Amendment 10 to the Fishery Management Plan for the Dolphin Wahoo Fishery of the Atlantic Region

Redefine optimum yield for dolphin, allow adaptive management of sector annual catch limits, modify authorized gear that may be onboard when possessing dolphin or wahoo, and remove the operator card requirement for the dolphin wahoo fishery.

DRAFT Amendment Document

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Definitions, Abbreviations, and Acronyms Used in the Document

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
B_{CURR}	the current stock biomass
CPUE	catch per unit effort
DEIS	draft environmental impact statement
EA	environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
F	a measure of the instantaneous rate of fishing mortality
$F_{30\%SPR}$	fishing mortality that will produce a static SPR = 30%
F_{CURR}	the current instantaneous rate of fishing mortality
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B_{OY}
FEIS	final environmental impact statement
FMP	fishery management plan
FMU	fishery management unit
M	natural mortality rate
MARMAP	Marine Resources Monitoring Assessment and Prediction Program
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OY	optimum yield
PSE	proportional standard error
RIR	regulatory impact review
SAFMC	South Atlantic Fishery Management Council
SEDAR	Southeast Data, Assessment, and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SIA	social impact assessment
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee

Amendment 10 to the Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic Region

Including an Environmental Assessment (EA), Regulatory Impact Review (RIR), and Fishery Impact Statement (FIS)

Responsible Agencies and Contact Persons:

National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
Saint Petersburg, Florida 33701
727-824-5305
727-824-5308 (fax)
http://sero.nmfs.noaa.gov
Contact: Nikhil Mehta
nikhil.mehta@noaa.gov

South Atlantic Fishery Management Council
4055 Faber Place Dr., Suite 201,
North Charleston, South Carolina 29405
843-571-4366
813-769-4520 (fax)
http://www.safmc.net
Contact: John Hadley
john.hadley@safmc.net

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SUMMARY

Amendment 10 to the Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic

Why is the South Atlantic Council Taking Action?

In 2015, the commercial sector for dolphin in the Atlantic met the sector annual catch limit (ACL) and closed on June 30, 2015 for the remainder of the calendar year. In 2015, the recreational sector harvested a little over half of the recreational sector ACL, resulting in approximately 6.7 million pounds whole weight (lbs ww) of the total ACL for dolphin going unharvested.

Because the commercial dolphin sector closed while several million pounds of the total ACL was not landed, the South Atlantic Fishery Management Council (South Atlantic Council) is considering options in Amendment 10 to the Fishery Management Plan (FMP) for the Dolphin Wahoo Fishery of the Atlantic Region (Dolphin Wahoo FMP) that would allow for quota sharing between the commercial and recreational sectors. These actions are intended to provide flexibility in managing the ACL for dolphin and to prevent or reduce the length of harvest closures in the commercial dolphin sector.

The South Atlantic Council is also considering changing the optimum yield definition (OY) for dolphin to better address the needs of the commercial and recreational sectors, establishing an annual catch target (ACT) for dolphin for the commercial sector and revising the ACT for dolphin for the recreational sector for use in defining OY, revising the acceptable biological catch (ABC) control rule to allow uncaught ACL to be used in the following year, and removing the Operator Card requirement in the Dolphin Wahoo FMP of the Atlantic Region. In response to a request from commercial fishermen in New England who would like to harvest dolphin by hook and line gear while possessing lobster pots, the South Atlantic Council is considering modifying the allowable gear types for possessing dolphin or wahoo.

Table S-1. Landings of dolphin (lbs ww) during 2005-2015. Data includes North, Mid- and South Atlantic Regions. The current total ACL for dolphin is 15,344,846 lbs ww, commercial ACL is 1,534,485 lbs ww, and the recreational ACL is 13,810,361 lbs ww (as of February 22, 2016).

Year	Commercial (lbs ww)	Recreational (lbs ww)	Total (lbs ww)
2005	577,655	8,629,313	9,206,968
2006	650,121	8,898,207	9,548,328
2007	998,023	9,598,943	10,596,966
2008	835,177	7,833,547	8,668,724
2009	1,296,014	7,570,195	8,866,209
2010	715,334	6,243,399	6,958,733
2011	792,293	6,529,705	7,321,998
2012	709,131	6,104,412	6,813,543
2013	616,953	4,029,380	4,646,333
2014	1,301,757	5,249,693	6,551,450
2015	1,109,581	7,556,535	8,666,116
Average	872,913	7,113,030	7,985,942

Note: Commercial data from ACL_FILES_12152016.xlsx
Recreational data comes from MRIPACLspec_rec81_16wv4_10Nov16_14and15LACreel.xlsx.

Chapter 1. Introduction

1.1 What Actions Are Being Proposed in Dolphin Wahoo Amendment 10?

The South Atlantic Fishery Management Council (South Atlantic Council) is considering options in Amendment 10 to the Dolphin Wahoo FMP (Dolphin Wahoo 10) that would allow for quota sharing between the commercial and recreational sectors. The South Atlantic Council is also considering changes to the definition of optimum yield (OY) for dolphin portion of the dolphin wahoo fishery to better address the needs of the commercial and recreational sectors, establishing an annual catch target (ACT) for dolphin for the commercial sector and revising the ACT for dolphin for the recreational sector for use in defining OY, revising the acceptable biological catch (ABC) control rule to allow rollover of uncaught ACL to be used in the following year, removing the Operator Card requirement in the Dolphin Wahoo FMP, and changes to the allowable gear types for the possession of dolphin or wahoo.

South Atlantic Fishery Management Council

- Responsible for conservation and management of fish stocks in the South Atlantic Region.
- Consists of 13 voting members: 8 appointed by the Secretary of Commerce, 1 representative from each of the 4 South Atlantic states, the Southeast Regional Director of NMFS and 4 non-voting members.
- Responsible for developing fishery management plans and amendments under the Magnuson-Stevens Act; recommends actions to NMFS for implementation.
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West with the exception of Mackerel which is from New York to Florida, and Dolphin-Wahoo, which is from Maine to Florida.

1.2 Who is Proposing the Management Measures?

The South Atlantic Council is proposing these management measures. The South Atlantic Council recommends management measures and sends them to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment through the development of regulations on behalf of the Secretary of Commerce. NMFS is a line office in the National Oceanic and Atmospheric Administration within the Department of Commerce.

The South Atlantic Council made versions of the document available during scoping and public hearings. The final amendment will be made available during the public comment period on the proposed rule. All versions of the document are or will be available on the South Atlantic Council's and NMFS's websites.

1.3 Where is the Project Located?

The federal dolphin wahoo fisheries are located off the eastern United States (Atlantic) from Florida to Maine in the 3-200 nautical miles U.S. EEZ (**Figure 1-1**).

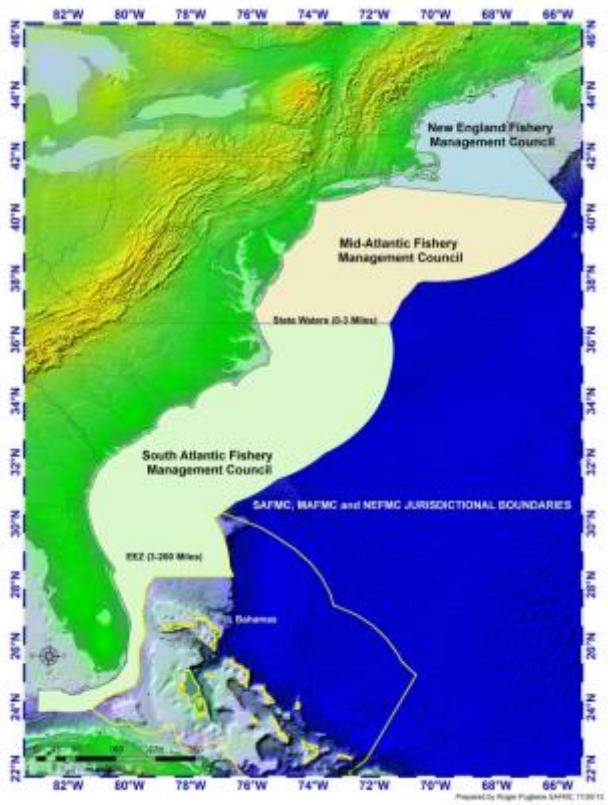


Figure 1-1. Jurisdictional boundaries of the Dolphin and Wahoo Fishery Management Plan for the Atlantic as managed by the South Atlantic Fishery Management Council.

