sustainability. A snapshot of the ratings via a “stoplight” system (GREEN, full credit; AMBER, partial credit; RED, no credit) generated by the SBR is available in Appendix B.

Marine Advancement Plan Process



1.3 Florida Blue Crab Marine Advancement Plan (MAP)

The scope of the Florida Blue Crab MAP includes only the blue crab fishery management and operations in Florida state waters. Based on the most recent regional stock assessment conducted by GSMFC, the Florida west coast blue crab fishery is part of the Eastern Gulf of Mexico (Eastern GOM) stock, which spans the Florida Gulf coast to Apalachee. The Florida blue crab fishery spans both the Atlantic and Gulf Coasts, and. The 2007 Florida blue crab stock assessment assesses the populations of the Gulf and Atlantic coasts separately. Florida Fish and Wildlife Conservation Commission (FWC) manages the blue crab fishery as a single unit.

After initial completion of the SBR, the G.U.L.F. team met with management and industry representatives and, utilizing the recommendations in the SBR, developed the actions detailed in Section 5 of this report.

The SBR has been reviewed by Florida Fish and Wildlife Conservation Commission (FWC) staff for completeness of information and audited by Global Trust Certification, LTD (GTC), a third party sustainability certification organization. GTC verified that the justifications provided for scoring met the approval of a certifying organization. The SBR contains a set of recommendations provided by G.U.L.F. and GTC for potential areas of improvement to increase the scoring of responses that did not meet a GREEN rating. A summary of commercial industry interviews and recommendations made by industry are also provided in the SBR.

The SBR and verification evidence can be provided upon request. Transparency of the MAP process is essential and is reflected through the G.U.L.F. website, www.AudubonGULF.org.

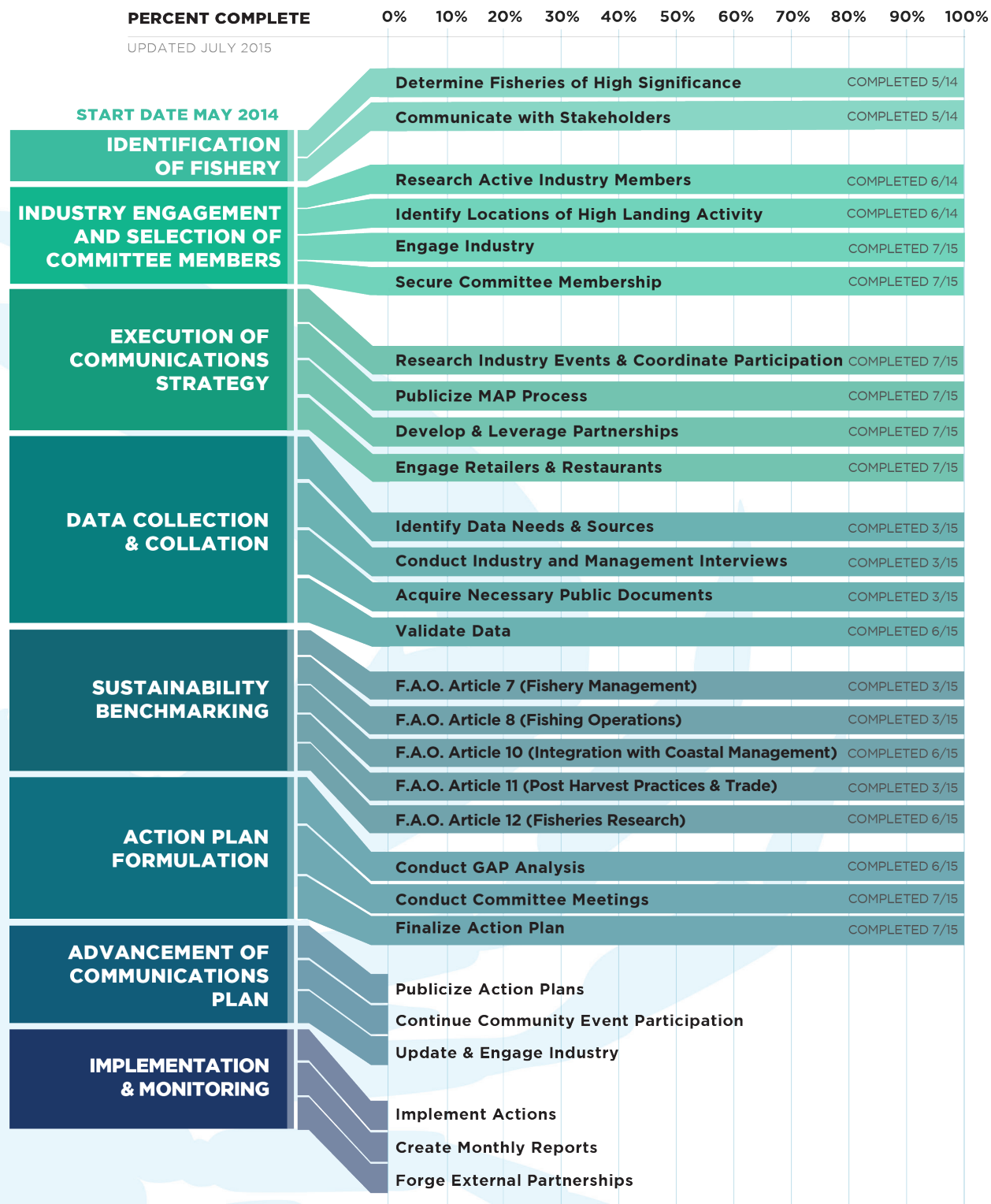
Of the 174 questions in the SBR used to benchmark the fishery, the Florida blue crab fishery received the following rankings, indicating high compliance with CCRF principles:

Florida Blue Crab Results		
RATINGS	Description	# of Questions
GREEN	full credit	145
AMBER	partial credit	17
RED	no credit	6
N/A	not applicable	6

In numerical scoring (GREEN = 1. AMBER = .5, and RED = 0) the Florida blue crab fishery scored a 91%. For details on numerical scoring, see the SBR.

See Appendix B for scoring results of each question.

Progress for Florida Blue Crab MAP



2. BACKGROUND

2.1 Species Information:

Blue crab (*Callinectes sapidus*) has a wide range in the Northern hemisphere. They are found throughout the Gulf of Mexico, as far north as Nova Scotia and as far south as Argentina, including Bermuda and the Antilles ([Perry and VanderKooy 2015](#)). Blue crab is considered an “r-selected species,” displaying high fecundity, rapid growth, early age-at-maturation, short life spans, and high

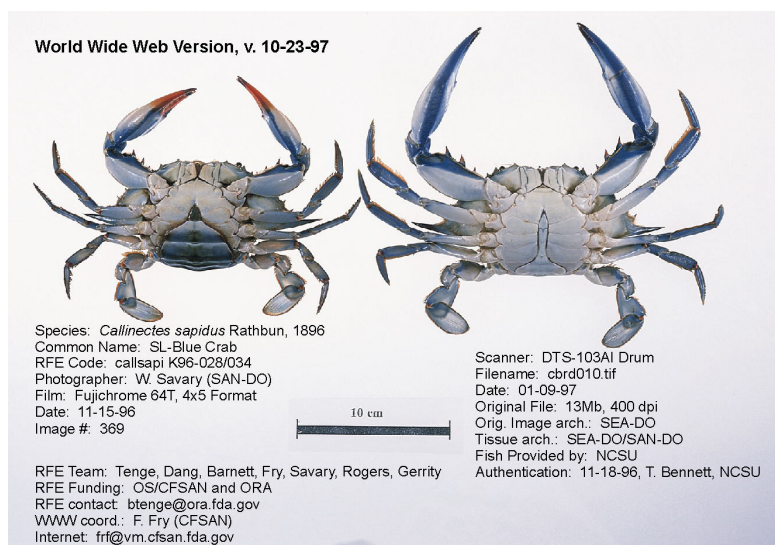


Image Credit: Food and Drug Administration (FDA) Regulatory Fish Encyclopedia (RFE), <http://www.fda.gov/Food/FoodScienceResearch/RFE/ucm078750.htm>

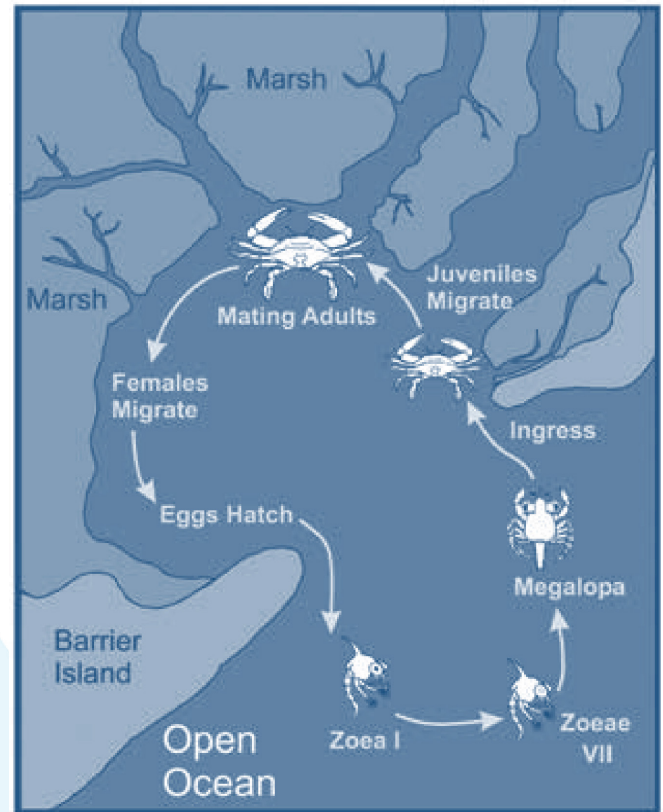
natural mortality rates. These characteristics make blue crab highly resilient and allow for sustained high exploitation rates, and rapid recovery in the event of overfishing ([Guillory, Perry and VanderKooy 2001](#)). The maximum life span for a blue crab is six years ([West et al. 2011](#)), but the average is one to three years ([FWC](#)). Blue crabs are sexually dimorphic; females have red claws and a broad abdominal apron, while males have blue claws and a narrow abdominal apron. Determining the exact age of crabs can be difficult; however, scientific evidence indicates that blue crabs in the Gulf of Mexico reach sexual maturity within 10 to 12 months. Mating and spawning occurs March through November. Females mate once in their lives, but can store sperm for future spawning, and they may spawn several times in a season. The female carries as many as three million eggs per brood under the abdomen for about two weeks until they hatch.

Blue crabs feed on a wide variety of organisms. While the exact diet of larval blue crabs is unknown, culture of blue crabs indicate that during free-swimming pelagic larvae stage, they are filter feeders that primarily consume zooplankton ([Millikin and Williams 1984](#)). Juvenile and adults are non-discriminating predators and scavengers, feeding on fish, blue crabs, other crab species, clams, oysters, shrimp, mussels, snails, worms, insects, aquatic plants, and detritus (Laughlin 1982). Blue crabs are also vital prey for many species of fish, reptiles, and mammals. Cannibalism is also common.

2.2 Habitat

Blue crabs require a diverse range of habitats, as various life stages require different ecological niches. In general, males prefer lower salinity habitats, while females utilize hyposaline areas primarily to molt and mate. Females migrate offshore where the eggs hatch into free swimming pelagic larvae (zoeae). Larvae are distributed via currents and will molt several times before becoming a juvenile crab and settling in an estuary or bay ([West et. al. 2011](#)).

The estuarine phase of the blue crab life cycle is possibly the most important ([VanderKooy 2013](#)). Vegetated habitats are nursery areas for crabs, as the submerged vegetation provides cover for juvenile crabs to molt and grow with less risk of predation ([VanderKooy 2013](#)). Juvenile and adult blue crabs have a wide range within an estuary, utilizing submerged vegetation, mud bottoms, oyster reefs and sandy bottom areas. Males usually remain within estuaries while females move offshore to spawn and hatch their eggs ([VanderKooy 2013](#)).



Crabs found in different areas during different life stages.

Credit: Sea Science: Blue crab <http://www.dnr.sc.gov/marine/pub/seascience/bluecrablif.html>

2.3 Stock Status

Based on the most recent regional assessment conducted in 2013 by GSMFC, there are currently two stocks of blue crab in the Gulf of Mexico. The Western Gulf of Mexico (Western GOM) stock occurs from central Texas to Apalachicola Bay in Florida. The Eastern GOM stock in Florida is found from Apalachee to the Keys ([VanderKooy 2013](#)). The Florida blue crab fishery spans both the Atlantic and Gulf coasts of the state. The 2007 Florida blue crab stock assessment considers these as two sepa-

rate stocks with analysis of each coast separately. Genetic studies by McMillen-Jackson et al. (1994) and McMillen-Jackson and Bert (2004), indicate that the two coasts are not genetically distinct; however, short-term dispersal is localized, and genetic flow between east and west coasts may be low. For these reasons, population analyses are conducted separately for each coast (Cooper, Gandy, and Crowley 2013).

2.3.1 Gulf Coast

The Florida Gulf coast population is currently not overfished and not experiencing overfishing as determined by both the Gulf Data, Assessment and Review ([GDAR01](#)) and the 2013 FWC stock assessments. The GDAR01 stock assessment of blue crab states that the Eastern GOM stock did experience overfishing in 1996 and 1998. Eastern GOM stock abundance experienced a decline through the 1990s, but has stabilized. Abundance can vary annually, and the Eastern GOM stock abundance typically peaks following periods of high rainfall ([Perry and VanderKooy 2015](#)).

2.3.2 Atlantic Coast

The Atlantic coast population is currently not overfished and not experiencing overfishing based on the stock assessments conducted by FWC in 2001, 2007, and 2013 (Cooper, Gandy, and Crowley 2013).

2.4 Environmental Factors

2.4.1 Habitat Loss, Restoration, and Freshwater Inflow

Natural and anthropogenic alteration of habitat in the Gulf of Mexico impacts every stage of the crab life cycle. Activities that can contribute to habitat loss include but are not limited to pollution, coastal development, eutrophication, and alterations in freshwater and sediment flow ([Guillory, Perry and VanderKooy 2001](#)). Blue crabs depend on the quality and quantity of estuarine marshes, mangrove areas, submerged vegetation, and nearshore soft sediment habitats to successfully reproduce and grow ([Guillory, Perry and VanderKooy 2001](#)).

Habitats may be altered by human activity through freshwater control. Wetlands are created by and maintained through nutrients and sediments transported to them by river systems; the damming, channelization, and leveeing of rivers can affect the timing and flow of freshwater to a wetland es-



tuary and greatly affect the composition of the habitat ([Guillory, Perry, and VanderKooy 2001](#)). Additionally, the coast of Florida has experienced rapid development in the last 40 years. While coastal erosion is lower than some of the other Gulf States due to lower wave energy, hard structures have been installed in areas of high density development with the purpose of minimizing erosion (Morton et al. 2004). The influx of people seeking coastal properties has also resulted in habitat degradation due to dredge and fill activities (Lewis et al. 1985; [Perry and VanderKooy 2015](#)). Wetland, seagrass, mangrove swamp, and tidal marsh habitat has significantly declined in many areas around the state (Lewis and Lewis 1978; [Perry and VanderKooy 2015](#)).

Current research in the Gulf of Mexico has identified freshwater inflow to be a critical driver of blue crab population dynamics ([VanderKooy 2013](#)). Low flow conditions have been found to negatively affect juvenile blue crabs in the Apalachicola River estuary (Wilber 1994). [Sanchez-Rubio et al. \(2011\)](#) related abundance of juvenile blue crab to the influence of global climate factors on regional hydrology and how climate and hydrology structure habitat. Riedel et al. (2010) highlights the correlation between significant downward trends in abundance of juvenile blue crabs and a period characterized by drought and habitat changes from both natural and man-made alterations to coastal wetlands. High river flows have also been linked to increased commercial landings in Florida and Texas (More 1969, Wilbur 1994).

Fluctuations in freshwater inflow and resulting changes in salinity may also have secondary effects on blue crab abundance due to predation ([Bourgeois, Marx, and Semon 2014](#)). Predation is a significant factor influencing blue crab abundance, and changes in salinity influence the presence or absence of predators. During periods of high freshwater inflow and low salinity, many predators remain offshore in higher salinity waters, while low rainfall will increase salinity, causing predators to move inshore and overlap with blue crab habitats.