1.4 Why are the South Atlantic Council and NMFS Considering this Action?

In 2015, commercial landings met the previous sector annual catch limit (ACL) of 1,157,001 pounds whole weight (lbs ww) for dolphin in the Atlantic and commercial harvest was closed on June 30, 2015, for the remainder of the calendar year. In the same year, the recreational sector did not harvest approximately half of the recreational sector ACL, resulting in approximately 6.7 million lbs ww of the total ACL for dolphin in the Atlantic going unharvested.

Because there was a closure of the commercial dolphin sector but 6.7 million pounds of the total ACL was not landed, the South Atlantic Council is considering options in Dolphin Wahoo 10 that would allow for quota sharing between the commercial and recreational sectors. These actions are intended to provide flexibility in managing the ACL for dolphin and to prevent or reduce the length of harvest closures in the commercial dolphin snapper sector.

The South Atlantic Council is also considering changes to the definition of OY for dolphin portion of the dolphin wahoo fishery to better address the needs of the commercial and recreational sectors, establishing an annual catch target (ACT) for dolphin for the commercial sector and revising the ACT for dolphin for the recreational sector for use in defining OY, revising the ABC control rule to allow rollover of uncaught ACL to be used in the following year, and removing the Operator Card requirement in the Dolphin Wahoo FMP. In addition, the South Atlantic Council is examining options for changes to the

allowable gear types for the possession of dolphin or wahoo in response to a request from commercial fishermen in New England who would like to harvest dolphin by hook and line gear while in the possession of lobster pots.

Purpose for Action

The *purpose* of this amendment is to allow greater flexibility in the management of sector annual catch limits in the dolphin fishery and to update the definition of optimum yield to better address the needs of the commercial and recreational sectors.

Need for Action

The *need* for the amendment is to increase the likelihood of achieving optimum yield for dolphin while minimizing, to the extent possible, adverse social and economic effects due to in-season closures.

1.5 What is the history of management and the Federal regulations for dolphin and wahoo?

Dolphin and wahoo were originally a part of the Fishery Management Plan for Coastal Pelagic Resources in the Gulf of Mexico and South Atlantic Region. Under that plan, a control date of May 21, 1999, for possible future limited entry was established for the commercial dolphin and wahoo fishery in the South Atlantic.

Dolphin and wahoo regulations were first implemented in 2003 through a separate Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic (SAFMC 2003). That plan established:

1. A separate management unit for dolphin and wahoo in the U.S. Atlantic.
2. A dealer permit.
3. For-hire and commercial vessel permits.
4. For-hire and commercial operator permits.
5. Reporting requirements.
6. Maximum Sustainable Yield and Optimal Yield (OY).
7. Defined overfishing.
8. A management framework.
9. Prohibit recreational sale of dolphin or wahoo except by for-hire vessels with a commercial permit.
10. A 1.5 million lbs. or 13% of the total catch soft cap for the commercial sector.
11. A recreational bag limit of 10 dolphin per person, 60 dolphin per vessel maximum.
12. A minimum size limit of 20 inches fork length off Georgia and Florida.
13. A commercial trip limit of 500 lbs. of wahoo with no at-sea transfer.
14. A recreational bag limit of 2 wahoo per person, per day.
15. Allowable gear for dolphin and wahoo in the Atlantic EEZ as longline; hook and line gear including manual, electric, or hydraulic rod and reels; bandit gear; handline; and spearfishing gear (including powerheads).

16. A prohibition on the use of surface and pelagic longline gear for dolphin and wahoo within any "time or area closure" in the South Atlantic Council's area of jurisdiction (Atlantic Coast) which is closed to the use of pelagic gear for highly migratory pelagic species.
17. The fishing year of January 1 to December 31 for the dolphin and wahoo fishery.
18. Essential Fish Habitat (EFH) for dolphin and wahoo as the Gulf Stream, Charleston Gyre, and Florida Current.
19. Essential Fish Habitat-Habitat Areas of Particular Concern (EFH-HAPC) for dolphin and wahoo in the Atlantic to include The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); the Charleston Bump and The Georgetown Hole (South Carolina); The Point off Jupiter Inlet Florida); The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; and The "Wall" off of the Florida Keys.

The Fishery Management Plan for Pelagic *Sargassum* Habitat in the South Atlantic Region (SAFMC 2002) and the Comprehensive Ecosystem-Based Amendment 1 (SAFMC 2009a) designated additional EFH and EFH-HAPCs for dolphin and wahoo.

The Comprehensive ACL Amendment (SAFMC 2011) established the ABC control rule, ABC, annual catch limits, OY, and accountability measures (AMs) in the dolphin and wahoo fishery. The Comprehensive ACL Amendment also set an ACT for the recreational sector dolphin and wahoo.

1.6 What are annual catch limits and accountability measures and why are they required?

A reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) in 2007 required implementation of new tools to end and prevent overfishing to achieve the OY from a fishery. The tools ACLs and AMs. An ACL is the level of annual catch of a stock that, if met or exceeded, triggers some corrective action. The AMs are the corrective action, and they are management controls to prevent ACLs from being exceeded and to correct overages of ACLs

Definitions

Annual Catch Limits (ACL)
The level of annual catch (pounds or numbers) that triggers accountability measures to ensure that overfishing is not occurring.

Annual Catch Targets (ACT)
The level of annual catch (pounds or numbers) that is the management target of the fishery, and accounts for management uncertainty in controlling the actual catch at or below the ACL.

Accountability Measures (AM)
Management controls to prevent ACLs, including sector ACLs, from being exceeded, and to correct or mitigate overages of the ACL if they occur.

Sector Annual Catch Limit
The poundage or number of fish that a sector receives (e.g. recreational and commercial) based on the sector allocation and the total ACL.

Sector Allocation
The percentage of the total ACL that a sector receives.

Common Pool Allocation
A percentage of the ACL that can be set aside for use by either sector.

Maximum Sustainable Yield (MSY)
Largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions.

Optimum Yield (OY)
The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Minimum Stock Size Threshold (MSST)
A status determination criterion. If current stock size is below MSST, the stock is overfished.

if they occur. Two examples of AMs include an in-season closure if catch is projected to reach the ACL and reducing the ACL by an overage that occurred the previous fishing year.

1.7 How does the South Atlantic Council determine the annual catch limits?

ACLs are derived from the overfishing limit (OFL) and the ABC **(Figure 1.7.1)**. The South Atlantic Council's Scientific and Statistical Committee (SSC) determines the OFL from the stock assessment and the ABC (based on the South Atlantic Council/SSC's ABC control rule), and recommends those to the South Atlantic Council. The OFL is an estimate of the catch level above which overfishing is occurring. The ABC is defined as the level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and any other scientific uncertainty.

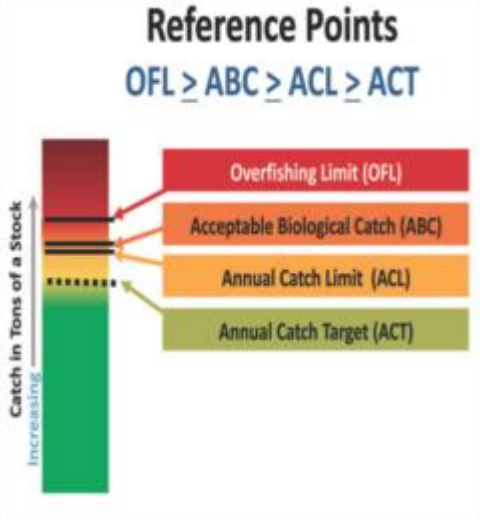


Figure 1.7.1. The relationship of the reference points to each other.