2.4.2 Predation

Blue crabs are a common prey item for many species of finfish including red drum (*Sciaenops ocellatus*), spotted seatrout (*Cynoscion nebulosus*), black drum (*Pogonias cromis*), Atlantic croaker (*Micropogonias undulatus*), gafftopsail catfish (*Bagre marinus*), and hardhead catfish (*Ariopsis felis*) ([VanderKooy 2013](#)). In the past, due to population concerns, Florida banned the commercial harvest of red drum and spotted seatrout in state waters. Possession and retention of red drum in federal waters is

also prohibited. Recent population increases of many of these species due to restrictions on fishing activities and reductions in finfish bycatch could have potential impacts on blue crab abundance. Blue crabs are a large part of a red drum's diet; a study found that blue crab comprised 37% of total red drum diet by weight, and ranked over 13 times greater in relative importance than the next-ranked species (Guillory and Prejean 2001).

2.5 History of Fishery

The blue crab fishery has been a part of the Gulf of Mexico seafood industry since at least the late 1800s, with early gear types including dip nets, drop nets, and trot lines. Louisiana and New Orleans were the center of development for the commercial blue crab fishery, with fishermen bringing crabs to New Orleans to supply the French Market and local restaurants ([Perry et. al. 1984](#)). The first processing plant for Louisiana crab meat was built in Morgan City in 1924, and an additional six plants were added by 1931. The first plant in Florida was built in Apalachicola in 1930 ([Steele and Bert 1998](#)). Commercial harvest of hard crabs increased gradually until the 1970s, at which point it accelerated sharply through the 1980s, when the highest-ever commercial landings of crab were reported across the region, except in Mississippi, and Gulf-wide total landings peaked in 1988 at 79 million pounds. ([Guillory, Perry and VanderKooy 2001](#)).

Historically, blue crabs were harvested with dip nets. The 1950s saw an increase in trotlines, drop nets, otter trawls and pots, each of which were used with varying intensity from 1950 until the 1980s, when traps became the dominant gear ([Guillory, Perry and VanderKooy 2001](#)). Currently, blue crabs are harvested almost exclusively with wire traps.

Blue crab is an economically important species in the state of Florida. In 2013, approximately 6.6 million pounds were landed with a value of \$9.6 million ([NOAA OST](#)). Over 65% of these landings came from the Gulf Coast. However, due to short driving times between coasts, the fishery is highly mobile. Crabs harvested on one side of the state may be documented as landed on the opposite coast ([ASM-FC 2004](#); Cooper, Gandy, and Crowley 2013). Florida blue crab landings account for close to 10% of total Gulf blue crab landings. The fishery consists primarily of the hard shell blue crab (Cooper, Gandy, and Crowley 2013), though there is a peeler and soft shell crab fishery that was worth about



\$500,000 in 2013 ([NOAA OST](#)). The dominant gear is wire-coated traps, which account for 99% of catch. Shrimp trawl bycatch of blue crabs was once thought to be a significant source of removal. The 1996 net ban significantly restricted shrimp trawl activity within state waters (out to nine nautical miles from the Gulf coastline and three nautical miles from the Atlantic coastline), reducing the likelihood of incidental blue crab catch (Cooper, Gandy, and Crowley 2013). Shrimp trawls with a blue crab incidental take endorsement are permitted to keep up to 200 pounds of blue crab bycatch per trip. Other gears, such as crab lines, are legal but essentially unused in the commercial fishery.

The number of blue crab fishermen in Florida has decreased drastically over the last 30 years. In 1998, there were 6000 endorsements with landings of 11.4 million pounds. That same year, a moratorium was placed on the issuance of new blue crab endorsements ([Murphy, McMillen-Jackson, and Mahmoudi 2007](#)). In 2007, FWC implemented a Blue Crab Effort Management Plan (BCEMP) to address concerns of overcapacity, seasonal overcrowding of traps in certain zones, high number of user conflicts, and latent licenses in the fishery. Licenses are broken down into different endorsements: hard crab (VH), soft shell, (VS), non-transferrable (VN), and incidental catch (VI). Tags are issued for each license type. Endorsement type also indicates how many traps may be fished and varies between the four endorsement categories (See Appendix A for full regulations). The VI endorsement allows those who hold a stone crab endorsement, or someone who can demonstrate landings of blue crabs as bycatch in legal shrimping gear, to harvest and sell up to 200 pounds of blue crabs as bycatch per trip. Since the implementation of the moratorium and the BCEMP, endorsement numbers have been reduced to 950 in 2011 with landings of 1.6 million pounds, 3% of Gulf landings (Cooper, Gandy, and Crowley, 2013; [Perry and VanderKooy 2015](#)).

2.6 Ecosystem Considerations

2.6.1 Habitat Impacts

Crab traps, the dominant gear used by the commercial fishery, are a relatively selective gear and are considered to have low impact on the environment due to static placement and use on low-sensitivity mud bottoms and oyster reefs ([Guillory et al. 2001](#)). Florida conducts derelict trap removal programs annually to reduce habitat impacts of lost or abandoned traps.

2.6.2 Bycatch and Discards

Crab traps do not cause high bycatch mortality and allow for live catch with minimal waste. Across the Gulf of Mexico, 23 finfish species, including recreationally significant species such as spotted seatrout (*Cynoscion nebulosus*), red drum (*Sciaenops ocellatus*), black drum (*Pogonias cromis*), and southern flounder (*Paralichthys lethostigma*) have been documented in blue crab traps ([Guillory et al. 2001](#)). Other invertebrates may also be caught in traps. Commercial fishermen in Florida are permitted to retain bycatch species caught in traps within the recreational limits and regulations set for that species ([Commercial Saltwater Fishing Regulations Guide](#)). Commercial blue crab fishermen are also allowed to take and sell up to five gallons of stone crab claw per day with a stone crab incidental take endorsement ([68B-13.010 Stone Crab Trap Limitation Program](#)). Studies in Louisiana and Mississippi found bycatch rates and mortality to be too low to present risk to the populations of bycatch species ([Bourgeois, Marx, and Semon 2014](#), [Graham et. al. 2012](#)).

Traps are relatively size-selective and target a limited size range due to the diameter of trap funnels. Commercial fishermen cannot retain crabs smaller than five inch carapace width ([Florida Rules and Regulations, Chapter 68B-45](#)). FWC requires a minimum of three escape rings, one on a ventricle outer surface adjacent to each crab retaining chamber, that are at least 2 3/8 inches in diameter. A degradable panel is also required in crab traps to reduce bycatch of sublegal crabs and non-target species and to minimize impacts of lost or abandoned gear ([Florida Rules and Regulations, Chapter 68B-45](#)). Peeler traps target smaller crabs and may have a smaller minimum mesh size than hard crab traps, however, they still must be equipped with a degradable panel ([Florida Rules and Regulations, Chapter 68B-45](#)).

2.6.3 Species of Concern

Diamondback terrapin

Diamondback terrapin (*Malaclemys terrapin*) shares some habitat with blue crabs, and concerns have been raised by environmental groups over incidental catch and mortality of terrapins in blue crab traps. There are several subspecies of terrapin across its range, which extends along the Atlantic and Gulf coasts. The mangrove terrapin, found in the Florida Keys and Florida Bay area, is the only species listed as a rare species on the Florida Natural Areas Inventory (FNAI) and in the Florida Commit-



tee on Rare and Endangered Plants and Animals (FCREPA; [Boykin 2004](#)). It is legal in Florida to take two diamondback terrapins per person per day for noncommercial use ([FWC nongame regulations](#)). Incidental capture and mortality of diamondback terrapins in blue crab traps has been noted as a possible concern and FWC is currently investigating this ([FWC diamondback terrapin research](#)). Florida's Fish and Wildlife Research Institute (FWRI) recently issued a final report to the Wildlife Foundation of Florida on interactions between terrapins and crab traps including identification of "hot spots" of terrapin abundance and fishing effort, an assessment of terrapin populations, and a study of trap interactions in a known terrapin colony (Gandy and Turner 2014). FWC representatives, through the GSMFC Crab Subcommittee, are working with the Gulf Coast Region Diamondback Terrapin Working Group to discuss potential management options for reducing diamondback terrapins mortality in crab traps; a meeting between the two groups occurred in February of 2015. The Diamondback Terrapin Working Group is also working with the blue crab industry and managers across the Gulf of Mexico to address concerns of terrapin interactions and mortality in blue crab traps ([Diamondback Terrapin Working Group](#)).

Marine mammals

The Gulf of Mexico blue crab fishery is considered by NOAA's Office of Protected Resources (OPR) to be a Category III (remote likelihood/no known) on the List of Fisheries (LOF) based on the level of interaction with and threat to marine mammals ([NOAA's OPR](#)). The Atlantic Coast blue crab trap fishery, however, is listed as a Category II on the LOF due to higher potential interaction with marine mammals, which requires the fishery to follow regulations defined by the [Atlantic Large Whale Take Reduction Plan \(ALWTRP\)](#) and the [Bottlenose Dolphin Take Reduction Plan \(BDTRP\)](#). These plans require the Atlantic Coast fishers to mark buoys and line them with identifying colors (blue and orange for state waters). Additionally, the plans stipulate that there cannot be any floating line at the surface, there must be a weak link in the buoy line, and gear must be hauled at least every 30 days ([NOAA OPR- Atlantic blue crab](#)). Participants in the fishery must register with OPR and comply with ALWTRP and BDTRP, but there is no requirement to report interactions ([NOAA's OPR- ALWTRP](#), [NOAA's OPR- BDTRP](#)).

2.6.4 Derelict Traps

Crab trap loss is a factor that affects not only fishermen but potentially the ecosystem in which traps

are lost. Trap removal started in the 1990s as a state effort to remove stone crab and lobster traps, then expanded to include blue crab traps. There are currently two programs dedicated to lost or abandoned trap removal in Florida. The Spiny Lobster, Stone Crab and Blue Crab Trap Retrieval Program run by FWC contracts commercial fishermen each year to remove fishable traps from designated zones during closed seasons ([FWC](#)). Participants are selected through a competitive-bid process and payments to fishermen are made based on the number of traps retrieved and the number of trips made for retrieval ([Florida Statutes section 379.2424](#)). FWC also maintains a Derelict Trap and Trap Debris Removal Program, which authorizes volunteer organizations to collect derelict traps during both open and closed seasons. In July of 2003, rules were developed and adopted allowing for derelict trap retrieval by persons other than FWC personnel during open seasons, however, strict definitions of “derelict” are applied and prior authorization from FWC is required. Since the adoption of these rules, several community-led removal programs have developed across the state and over 25 trap cleanup events occurred between 2003 and 2008 resulting in over 1700 traps removed ([Ocean Conservancy 2009](#)). In July of 2009, a new rule was adopted to create an annual 10 day season closure for the purpose of blue crab derelict trap removal.

2.7 Fishery Interactions

There is a high possibility of interaction between Florida’s commercial blue crab fishery and other commercial and recreational fisheries; the exact nature of these interactions vary by region. Recreational blue crabbing is allowed in Florida with a maximum of five recreational traps per saltwater fishing license. Industry interviews have revealed there is concern over recreational traps being set too close to commercial lines, resulting in commercial trap damage as well as theft of catch. Interactions also occur across state boundaries. Other Gulf State fishing practices may affect fisheries in Florida, and vice versa (MRAG Americas, Inc. 2008). While Florida’s Gulf blue crab fishery is comprised mainly of the Eastern GOM stock, the range of the Western GOM stock extends over a small portion of the Florida panhandle.

Interactions between crab and shrimp gear are common in most Gulf States. Blue crab is a bycatch species in shrimp trawls ([Fuls et al. 2002](#)), and gear interactions can be a source of conflict between the fisheries. However, in Florida, the 1996 net ban reduced some of the gear interactions between



shrimp and blue crab. Except for a few designated areas, all shrimping must occur nine nautical miles from Florida's Gulf Coast and three nautical miles from the Atlantic Coast. Commercial fishermen using shrimp trawls may keep 200 pounds of blue crab bycatch per trip with a blue crab incidental take endorsement, but this is usually in areas where there isn't active commercial blue crabbing.

3. MANAGEMENT

3.1 Management Structure

The Florida blue crab fishery, which is fished exclusively within Florida state territorial waters, is managed under the Florida state legislature and associated regulatory bodies, primarily FWC. The mission of FWC is to manage "fish and wildlife resources for their long-term well-being and the benefit of the people." FWRI, the research arm of FWC, is focused on providing scientific data on Florida's natural resources to managers and to the general public (["Marine Fisheries Research" Florida Fish and Wildlife Conservation Commission](#)). Members of FWC, as well as members from the management agencies of the other four Gulf States, collaborate regularly through GSMFC. GSMFC acts as an advisory agency providing management recommendations for each Gulf State, but has no regulatory authority. The charge of GSMFC is "to promote better utilization of the fisheries, marine, shell and anadromous, of the seaboard of the Gulf of Mexico, by the development of a joint program for the promotion and protection of such fisheries and the prevention of the physical waste of the fisheries from any cause."

3.2 Brief History of Management Changes

- 1941 – First blue crab specific regulation, a 5 ½ inch minimum carapace width.
- 1973 – Cannot sell egg-bearing females harvested from state waters.
- 1978 – Minimum size limit was reduced to five inch carapace width. No more than 10% of catch may be undersized unless authorized by a special permit for soft shell crab or bait.
- 1985 – Start of the Marine Fisheries Information System (Trip Ticket). Trip Tickets obtained data on number of trips, pounds caught per trip, and number of traps per trip.

- 1994
 - Blue crab designated as Restricted Species (RS) by the Florida Marine Fisheries Commission.
 - 10% tolerance for undersized crabs repealed.
 - Allowed bycatch possession limit of 200 pounds of blue crabs per trip on shrimp trawls.
 - Harvest and possession of egg-bearing females prohibited.
 - Daily recreational bag limit of 10 gallons of blue crabs established. There were additional changes to some of these regulations that allowed some retention of undersized crabs.
 - Three escape rings larger than 2 3/8 inch inside diameter must be in each trap.
 - Biodegradable trap components were required to prevent “ghost-fishing” by lost traps.
- 1995 – Changes in escape ring regulations due to development of peeler-trap fishery.
 - Escape rings with larger 1 1/2 inch mesh required.
 - Only live male crabs could be used as bait in peeler traps.
- 1998
 - Use of blue crab traps in federal waters prohibited.
 - Moratorium on issuing new blue crab endorsements from June 1998 to June 2007.
- 2004 – Waters three to nine nautical miles offshore of the area north of the Suwannee River were closed to blue crab traps during September 20 to October 4 each year to eliminate take of stone crab in blue crab traps before opening of stone crab season.
- 2005 – Waters three to nine nautical miles offshore closed along all of the Gulf coast of Florida during September 20 to October 4 each year.
- 2008 – The BCEMP separated the blue crab endorsements by product type: hard shell (VH), soft shell (VS), non-transferable (VN) and incidental catch (VI) along with issuing tags for each trap fished based on where and how the blue crab trap was fished (inshore, offshore, soft shell and hard shell). The BCEMP is structured so fishermen must re-qualify with landings in order to renew their endorsements.
- 2009 – Trap tag fees implemented.



4. MAP OUTREACH

4.1 Potential Stakeholders

In order to address the blue crab fishery as a whole, G.U.L.F. conducted extensive research and industry interviews to identify stakeholders and potential committee members. Stakeholder groups include:

- Commercial fishermen
- Recreational fishermen
- Processors/wholesalers
 - There are only three picking houses in the state of Florida
 - Most wholesalers and dealers distribute live crab product
- *Fresh From Florida*® – the marketing initiative under the Florida Department of Agriculture
 - This program is responsible for marketing all Florida products, including seafood
- Management and research groups
 - FWC
 - FWRI
 - Legislature
 - GSMFC
 - Universities and academia
- Conservation and academic groups
 - Sea Grant

4.2 G.U.L.F. Participating Stakeholders

- [Organized Fishermen of Florida \(OFF\)](#)
- FWC

4.3 Meetings

July 11, 2015:	Presented recommendations to OFF
June 22, 2015:	Participating stakeholders. Ocala, FL
November 7, 2014:	Industry meeting, Florida Keys Commercial Fishermen's Association. Marathon, FL
November 4, 2015:	Blue crab industry member. Bristol, FL
November 4, 2015:	Blue crab industry member. Carrabelle, FL
October 14, 2014:	Data collection with FWC at GSMFC Meeting. Gulfport, MS
July 11, 2014:	Presented project at OFF annual meeting. Merritt Island, FL
June 25, 2014:	Blue crab industry members. Panama city, FL
June 24, 2014:	Blue crab industry members. Crystal River, FL
June 24, 2014:	Blue crab industry members. Cross City, FL
June 23, 2014:	Initial meeting with FWC. St. Petersburg, FL

5. ACTIONS

5.1 Action Development

A list of recommendations based on the results of the SBR was presented to a committee of industry stakeholders on June 22, 2015, along with management representatives. The group discussed the initial recommendations from G.U.L.F. and associated actions that would achieve recommendations. Explanations for recommendations and corresponding actions are below. The current actions outlined in this report are the initial actions agreed upon by the MAP committee and may not address all of the original recommendations at this time.



5.2 Actions

RECOMMENDATION 1		Increased marketing effort to enhance local market and address seasonality.
Reference		Industry interviews (also adds additional support to SBR 7.3.4 and 7.2.2)
<p><u>Summary:</u></p> <p>Most of the blue crabs harvested in Florida and across the Gulf of Mexico are sold live and transported to the Mid-Atlantic Coast. The Mid-Atlantic market is highly seasonal, with the ability to sell blue crabs declining in late summer into fall. However, blue crab availability remains high throughout the fall. Fishermen will decrease effort since the product cannot be moved as quickly. Additionally, the popularity behind eating whole crabs has decreased. Local educational events focused on consumption of whole crabs could create an engaging environment that teaches people how to pick blue crabs, instilling a sense of pride in the local product.</p>		
ACTIONS	1	Work with the Florida Department of Agriculture and Consumer Services (FDOACS) and the Fresh from Florida Program to create more local promotional events.
	2	Engage Florida Sea Grant to create consumer education around preparing and consuming whole crabs.

RECOMMENDATION 2		Reactivate Blue Crab Advisory Board
Reference		Industry interviews (also adds additional support to SBR 7.1.2 (a), 7.1.9, 7.2.2, 7.4.5, 7.6.5, 7.6.6, and 10.1.2)
<p><u>Summary:</u></p> <p>In 2003, the Blue Crab Advisory Board (BCAB) was created to advise FWC during the development and implementation of BCEMP and to address other issues in the fishery. The BCAB was active until July of 2012, at which time FWC discontinued funding for the board. Members of the board meet informally to discuss issues in the fishery, but no formal structure currently exists. Reinstitution of the BCAB could help address new issues in the fishery in a more official capacity. Such issues and concerns, as collected by G.U.L.F. during Florida blue crab industry interviews, include:</p>		

- User conflicts
 - Florida's blue crab fishery has a high potential for and occurrence of conflicts between multiple user groups. Some fishermen have been fishing in the same area for decades and disapprove of intruding industry members from other areas. Because of the length of coastline, as well as the short driving time between the Atlantic and Gulf coasts, some industry members are highly mobile, picking up and fishing on either side of the state, depending on favorable catch areas.
 - There is also high potential for conflicts between the commercial and recreational blue crab fisheries. In Florida, there is no separate license for recreational blue crabbing. An individual is allowed five traps under a saltwater license. There is concern over recreational fishermen setting traps too close to commercial lines, theft of commercial catches, and a lack of information on recreational landings. Currently, FWC has no way to collect data on how many pounds of blue crab are landed by the recreational crab sector. The spiny lobster fishery in Florida currently has a separate license required for recreational take. Additionally, FWC conducts surveys of recreational license holders to capture common areas fished and approximate landings. Something similar could be implemented for recreational blue crabbing, and such a recommendation would need the support of industry, which could be provided through a BCAB.
- Resource for endorsement exchange/sale
 - FWC put a license moratorium in place in 1998 to begin addressing concerns over increasing numbers of licensed fishermen and traps in use, declining CPUE, and reports of high incidence of user conflicts. The moratorium, followed by the implementation of the BCEMP, has reduced the number of endorsements from close to 6000 in 1998 down to 950 in 2011. For a new fisherman to enter the fishery, an endorsement would need to be purchased from an active fisherman. Currently, someone interested in selling endorsements may advertise on various websites; however, no central marketplace exists for selling/purchasing endorsements. An industry group, such as the BCAB, could act as a central location and resource for people looking to buy and sell and endorsements.



- Alternatives to current trap cleanup efforts

- Currently, the FWC splits the Florida coastline into five areas under the trap cleanup program. The coastlines alternate years; the Gulf Coast and southern Florida institutes closures in odd years and the Atlantic Coast during even years. There is some concern that areas are disproportionate in size, making cleanups more difficult in the larger areas because there is more water to cover in a 10 day period. The BCAB could provide a forum to discuss possible solutions for this concern.

ACTIONS	1	Blue crab industry members develop a list of reasons for the need to reinstate an
	2	Interested industry members discuss with FWC the process needed to reactivate the BCAB.
	3	Industry and FWC jointly create priority issues and define make up of the BCAB.

RECOMMENDATION 3	Better publication of contact information and volunteer events surrounding trap cleanup.
Reference	Industry Interviews (also adds additional support to SBR 7.2.2- biodiversity, 7.2.2- lost or abandoned gear, 8.4.6, 8.4.8, 8.5.1 (b), and 12.10 (c))

Summary:

FWC conducts trap removal programs to minimize the impacts of ghost fishing by lost or abandoned traps in Florida waters. FWC currently runs two separate programs that address lost or abandoned gear:

The Spiny Lobster, Stone Crab and Blue Crab Trap Retrieval Program

FWC contracts commercial fishermen each year to remove fishable traps from designated zones during closed seasons. Through this program, FWC selects participant organizations through a competitive bid process and payment to fishermen is made based on the number of traps retrieved and the number of trips made for retrieval. This program is funded through fines assessed for retrieved traps (\$10 per trap for the owner of each trap removed, after a five trap waiver, when owner is identifiable through trap tags) and a portion

of license fees for blue crab, stone crab and spiny lobster endorsements (\$25). Effective in 2010, five zones were defined along the Florida coast, and a system of seasonal closures by zone was set for blue crab removal with alternating closures by year and coast.

Derelict Trap and Trap Debris Removal Program

This program authorizes volunteer organizations to collect derelict traps during both open and closed seasons. In July of 2003, rules were developed and adopted that allow derelict trap retrieval by persons other than FWC personnel based on a strict definition of “derelict” and prior authorization from FWC. Since the adoption of this rule, several community-led removal programs have been developed across the state and over 25 trap cleanup events occurred between 2003 and 2008 resulting in the removal of over 1700 traps. In July of 2009, a new rule was adopted to create an annual 10 day season closure for the purpose of derelict trap removal. Volunteer groups may remove derelict traps from state waters when an event is organized and authorized by FWC. Volunteer cleanups may occur during open or closed seasons as long as they adhere to guidelines established in Rule 68B-55, Florida Administrative Code. Despite the efforts of FWC and the commercial fishing industry, there is still some concern that traps are being missed during cleanups. There is a phone number available that anyone can call to report traps for removal. This number goes to a coordinator who records the location and notifies the fishermen who have been contracted to pick up traps during the closed season. Better advertisement and publication of this number could allow concerned citizens or other members of the industry to report derelict traps and contribute to a more thorough cleanup effort. Additionally, better publication of volunteer trap events and participation by local fishermen in these events would also aid in more effective trap removal programs.

ACTIONS	1	G.U.L.F. to collaborate with industry on communication strategy surrounding annual trap cleanups.
	2	Prepare regional areas ahead of closure period to best utilize effort. Inform local fishermen of the phone number to report traps for removal and let them know about any volunteer efforts taking place in their area that they can assist with.



RECOMMENDATION 4		Water flow concerns
Reference		Industry interviews (also adds additional support to SBR 7.2.3, 7.4.2, and 12.5 (a))
<p><u>Summary:</u></p> <p>The blue crab fishery is environmentally driven. Current research indicates that freshwater inflow is a critical driver of blue crab population dynamics (Sanchez-Rubio et al. 2011), and landings can fluctuate based on water flow. Low flow conditions have been found to negatively affect juvenile blue crabs in the Apalachicola River estuary. Urbanization of Florida and water uses in the watersheds further upstream from Florida's estuaries and bays can negatively impact commercially important species, including blue crab. FWRI staff has presented data to the South Florida Water Management District for consideration when making water use decisions (Gandy et al. 2010). Further research and communication between FWC and the five water management districts of Florida could increase awareness of this issue.</p>		
ACTIONS	1	FWC continues to send information as needed to Florida Water Board on how practices impact commercial species.
	2	Blue crab industry engagement in public meetings for water management districts to raise awareness of this issue and show public support for consideration of estuarine and biological needs when determining water usage.

RECOMMENDATION 5		Conservation and Restoration of blue crab habitat
Reference		Sustainability Benchmarking Report 7.2.2, 7.2.3, and 12.5 (a)
<p><u>Summary:</u></p> <p>Blue crabs depend on coastal habitats. The adult stages of blue crabs are primarily located in marshes, tidal areas, and estuaries. Conservation and restoration activities would serve to increase viable habitat for blue crabs, as well as other vital marine and estuarine species.</p> <p>Numerous coastal restoration initiatives are underway in Florida through both government agencies and non-profit organizations. As coastal populations increase and environmental changes occur, maintaining coastal habitats will be an ongoing challenge and continued support for coastal protection and restoration is recommended.</p>		
ACTIONS	1	Identify priority blue crab habitats in need of restoration.
	2	Continue to support and participate in current restoration efforts.

RECOMMENDATION 6		Collaboration with Sea Grant on education and training.
Reference		Sustainability Benchmarking Report- 8.1.7, 8.1.8, 12.4
<u>Summary:</u> During interviews conducted by G.U.L.F. in every Gulf State, industry members have praised Sea Grant's ability to educate fishermen on methods for improving product and updating them on innovative techniques within the fishery. One fisherman said that training on shedding crabs by Florida Sea Grant completely changed and improved his business. Louisiana Sea Grant has extensively looked into improving the quality of blue crabs (reduce handling, keep them as cool as possible before selling), and has presented this information to fishermen during trainings held across the state. Additionally, Louisiana Sea Grant has collaborated with Louisiana Department of Wildlife and Fisheries on development and implementation of a professionalism program for commercial fisheries. For the Louisiana blue crab fishery, the professionalism program requires new applicants for a commercial blue crab license to be trained on current regulations, business plans, and best practices for catching and handling product. New applicants must also complete an apprenticeship. Florida Sea Grant has begun discussion with FWC about implementing training seminars for stone crab, as well as other commercial fisheries. Similar trainings could benefit sectors of the blue crab industry.		
ACTIONS	1	Discussion between FWC, industry, and Sea Grant to determine priority areas of education for the industry.

RECOMMENDATION 7		Data collection on recreational fishery.
Reference		Industry Interviews Sustainability Benchmarking Report- 7.3.1 (c), 7.3.4, and 12.4 (a)
<u>Summary:</u> There is currently no data on the impacts of recreational fishing on blue crab populations. Anyone who holds a Florida saltwater license is allowed five recreational traps for blue crab. Landings from this sector are not recorded, and there is no information on how many saltwater license holders are using traps. There are similar concerns in the stone crab fishery, and the newly formed Stone Crab Advisory Board is proposing ways to address this in their fishery. There was concern over the effort		



in the recreational lobster fishery, and now in order to fish for spiny lobster an individual must hold a saltwater license and lobster permit. FWC conducts surveys of spiny lobster endorsement holders to gain valuable data on recreational use in the fishery. Similar discussions could be had regarding blue crab to get a better handle on recreational effort.

ACTIONS	1	Industry and FWC discuss feasibility of either blue crab specific recreational license or recreational tags, modeling current recreational lobster data collection system.
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APPENDIX A: CURRENT REGULATIONS

FLORIDA RULES AND REGULATIONS

CHAPTER 68B-45

BLUE CRAB

68B-45.001 Purpose and Intent; Repeal of Statutory Provisions; Designation as Restricted Species

68B-45.002 Definitions

68B-45.003 Minimum Size Limits

68B-45.004 Regulation and Prohibition of Certain Harvesting Gear

68B-45.0045 Closed Seasons

68B-45.005 Bag Limit

68B-45.006 Other Prohibitions

68B-45.007 Blue Crab Limited Entry Endorsement Program

68B-45.008 Assessment of Administrative Penalties for Violations Relating to Blue Crab Management

68B-45.001 Purpose and Intent; Repeal of Statutory Provisions; Designation as Restricted Species.

(1) The purpose and intent of this chapter is to protect and conserve Florida's blue crab resources and assure the continuing health and abundance of the species.

(2) It is the intent of this chapter to expressly effect the repeal of and replace the second distinct sentence of subsection (1) of Section 370.135, F.S. (1993).

(3) It is the intent of this chapter to repeal and replace Chapter 63-1217, Laws of Florida (1963), a rule of the Department of Natural Resources pursuant to subsection (5) of Section 2 of Chapter 83-134, as amended by 84-121, Laws of Florida. This Special Act, applicable to Citrus County, establishes a minimum size for blue crabs harvested in the county. The Marine Fisheries Commis-



sion has determined that repeal of Chapter 63-1217, Laws of Florida (1963), a Citrus County Special Act, will not adversely affect the marine resources of Citrus County or of the State of Florida.

(4) Chapter 63-1217, Laws of Florida (1963), a rule of the Department of Natural Resources pursuant to subsection (5) of Section 2 of Chapter 83-134, as amended by 84-121, Laws of Florida, is hereby repealed.

(5) Blue crabs are designated as a restricted species pursuant to Section 379.101(32), F.S.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, and Chapter 85-163, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, and Chapter 85-163, Laws of Fla. History—New 12-14-93, Amended 6-1-94, 10-4-95, Formerly 46-45.001, Amended 6-1-99.

68B-45.002 Definitions.

As used in this rule chapter:

(1) “Blue crab” means any crustacean of the species *Callinectes sapidus*, or any part thereof.

(2) “Drop net” means a small, usually circular, net with weights attached along the outer edge and a single float in the center.

(3) “Eggbearing blue crab” means a female blue crab whose eggs are extruded and deposited on the swimmerettes.

(4) “Escape ring” means a rigid ring forming the boundary of an opening placed flush with the vertical surface of the wire mesh wall of the crab trap.

(5) “Fold up trap” means a plastic or wire meshed collapsing trap that opens outward to occupy a single plane when placed on the water bottom. It is baited in the center of the base panel and encloses crabs when retrieved by means of a cord drawing together the side panels.

(6) “Gulf Seasonal Closure Region” means all state waters of the Gulf of Mexico seaward of three nautical miles from shore.

(7) “Hard shell crab” means any blue crab in intermolt condition that has a shell that is rigid and inflexible.

(8) “Mesh size” means the size of the opening or space within a polygon formed by the wire of a crab trap, to be measured at the largest dimension across such opening or space in an undistorted condition.

(9) “Harvest” means the catching or taking of a blue crab by any means whatsoever, followed by a reduction of such blue crab to possession. Blue crabs caught but immediately returned to the water free, alive, and unharmed are not harvested. Temporary possession of a blue crab for the purpose of measuring it to determine compliance with the size requirements of this chapter shall not constitute the harvesting of such blue crab, provided that it is measured on the water immediately after taking, and immediately returned to the water free, alive, and unharmed if undersized.

(10) “Harvest for commercial purposes” means the taking or harvesting of blue crab for purposes of sale or with intent to sell or in excess of the bag limit.

(11) “Immediate family” refers to a license holder’s mother, father, sister, brother, spouse, son, daughter, step-father, step-mother, step-son, step-daughter, half-sister, half-brother, son-in-law or daughter-in-law.

(12) “Offshore” means all state waters seaward of the COLREGS Demarcation Line.

(13) “Peeler crab” means a hard blue crab in pre-molt condition having a new soft shell developed under the hard shell and having a definite white, pink, or red line or rim on the outer edge of the back fin or flipper, and retained specifically for soft crab shedding operations and marketed only after molting and prior to the hardening of the new shell.

(14) “Push scrape” means a mesh net or bag attached to the outer edges of a triangular or rectangular rigid frame with a handle attached that is fished by being pushed across the bottom by a person wading.

(15) “Soft shell crab” means any blue crab that has recently molted and has a shell that is tender and flexible.

(16) “Trotline” means a submerged line with bait at repetitive intervals.

(17) “Untreated pine” means raw pine wood that has not been treated with any preservative or pine wood that has been pressure treated with no more than 0.40 pounds of chromated copper arse-



nate (CCA) compounds per cubic foot of wood.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 12-14-93, Amended 6-1-94, 10-4-95, Formerly 46-45.002, Amended 7-1-03, 7-15-04, 5-26-05, 10-15-07.

68B-45.003 Minimum Size Limits.

Except as provided in subsection 68B-45.004(5), F.A.C., for crabs to be used as live bait, no person harvesting for commercial purposes shall possess any blue crabs measuring less than five inches measured from the tip of one lateral spine to the tip of the opposite lateral spine in quantities greater than 5% of the total number in each container in such person's possession. This minimum size limit does not apply to the harvest of peeler crabs.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 12-14-93, Amended 6-1-94, Formerly 46-45.003.

68B-45.004 Regulation and Prohibition of Certain Harvesting Gear.

(1) Except as provided in subsections (2), (3), (4), (5) and (6) below, the following types of gear shall be the only types of gear allowed for the harvest of blue crab in or from state waters:

(a) Traps meeting the following specifications:

1. Traps shall be constructed of wire with a minimum mesh size of 1 1/2 inches and have throats or entrances located only on a vertical surface. Beginning on January 1, 1995, traps shall have a maximum dimension of 24 inches by 24 inches by 24 inches or a volume of 8 cubic feet and a degradable panel that meets the specifications of subsection (7) of this rule.