The Magnuson-Stevens Act National Standard 1 (NS 1) guidelines establish the relationship between conservation and management measures, preventing overfishing, and achieving OY from each stock, stock complex, or fishery. The NS 1 guidelines discuss the relationship of the OFL to the maximum sustainable yield (MSY) and ACL to OY. The OFL is an annual amount of catch that corresponds to the estimate of maximum fishing mortality threshold applied to a stock; MSY is the long-term average of such catches. The ACL is the limit that triggers AMs and is the management target for the species. Management measures for a fishery should, on an annual basis, prevent the ACL from being exceeded. The long-term objective is to achieve OY through annual achievement of an ACL. The NS 1 guidelines state that if OY is set close to MSY, the conservation and management measures in the fishery must have very good control of the amount of catch to achieve the OY without overfishing.

The updated framework procedure included in Amendment 17B to the Snapper Grouper FMP (SAFMC 2010b) allows for the timely establishment and adjustment of ACLs if the South Atlantic Council and the NMFS determine they are necessary.

The NS 1 guidelines recommend a performance standard by which the efficacy of any system of ACLs and AMs can be measured and evaluated. According to the guidelines:

> *…if catch exceeds the ACL for a given stock or stock complex more than once in the last four years, the system of ACLs and AMs should be re-evaluated, and modified if necessary, to improve its performance and effectiveness (81 FR 71801).*

If an evaluation concludes that the ACL is chronically exceeded for any one species or species group, and post-season AMs are repeatedly needed to correct for ACL overages, adjustments to management measures would be made. As stated previously, the updated framework procedure implemented through Amendment 17B (SAFMC 2010b) could be utilized to modify management measures such as bag limits, trip limits, seasonal closures, and gear prohibitions in a timely manner. Using the regulatory amendment process to implement such changes, if needed, is the timeliest method of addressing issues associated with repeated ACL overages through permanent regulations.

With vastly improved commercial monitoring mechanisms now in place in the South Atlantic Region, it is unlikely that repeated commercial ACL overages would occur. The NMFS Commercial Landings Monitoring (CLM) system came online in June 2012 and is now being used to track commercial landings of federally managed fish species. The CLM system can track dealer reporting compliance with a direct link to the permits database at the NMFS Southeast Regional Office. Additionally, the Joint Seafood Dealer Reporting Amendment (GMFMC & SAFMC 2013b), which became effective on August 7, 2014, requires electronic reporting, increases required reporting frequency for dealers to once per week, and requires a single dealer permit for all finfish dealers in the Southeast Region. The CLM system and actions in the Joint Generic Dealer Reporting amendment are expected to provide more timely and accurate data reporting and would thus reduce the incidence of quota overages.

Harvest monitoring efforts in the recreational sector are also improving in the South Atlantic Region. On January 27, 2014, regulations became effective requiring headboats to report their landings electronically once per week (Generic Headboat Amendment, GMFMC & SAFMC 2013a). The Gulf of Mexico and South Atlantic Councils have approved amendments that would require electronic reporting for charterboats and headboats with a set reporting frequency.

1.8 How does the South Atlantic Council determine the sector allocations?

The South Atlantic Council set the dolphin sector allocations using the following method:

Sector allocation = (0.5 * catch history) + (0.5 * current trend)

Whereby, the *catch history* = average landings 1986-2008 and the *current trend* = average landings 2006-2008. The commercial and recreational allocations specified and resulting sector ACLs will remain in effect until modified. The sector allocation method was set in the South Atlantic Council's Comprehensive ACL Amendment in 2011.

Chapter 2. Proposed Actions

2.1 Action 1. Revise the optimum yield (OY) definition for dolphin.

Alternative 1 (No Action). OY is equal to the total ACL.

Alternative 2. OY is equal to the sum of the commercial ACL and the recreational ACT.

Alternative 3. OY is equal to 75% MSY.

Alternative 4. OY is the long-term average catch, which is not to exceed the total ACL, and will fall between the total ACL and total ACT.

2.1.1 Comparison of Alternatives

Table 2.1.1. OY values (lbs ww) in **Action 1** under the different alternatives.

Alternative 1 (No Action) (OY=Total ACL=ABC) (lbs ww)	**Alternative 2** (OY=Comm. ACL + Rec. ACT) (lbs ww)	**Alternative 3** (OY=75% MSY) (lbs ww)	**Alternative 4** (OY=Value between Total ACL and Total ACT) (lbs ww)
15,344,846	14,303,546	Value between 14,000,000 – 35,000,000	Value between 12,769,061-15,344,846

2.2 Action 2. Modify the recreational annual catch target (ACT) for dolphin.

Alternative 1 (No Action). The ACT for the recreational sector equals [sector ACL*(1-PSE)] or [ACL*0.5], whichever is greater.

Alternative 2. The recreational ACT equals 50% of the recreational ACL [recreational ACL*0.5].

Alternative 3. The recreational ACT equals 60% of the recreational ACL [recreational ACL*0.6].

Alternative 4. The recreational ACT equals 70% of the recreational ACL [recreational ACL*0.7].

2.2.1 Comparison of Alternatives

Table 2.2.1. Recreational ACT values (lbs ww) under the alternatives in **Action 2**.

Alternative	Recreational ACT (lbs ww)
Alternative 1 (No Action)	12,769,061
Alternative 2 (Recreational ACL *0.5)	6,906,181
Alternative 3 (Recreational ACL *0.6)	8,286,217
Alternative 4 (Recreational ACL *0.7)	9,667,253

2.3. Action 3. Establish a commercial annual catch target (ACT) for dolphin.

Alternative 1 (No Action). There is no ACT for the commercial sector.

Alternative 2. The commercial ACT equals 80% of the commercial ACL [commercial ACL*0.8].

Alternative 3. The commercial ACT equals 90% of the commercial ACL [commercial ACL*0.9].

Alternative 4. The commercial ACT equals the commercial ACL.

2.3.1 Comparison of Alternatives

(note: this was Action 4 in the IPT notes)

Table 2.3.1. Commercial ACT values (lbs ww) under the alternatives in **Action 3**.

Alternative	Commercial ACT (lbs ww)
Alternative 1 (No Action)	n/a
Alternative 2 (Commercial ACL *0.8)	1,227,588
Alternative 3 (Commercial ACL *0.9)	1,381,037
Alternative 4 (commercial ACL)	1,534,485

2.4 Action 4. Allow adaptive management of sector annual catch limits (ACLs) for dolphin.

Alternative 1 (No Action). The current allocation for the recreational sector for dolphin is 90% of the total ACL. The current allocation for the commercial sector for dolphin is 10% of the total ACL.

Alternative 2. Set aside a portion of the total ACL that can be used by either sector as a common pool allocation.

> **Sub-alternative 2a:** 1% of the total ACL becomes a common pool allocation. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
> **Sub-alternative 2b:** 2.5% of the total ACL becomes a common pool allocation. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
> **Sub-alternative 2c:** 5% of the total ACL becomes a common pool allocation. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
> **Sub-alternative 2d:** 10% of the total ACL becomes a common pool allocation. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.

Alternative 3. If the commercial ACL is not met in a given fishing year, the unused ACL may be carried forward to the next fishing year only. The carried-forward balance shall not exceed a given percentage (Sub-alternatives 3a-3c) of the commercial sector ACL.

> **Sub-alternative 3a:** The carried forward balance shall not exceed 5% of the total commercial sector ACL.
> **Sub-alternative 3b:** The carried forward balance shall not exceed 10% of the total commercial sector ACL.
> **Sub-alternative 3c:** The carried forward balance shall not exceed 20% of the total commercial sector ACL.

Alternative 4. If the recreational ACL is not met in a given fishing year, the unused ACL may be carried forward to the next fishing year only. The carried-forward balance shall not exceed a given percentage (Sub-alternatives 4a-4c) of the recreational sector ACL.