2. All traps shall have a buoy or a time release buoy attached to each trap or at each end of a weighted trotline which buoy shall be constructed of styrofoam, cork, molded polyvinyl chloride, or molded polystyrene, be of sufficient strength and buoyancy to float, and be of such color, hue and brilliancy to be easily distinguished, seen, and located. Buoys shall be either spherical in shape with a diameter no smaller than 6 inches or some other shape so long as it is no shorter than 10 inches in the longest dimension and the width at some point exceeds 5 inches. No more than 5 feet of any buoy line attached to a buoy used to mark a blue crab trap or attached to a trotline shall float on the

surface of the water.

3. Each trap used for harvesting blue crab for commercial purposes shall have the harvester's blue crab endorsement number permanently affixed to it. Each buoy attached to such a trap shall have the number permanently affixed to it in legible figures at least two inches high. The buoy color and license number shall also be permanently and conspicuously displayed on any vessel used for setting the traps and buoys, so as to be readily identifiable from the air and water, in the following manner:

a. From the Air – The buoy design approved by the Commission shall be displayed and be permanently affixed to the uppermost structural portion of the vessel and displayed horizontally with the painted design up. If the vessel is an open design (such as a skiff boat), in lieu of a separate display, one seat shall be painted with buoy assigned color with permit numbers, unobstructed and no smaller than 10 inches in height, painted thereon in contrasting color. Otherwise, the display shall exhibit the harvester's approved buoy design, unobstructed, on a circle 20 inches in diameter, outlined in a contrasting color, together with the permit numbers permanently affixed beneath the circle in numerals no smaller than 10 inches in height.

b. From the Water – The buoy design approved by the Commission shall be displayed and be permanently affixed vertically to both the starboard and port sides of the vessel near amidship. The display shall exhibit the harvester's approved buoy design, unobstructed, on a circle 8 inches in diameter, outlined in a contrasting color, together with the permit numbers permanently affixed beneath the circle in numerals no smaller than 4 inches in height.

4. The buoy attached to each trap used to harvest blue crab, other than those used to harvest for commercial purposes, shall have a legible "R", at least two inches high, permanently affixed to it. The trap shall have the harvester's name and address permanently affixed to it in legible letters. The buoy requirements of this subparagraph shall not apply to traps fished from a dock.

5. Each trap with a mesh size of 1 1/2 inches or larger shall have at least three unobstructed escape rings installed, each with a minimum inside diameter of 2 3/8 inches. One such escape ring shall be located on a vertical outer surface adjacent to each crab retaining chamber.

6. Each throat (entrance) in any trap used to harvest blue crabs shall be horizontally oriented,



i.e., the width of the opening where the throat meets the vertical wall of the trap and the opening of the throat at its farthest point from the vertical wall, inside the trap, is greater than the height of any such opening. No such throat shall extend farther than 6 inches into the inside of any trap, measured from the opening where the throat meets the vertical wall of the trap to the opening of the throat at its farthest point from the vertical wall, inside the trap.

7. Subparagraphs 1. through 6. shall not apply to any trap used to harvest blue crabs for other than commercial purposes, which trap has a volume of no more than 1 cubic foot and is fished from a vessel, a dock, or from shore.

(b) Dip or landing net.

(c) Drop net.

(d) Fold-up trap.

(e) Hook and line gear.

(f) Push scrape.

(g) Trotline.

(2)(a) Peeler crabs may be harvested in traps constructed of wire with a minimum mesh size of one inch and with the throats or entrances located only on a vertical surface. Such traps shall have a maximum dimension of 24 inches by 24 inches by 24 inches or a volume of 8 cubic feet and a degradable panel.

(b) Each trap used to harvest peeler crabs shall have buoys and be identified as described in subparagraph (a)2., and (a)3. or (a)4. of this subsection.

(c) All peeler crabs harvested must be kept in a container separate from other blue crabs.

(d) Each trap used to harvest peeler crabs shall only be baited with live male blue crabs. Male crabs so used as bait to attract female blue crabs into peeler traps may be periodically fed with no more than a single bait fish. Any trap used to harvest blue crabs that is baited with anything other than live male blue crabs shall meet the requirements of paragraph (1)(a) of this rule.

(3) In addition to the allowable gear provided for in subsections (1) and (2) above, blue crabs

harvested in fresh water may be harvested with gear permitted by the Commission.

(4) Blue crabs may be harvested as an incidental bycatch of shrimp trawls lawfully harvesting shrimp, provided the amount of blue crabs so harvested does not exceed 200 pounds of blue crabs per vessel per trip.

(5) Blue crabs not meeting the size requirements contained in Rule 68B-45.003, F.A.C., may be harvested as a directed catch by or with a dip or landing net or as bycatch of live bait shrimp trawls, provided the total amount of blue crab harvested in either case does not exceed 10 gallons per person or per vessel per day, whichever is less. Undersized blue crabs so harvested shall be maintained alive and shall be sold, bought, bartered, or exchanged solely for use as live bait. Blue crabs harvested as bycatch of live bait shrimp trawls shall be counted for purposes of determining compliance with subsections (4) above and (6) below. No person harvesting blue crabs as a directed catch by or with a dip or landing net shall, on the same trip, harvest blue crabs using any other gear.

(6) Blue crabs may be harvested as an incidental bycatch of other species lawfully harvested with other types of gear so long as the amount does not exceed the bag limit specified in Rule 68B-45.005, F.A.C., and does not violate any other applicable provision of law.

(7) A trap shall be considered to have a degradable panel if one of the following methods is used in construction of the trap:

(a) The trap lid tie-down strap is secured to the trap at one end by a single loop of untreated jute twine. The trap lid must be secured so that when the jute degrades, the lid will no longer be securely closed.

(b) The trap lid tie-down strap is secured to the trap at one end with a corrodible loop composed of non-coated steel wire measuring 24 gauge or thinner. The trap lid must be secured so that when the loop degrades, the lid will no longer be securely closed.

(c) The trap lid tie-down strap is secured to the trap at one end by an untreated pine dowel no larger than 2 inches in length by 3/8 inch in diameter. The trap lid must be secured so that when the dowel degrades, the lid will no longer be securely closed.

(d) The trap contains at least one sidewall with a rectangular opening no smaller in either di-



mension than 6 inches in height by 3 inches in width. This opening must be laced, sewn, or otherwise obstructed by a single length of untreated jute twine knotted only at each end and not tied or looped more than once around a single mesh bar. When the jute degrades, the opening in the sidewall of the trap will no longer be obstructed.

(e) The trap contains at least one sidewall with a rectangular opening no smaller in either dimension than 6 inches in height by 3 inches in width. This opening must be obstructed with an untreated pine slat or slats no thicker than 3/8 inch. When the slat degrades, the opening in the sidewall of the trap will no longer be obstructed.

(f) The trap contains at least one sidewall with a rectangular opening no smaller in either dimension than 6 inches in height by 3 inches in width. The opening may either be laced, sewn, or otherwise obstructed by non-coated steel wire measuring 24 gauge or thinner or be obstructed with a panel of ferrous single-dipped galvanized wire mesh made of 24 gauge or thinner wire. When the wire or wire mesh degrades, the opening in the sidewall of the trap will no longer be obstructed.

(g) The trap contains at least one sidewall with a rectangular opening no smaller in either dimension than 6 inches in height by 3 inches in width. The opening may be obstructed with a rectangular panel made of any material, fastened to the trap at each of the four corners of the rectangle by galvanized staples 16 gauge or thinner, rings made of non-coated 24 gauge or thinner wire, or single strands of untreated jute twine. When the corner fasteners degrade, the panel will fall away and the opening in the sidewall of the trap will no longer be obstructed.

(8) No person shall harvest or attempt to harvest blue crabs with any trap seaward of nine nautical miles from shore on the Gulf of Mexico or seaward of three nautical miles from shore on the Atlantic Ocean.

(9)(a) Except as provided in paragraph (c), no person shall harvest any blue crabs for commercial purposes with any trap unless such person possesses a valid saltwater products license to which is affixed both a blue crab endorsement and a restricted species endorsement.

(b) Notwithstanding Section 370.135(2)(a), F.S. (2006); effective July 1, 2006, and until July 1, 2007, no blue crab endorsements, except those endorsements that were active during the 2005-2006 fiscal year, shall be renewed or replaced. Persons or corporations holding a blue crab endorsement

that was active in the 2005-2006 fiscal year or an immediate family member of that person must request renewal of the blue crab endorsement before September 30, 2006. All provisions of Sections 379.366(2)(a), (b), F.S., shall continue to apply to the issuance and renewal of blue crab endorsements with the applicable dates specified in this paragraph.

(c) Notwithstanding the requirements of paragraph (a), any aquaculture producer, as defined in Section 597.0015(2), F.S., authorized to produce marine aquaculture products and engaged in the culture of shellfish may possess and use up to 75 blue crab traps for the sole purpose of taking destructive or nuisance blue crabs within 1 mile of the producer's aquaculture shellfish beds if they first obtain a depredation permit from the Commission. Blue crabs taken under this subsection may not be sold, bartered, exchanged, or offered for sale, barter, or exchange.

(10) During any time of the year when it is legal to transport blue crab traps, a harvester shall seek permission from the Division of Law Enforcement to allow the use of another vessel owned by the same harvester or another person to transport, deploy, pull, or retrieve his or her traps.

(a)1. Permission shall be granted upon receipt of a written statement signed by the commercial harvester seeking to have his or her traps pulled and by the person designated to pull the traps, if applicable, which statement also shall contain the following:

- a. The reason the harvester needs to have his or her traps pulled;
 - b. The numbers of the saltwater products license and blue crab endorsement of both the harvester seeking to have the traps pulled and the person or other vessel who will be pulling the traps;
 - c. The buoy colors of the harvester seeking such permission;
 - d. The name and number of the vessel to be used by the person who will be pulling the traps;
 - e. The general locations of the pulling activity of the vessel to be engaged in pulling the traps;
- and
- f. The dates the other person or vessel will be transporting, deploying, pulling or retrieving the traps.

2. Permission to pull traps in this manner shall be obtained daily by telephone from the Division



of Law Enforcement for a maximum of 5 days without renewal or extension of the request.

(b) Permission to have traps pulled using another vessel owned by the same harvester or by another person for a longer period of time must be based on extraordinary circumstances such as severe personal or family illness or accident or major equipment problem, and shall be obtained through petition to the Division of Law Enforcement on Commission Form DMF-SL4590 (02-13) (Blue Crab Trap Pulling Petition), found online at: <http://www.flrules.org/Gateway/reference.asp?No=Ref-02669> herein incorporated by reference, and shall be granted upon such conditions as the Division deems appropriate for the protection of the resource.

1. It shall be the responsibility of the commercial harvester, or a member of the harvester's immediate family, to petition the Division.

2. The petition shall include:

a. A complete description of the extraordinary circumstances with corroborating documentation;

b. The amount of additional time requested;

c. The number of traps to be pulled; and

d. A notarized statement from the other person, attesting to his/her willingness and ability to pull these traps during this time period as well as an awareness of all rules governing the blue crab fishery.

(c) The person designated to pull the petitioner's traps is required to establish a float plan with Division of Law Enforcement Dispatch for each day traps will be pulled prior to pulling traps.

(d) If the person designated to pull the petitioner's traps does not possess a saltwater products license with restricted species and a blue crab endorsement, the petitioner, as the license holder of record must possess a vessel saltwater products license and shall be held accountable for the designee's compliance with all regulations governing the blue crab fishery.

(e) If designating another vessel, the vessel must be commercially registered and the following vessel marking requirements apply: The buoy color and license number shall be conspicuously displayed on the vessel used for setting the traps and buoys, so as to be readily identifiable from the air

and water, in the following manner:

1. From the Air – The buoy design shall be displayed on the uppermost structural portion of the vessel and displayed horizontally, unobstructed, with the painted design up on a circle 20 inches in diameter, outlined in a contrasting color, together with the permit numbers beneath the circle in numerals no smaller than 10 inches in height.

2. From the Water – The buoy design shall be displayed and affixed vertically to both the starboard and port sides of the vessel near amidship. The display shall exhibit the buoy design, unobstructed, on a circle 8 inches in diameter, outlined in a contrasting color, together with the permit numbers beneath the circle in numerals no smaller than 4 inches in height.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 12-14-93, Amended 6-1-94, 1-1-95, 10-4-95, 9-30-96, 1-1-98, 6-1-99, Formerly 46-45.004, Amended 2-28-02, 10-21-04, 3-1-05, 3-30-06, 9-21-06, 10-15-07, 1-26-11, 6-19-13.

68B-45.0045 Closed Seasons.

(1) In order to facilitate the identification and removal of lost and abandoned traps the following restrictions shall apply.

(a) The use of traps to harvest blue crabs is prohibited for a period of up to ten days in the following regions:

1. All waters of the St. Johns River, its associated lakes and tributaries from west of the St. Johns River's intersection with the Intracoastal Canal through and including Lake Hellen Blazes from January 16 through January 25 of even numbered years;

2. All waters of Nassau, Duval, Clay, St. Johns, Putnam, Flagler, and Volusia counties from August 20 through August 29 of even numbered years, however, not including waters listed in subparagraph (1)(a)1. of this paragraph;

3. All waters of Brevard, Indian River, St. Lucie, Martin, and Palm Beach counties from August 10 through August 19 of even numbered years, however, not including waters listed in subparagraph (1)(a)1. of this paragraph;



4. All waters of Broward, Miami-Dade, Monroe, Collier, Lee, Charlotte, DeSoto, Sarasota, Manatee, Hillsborough, Pinellas, and Pasco counties from July 10 through July 19 of odd numbered years;

5. All waters of Wakulla, Jefferson, Taylor, Dixie, Levy, Citrus, and Hernando counties and including all waters of the Ochlockonee River and Ochlockonee Bay from July 20 through July 29 of odd numbered years;

6. All waters of Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf, and Franklin counties from January 5 through January 14 of odd numbered years, however, excluding all waters of the Ochlockonee River and Ochlockonee Bay.

(b) All traps must be removed from the water before 12:01 a.m. local time on the first day of each regional closure. Traps found in state waters during the closures are declared to be a public nuisance and shall be disposed of in the manner approved by the Commission. Traps may be returned to the water after 12:01 a.m. local time on the day following each regional closure.

(c) Closures listed in subparagraphs (1)(a)2., 3., 4., 5., and 6. extend to three nautical miles offshore.

(d) Closures listed in paragraph (1)(a) may be reduced in duration if it is determined by the Executive Director of the Commission that the number of lost and abandoned traps in the region will take less time to remove than the time listed in paragraph (1)(a).

(e) Closures do not apply to traps secured to private property, such as a dock, or to authorized gear listed in paragraphs 68B-45.004(1)(b)-(g), F.A.C.

(2) In the Gulf Seasonal Closure Region, no blue crab trap, including any trap used to harvest peeler crabs, may be placed in the water, fished, or soaked during the period beginning September 20 and continuing through October 4 each year.

(3) In the 2009/2010 fishing season, no trap retrieval fees will be assessed for blue crab traps collected through the Commission's Trap Retrieval Program.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 7-1-09, Amended 1-26-11.

68B-45.005 Bag Limit.

Except for persons harvesting pursuant to a saltwater products license with a blue crab endorsement and a restricted species endorsement, no person shall harvest in or from state waters in any one day or possess while in or on state waters, more than 10 gallons of whole blue crabs.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 12-14-93, Amended 10-4-95, Formerly 46-45.005.

68B-45.006 Other Prohibitions.

(1) The harvest, possession, purchase, or sale of eggbearing blue crabs is prohibited. Egg-bearing blue crabs found in traps shall be immediately returned to the water free, alive and unharmed. The practice of stripping or otherwise molesting eggbearing blue crabs in order to remove the eggs is prohibited and the harvest, possession, purchase, or sale of blue crab from which the eggs, egg pouch, or bunion has been removed is prohibited.

(2) Traps used to harvest blue crabs or peeler crabs may be worked during daylight hours only. The pulling of traps from one hour after official sunset until one hour before official sunrise is prohibited.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 12-14-93, Formerly 46-45.006, Amended 7-1-03, 7-15-04, 7-1-09.

68B-45.007 Blue Crab Effort Management Program.

(1) Beginning in the 2007/2008 license year, in addition to a valid saltwater products license and a valid restricted species endorsement, a blue crab effort management endorsement number is required to harvest or possess blue crab in quantities greater than the recreational bag limit or to sell blue crab.