> **Sub-alternative 4a:** The carried forward balance shall not exceed 5% of the total recreational sector ACL.
> **Sub-alternative 4b:** The carried forward balance shall not exceed 10% of the total recreational sector ACL.
> **Sub-alternative 4c:** The carried forward balance shall not exceed 20% of the total recreational sector ACL.

Alternative 5: Conditionally transfer for the next fishing year a certain percentage (Sub-alternatives 5a-5d) of the ACL from a sector that is not landing its ACL to the other sector that is landing at least 90% of its ACL, if the landings of the donating sector are below the minimum landings threshold (Sub-alternatives 5e-5g). The highest landings from the donating sector, based on available finalized data from the five years prior, will be used as criteria to determine if landings are below the minimum landings threshold for a conditional transfer to occur.

Conditional Quota Transfer (MUST CHOOSE ONE):
Sub-alternative 5a: Conditionally transfer 1% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5b: Conditionally transfer 2.5% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5c: Conditionally transfer 5% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5d: Conditionally transfer 10% of the unadjusted ACL of one sector to the other sector.

Donating sector's ACL Minimum Threshold (MUST CHOOSE ONE), if the donating sector's landings are:
Sub-alternative 5e: less than 50% of its unadjusted ACL.
Sub-alternative 5f: less than 65% of its unadjusted ACL.
Sub-alternative 5g: less than 75% of its unadjusted ACL.

2.4.1 Comparison of Alternatives

Table 2.4.1. Commercial and Recreational ACLs (lbs ww) under Sub-alternatives 2a-2d. The current total ACL for dolphin is 15,344,846 lbs ww, commercial ACL is 1,534,485 lbs ww, and the recreational ACL is 13,810,361 lbs ww.

Sub-alternative	Common pool ACL (lbs ww) / Percentage (%) of Total ACL	Remaining Total ACL (lbs ww)	Commercial ACL (lbs ww)	Recreational ACL (lbs ww)	*Commercial ACL (lbs ww) + common pool ACL	*Recreational ACL (lbs ww) + common pool ACL
Sub-alternative 2a	153,448/ 1%	15,191,398	1,518,140	13,672,258	1,671,588	13,825,706
Sub-alternative 2b	383,621/ 2.5%	14,961,225	1,496,123	13,465,103	1,879,744	13,848,724
Sub-alternative 2c	767,242/ 5%	14,577,604	1,457,760	13,119,844	2,225,002	13,887,086
Sub-alternative 2d	1,534,485/ 10%	13,810,361	1,381,036	12,429,325	2,915,521	13,963,810

Table 2.4.2. Unused commercial sector ACL that can be carried over (lbs ww) under Sub-alternatives 3a-3c.

Alternative	Potential Commercial Sector ACL Carried Over (lbs ww)	Commercial Sector ACL+Carry Over ACL (lbs ww)
Sub-alternative 3a	76,724	1,611,209
Sub-alternative 3b	153,449	1,687,934
Sub-alternative 3c	306,897	1,841,382

Table 2.4.3. Unused recreational sector ACL that can be carried over (lbs ww) under Sub-alternatives 4a-4c.

Alternative	Potential Recreational Sector ACL Carried Over (lbs ww)	Recreational Sector ACL+Carry Over ACL (lbs ww)
Sub-alternative 4a	690,518	14,500,879
Sub-alternative 4b	1,381,036	15,191,397
Sub-alternative 4c	2,762,072	16,572,433

2.5 Action 5. Revise the accountability measures for dolphin.

Alternative 1 (No action). The current commercial AM includes an in-season closure to take place if the commercial ACL is met or projected to be met. If the commercial ACL is exceeded, it will be reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The current recreational AM includes a shortening of the recreational season that may be triggered if the recreational ACL is exceeded, but only after recreational landings have been monitored for persistence in increased landings. The length of the recreational season will not be reduced if the RA determines the best available science shows that it is not necessary. If a reduction is necessary, the recreational season may be reduced and the ACL in the following fishing year will be reduced by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

Alternative 2. Neither the commercial or recreational sector will face an in-season closure unless the total ACL is met or projected to be met. Both sectors will close when the total ACL is met or projected to be met. However, if the landings of one or both sectors are estimated by the SRD to have exceeded the sector ACL then:

> **Sub-alternative 2a.** The AA will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to reduce the length of the fishing season for the commercial sector that year by the amount estimated to prevent that sector's ACL from being exceeded.
> **Sub-alternative 2b.** The AA will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to reduce the length of the fishing season for recreational sector that year by the amount estimated to prevent that sector's ACL from being exceeded.
> **Sub-alternative 2c.** Implement a trip limit for the commercial sector the following fishing year, if applicable, by the amount estimated to prevent that sector's ACL from being exceeded.
> **Sub-alternative 2d.** Implement a bag limit reduction for the recreational sector the following fishing year, if applicable, by the amount estimated to prevent that sector's ACL from being exceeded.

Alternative 3. The commercial AM will include an in-season closure if the commercial ACL and the available common pool ACL is met or projected to be met. The commercial ACL is reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

The recreational AM will include an in-season closure if the recreational ACL and the available common pool ACL is met or projected to be met. A shortening of the recreational season may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season is not reduced if the Regional Administrator determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be shortened and the

recreational ACL reduced in the following fishing year by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

Alternative 4. The commercial AM will include an in-season closure to take place if the commercial ACL and the available common pool ACL is met or projected to be met. If the commercial ACL and the available common pool ACL is exceeded, it will be reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

Alternative 5. The recreational AM will include a shortening of the recreational season that may be triggered if the recreational ACL and the available uncaught sector ACL from the previous fishing year is exceeded, but only after recreational landings have been monitored for persistence in increased landings. The length of the recreational season will not be reduced if the RA determines the best available science shows that it is not necessary. If a reduction is necessary, the recreational season may be reduced and the ACL in the following fishing year will be reduced by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

2.6 Action 6. Revise the acceptable biological catch (ABC) control rule for dolphin and wahoo.

Alternative 1 (No Action). Retain the ABC Control Rule for dolphin and wahoo. ABC is equal to the third highest point in landings in the 1999-2008 time series.

Level 1 – Assessed Stocks	
Tier	**Tier Classification and Methodology to Compute ABC**
1. Assessment Information (10%)	1. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 2. Reliable measures of exploitation or biomass; no MSY benchmarks, proxy reference points. (2.5%) 3. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) 4. Reliable catch history. (7.5%) 5. Scarce or unreliable catch records. (10%)
2. Uncertainty Characterization (10%)	1. Complete. Key Determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 2. High. Key Determinant – reflects more than just uncertainty in future recruitment. (2.5%) 3. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 4. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 5. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	1. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 2. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 3. Stock is either overfished or overfishing. (5%) 4. Stock is both overfished and overfishing. (7.5%) 5. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility – Risk Analysis (10%)	1. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 2. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 3. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 - Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine adjustment factor if possible, or from expert judgment if not possible.	
Level 3 - Unassessed Stocks. Inadequate data to support DBSRA	
ABC derived directly, from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.	
Level 4 - Unassessed Stocks. Inadequate data to support DCAC or DBSRA	
OFL and ABC derived on a case-by-case basis. ORCS ad hoc group is currently working on what to do when not enough data exist to perform DCAC.	

Alternative 2. Revise the Acceptable Biological Catch (ABC) Control Rule for dolphin and wahoo by adding a carry-over provision. If the Overfishing Limit (OFL) is known, then the Acceptable Biological Catch (ABC) for dolphin and wahoo can be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed a certain percentage of the OFL (Sub-alternatives 2a through 2c).

Sub-alternative 2a: Revised ABC may not exceed 95% of the OFL.
Sub-alternative 2b: Revised ABC may not exceed 90% of the OFL.
Sub-alternative 2c: Revised ABC may not exceed 85% of the OFL.

Alternative 3. Revise the Acceptable Biological Catch (ABC) Control Rule for dolphin and wahoo by adding a carry-over provision. If the Overfishing Limit (OFL) is unknown, then the Acceptable Biological Catch (ABC) for dolphin and wahoo can be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed a certain percentage of the original ABC (Sub-alternatives 3a through 3c).

Sub-alternative 3a: Revised ABC may not exceed 101% of the original ABC.
Sub-alternative 3b: Revised ABC may not exceed 102.5% of the original ABC.
Sub-alternative 3c: Revised ABC may not exceed 105% of the original ABC.

2.6.1 Comparison of Alternatives

Table 2.6.1. Revised ABC (lbs ww) for dolphin under Sub-alternatives 3a-3c.

Alternative	Increase in ABC (lbs ww)	Potential Revised ABC (lbs ww)
Sub-alternative 3a	153,448	15,498,294
Sub-alternative 3b	383,621	15,728,467
Sub-alternative 3c	767,242	16,112,088

2.7 Action 7. Allow properly permitted vessels with gear onboard that are not authorized for use in the dolphin wahoo fishery to possess dolphin or wahoo.

Alternative 1 (No Action). The following are the only authorized gear types in the fisheries for dolphin and wahoo in the Atlantic exclusive economic zone (EEZ): Automatic reel, bandit gear, handline, pelagic longline, rod and reel, and spearfishing gear (including powerheads). A person aboard a vessel in the Atlantic EEZ that has on board gear types other than authorized gear types may not possess a dolphin or wahoo.

Alternative 2. Allow the possession of dolphin or wahoo on properly permitted vessels with gear types onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed the commercial trip limit.

Alternative 3. Allow the possession of dolphin or wahoo on properly permitted vessels with gear types onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed a certain percentage of the total commercially harvested species onboard by weight.

Alternative 4. Allow the possession of dolphin or wahoo on properly permitted vessels with gear types onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed the recreational limit.

2.7.1 Comparison of Alternatives

2.8 Action 8. Remove the requirement of vessel operators or crew to hold an Operator Card in the Dolphin Wahoo Fishery.

Alternative 1 (No Action). An Atlantic Charter/Headboat for Dolphin/Wahoo Permit or an Atlantic Dolphin/Wahoo Commercial Permit is not valid unless the vessel operator or a crewmember holds a valid Operator Card issued by either the Southeast Regional Office or by the Greater Atlantic Regional Fisheries Office.

Alternative 2. Neither a vessel operator nor any crewmember is required to have an Operator Card for an Atlantic Charter/Headboat for Dolphin/Wahoo Permit to be valid.

Alternative 3. Neither a vessel operator nor any crewmember is required to have an Operator Card for an Atlantic Dolphin/Wahoo Commercial Permit to be valid.

2.8.1 Comparison of Alternatives

Chapter 3 Affected Environment

Dolphin Wahoo Amendment 10 addresses quota sharing between the commercial and recreational sectors for dolphin. The South Atlantic Council is also considering changes to the definition of optimum yield (OY) for dolphin portion of the dolphin wahoo fishery to better address the needs of the commercial and recreational sectors, establishing an annual catch target (ACT) for dolphin for the commercial sector and revising the ACT for dolphin for the recreational sector for use in defining OY, revising the ABC Control rule to allow rollover of uncaught ACL to be used in the following year, and removing the Operator Card requirement in the Dolphin Wahoo FMP. In addition, the South Atlantic Council is examining options for changes to the allowable gear types for the possession of dolphin or wahoo in response to a request from commercial fishermen in New England who would like to harvest dolphin by hook and line gear while in the possession of lobster pots. The reader is referred to Dolphin Wahoo Amendment 5 (SAFMC 2013) for details on the affected environment for these species in the Atlantic EEZ; and summarized below.

3.1 Habitat Environment

Information on the habitat utilized by dolphin and wahoo in the Atlantic is included in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b) and incorporated here by reference. The Fishery Ecosystem Plan can be found at: http://www.safmc.net/ecosystem-management/fishery-ecosystem-plan-1. Dolphin and wahoo are migratory pelagic species occurring in tropical and subtropical waters worldwide. They are found near the surface around natural and artificial floating objects, including *Sargassum* (in the Atlantic).

3.1.1 Essential Fish Habitat

Essential fish habitat (EFH) is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S. C. 1802(10)). EFH for dolphin and wahoo is the Gulf Stream, Charleston Gyre, Florida Current, and pelagic *Sargassum.*

Note: This EFH definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Fishery Management Council's (South Atlantic Council) Comprehensive Habitat Amendment (SAFMC 1998). Dolphin was included within the Fishery Management Plan for the Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (Coastal Migratory Pelagics FMP). This definition does not apply to extra-jurisdictional areas.

3.1.2 Habitat Areas of Particular Concern

EFH-habitat of particular concern (HAPCs) for dolphin and wahoo in the Atlantic include The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and The Georgetown Hole (South Carolina); The Point off Jupiter Inlet (Florida); The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; and Pelagic *Sargassum*.

Note: This EFH-HAPC definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Council's Comprehensive Habitat Amendment (SAFMC 1998)(dolphin was included within the Coastal Migratory Pelagics FMP).

Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, postlarval, juvenile, and adult stages).

In addition to protecting habitat from fishing related degradation though fishery management plan regulations, the South Atlantic Council, in cooperation with National Marine Fisheries Service (NMFS), actively comments on non-fishing projects or policies that may impact essential fish habitat. With guidance from the Habitat Advisory Panel, the South Atlantic Council has developed and approved policies on: energy exploration, development, transportation and hydropower re-licensing; beach dredging and filling and large-scale coastal engineering; protection and enhancement of submerged aquatic vegetation; alterations to riverine, estuarine and near shore flows; offshore aquaculture; and marine invasive species and estuarine invasive species.

See **Appendix J** for detailed information on EFH and EFH-HAPCs for all South Atlantic Council managed species.

3.2 Biological and Ecological Environment

The marine environment in the Atlantic management area affected by actions in this environmental assessment is defined by two components (**Figure 3-1**). Each component is described in detail in Chapter 3 of Dolphin Wahoo Amendment 5 (SAFMC 2013).

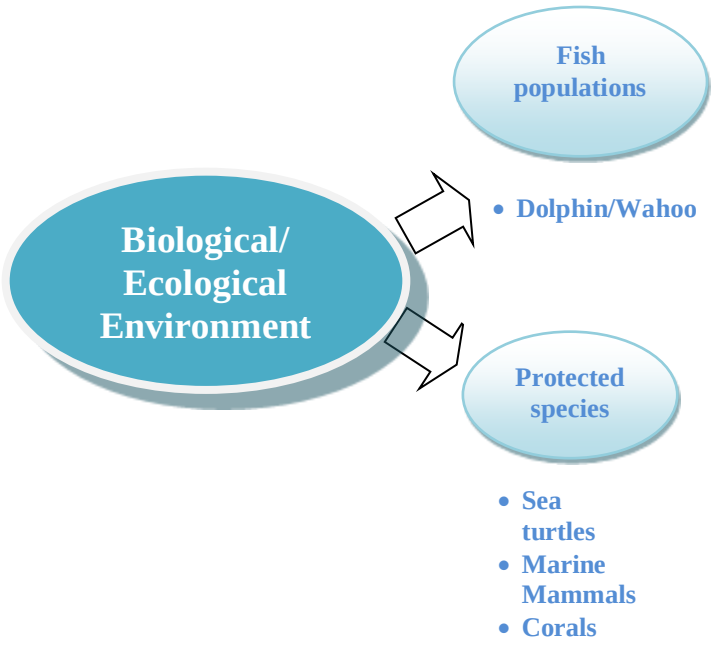


Figure 3-1. Two components of the biological environment described in this document. They are found near the surface around natural and artificial floating objects, including *Sargassum* (in the Atlantic).