(2) The Commission shall notify all holders of a 2004/2005 commercial saltwater products license with a restricted species endorsement and an existing blue crab endorsement of their initial eligibility or denial of a blue crab effort management endorsement. Those notified will indicate either their acceptance of the initial award of a blue crab effort management endorsement number by completion of an acceptance application (Form DMF-SL4500, Blue Crab Effort Management Endorse-



ment Application (09-06), incorporated herein by reference) or submit an application to appeal (Form DMF-SL4510, Application for Appeal of Blue Crab Effort Management Endorsement (09-06), incorporated herein by reference), as specified in paragraph (11)(b).

(3)(a) Except for those qualifying for a non-transferable blue crab effort management endorsement as specified in subsection (6), the Blue Crab Effort Management Endorsement Application must be received by the Commission no later than September 30, 2007. An applicant may be a person, firm, or corporation.

(b) In order to qualify for a blue crab effort management endorsement number other than a V-N endorsement issued pursuant to subsection (6), an applicant must have held a valid saltwater products license with a valid restricted species endorsement and a blue crab endorsement pursuant to Section 379.366, F.S., at the time of application and establish landings as specified in paragraph (3)(c).

(c) Qualified blue crab effort management endorsement number applicants must have documented blue crab landings in quantities as specified in subsection (4) or (5) pursuant to Commission trip ticket records generated under the provisions of Rule Chapter 68E-5, F.A.C., during at least one of the following three license years: July 1, 2000 through June 30, 2001, July 1, 2001 through June 30, 2002, or July 1, 2002 through June 30, 2003. Qualifying landings must have been received by the FWC by August 1, 2003; applicants lacking sufficient blue crab landings during the qualifying years may have their eligibility for a blue crab effort management endorsement considered by the blue crab effort management endorsement appeals board as specified in subsection (11).

(4) Hard Shell Blue Crab Endorsement (V-H). The hard shell blue crab effort management endorsement is required to harvest commercial quantities of hard shell blue crab using gears as authorized in subsection 68B-45.004(1), F.A.C.

(a) In order to obtain a V-H endorsement on a saltwater products license, an applicant must have documented landings of hard shell blue crab equal to or greater than 500 pounds during any one of the qualifying years as specified in paragraph (3)(c). Persons holding more than one saltwater products license, none of which individually have 500 pounds of hard shell blue crab landings, may qualify for a single V-H endorsement if the sum of hard shell blue crab landings listed on multiple salt-

water products licenses that have a restricted species endorsement and current blue crab endorsement is equal to or greater than 500 pounds.

(b) An applicant qualifying for a V-H endorsement pursuant to paragraph (4)(a) may receive a unique endorsement number on each additional saltwater products license with a restricted species endorsement and current blue crab endorsement if the applicant has hard shell blue crab landings equal to or greater than 7,500 pounds on each such license during any one of the qualifying landings years as specified in paragraph (3)(c).

(c) An applicant will be issued a unique V-H endorsement number for each qualifying saltwater products license.

(d) Once eligible, a qualifying applicant shall be entitled to deploy up to 600 hard shell blue crab traps in any state waters and an additional 400 hard shell blue crab traps in offshore state waters in the Gulf of Mexico per V-H endorsement number.

(e) Persons holding a hard shell V-H endorsement number shall be allowed to land a maximum bycatch of 150 peeler crabs daily and operate up to three peeler crab shedding tanks.

(5) Soft Shell Blue Crab Endorsement (V-S). The soft shell blue crab effort management endorsement is required to harvest peeler blue crabs in excess of the bycatch limit established in paragraph (4)(e) using gears as authorized in subsection 68B-45.004(2), F.A.C., or to produce soft shell blue crabs with more than three (3) shedding tanks.

(a) In order to obtain a V-S endorsement number on a saltwater products license, an applicant must have documented landings of soft shell or peeler blue crabs equal to or greater than 750 crabs during any one of the qualifying years as specified in paragraph (3)(c). Persons holding more than one saltwater products license, none of which individually have 750 soft shell or peeler blue crabs, may qualify for a V-S endorsement number if the sum of soft shell or peeler blue crab landings listed on multiple licenses is equal to or greater than 750 soft shell or peeler blue crabs.

(b) An applicant that qualifies for a single V-S endorsement number pursuant to paragraph (5)(a) may receive a unique V-S endorsement number on one additional saltwater products license if such license has documented landings of soft shell blue crab or peeler crab landings equal to or greater than 2,500 crabs during any one of the qualifying landings years specified in paragraph (3)(c).



(c) An applicant will be issued a unique V-S endorsement number for each qualifying saltwater products license.

(d) Once eligible, the holder of a V-S endorsement number as specified in paragraph (a) shall be entitled to fish up to 400 peeler crab traps as specified in subsection 68B-45.004(2), F.A.C., in state waters.

(e) Persons holding a V-S endorsement number as specified in paragraph (b) shall be entitled to fish up to 250 peeler crab traps as specified in subsection 68B-45.004(2), F.A.C., in state waters in addition to those specified in paragraph (d).

(f) No single V-S endorsement number holder may hold more than two V-S endorsement numbers at any one time.

(6) Non-transferable blue crab effort management endorsement (V-N). Persons will qualify for the V-N endorsement if they held a valid saltwater products license with a valid restricted species endorsement and a blue crab endorsement pursuant to Section 379.366, F.S., at the time of application, have had no convictions for violations associated with gears defined in subsection 68B-4.002(3) or (4), F.A.C., since July 1, 1995, and have documented landings using such gears pursuant to Commission trip tickets generated for the Marine Information System under Rule Chapter 68E-5, F.A.C., prior to July 1, 1995, or, sold nets to the state according to the provisions of the net buy back program, Chapter 95-414, Laws of Florida. Qualifying landings must have been received by the Marine Information System no later than August 1, 1995.

(a) The non-transferable blue crab effort management endorsement cannot be sold or otherwise transferred to any other person as described in subsection (15) or (16).

(b) The holder of a non-transferable blue crab effort management endorsement number shall be entitled to purchase up to 100 hard shell blue crab trap tags that will allow them to deploy a like number of hard shell blue crab traps in any state waters where blue crab traps are allowed.

(c) Applicants qualifying for a V-N blue crab effort management endorsement number pursuant to this subsection may apply for the endorsement by completing and submitting application Form DMF-SL4570, Non-Transferable Blue Crab Effort Management Endorsement (09-06), incorporated herein by reference.

(d) Applicants must submit their application to the Commission no later than September 30, 2007. An applicant may be a person, firm, or corporation.

(e) Applicants qualifying pursuant to subsection (6) will only be eligible for one V-N endorsement.

(f) Applicants initially denied a V-N endorsement number may appeal their denial by submitting a completed appeals application form (DMF-4580, Application for Appeal of the Non-Transferable Blue Crab Limited Entry Endorsement (09-06), hereby incorporated by reference), to the Director of the Division of Marine Fisheries Management by September 30, 2007.

(g) The Executive Director of the Commission or his designee shall consider disputes or problems of applicants appealing their initial denial of a V-N award.

(h) The burden of proof shall be on the appellant to demonstrate through either: 1) copies of trip tickets or other proof of landings described in paragraph (a) legitimate sales to a licensed wholesale dealer that were not reported by the wholesale dealer or included in the agencies database, or 2) proof of sales to the state according to the provisions of the net buy back program, Chapter 95-414, Laws of Florida.

(i) The holder of a V-N blue crab effort management endorsement number shall be subject to the same trap tag requirements described in subsection (7).

(j) The holder of a V-N blue crab effort management endorsement number shall be subject to the same renewal criteria described in subsection (9).

(k) The holder of a V-N blue crab effort management endorsement number shall be subject to the renewal criteria described in paragraph (10)(a).

(l) The holder of a V-N blue crab effort management endorsement number shall not be eligible to serve either on the blue crab limited entry appeals board described in subsection (11) or the advisory board described in subsection (12).

(m) The holder of a V-N endorsement number shall be subject to the requirements of subsections (13) and (14).



(n) If the holder of a V-N blue crab effort management endorsement number purchases a V-H endorsement described in subsection (4) or a V-S endorsement described in subsection (5), the non-transferable endorsement shall be forfeited.

(7) Trap Tags.

(a) Trap tags shall only be issued to holders of a current valid saltwater products license with a restricted species endorsement and a blue crab effort management endorsement number.

(b) Beginning July 1, 2007, each trap used for the directed harvest of blue crabs must have securely fastened thereto a current trap tag issued annually by the Commission. Each such tag shall be manufactured by a Commission vendor and made of durable plastic or similarly durable material and shall have printed thereon the holder's blue crab effort management endorsement number. To facilitate enforcement and record keeping, such tags shall be issued each year in a color different from those used in the preceding three years. Traps with tags that are not securely fastened shall be considered untagged for enforcement purposes.

(c) Blue crab trap tags shall only be issued to natural persons. For the purpose of this section, the term "natural person" or "person" refers to a human being and does not include a firm, organization, partnership, association, corporation, or other business or legal entity or group or combination. A corporation that holds a blue crab effort management endorsement number shall designate one individual to whom they are assigning their trap tags.

(d) Each person who possesses a blue crab effort management endorsement number shall annually submit a blue crab effort management endorsement trap tag order application form stating the number of tags they wish to receive, up to the maximum specified in subsection (4) or (5) from February 1 through March 15 to ensure receipt of tags before the beginning of the next license year. However, tags ordered after this time period may not be available prior to the beginning of the next license year.

(e) Trap tags may only be ordered in blocks of 50 tags.

(f) Blue crab trap tags shall not be issued to blue crab effort management endorsement holders until all license fees and any other outstanding fees owed the Commission have been paid in full and are current and the tag holder's saltwater products license with valid restricted species endorsement

and blue crab effort management endorsement are not otherwise inactive.

(g) Lost or damaged tags may be replaced using Commission Form DMF-SL4530 (05-05), Blue Crab Trap Tag Replacement Application, incorporated herein by reference, and upon proper verification of loss as provided in paragraph (i). Damaged tags must be immediately returned to the Commission.

(h) As part of the Blue Crab Trap Tag Replacement Application (DMF-SL 4530 (05-05)), the applicant shall provide the tag holder's name, saltwater products license number, blue crab effort management endorsement number, the number of tags that were lost, location or area where the tags were lost, and circumstances under which the tags were lost.

(8) Effective September 30, 2007, no additional blue crab effort management endorsements will be issued except to applicants qualifying as specified in subsection (18), and no blue crab effort management endorsement will be renewed or replaced except those that were issued pursuant to subsection (4), (5), (6) or (11).

(9) Beginning in the 2008/2009 license year, each holder of a blue crab effort management endorsement number, or an immediate family member of such holder in the case of an individual, must renew the endorsement number each license year before September 30. Failure to renew the endorsement number by September 30 of any year will result in forfeiture of the endorsement number.

(10) Requalification. Beginning with license year 2010/2011, the holder of a blue crab effort management endorsement number, except those qualifying as specified in subsection (18), must requalify for the endorsement number by documenting landings on such endorsement as specified in paragraph (a) or (b) in at least one of the previous three license years. Each endorsement number will then be valid for three years from the date of requalification, but must still be renewed annually as required by subsection (8). Except for the V-I endorsement specified in subsection (18), any blue crab effort management endorsement number not meeting the requalification criteria as specified in paragraph (a) or (b) will not be renewed.

(a) In order to requalify a V-H or a V-N endorsement number, an applicant for requalification must document landings equal to or exceeding 500 pounds of hard shell blue crabs. Persons wishing to also requalify V-H endorsement numbers on additional saltwater products licenses must document



landings equal to or exceeding 7,500 pounds of hard shell blue crabs on each of those licenses.

(b) In order to requalify a V-S endorsement number, an applicant for requalification must document landings equal to or exceeding 750 soft crabs or peeler crabs. Persons wishing to also requalify a V-S endorsement number on an additional saltwater products license must document landings equal to or exceeding 2,500 soft crabs or peeler crabs on that license.

(11) Blue Crab Appeals Board. The Executive Director of the Commission shall appoint an appeals board composed of six blue crab effort management endorsement holders or wholesale seafood dealers and one Commission staff member to consider disputes or problems arising from the initial denial of a blue crab effort management endorsement.

(a) The six members of the appeals board will consist of at least four members that qualify for a V-H endorsement number and at least one that qualifies for a V-S endorsement number. No member may have appealed their initial blue crab effort management endorsement award.

(b) The burden of proof shall be on an appellant to demonstrate, through copies of trip tickets or other proof of landings, legitimate sales to a licensed wholesale dealer that were not reported by the wholesale dealer during the qualifying years or included in the agency landings database as of August 1, 2003.

(c) Criteria for issuance of blue crab effort management endorsement numbers by the appeals board on grounds of hardship shall be established by the Blue Crab Advisory Board.

(d) After disputes are considered, a recommendation shall be submitted to the Executive Director of the Commission, or his designee, for resolution of the appeal, which recommendation shall either allot an endorsement number to the appellant or uphold the denial of an endorsement number. Notice will be given in writing to the appellant explaining the reasons for the final decision. The action of the Executive Director of the Commission constitutes final agency action, and is appealable pursuant to the requirements of Chapter 120, F.S.

(12) Blue Crab Advisory Board. There is hereby established the Blue Crab Advisory Board. Such board shall consider and advise the Commission on the operation of the effort management program and any problems in the fishery.

(a) The board shall consist of a member of the Commission staff appointed by the Executive Director of the Commission, and eight members appointed by the Executive Director of the Commission according to the following criteria, except as otherwise provided in paragraph (b).

1. All appointed members other than the commission staff person shall be holders of a blue crab effort management endorsement holders and shall not have been convicted of any violations of Chapter 68B-45, F.A.C., within the last six (6) years. At least two shall have blue crab landings equal to or greater than 5,000 pounds during the preceding license year and at least two shall have landings less than 5,000 pounds during such license year.

2. At least five appointed members shall hold a V-H endorsement number, and at least two shall hold a V-S endorsement number.

3. At least one member shall come from each of the following regions of Florida:

- a. Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf, Franklin, Wakulla counties;
- b. Jefferson, Taylor, Dixie, Levy, Citrus, Hernando, Pasco counties;
- c. Pinellas, Hillsborough, Manatee, Sarasota, Charlotte, Lee, Collier counties;
- d. Indian River, St. Lucie, Martin, Palm Beach, Broward, Dade, Monroe counties;
- e. Nassau, Duval, Clay, St. Johns, Putnam, Flagler, Volusia, Brevard counties.

(b) If there are not enough individuals that meet the above-referenced criteria, the Executive Director of the Commission may fill any position on the initial board with an individual who does not fulfill the requirements of subparagraph (11)(a)3. However, as soon as individuals are available that meet such requirements, the Executive Director of the Commission may reconstitute the board with qualified appointees. The Executive Director of the Commission shall replace any board member who is cited for and convicted of a violation of Chapter 68B-45, F.A.C., or who misses more than two scheduled meetings of the board without approval from the board chair, with another blue crab fisherman from any region.

(c) Holders of blue crab effort management endorsement numbers wanting to be considered for appointment to the Blue Crab Advisory Board shall make their request on Commission Form DMF-



SL4540 (09-06), incorporated herein by reference.

(d) The staff member of the Commission appointed by the Executive Director of the Commission shall sit on the board as a voting member. The board shall annually elect a chair and a vice chair the first meeting in the calendar year. The Commission staff member may not serve as either chair or vice chair. There shall be no limitation on successive terms that may be served by a chair or vice chair. The board shall meet at the call of its chair, at the request of a majority of its membership or at the request of the Commission. Official action of the board shall require a majority vote of the total membership of the board members present during a meeting.

(e) Board members shall serve staggered terms of up to three (3) years, provided however, that this shall not apply to the Commission staff member who serves at the pleasure of the Executive Director of the Commission.

(f) Members of the board shall receive no compensation, however, they shall be reimbursed for per diem and travel expenses as provided in Section 112.061, F.S.

(g) Upon reaching a decision on any issue brought before it, the board shall submit such decision as a recommendation to the Executive Director of the Commission. The Executive Director of the Commission may submit said recommendation to the Commission at his or her discretion.

(h) The board shall have the authority to conduct workshops with fishers to determine what problems exist in the fishery and to make recommendations to the Commission to solve those problems.

(i) On July 1, 2012, the board is dissolved unless extended by the Executive Director of the Commission.

(13) Leasing Prohibited. The leasing or renting of blue crab effort management endorsement numbers, tags, or traps is prohibited.

(14) Endorsement Holder Responsibility. The holder of a blue crab endorsement number is responsible for the actions of anyone working under that endorsement. All monies or proceeds from the sale of blue crabs landed under the blue crab effort management endorsement holder's saltwater products license shall be issued only to the endorsement holder.

(15) Transferability. After the initial issuance, the hard shell blue crab (V-H) and soft shell blue crab (V-S) effort management endorsement numbers are transferable upon approval of the Commission under the following conditions:

(a) The buyer must hold a saltwater products license with a valid restricted species endorsement and a blue crab effort management endorsement number. If a buyer does not possess a blue crab effort management endorsement number, they must hold a certificate of completion of the blue crab apprentice program as specified in paragraph (b).