Dolphin eat a wide variety of species, including small pelagic fish, juvenile tuna, billfish, jacks, and pompano, and pelagic larvae of nearshore, bottom-living species. They also eat invertebrates such as cephalopods, mysids, and jellyfish. Large tuna, rough-toothed dolphin, marlin, sailfish, swordfish, and sharks feed on dolphin, particularly juveniles. Wahoo mainly feed on squid and fish, including frigate mackerel, butterfish, porcupine fish, and round herring. They generally compete with tuna for the same kind of food, but can feed on larger prey. A number of predators such as sharks and large tuna that share their habitat feed on young wahoo. Additional background information regarding the fish populations for dolphin and wahoo can be found in the Dolphin Wahoo FMP (SAFMC 2003) at: safmc.net/Library/pdf/DolphinWahooFMP.pdf.

Dolphin Life History
An Overview

- Worldwide distribution; In the western Atlantic ocean, from Nova Scotia to Brazil (including Bermuda, The Bahamas, the Gulf of Mexico, and the Caribbean)
- Oceanic, adults in open water and juveniles with floating seagrass and marine debris
- Highly migratory
- Protracted multiple spawning behavior throughout the year, varying with region. Off North Carolina, peak spawning is during April through July
- Maximum age is 4 years (mean <2 years)

3.2.1 Fish Populations

Dolphin and wahoo are highly migratory pelagic species occurring in tropical and subtropical waters worldwide. In the western Atlantic, dolphin and wahoo are distributed from Nova Scotia to Brazil, including

Bermuda and the greater Caribbean region, and the Gulf of Mexico. They are found near the surface around natural and artificial floating objects, including *Sargassum* (in the Atlantic).

Dolphin eat a wide variety of species, including small pelagic fish, juvenile tuna, billfish, jacks, and pompano, and pelagic larvae of nearshore, bottom-living species. They also eat invertebrates such as cephalopods, mysids, and jellyfish. Large tuna, rough-toothed dolphin, marlin, sailfish, swordfish, and sharks feed on dolphin, particularly juveniles. Wahoo mainly feed on squid and fish, including frigate mackerel, butterfish, porcupine fish, and round herring. They generally compete with tuna for the same kind of food, but can feed on larger prey. A number of predators such as sharks and large tuna that share their habitat feed on young wahoo. Additional background information regarding the fish populations for dolphin and wahoo can be found in the Dolphin Wahoo FMP (SAFMC 2003) at: safmc.net/Library/pdf/DolphinWahooFMP.pdf.

3.2.2 Dolphin, *Coryphaena hippurus*

In the western Atlantic ocean, dolphin are most common from North Carolina, throughout the Gulf of Mexico and Caribbean, to the northeast coast of Brazil (Oxenford 1999). Dolphin are highly migratory and pelagic with adults found in open water, and juveniles with floating seagrass and marine debris and occasionally found in estuaries and harbors (Palko et al. 1982; Johnson 1978).

In a study by Schwenke and Buckel (2008) off North Carolina, dolphin ranged from 3.5 in (89 mm) fork length (FL) to 57 in (1451 mm) FL. Mean dolphin weight ranged from 14.2 lbs (6.44 kg) for males to 7.6 lbs (3.44 kg) for females. Estimated average growth rate was 0.15 in (3.78 mm)/day during the first six months, and maximum reported age was 3 years. Size at 50% maturity was slightly smaller for female dolphin (18.1 in FL; 460 mm), when compared with males (18.7 in FL; 475 mm); and peak spawning occurred from April through July off North Carolina (Schwenke and Buckel 2008). Prager (2000) estimated natural mortality for dolphin to be between 0.68 and 0.80.

For a more comprehensive record of the literature on the biology and ecology of dolphin, see **Section 3.0** in the Dolphin Wahoo FMP (SAFMC 2003) found at: safmc.net/Library/pdf/DolphinWahooFMP.pdf

3.2.3 Stock Status of Dolphin

The Report to Congress on the Status of U.S. Stocks indicates dolphin is not overfished, and is not undergoing overfishing (http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm). Prager (2000) conducted an exploratory assessment of dolphin, but the results were not conclusive. A Southeast Data, Assessment, and Review (SEDAR) stock assessment for dolphin is not expected within the next 5 years. The SEDAR process, initiated in 2002, is a cooperative Fishery Management Council process intended to improve the quality, timeliness, and reliability of fishery stock assessments in the South Atlantic, Gulf of Mexico, and U.S. Caribbean. SEDAR is managed by the

Caribbean, Gulf of Mexico, and South Atlantic Fishery Management Councils in coordination with NMFS and the Atlantic and Gulf States Marine Fisheries Commissions.
Oxenford and Hunte (1986) suggested that there were at least two separate unit stocks of dolphin in the northeast and southeast Caribbean Sea. Oxenford (1999) suggested that it was very likely that additional stocks of dolphin existed in the Gulf of Mexico and central/western Caribbean. Theisen et al. (2008) indicated that a worldwide stock for wahoo consisted of a single globally distributed population. However, Zischke et al. (2012) concluded that despite genetic homogeneity in wahoo, multiple discrete phenotypic stocks existed in the Pacific and eastern Indian oceans.

Life-history characteristics of dolphin such as rapid growth rates, early maturity, batch spawning over an extended season, a short life span, and a varied diet could help sustain fishing pressure (Schwenke and Buckel 2008; McBride et al. 2008; Prager 2000; and Oxenford 1999). Dolphin are listed as species of "least concern" under the International Union for Conservation of Nature Red List, i.e., species that have a low risk of extinction.

3.2.4 Protected Species

There are 40 listed species protected by federal law that may occur in the exclusive economic zone (EEZ) of the South Atlantic Region and are under the purview of NMFS. Thirty-one of these species are marine mammals protected under the Marine Mammal Protection Act (MMPA). Six of these marine mammal species (sperm, sei, fin, blue, humpback, and North Atlantic right whales) are also listed as endangered under the Endangered Species Act (ESA). In addition to those six marine mammals, five species of sea turtles (green, hawksbill, Kemp's ridley, leatherback, and loggerhead); the smalltooth sawfish; five distinct population segments (DPSs) of Atlantic sturgeon; and two *Acropora* coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]) are also protected under the ESA. Portions of designated critical habitat for North Atlantic right whales and *Acropora* corals occur within the South Atlantic Council's jurisdiction. Additionally, on September 10, 2014, NMFS listed 20 new coral species under the ESA, five of those species occur in the Caribbean (including Florida) and all of these are listed as threatened. The 2 previously listed *Acropora* coral species remain protected as threatened. The potential impacts from the continued authorization of the Atlantic dolphin wahoo fishery and the South Atlantic Snapper Grouper Fishery on currently listed protected species have been considered in previous ESA Section 7 consultations or subsequent memoranda. Those consultations indicate that of the species listed above, sea turtles and smalltooth sawfish are the most likely to interact with these fisheries and are therefore discussed further below.

Turtles

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and travel widely throughout the South Atlantic. The following sections are a brief overview of the general life history characteristics of the sea turtles found in the South Atlantic region. Several volumes exist that cover the biology and ecology of these species more thoroughly (i.e., Lutz and Musick (eds.) 1997, Lutz et al. (eds.) 2003).

Green sea turtle hatchlings are thought to occupy pelagic areas of the open ocean and are often associated with *Sargassum* rafts (Carr 1987, Walker 1994). Pelagic stage green sea turtles are thought to be carnivorous. Stomach samples of these animals found ctenophores and pelagic

snails (Frick 1976, Hughes 1974). At approximately 20 to 25 cm carapace length, juveniles migrate from pelagic habitats to benthic foraging areas (Bjorndal 1997). As juveniles move into benthic foraging areas a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also know to consume jellyfish, salps, and sponges (Bjorndal 1980, 1997; Paredes 1969; Mortimer 1981, 1982). The diving abilities of all sea turtles species vary by their life stages. The maximum diving range of green sea turtles is estimated at 110 m (360 ft) (Frick 1976), but they are most frequently making dives of less than 20 m (65 ft.) (Walker 1994). The time of these dives also varies by life stage. The maximum dive length is estimated at 66 minutes with most dives lasting from 9 to 23 minutes (Walker 1994).

The **hawksbill's** pelagic stage lasts from the time they leave the nesting beach as hatchlings until they are approximately 22-25 cm in straight carapace length (Meylan 1988, Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

Kemp's ridley hatchlings are also pelagic during the early stages of life and feed in surface waters (Carr 1987, Ogren 1989). Once the juveniles reach approximately 20 cm carapace length they move to relatively shallow (less than 50m) benthic foraging habitat over unconsolidated substrates (Márquez-M. 1994). They have also been observed transiting long distances between foraging habitats (Ogren 1989). Kemp's ridleys feeding in these nearshore areas primarily prey on crabs, though they are also known to ingest mollusks, fish, marine vegetation, and shrimp (Shaver 1991). The fish and shrimp Kemp's ridleys ingest are not thought to be a primary prey item but instead may be scavenged opportunistically from bycatch discards or from discarded bait (Shaver 1991). Given their predilection for shallower water, Kemp's ridleys most routinely make dives of 50 m or less (Soma 1985, Byles 1988). Their maximum diving range is unknown. Depending on the life stage a Kemp's ridleys may be able to stay submerged anywhere from 167 minutes to 300 minutes, though dives of 12.7 minutes to 16.7 minutes are much more common (Soma 1985, Mendonca and Pritchard 1986, Byles 1988). Kemp's ridleys may also spend as much as 96% of their time underwater (Soma 1985, Byles 1988).

Leatherbacks are the most pelagic of all ESA-listed sea turtles and spend most of their time in the open ocean. Although they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles, leatherbacks' diets does not shift during their life cycle. Because leatherbacks' ability to capture and eat jellyfish is not constrained by size or age, they continue to feed on these species regardless of life stage (Bjorndal 1997). Leatherbacks are the deepest diving of all sea turtles. It is estimated that these species can dive in excess of 1,000 m (Eckert et al. 1989) but more

frequently dive to depths of 50 m to 84 m (Eckert et al. 1986). Dive times range from a maximum of 37 minutes to more routines dives of 4 to 14.5 minutes (Standora et al. 1984, Eckert et al. 1986, Eckert et al. 1989, Keinath and Musick 1993). Leatherbacks may spend 74% to 91% of their time submerged (Standora et al. 1984).

Loggerhead hatchlings forage in the open ocean and are often associated with *Sargassum* rafts (Hughes 1974, Carr 1987, Walker 1994, Bolten and Balazs 1995). The pelagic stage of these sea turtles are known to eat a wide range of things including salps, jellyfish, amphipods, crabs, syngnathid fish, squid, and pelagic snails (Brongersma 1972). Stranding records indicate that when pelagic immature loggerheads reach 40-60 cm straight-line carapace length they begin to live in coastal inshore and nearshore waters of the continental shelf throughout the U.S. Atlantic (Witzell 2002). Here they forage over hard- and soft-bottom habitats (Carr 1986). Benthic foraging loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke et al. 1993). Estimates of the maximum diving depths of loggerheads range from 211 m to 233 m (692-764ft.) (Thayer et al. 1984, Limpus and Nichols 1988). The lengths of loggerhead dives are frequently between 17 and 30 minutes (Thayer et al. 1984, Limpus and Nichols 1988, Limpus and Nichols 1994, Lanyan et al. 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994, Lanyan et al. 1989).

Fish

Historically the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. In the South Atlantic region, they are most commonly found in Florida, primarily off the Florida Keys (Simpfendorfer and Wiley 2004). Only two smalltooth sawfish have been recorded north of Florida since 1963 [the first was captured off North Carolina in 1963 and the other off Georgia in 2002 (National Smalltooth Sawfish Database, Florida Museum of Natural History)]. Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 m (Bigelow and Schroeder 1953, Adams and Wilson 1995), while mature animals occur in waters in excess of 100 meters (Simpfendorfer pers. comm. 2006). Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938, Bigelow and Schroeder 1953).

3.3 Human Environment

3.3.1 Economic Environment

Note: This section will be updated with data for wahoo as well as for the entire Atlantic coast.

3.3.1.1 Dolphin

A description of the dolphin stock is provided in Section 3.2. Additional details on the South Atlantic Dolphin Wahoo Fishery are contained in SAFMC (2011a) and is incorporated herein by reference.

3.3.1.1.1 Commercial Sector

The major sources of data summarized in this description are from the NMFS SERO Permits Information Management System (PIMS) and the Federal Logbook System (FLS), supplemented by average prices calculated from the Accumulated Landings System (ALS) and price indices taken from the Bureau of Labor Statistics (BLS). Inflation adjusted revenues, prices, and economic impacts are reported in 2015 dollars.

Permits

Any fishing vessel that harvests and sells dolphin from the Atlantic EEZ must have a valid dolphin wahoo commercial permit, which is an open access permit. After a permit expires, it can be renewed or transferred for up to one year after the date of expiration. The number of valid or renewable dolphin wahoo commercial permits have been fairly steady from 2010 through 2015, with an average of 2,187 permits annually (**Table 3.3.1.1**). The permit numbers presented represent valid or renewable permits as of December 31st of each year.

Table 3.3.1.1. Number of valid or renewable Atlantic commercial dolphin wahoo permits (2011 through 2015).

Year	Permits
2011	2,177
2012	2,251
2013	2,154
2014	2,167
2015	2,184
Average	2,187

Source: NMFS SERO Permits Dataset.

Landings, Revenue, and Effort

Landings of dolphin from 2011 to 2015 along with the respective commercial ACL and percentage of the commercial ACL landed are presented in **Table 3.3.1.2**. Due to an increase in commercial landings in 2014 and 2015, the commercial dolphin ACL was almost met or exceeded in these years. As a result of Dolphin Wahoo Amendment 8, the commercial allocation of the total dolphin ACL increased to 10%, which subsequently increased the commercial ACL for dolphin to 1,534,485. The ACL and allocation increase was implemented in 2016.

Table 3.3.1.2. Total commercial landings (lbs ww) and ACL (lbs ww) for dolphin harvested from the Atlantic Ocean, 2011-2015.

Year	Landings	Sector ACL	Percentage ACL Landed
2011*	792,293	-	-
2012	709,131	1,065,524	67%
2013	616,953	1,157,001	53%
2014	1,291,092	1,157,001	112%
2015	1,109,333	1,157,001	96%
Average	903,760	-	-

Source: NMFS SERO ACL Files

*ACL did not go into place until 2012

The breakdown of landings by state or region is made available in **Table 3.3.1.3**. In the New England Region (NE) commercial dolphin landings occurred in the states of Massachusetts, Connecticut, and Rhode Island. In the Mid-Atlantic Region (MA) commercial dolphin landings occurred in the states of New York, New Jersey, Maryland, and Virginia. The majority of commercial dolphin landings occurred in the South Atlantic region (on average 92%), with most of the landings in the region occurring in North Carolina (NC) and the Florida East Coast (FL-E). Some years a notable portion of the landings occurred in South Carolina (SC), however no commercial dolphin landings were attributed to Georgia (GA). The ex-vessel value of commercial dolphin landings is distributed in a similar manner (**Table 3.3.1.4**)

Table 3.3.1.3. Percentage of total commercial landings by region/state for dolphin harvested from the Atlantic Ocean, 2011-2015.