(b) Persons not already holding a blue crab effort management endorsement number and wishing to purchase such an endorsement number shall complete an apprenticeship program consisting of working no fewer than fourteen (14) days fishing for blue crab with a properly licensed blue crab effort management endorsement number holder. As evidence thereof, such person must possess a blue crab effort management apprenticeship form (DMF-SL4550 (09-06), incorporated herein by reference)) signed by the endorsement holder attesting to the applicant having worked no fewer than fourteen (14) days fishing for blue crabs on the endorsement holder's vessel.

(c) A person who wishes to transfer an endorsement number shall submit a notarized statement of intent within 72 hours of the final notarized signature, that has been signed by both parties to the transaction, hand delivered, or sent by United States Postal Service certified mail, return receipt requested, to the Commission between May 1 and the end of February. Requests received by the Commission before May 1 or postmarked after the end of February of the current license year will not be processed. The statement of intent (Form DMF-SL 4560 (09-06), incorporated herein by reference)), shall include the following information:

1. The name, address, and SPL number of seller;
2. The name, address, and SPL number of buyer; and
3. The selling price.

(d) A blue crab effort management endorsement number shall not be issued, transferred, or renewed until all license fees, surcharges, and any other outstanding fees, fines, or penalties owed to the Commission by either party to the transaction have been paid in full.



(16) In the event of the death or permanent disability of a person holding a blue crab endorsement number, the endorsement number may be transferred by the license holder or the executor of the estate to a member of his or her immediate family within 12 months of the date of death or disability and upon payment of all outstanding fees, fines, or penalties to the Commission in full.

(17) No Vested Rights. This blue crab effort management program does not create any vested rights for endorsement number holders whatsoever and may be altered or terminated by the Commission as necessary to protect the blue crab resource, the participants of the fishery, or the public interest.

(18) Blue crab incidental take endorsement. Persons possessing a valid stone crab endorsement or can demonstrate landings of blue crabs caught as bycatch by shrimp gears that were used to lawfully harvest shrimp pursuant to Commission trip tickets generated for the Marine Information System under Rule Chapter 68E-5, F.A.C., will qualify for a blue crab incidental take endorsement (V-I). The holder of a V-I number shall be entitled to harvest and sell blue crab as bycatch, provided the amount does not exceed 200 pounds of blue crabs per vessel per trip.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History—New 5-26-05, Amended 3-30-06, 9-21-06, 7-31-07, 1-26-11.

68B-45.008 Assessment of Administrative Penalties for Violations Relating to Blue Crab Management.

(1) For conviction of a violation involving use of blue crab traps without current year trap tags pursuant to paragraph 68B-45.007(7)(b), F.A.C., the Commission shall assess administrative penalties pursuant to Section 379.366(4)(a), F.S., as follows:

(a) For a first violation:

1. Involving 20 or fewer untagged blue crab traps – \$25 per untagged trap;
2. Involving 21 or more untagged blue crab traps – \$1000.

(b) For a second violation occurring within 24 months of any previous such violation:

1. Involving 5 or fewer untagged blue crab traps – \$50 per untagged trap;

2. Involving 6 to 20 untagged blue crab traps – \$75 per untagged trap and suspension of all blue crab fishing privileges for 12 calendar months;

3. Involving 21 or more untagged blue crab traps – \$2000 and suspension of blue crab fishing privileges for 12 calendar months.

(c) For a third violation occurring within 36 months of two previous such violations:

1. Involving 5 or fewer untagged blue crab traps – \$100 per untagged trap and suspension of all blue crab fishing privileges for 24 calendar months;

2. Involving 6 to 20 untagged blue crab traps – \$2500 and suspension of all blue crab fishing privileges for 24 calendar months;

3. Involving 21 or more untagged blue crab traps – \$5000 and suspension of all blue crab fishing privileges for 24 calendar months.

(d) For a fourth violation occurring within 48 months of three previous such violations, regardless of the number of untagged blue crab traps involved – permanent revocation of all saltwater fishing privileges, including the endorsement holder's saltwater products license, and all endorsements.

(2) For conviction of a violation involving trap theft, which is the unauthorized possession of another harvester's blue crab trap gear or removal of another harvester's blue crab trap contents, the Commission shall assess an administrative penalty of \$5000, permanently revoke all saltwater fishing privileges, including all saltwater products licenses, endorsements, and trap tags allotted to him or her by the Commission, and prohibit the transfer of all endorsements pursuant to Section 379.366(4)(b), F.S.

(3) For conviction of a violation involving the willful molestation of a blue crab trap, trap line or buoy that is the property of any license holder without the permission of that license holder, the Commission shall assess an administrative penalty pursuant to Section 379.366(4)(c), F.S., as follows:

(a) For a first violation – \$2500 and suspension of all blue crab or incidental take endorsements for 12 calendar months.

(b) For a second and each of all subsequent such violations – \$5000 and suspension of all



blue crab or incidental take endorsements for 24 calendar months.

(4) For conviction of a violation involving the bartering, trading, leasing, selling, giving, supplying, conspiracy to or aid in bartering, trading, leasing or selling, or agreeing or aiding to supply a blue crab trap tag without authorization from the Commission, the Commission shall assess administrative penalties pursuant to Section 379.366(4)(c), F.S., as follows:

(a) For a first violation:

1. Involving 5 or fewer blue crab trap tags – \$1000;
2. Involving 6 or more blue crab trap tags – \$1000 and suspension of all blue crab endorsements for the remainder of the license year.

(b) For a second violation occurring within 24 months of any previous such violation:

1. Involving 5 or fewer blue crab trap tags – \$1000 and suspension of all blue crab endorsements for 12 calendar months;
2. Involving 6 or more blue crab trap tags – \$2000 and suspension of all blue crab endorsements for 12 calendar months.

(c) For a third and each subsequent violation occurring within 36 months of two previous such violations:

1. Involving 5 or fewer blue crab trap tags – \$3000 and suspension of all blue crab endorsements for 24 calendar months;
2. Involving 6 or more blue crab trap tags – \$5000 and suspension of all blue crab endorsements for 24 calendar months.

(5) For conviction of a violation involving the possession or use of any blue crab trap tags not issued by the Commission or the unlawful making, altering, forging, counterfeiting or reproducing of blue crab trap tags, the Commission shall assess administrative penalties pursuant to Section 379.366(4)(c), F.S., as follows:

(a) For a first violation:

1. Involving 15 or fewer illegal blue crab trap tags – \$500;

2. Involving 16 or more illegal blue crab trap tags – \$1000.

(b) For a second violation occurring within 24 months of a previous such violation:

1. Involving 10 or fewer illegal blue crab trap tags – \$1000 and suspension of all blue crab endorsements for 12 calendar months;

2. Involving 11 or more illegal blue crab trap tags – \$2000 and suspension of all blue crab endorsements for 12 calendar months.

(c) For a third and each subsequent violation occurring within 36 months of two previous such violations:

1. Involving 5 or fewer illegal blue crab trap tags – \$3000 and suspension of all blue crab endorsements for 24 calendar months;

2. Involving 6 or more illegal blue crab trap tags – \$5000 and suspension of all blue crab endorsements for 24 calendar months.

(6) For conviction of a violation involving the possession of a number of original trap tags or replacement tags, the sum of which exceeds by one percent the number of traps allowed by Commission rules, the Commission shall assess an administrative penalty of \$5000, and suspend all blue crab endorsements for 24 months pursuant to Section 379.366(4)(c), F.S.

(7) For conviction of a violation involving the commercial harvest of blue crabs during the time period when the license holder's blue crab or incidental take endorsements are under suspension, the Commission shall assess an administrative penalty of \$5000 and suspend all blue crab or incidental take endorsements for an additional 24 months to be applied consecutively to the current suspension period pursuant to Section 379.366(4)(c), F.S.

(8) For conviction of a violation involving fraudulently reporting the actual value of a transferred blue crab endorsement, the Commission shall assess an administrative penalty pursuant to Section 379.366(4)(d), F.S., as follows:

(a) If the difference between the actual value and the reported value of the endorsement is less



than 25% of the actual value – suspension of the purchaser’s blue crab endorsements for six calendar months.

(b) If the difference between the actual value and the reported value of the endorsement is between 25% and 49.9% of the actual value – suspension of all the purchaser’s blue crab endorsements for 12 calendar months.

(c) If the difference between the actual value and the reported value of the endorsement is equal to or greater than 50% of the actual value – permanent revocation of all the purchaser’s blue crab endorsements.

(9) Immediately upon receiving a citation for a violation referenced in subsections (3)-(7) the commercial harvester is prohibited from transferring any blue crab endorsement until said violation is adjudicated, pursuant to Section 379.366(4)(c), F.S.

(10) If blue crab effort management endorsement privileges are suspended for a violation referenced in subsections (3)-(7) a commercial harvester is prohibited from transferring any blue crab endorsement until the period of suspension expires, pursuant to Section 379.366(4)(c), F.S.

(11) For purposes of this rule, a conviction is any judicial disposition other than acquittal or dismissal.

(12) A blue crab endorsement will not be renewed by the Commission until all fees and administrative penalties are paid in full.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., 379.366 FS. Law Implemented Art. IV, Sec. 9, Fla. Const.; 379.366 FS. History—New 7-1-09.

APPENDIX B: FLORIDA BLUE CRAB SUSTAINABILITY BENCHMARK RATINGS

GREEN=1 (full credit) **AMBER=.5 (partial credit)** **RED= 0 (no credit)**

7 – Fisheries Management	Rating
7.1.1 (a)	GREEN
7.1.1. (b)	GREEN
7.1.1. (c)	GREEN
7.1.2 (a)	GREEN
7.1.2 (b)	GREEN
7.1.3 (a)	GREEN
7.1.3 (b)	GREEN
7.1.4	GREEN
7.1.4 (a)	GREEN
7.1.4 (b)	GREEN
7.1.4 (d)	GREEN
7.1.4 (e)	GREEN
7.1.6 (a)	GREEN
7.1.6 (b)	GREEN
7.1.7 (a)	GREEN
7.1.7 (b)	GREEN
7.1.8 (a)	AMBER
7.1.8 (b)	AMBER
7.1.9 – Assessment	GREEN
7.1.9 – Management	GREEN
7.1.9 – Decision making	GREEN
7.1.10	GREEN
7.2.1 (a)	GREEN
7.2.1 (b)	GREEN
7.2.1 (c)	RED
7.2.2 – Defined	AMBER
7.2.2 – Avoided	AMBER
7.2.2 – Economic conditions	N/A
7.2.2 – Small-scale interests	GREEN
7.2.2 – Biodiversity	GREEN

7.2.2 – Depleted stocks	GREEN
7.2.2 – Environmental impacts	AMBER
7.2.2 – Pollution	GREEN
7.2.2 – Ghost fishing	GREEN
7.2.2 – Fishing methods	GREEN
7.2.3	GREEN
7.3.1 (a)	AMBER
7.3.1 (b)	GREEN
7.3.1 (c)	GREEN
7.3.1 (d)	GREEN
7.3.1 (f)	GREEN
7.3.2	GREEN
7.3.3 – Plan exists	AMBER
7.3.3 – Plan subscribed to	GREEN
7.3.4 – Information gathering	GREEN
7.3.4 – Research	GREEN
7.3.4 – Management	GREEN
7.3.4 – Development	GREEN
7.4.2 – Resource	GREEN
7.4.2 – Climate & environment	GREEN
7.4.2 – Socio-economics	GREEN
7.4.3 – Cost-benefit	N/A
7.4.3 – Alternative management	GREEN
7.4.4	GREEN
7.4.5	GREEN
7.4.6 – Agreed format	GREEN
7.4.6 – Timely manner	GREEN
7.4.7	GREEN
7.5.1 (a)	AMBER
7.5.1 (b)	GREEN
7.5.2 – Target reference points	GREEN



7.5.2 – Limit reference points	
7.5.2 – Research procedures	
7.5.2 – Management actions	
7.5.5 (a)	
7.5.5 (b) – Natural phenomena	
7.5.5 (b) – Fishing impact	
7.6.1	
7.6.2	
7.6.3 (a)	
7.6.3 (b)	
7.6.5	
7.6.6	
7.6.7	
7.6.8 – Review procedures	
7.6.8 – Flexible mechanism	
7.6.9 (a) – Waste and discards	
7.6.9 (a) – Non-target catch	
7.6.9 (a) – Non-target impacts	
7.6.9 (b) – Fish size	
7.6.9 (b) – Gear	
7.6.9 (b) – Discards	
7.6.9 (b) – Seasons	
7.6.9 (b) – Closed areas	
7.6.9 (b) – Artisanal areas	N/A
7.6.9 (b) – Juveniles	
7.6.9 (c)	
7.6.10	
7.7.1	
7.7.2 (a)	
7.7.2 (b)	
7.7.2 (c)	
7.7.3 – MCS	
7.7.3 – Observers	
7.7.3 – Inspection	
7.7.3 – VMS	N/A
7.7.5 (a)	

7.7.5 (b)	
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8 – Fishing Operations	Rating
8.1.1	
8.1.2	
8.1.3	
8.1.4	
8.1.7	
8.1.8	
8.1.9	N/A
8.1.10	
8.2.1 (a)	
8.2.1 (b)	
8.2.4	
8.2.7 (a)	
8.2.7 (b)	
8.4.2	
8.4.3 (a) – Fishing operations	
8.4.3 (a) – Non-fish catches	
8.4.3 (a) – Fish catches	
8.4.3 (b)	
8.4.4	
8.4.5	
8.4.6	
8.4.7	
8.4.8 – Environmental impacts	
8.4.8 – Social impacts	
8.4.8 – Biodiversity impacts	
8.4.8 – Coastal fisheries	
8.5.1 (a)	
8.5.1 (a) Supplemental	
8.5.1 (b)	
8.5.2	
8.5.3	
8.5.4	

10 – Institutional Framework	Rating
10.1.1	
10.1.2	
10.1.3	
10.1.4 (a) – Between bottom users	
10.1.4 (a) – Between bottom users & others	
10.1.4 (b)	
10.2.1	
10.2.2 – Economic	
10.2.2 – Social & cultural	
10.2.3	
10.2.4	
10.2.5 – Environment & biology	
10.2.5 – Economy & social	
10.2.5 – Legal & institutional	
10.3.1 – Use of resources	
10.3.1 – Conservation of environment	

12.7 (a)	
12.7 (b)	
12.8 (a)	
12.8 (b)	
12.10 (a)	
12.10 (b)	
12.10 (c)	
12.11 (a)	
12.11 (b)	
12.12	
12.13 (a)	
12.13 (b)	
12.14	N/A
12.17	

11 – Post-harvest Practices & Trade	Rating
11.1.11	
11.2.3	

12 – Fisheries Research	Rating
12.1 (a)	
12.1 (b)	
12.1 (c)	
12.2	
12.3 (a)	
12.3 (b)	
12.3 (c)	
12.4 (a)	
12.4 (b)	
12.5 (a)	
12.5 (b)	
12.6	



APPENDIX C: CADDY CHECKLIST

The Caddy Checklist was the tool used to assess the Florida blue crab fishery. For each question, the score is highlighted in the corresponding color of **GREEN**=full credit, **AMBER**=partial credit, and **RED**=no credit. Questions highlighted in grey were not included in the assessment.

Article 7 - Fisheries Management

7.1 General

7.1.1 (a) Are conservation and management measures based on the best scientific evidence available? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are conservation and management measures designed to ensure the long-term sustainability of fishery resources at levels which promote the objective of optimum utilization and maintain their availability for present and future generations? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Are management measures currently in effect in the fishery designed for the long-term conservation and sustainable use of fishery resources, as opposed to reasons of short-term expediency? **Yes...**[1] **Some...**[½] **No...**[0]

7.1.2 (a) Have attempts been made to identify domestic parties having a (legitimate) interest in the use and management of fisheries resources? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have arrangements been made to consult these parties and gain their collaboration? **Yes...**[1] **Some...**[½] **No...**[0]

*7.1.3 (a) Where transboundary, straddling or highly migratory fish stocks and high seas fish stocks are exploited by two or more states, do the states concerned cooperate to ensure effective conservation and management of the resources? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is there a formal fishery commission or arrangement to which all parties fishing belong? **Yes...**[1] **Some...**[½] **No...**[0]

*7.1.4 Do states which have a real interest in the fisheries or the resource outside their jurisdiction

cooperate in the work of the relevant regional fisheries management organization or arrangement by becoming a member of such organization and arrangement and by actively participating in its work? **Yes...**[1] **Some...**[½] **No...**[0]

(a) Do all parties attend meetings and collect data in the specified format? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is the population analysis updated regularly and in cooperation by a scientific group? **Yes...**[1] **Some...**[½] **No...**[0]

(d) Are scientific recommendations of groups reflected in the regulations? **Yes...**[1] **Some...**[½] **No...**[0]

(e) Are the regulations respected by the parties concerned? **Yes...**[1] **Some...**[½] **No...**[0]

***7.1.6** (a) Should representatives from relevant organizations, both governmental and non-governmental, concerned with fisheries be afforded the opportunity to take part in meetings of subregional and regional fisheries management organizations and arrangements as observers or otherwise, in accordance with the procedures of the organization or arrangement concerned? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Subject to the procedural rules on access, are such representatives given timely access to the records and reports of such meetings? **Yes...**[1] **Some...**[½] **No...**[0]

7.1.7 (a) Have mechanisms been established for fisheries monitoring, surveillance, control and enforcement to ensure compliance with their conservation and management measures for the fishery in question? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have these measures proved effective? **Yes...**[1] **Some...**[½] **No...**[0]

7.1.8 (a) Have mechanisms been established to (identify, quantify) prevent or eliminate excess fishing capacity? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have these measures proved effective? **Yes...**[1] **Some...**[½] **No...**[0]



7.1.9 Are the arrangements followed for assessment, management of the fishery and the decision-making process in general transparent?

- Assessment **Yes...[1]** **Some...[½]** **No...[0]**
- Management **Yes...[1]** **Some...[½]** **No...[0]**
- Decision-making **Yes...[1]** **Some...[½]** **No...[0]**

7.1.10 Are the conservation and management measures adopted for management of the fishery and the related decision-making process given due publicity in order to ensure that laws, regulations and other legal rules governing their implementation are effectively disseminated? **Yes...[1]**
Some...[½] **No...[0]**

Comments:

7.2 Management objectives

7.2.1 (a) Are fisheries measures based on the best scientific evidence? **Yes...[1]** **Some...[½]** **No...[0]**

(b) Are they qualified by relevant environmental and economic factors? **Yes...[1]** **Some...[½]** **No...[0]**

(c) Have formal reference point(s) based on stock size been established? **Yes...[1]** **Some...[½]** **No...[0]**

7.2.2 Have management measures taken into account the need to avoid excess capacity and promote conditions under which the interests of fishermen, especially the small-scale, artisanal and subsistence fishery sectors, are protected, the biochemistry conserved, depleted stocks restored and adverse environmental impacts assessed and corrected?

- Is the level of excess capacity defined? **Yes...[1]** **Some...[½]** **No...[0]**
- Is excess capacity avoided? **Yes...[1]** **Some...[½]** **No...[0]**
- Do the economic conditions under which the fishery operates promote responsible fisheries? **Yes...[1]** **Some...[½]** **No...[0]** **Not Applicable**
- Are interests of small-scale, etc., fishermen accounted for? **Yes...[1]** **Some...[½]** **No...[0]** - Has

the biodiversity of aquatic ecosystems been conserved (as a result of operation of the fishery in question)? **Yes...**[1] **Some...**[½] **No...**[0]

- Have depleted stocks been allowed to recover or, where appropriate, restored?

Yes...[1] **Some...**[½] **No...**[0]

- Have adverse environmental impacts on the stocks from human activities been assessed and, where appropriate, rectified? **Yes...**[1] **Some...**[½] **No...**[0]- Have pollution and waste been minimized? **Yes...**[1] **Some...**[½] **No...**[0]

- Has catch by lost and abandoned gear of commercial species and other organisms been minimized? **Yes...**[1] **Some...**[½] **No...**[0]

- Have selective and environmentally-safe and cost-effective fishing methods been developed? **Yes...**[1] **Some...**[½] **No...**[0]

7.2.3 Have the impacts of environmental factors on target species and those species associated with, dependent on, or belonging dependent on the target stocks, been assessed? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

7.3 Management framework and procedures

7.3.1 (a) Have the management measures developed taken into account the whole stock unit over its entire area of stock distribution? **Yes...**[1] **Some...**[½] **No...**[0] (b) Have previously-agreed management measures established and applied in the same region been considered? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Have all removals and the biological unity and other biological characteristics of the stock been considered? **Yes...**[1] **Some...**[½] **No...**[0]

(d) Has the best scientific evidence available been used to determine, *inter alia*, the area of distribution of the resource? **Yes...**[1] **Some...**[½] **No...**[0]



(e) Have all removals and the biological unity and other biological characteristics of the stock been considered? **Yes...**[1] **No...**[0]

(f) Has the area through which the species migrates during its life cycle been considered?
Yes...[1] **Some...**[½] **No...**[0]

***7.3.2** In the case of a transboundary, straddling and highly migratory fish stock or high seas fish stock throughout its range, are the conservation and management measures established for such stock within the jurisdiction of the relevant States, or the appropriate subregional, regional fisheries management organizations and arrangements, compatible? **Yes...**[1] **Some...**[½] **No...**[0]

7.3.3 Have long-term management objectives been translated into a plan or other management document (subscribed to by all interested parties)?

- Is there a plan? **Yes...**[1] **Some...**[½] **No...**[0]

- Is it subscribed to? **Yes...**[1] **Some...**[½] **No...**[0]

***7.3.4** Have attempts been made to foster cooperation in all matters related to:

- information gathering and exchange? **Yes...**[1] **Some...**[½] **No...**[0]

- fisheries research? **Yes...**[1] **Some...**[½] **No...**[0]

- fisheries management? **Yes...**[1] **Some...**[½] **No...**[0]

- fisheries development? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

7.4 Data gathering and management advice

7.4.2 Has relevant research been carried out on:

- the resource? **Yes...**[1] **Some...**[½] **No...**[0]

- climatic and environmental factors? **Yes...**[1] **Some...**[½] **No...**[0]

- the socio-economic context? **Yes...**[1] **Some...**[½] **No...**[0]

7.4.3 Has research been carried out on:

- cost-benefits of fishing? **Yes...**[1] **Some...**[½] **No...**[0] **Not Applicable**
- alternative management strategies? **Yes...**[1] **Some...**[½] **No...**[0]

7.4.4 Are timely and reliable statistics available on catch and fishing effort maintained in accordance with applicable international standards and practices and in sufficient detail to allow sound statistical analysis? **Yes...**[1] **Some...**[½] **No...**[0]

7.4.5 Has sufficient knowledge of social, economic and institutional factors relevant to the fishery in question been developed through data gathering, analysis and research? **Yes...**[1] **Some...**[½] **No...**[0]

7.4.6 Are fishery-related and other supporting scientific data relating to fish stocks covered by sub-regional or regional fisheries management organizations or arrangements compiled in an internationally agreed format and provided in a timely manner to the organization or arrangement?

- in an internationally agreed format? **Yes...**[1] **Some...**[½] **No...**[0]
- in a timely manner? **Yes...**[1] **Some...**[½] **No...**[0]

7.4.7 With respect to the data collected for management purposes, are applicable confidentiality requirements complied with? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

7.5 Precautionary approach

7.5.1 (a) Has the precautionary approach been applied widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Has the absence of adequate scientific information been used as a reason for postponing or failing to take conservation and management measures? **Yes...**[1] **Some...**[½] **No...**[0]



7.5.2 Has there been an attempt to determine for the stock both safe targets for management +3 (Target Reference Points) and limits for exploitation (Limit Reference Points), and, at the same time, the action to be taken if they are exceeded?

- Have target reference point(s) been established? **Yes...**[1] **Some...**[½] **No...**[0]- Have limit reference points been established? **Yes...**[1] **Some...**[½] **No...**[0]

- Have data and assessment procedures been installed measuring the position of the fishery in relation to the reference points established? **Yes...**[1] **Some...**[½] **No...**[0]

- Have management actions been agreed to in the eventuality that data sources and analyses indicate that these reference points have been exceeded? **Yes...**[1] **Some...**[½] **No...**[0]

7.5.4 (a) For new and exploratory fisheries, are procedures in place for promptly applying precautionary management measures, including catch or effort limits? **Yes...**[1] **No...**[0]

(b) Have provisions been made for the gradual development of new or exploratory fisheries while information is being collected on the impact of these fisheries, allowing an assessment of the impact of such fisheries on the long-term sustainability of the stocks? **Yes...**[1] **No...**[0]

- Have precautionary management provisions been established early on? **Yes...**[1] **No...**[0]

- Has information collection been initiated early to allow impact assessment? **Yes...**[1] **No...**[0]

7.5.5 (a) Have contingency plans been agreed to in advance on the appropriate temporary management response to serious threats to the resource as a result of overfishing or adverse environmental changes or other phenomena adversely affecting the resource? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have these emergency (temporary) responses been agreed to due to:

- natural phenomena adversely impacting the stock? **Yes...**[1] **Some...**[½] **No...**[0]

- fishing adversely impacting the stock? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:



7.6.1 Is the level of fishing permitted commensurate with the current state of the fishery resources? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.2 Are fishing vessels allowed to operate on the resource in question without specific authorization? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.3 (a) Have attempts been made to measure fleet capacity operating in the fishery? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have mechanisms been established where excess capacity exists to reduce capacity to levels commensurate with sustainable use of the resource? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.5 Has the fishery been regulated in such a manner that conflict among fishers using different vessels, gear and fishing methods are minimized? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.6 In the course of deciding on use, conservation and management of the resource, were relevant national laws and regulations relating to the traditional practices needs and interests of indigenous people and local fishing communities highly dependent on these resources for their livelihood taken into account? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.7 Have the cost-effectiveness and social impact been considered in the evaluation of alternative conservation and management measures? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.8 Are procedures in place to keep the efficacy of current conservation and management measures and their possible interactions under continuous review to revise or abolish them in the light of new information?

- Have review procedures been established? **Yes...**[1] **Some...**[½] **No...**[0]

- Does a flexible mechanism for revision of management measures exist? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.9 (a) Are appropriate measures being applied to minimize:

- waste and discards? **Yes...**[1] **Some...**[½] **No...**[0]

- catch of non-target species (both fish and non-fish species)? **Yes...**[1] **Some...**[½] **No...**[0]



- impacts on associated, dependent or endangered species? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are technical measures being taken in relation to:

- fish size? **Yes...**[1] **Some...**[½] **No...**[0]

- mesh size or gear? **Yes...**[1] **Some...**[½] **No...**[0]

- discards? **Yes...**[1] **Some...**[½] **No...**[0]

- closed seasons? **Yes...**[1] **Some...**[½] **No...**[0]

- closed areas? **Yes...**[1] **Some...**[½] **No...**[0]

- areas reserved for particular (e.g. artisanal) fisheries? **Yes...**[1] **Some...**[½] **No...**[0]

Not Applicable

- protection of juveniles or spawners? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Are suitable arrangements in place to promote, to the extent practicable, the development and use of selective, environmentally safe and cost-effective gear and techniques? **Yes...**[1] **Some...**[½] **No...**[0]

7.6.10 Have measures been introduced to identify and protect depleted resources and those resources threatened with depletion, and to facilitate the sustained recovery of such stocks?

Yes...[1] **Some...**[½] **No...**[0] **Comments:**

7.7 Implementation

7.7.1 Has an effective legal and administrative framework been established at the local and national level, as appropriate, for fishery resource conservation and management? **Yes...**[1] **Some...**[½] **No...**[0]

7.7.2 (a) Are national laws in place that provide for sanctions? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are these adequate in severity to be effective? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Do sanctions affect (refusal/withdrawal/suspension) authorization to fish in the event of non-com-

pliance with conservation and management measures in force? **Yes...**[1] **Some...**[½] **No...**[0]

7.7.3 Are there in place:

- monitoring control and surveillance schemes? **Yes...**[1] **Some...**[½] **No...**[0]
- observer programmes? **Yes...**[1] **Some...**[½] **No...**[0]
- inspection schemes? **Yes...**[1] **Some...**[½] **No...**[0]
- vessel monitoring schemes? **Yes...**[1] **Some...**[½] **No...**[0] **Not Applicable**

***7.7.4** (a) Have States and subregional or regional fisheries management organizations and arrangements, as appropriate, agreed on the means by which the activities of such organizations and arrangements will be financed, bearing in mind, *inter alia*, the relative benefits derived from the fishery and the differing capacities of countries to provide financial and other contributions?

- Is the capacity of member countries to finance taken into account? **Yes...**[1] **No...**[0]
- Is there an agreement on financing? **Yes...**[1] **No...**[0]
- Is there an agreement on relative benefits? **Yes...**[1] **No...**[0]

(b) Is it possible for such organizations and arrangements to agree on an attempt to recover the costs of fisheries conservation, management and research measures (and their enforcement) that are in place? **Yes...**[1] **No...**[0] Does an Agreement on cost recovery exist? **Yes...**[1] **No...**[0]

7.7.5 (a) Have States which are members of or participants in subregional or regional fisheries management organizations or arrangements taken steps to implement (into national legislation and practice) internationally agreed measures adopted in the framework of such organizations or arrangements which are consistent with international law? **Yes...**[1] **Some...**[½] **No...**[0]

(b) In particular, have national measures been adopted to deter the activities of vessels flying the flag of non-members or non-participants which engage in activities which undermine the effectiveness of



conservation and management measures established by such organizations or arrangements?

Yes...[1] **Some...**[½] **No...**[0]

Comments:

Score Article 7 (Maximum = 108)

(Maximum = 87 for fisheries in national waters, i.e. omitting clauses marked with *)

Article 8 - Fishing Operations

8.1 Duties of all States

8.1.1 Are States involved in the fishery ensuring that only fishing operations allowed by them are conducted within waters under their jurisdiction and that these operations are carried out in a responsible manner? **Yes...**[1] **Some...**[½] **No...**[0]*

8.1.2 Are States involved in the fishery maintaining a record, updated at regular intervals, on all authorizations to fish issued by them? **Yes...**[1] **Some...**[½] **No...**[0]

***8.1.3** Are States involved in the fishery maintaining, in accordance with recognized international standards and practices, statistical data, updated at regular intervals, on all fishing operations allowed by them? **Yes...**[1] **Some...**[½] **No...**[0]

8.1.4 Are States involved in the fishery, in accordance with international law, within the framework of subregional or regional fisheries management organizations or arrangements, cooperating to establish systems for monitoring, control, surveillance and enforcement of applicable measures with respect to fishing operations and related activities in waters outside their national jurisdiction?

Yes...[1] **Some...**[½] **No...**[0]

8.1.7 Are education and training programmes enhancing the education and skills of fishers and, where appropriate, their professional qualifications, taking into account agreed international standards and guidelines? **Yes...**[1] **Some...**[½] **No...**[0]

8.1.8 Are records of fishers being maintained which should, whenever possible, contain information

on their service and qualifications, including certificates of competency, in accordance with their national laws? **Yes...**[1] **Some...**[½] **No...**[0]

8.1.9 Do measures applicable in respect of masters and other officers charged with an offence relating to the operation of fishing vessels include provisions which may permit, *inter alia*, refusal, withdrawal or suspension of authorizations to serve as masters or officers of a fishing vessel? **Yes...**[1] **Some...**[½] **No...**[0] **Not Applicable**

8.1.10 Is an attempt being made to ensure that, through education and training, all those engaged in fishing operations are given information on the most important provisions of this Code, as well as provisions of relevant international conventions and applicable environmental and other standards that are essential to ensure responsible fishing operations? **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

8.2 Flag State duties

***8.2.1** (a) Are flag States maintaining records of fishing vessels entitled to fly their flag and authorized to fish, which indicate details of the vessels, their ownership and authorization to fish? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have such vessels have been issued with, and carry on board, a Certificate of Registry and authorization to fish? **Yes...**[1] **Some...**[½] **No...**[0]

***8.2.2** Are Flag States taking steps to ensure that no fishing vessels entitled to fly their flag fish on the high seas or in waters under the jurisdiction of other States unless such vessels have been issued with a Certificate of Registry and have been authorized to fish by the competent authorities? **Yes...**[1] **Some...**[½] **No...**[0]

***8.2.3** Are national fishing vessels authorized to fish on the high seas or in waters under the jurisdiction of a State other than the Flag State marked in accordance with uniform and internationally recognizable vessel marking systems such as the FAO Standard Specifications and Guidelines for Marking and Identification of Fishing Vessels? **Yes...**[1] **No...**[0]

8.2.4 Is there national legislation requiring fishing gear to be marked, taking into account uniform and internationally recognizable gear marking systems, in order that the owner of the gear can be identified? **Yes...**[1] **Some...**[½] **No...**[0]*



8.2.6 Are States involved in a fishery on the high seas party to the Agreement to Promote Compliance with International Conservation and Management Measures by Vessels Fishing in the High Seas? **Yes...**[1] **Some...**[½] **No...**[0]

***8.2.7** (a) Are Flag States taking enforcement measures in respect of fishing vessels entitled to fly their flag which have been found by them to have contravened applicable conservation and management measures, including, where appropriate, making the contravention of such measures an offence under national legislation? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are sanctions applicable in respect of violations and illegal activities adequate in severity to be effective in securing compliance and discouraging violations wherever they occur **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

8.4 Fishing operations

8.4.2 Have States prohibited within national legislation dynamiting, poisoning and other comparable destructive fishing practices? **Yes...**[1] **Some...**[½] **No...**[0]

***8.4.3** (a) Is documentation required with regard to fishing operations, retained catch of fish and non-fish species and, as regards discards, the information required for stock assessment as decided by relevant management bodies, collected and forwarded systematically to those bodies?

- documentation on fishing operations **Yes...**[1] **Some...**[½] **No...**[0]
- documentation on non-fish catches **Yes...**[1] **Some...**[½] **No...**[0]
- documentation on fish catches **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is such as observer and inspection scheme being established in order to promote compliance with applicable (fishery management) measures? **Yes...**[1] **Some...**[½] **No...**[0]

8.4.4 Is the adoption of appropriate technology being promoted taking into account economic conditions for the best use and care of the retained catch? **Yes...**[1] **Some...**[½] **No...**[0]

8.4.5 Are States and relevant groups from the fishing industry encouraging the development and implementation of technologies and operational methods that reduce discards? **Yes...**[1] **Some...**[½] **No...**[0]

8.4.6 Are technologies, materials and operational methods being applied that minimize the loss of fishing gear and the ghost fishing effects of lost or abandoned fishing gear? **Yes...**[1] **Some...**[½] **No...**[0]

8.4.7 Are assessments being carried out of the implications of habitat disturbance prior to the introduction on a commercial scale of new fishing gear, methods and operations? **Yes...**[1] **Some...**[½] **No...**[0]

8.4.8 Is research being promoted on the environmental and social impacts of fishing gear and, in particular, on the impact of such gear on biodiversity and coastal fishing communities, being promoted?

- on the environmental impacts? **Yes...**[1] **Some...**[½] **No...**[0]
- on the social impacts? **Yes...**[1] **Some...**[½] **No...**[0]
- on the impact on biodiversity? **Yes...**[1] **Some...**[½] **No...**[0]
- on the impact on coastal fisheries? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

8.5 Fishing gear selectivity

8.5.1 (a) Where practicable, is there a requirement that fishing gear, methods and practices are sufficiently selective as to minimize waste, discards, catch of non-target species - both fish and non-fish species - and impacts on associated or dependent species and that the intent of related regulations is not circumvented by technical devices and that information on new developments and requirements is made available to all fishers? **Yes...**[1] **Some...**[½] **No...**[0]

- Are regulatory measures being circumvented by technical devices? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are fishers cooperating in the development of selective fishing gear and methods? **Yes...**[1] **Some...**[½] **No...**[0]

8.5.2 Do regulations governing the selectivity of fishing gear take into account the range of fishing gear, methods and strategies available to the industry? **Yes...**[1] **Some...**[½] **No...**[0]



8.5.3 Are States and relevant institutions involved in the fishery collaborating in developing standard methodologies for research into fishing gear selectivity, fishing methods and strategies? **Yes...[1]**

Some...[½] No...[0]

8.5.4 Is international cooperation being encouraged with respect to research programmes for fishing gear selectivity and fishing methods and strategies, dissemination of the results of such research programmes and the transfer of technology? **Yes...[1] Some...[½] No...[0] Comments:**

8.11 Artificial reefs and fish aggregation devices

8.11.1 Have policies been developed for increasing stock populations and enhancing fishing opportunities through the use of artificial structures, placed with due regard to the safety of navigation? **Yes...[1] No...[0]**

8.11.2 When selecting the materials to be used in the creation of artificial reefs, as well as when selecting the geographical location of such artificial reefs, have the provisions of relevant international conventions concerning the environment and safety of navigation been observed? **Yes...[1] No...[0]**

8.11.3 (a) Are management systems for artificial reefs and fish aggregation devices established within the framework of coastal area management plans? **Yes...[1] No...[0]**

(b) Does the construction and deployment of such reefs and devices take into account the interests of fishers, including artisanal and subsistence fishers? **Yes...[1] No...[0]**

Comments:

Score Article 8 (Maximum = 39)

(Maximum = 26 for fisheries in national waters, i.e. omitting clauses marked with *)

Article 10 - Integration of Fisheries into Coastal Area Management

10.1 Institutional framework

10.1.1 Has an appropriate policy, legal and institutional framework been adopted in order to achieve

sustainable and integrated use of living marine resources, taking into account the fragility of coastal ecosystems and the finite nature of their natural resources and the needs of coastal communities? **Yes...**[1] **Some...**[½] **No...**[0]

10.1.2 In view of the multiple uses of the coastal area, are representatives of the fisheries sector and fishing communities consulted in the decision-making processes involved in other activities related to coastal area management planning and development? **Yes...**[1] **Some...**[½] **No...**[0]

10.1.3 Do institutional and legal frameworks regulating the possible uses of coastal resources and their access take into account the rights of coastal fishing communities and their customary practices to the extent compatible with sustainable development? **Yes...**[1] **Some...**[½] **No...**[0]

10.1.4 (a) Has the adoption of fisheries practices been promoted that avoids conflict among +.5 - bottom resource users? **Yes...**[1] **Some...**[½] **No...**[0]

- bottom resource users and other users of the coastal area? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have procedures and mechanisms been adopted which help settle these conflicts? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Have procedures and mechanisms been established at the appropriate administrative level to settle conflicts which arise within the fisheries sector and between fisheries resource users and other users of the coastal area? **Yes...**[1] **No...**[0]

Comments:

10.2 Policy measures

10.2.1 Is public awareness being created on the need for the protection and management of coastal resources and the participation in the management process by those affected? **Yes...**[1] **Some...**[½] **No...**[0]

10.2.2 Has an attempt been made to assess the economic, social and cultural value of coastal resources in order to assist decision-making on their allocation and use?

- economic **Yes...**[1] **Some...**[½] **No...**[0]



- social and cultural **Yes...[1]** **Some...[½]** **No...[0]**

10.2.3 Have risks and uncertainties involved in the management of coastal areas been taken into account in setting policies for the management of coastal areas? **Yes...[1]** **Some...[½]** **No...[0]**

10.2.4 In accordance with capacities, have measures been taken to establish or promote the establishment of systems to monitor the coastal environment as part of the coastal management process using physical, chemical, biological, economic and social parameters? **Yes...[1]** **Some...[½]** **No...[0]**

10.2.5 Has multi-disciplinary research in support of coastal area management been promoted on

- environmental and biological aspects? **Yes...[1]** **Some...[½]** **No...[0]**

- economic and social aspects? **Yes...[1]** **Some...[½]** **No...[0]**

- legal and institutional aspects? **Yes...[1]** **Some...[½]** **No...[0]**

Comments:

10.3 Regional cooperation

10.3.1 Do States with neighbouring coastal areas cooperate with one another in:

- the sustainable use of resources? **Yes...[1]** **Some...[½]** **No...[0]**

- the conservation of the environment? **Yes...[1]** **Some...[½]** **No...[0]**

Comments:

Score Article 10 (Maximum = 17)

Article 11 - Post-Harvest Practices and Trade

11.1 Responsible fish utilization

11.1.11 Is international domestic trade in fish and fishery products in accord with sound conservation and management practices through the identification of the origin of fish and fish products trad-

ed? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

11.2 Responsible international trade

11.2.3 Are measures affecting international trade in fish and fishery products transparent, based, when applicable, on scientific evidence, and in accordance with internationally agreed rules? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

Score Article 11 (2)

Article 12 - Fisheries Research

12.1 Responsible fishing requires the availability of a sound scientific basis to assist fisheries managers and other interested parties in making decisions, taking into account the special needs of developing countries.

(a) Is appropriate research conducted into all aspects of fisheries, including biology, ecology, technology, environmental science, economics, social science, aquaculture and nutritional science **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are research vessel surveys of the resource and the marine environment carried out? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Are appropriate research and training facilities available and provisions made for staffing and institution building to conduct the necessary research, taking into account the special needs of developing countries? **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

12.2 Has an appropriate institutional framework been established to determine the applied research which is required and its proper use? **Yes...**[1] **Some...**[½] **No...**[0]

12.3 (a) Are data generated by research being analysed and the results of such analyses published in



a way that confidentiality is respected where appropriate? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are results of analyses being distributed in a timely and readily understandable fashion in order that the best scientific evidence be made available as a contribution to fisheries conservation, management and development? **Yes...**[1] **Some...**[½] **No...**[0]

(c) In the absence of adequate scientific information, is appropriate research being initiated in a timely fashion? **Yes...**[1] **Some...**[½] **No...**[0]

12.4 (a) Are reliable and accurate data required to assess the status of fisheries and ecosystems - including data on bycatch, discards and waste - being collected? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are these data being provided, at an appropriate time and level of aggregation, to relevant States and subregional, regional and global fisheries organizations? **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

12.5 (a) Are States monitoring and assessing the state of the stocks under their jurisdiction, including the impacts of ecosystem changes resulting from fishing pressure, pollution or habitat alteration? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Have they established the research capacity necessary to assess the effects of climate or environment change on fish stocks and aquatic ecosystems? **Yes...**[1] **Some...**[½] **No...**[0]

12.6 Are States taking steps to support and strengthen national research capabilities to meet acknowledged scientific standards? **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

12.7 (a) Are States cooperating with relevant international organizations to encourage research in order to ensure optimum utilization of fishery resources? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are they stimulating the research required to support national policies related to fish as food? **Yes...**[1] **Some...**[½] **No...**[0]

12.8 (a) Is research being conducted into the study and monitoring of human food supplies from aquatic sources and the environments from which they are taken to ensure that there is no adverse health impact on consumers? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Are results of such research being made publicly available? **Yes...**[1] **Some...**[½] **No...**[0] **Comments:**

12.10 (a) Are studies on the selectivity of fishing gear, the environmental impact of fishing gear on target species and on the behaviour of target and non-target species in relation to such fishing gear being conducted as an aid for management decisions? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is an attempt being made through research to minimize non-utilized catches? **Yes...**[1] **Some...**[½] **No...**[0]

(c) Is the biodiversity of ecosystems and the aquatic habitat being safeguarded? **Yes...**[1] **Some...**[½] **No...**[0]

12.11 (a) Before the commercial introduction of a new type of gear, is a scientific evaluation of its impact on the fisheries and ecosystems where it will be used being undertaken? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is the effect of such gear introduction monitored? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

12.12 Are traditional fisheries knowledge and technologies being investigated and documented, in particular those applied to small-scale fisheries, in order to assess their application to sustainable fisheries conservation, management and development? **Yes...**[1] **Some...**[½] **No...**[0]

12.13 (a) Is the use of research results as a basis for the setting of management objectives, reference points and performance criteria being promoted? **Yes...**[1] **Some...**[½] **No...**[0]

(b) Is research being used to help ensure adequate linkages between applied research and fisheries management? **Yes...**[1] **Some...**[½] **No...**[0]

Comments:

12.14 Are States conducting scientific research activities in waters under the jurisdiction of another State, ensuring that their vessels comply with the laws and regulations of that State and international law? **Yes...**[1] **Some...**[½] **No...**[0] **Not Applicable**



12.17 Are States, either directly or with the support of relevant international organizations, developing collaborative technical and research programmes to improve understanding of the biology, environment and status of transboundary aquatic stocks? **Yes...**[1] **Some...**[½] **No...**[0]

12.18 Are States and relevant international organizations promoting and enhancing the research capacities of developing countries, *inter alia*, in the areas of data collection and analysis, information, science and technology, human resource development and provision of research facilities, in order for them to participate effectively in the conservation, management and sustainable use of living aquatic resources? **Yes...**[1] **Some...**[½] **No...**[0]

APPENDIX D: FLORIDA BLUE CRAB MAP TIMELINE

June 2014 – start of Florida Blue Crab MAP	
23 rd	<p>Management Meeting: St. Petersburg, FL</p> <ul style="list-style-type: none">- Blue crab populations dependent on rainfall- Important to look at long term trends, not just recent; trends indicate population is stable- Some crabbers moving between Gulf and Atlantic Coasts- Economics are major driver – fishing based on marketability- Goal of effort management was to eliminate latent effort- Some interaction with terrapins, especially in Panhandle, but only fish close to shore- Current status: management accomplished control with effort and need to say how that plays out over time before more adjustments are made
24 th	<p>Industry Meeting: fisherman and processor Crystal River, FL</p> <ul style="list-style-type: none">- July-August is biggest catch season, but market drops in August- Mainly local market to low income communities- Need to create market in Gulf around blue crab similar to Chesapeake- Sell mainly live product and 40% of total business goes to Chesapeake- Crabbers in Crystal River area mainly stay local- No bycatch issues with terrapin, though sea turtles can tear up traps- EMP added traps; fishermen concerned if not buying maximum allowed would lose ability to fish- Latent effort still an issue



24 th	<p>Industry Meting: three fishermen and shedders Cross City, FL</p> <ul style="list-style-type: none"> - Support EMP; have better tools to manage fisheries - Still want open dialogue with FWC; isn't there anymore unless FWC reconvenes BCAB - No bycatch issues with terrapin, though sea turtles can tear up traps - Concerns over rainfall, algal blooms, and disease - 98% live product, with about half going out of state - Need for educating public on how to prepare and eat crab - Need for more Sea Grant workshops – shedding workshop very valuable
25 th	<p>Industry Meeting: part time fisherman, Panama City, FL</p> <ul style="list-style-type: none"> - “Small guy crabber” - No issue for crabbers in the area, mostly smaller fishermen with other jobs - Product stays local, goes mostly to restaurants and markets - No bycatch issues with terrapin, though sea turtles can tear up traps - Trip Ticket education for fish houses could be helpful
July 2014 – Continued industry engagement and research	
11 th	<p>Industry Meeting: Presented to OFF, Merritt Island, FL</p> <ul style="list-style-type: none"> - Introduced program to board
Fall 2014 – Continued Research and Report Writing	
October 2014 – Continued Research and Report Writing	
15 th	<p>Management Meeting: Biloxi, MS (GSMFC bi-annual meeting)</p> <ul style="list-style-type: none"> - Detailed discussion of Florida blue crab MAP and Caddy Checklist

Nov 2014 – Continued industry engagement and outreach

4 th	<p>Industry Meeting: fishermen, Apalachicola, FL</p> <ul style="list-style-type: none"> - EMP effective and successful; has narrowed industry down to those who are serious - Water quality and flow concerns; have to fish closer to mouth of river now - Product mainly stays local with a little going to picking house - Concerns over user conflicts, especially recreational boats and crabbers from out of area - No bycatch issues with terrapin, though sea turtles can tear up traps - Could have improvements with trap cleanup program; traps are missed because people doing the cleanup aren't from the area
4 th	<p>Industry Meeting: fisherman, Wallukah County, FL</p> <ul style="list-style-type: none"> - Concerned that it has become too difficult and too expensive for new people to enter industry - Bad landings over the last few years - Made more money when picking houses more active - User conflicts with guide boats - Can FWC create more durable tags?
5 th	<p>Management Meeting: Department of Agriculture, Fresh from Florida, Tallahassee, FL</p> <ul style="list-style-type: none"> - Link between sustainability, marketing, and traceability - Market both holistically and by species - Pro-industry: everything they do is to benefit commercial fishermen - So far have been silent on sustainability because it's a contentious issue - Good relationship with retailers - FL is a seafood deficit state – they produce less than is consumed in state; most product is exported because it's more profitable - Try to keep tabs on what's going on in the industry, but can be challenging - Try to be active at festivals, but prioritize which ones to have presence at



5 th	<p>Industry Meeting: fisherman, Perry, FL</p> <ul style="list-style-type: none"> - Blue crab has been reliable - Tries to stay within region, but does move sometimes - Market seems to drop off in summer, but will sell to picking house when market drops off - Blue crab industry in decent shape, happy with EMP
5 th	<p>Industry Meeting: Silver Springs, FL</p> <ul style="list-style-type: none"> - Mainly fishes one area but will move to a secondary area if needed - Concerns over trap loss, approx. 150 per year - Not much bycatch, no terrapins and utilizes any finfish - Mainly sells to one place, whole
January 2015 – Submitted report for review by third-party	
February–June 2015 – Finalization of SBR and recommendations for blue crab fishery	
June 2015	
22 nd	<p>Participating Stakeholder Meeting: Ocala, FL</p> <ul style="list-style-type: none"> - Convened MAP Committee - Discussed recommendations that resulted from SBR - Determined which recommendations to address and corresponding actions
July 2015	
11 th	<p>Industry Meeting: Organized Fishermen of Florida, Merritt Island, FL</p> <ul style="list-style-type: none"> - Presented draft Action plan to OFF - OFF agrees to be participating stakeholder



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