Year	NE	MA	NC	SC	GA	FL-E
2011	4%	3%	16%	30%	0%	48%
2012	7%	6%	40%	9%	0%	39%
2013	3%	4%	37%	9%	0%	46%
2014	4%	4%	38%	19%	0%	35%
2015	3%	3%	35%	27%	0%	32%
Average	4%	4%	33%	19%	0%	40%

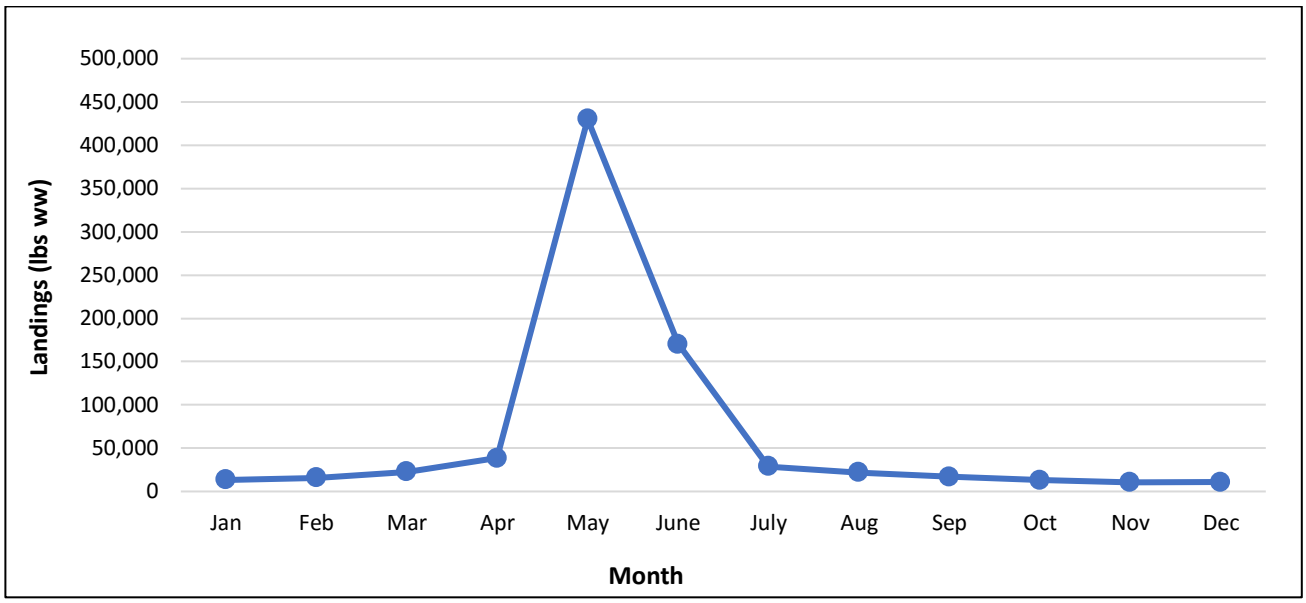
Source: NMFS Commercial Landings Query

Table 3.3.1.4. Ex-vessel value (2015 $) of commercial landings by region/state for dolphin harvested from the Atlantic Ocean, 2011-2015.

Year	NE	MA	NC	SC	GA	E-FL	Total
2011	$70,295	$59,040	$257,898	$394,395	$0	$689,484	$1,321,187
2012	$124,124	$122,113	$780,798	$142,025	$0	$652,611	$1,707,616
2013	$42,648	$70,468	$539,150	$119,067	$0	$557,914	$1,283,725
2014	$120,563	$158,626	$1,272,957	$688,535	$0	$911,735	$3,144,995
2015	$60,549	$87,777	$972,919	$698,575	$0	$757,796	$2,577,616
Average	$83,636	$99,605	$764,745	$408,519	$0	$713,908	$2,007,028

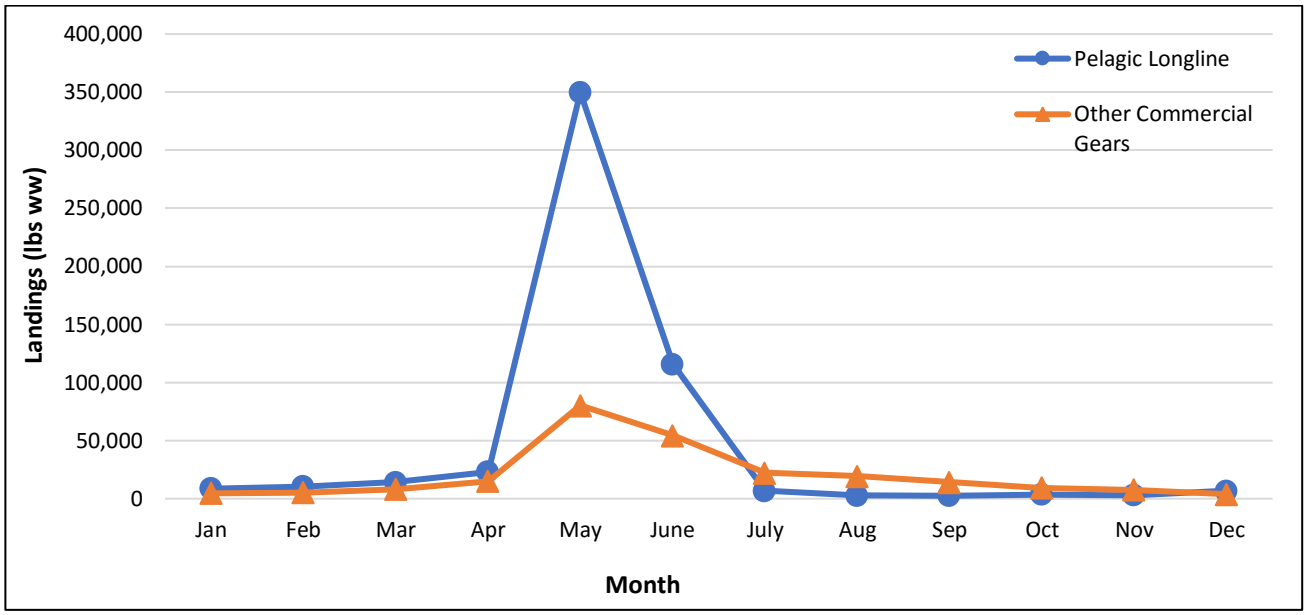
Source: NMFS Commercial Landings Query

Average monthly commercial landings from 2011-2015 are displayed in **Figure 3.3.1.1**. The landings tend to remain at a fairly low level until increasing drastically in May and June when dolphin are highly abundant in the South Atlantic region and when the species is often landed with pelagic longline gear (**Figure 3.3.1.2**). After June, the amount of dolphin landed with pelagic longline gear declines and the other commercial gears, primarily comprised of rod and reel or handline, becomes the dominant gear in the fishery.



Source: NMFS SEFSC SAFE Dataset

Figure 3.3.1.1. Average monthly commercial landings (lbs ww) of dolphin harvested from the Atlantic Ocean, 2011-2015.



Source: NMFS SEFSC SAFE Dataset

Figure 3.3.1.2. Average monthly commercial landings (lbs ww) of dolphin harvested from the Atlantic Ocean by general gear categories, 2011-2015.

The following discussion focuses on trip characteristics of commercial vessels landing at least one pound of dolphin. Only vessels reporting logbooks to the FLS via the Southeast Coastal Fisheries Trip Report Form are included in the analysis. Depending on the gear and area that is fished, commercial trips landing dolphin may also be separately reported via the Atlantic Highly Migratory Species (HMS) Logbook Trip Summary Form for trips occurring on HMS permitted vessels or the Fishing Vessel Trip Report Form for trips occurring in the Greater Atlantic Region. Efforts are currently underway to better incorporate data from these two

commercial logbook programs into a similar analysis to provide a more comprehensive description of the commercial dolphin fishery. On average (2011 through 2015), for the vessels that landed dolphin each year, dolphin accounted for 2.7% of all species landed by weight and 3.1% of the revenue received from all species landed (**Table 3.3.1.5** and **Table 3.3.1.6**). On commercial trips where dolphin were landed, dolphin represented 15% of both total landings and total revenue. Vessels with reported commercial landings of dolphin took approximately 6 times as many non-dolphin trips as dolphin trips. The average annual price per pound (ww) of dolphin during the 2011 through 2015 timeframe was $3.04 per pound (2015 dollars) and average prices were somewhat variable, with the lowest price observed in 2011 at $2.71 and 2015 seeing the highest average price per pound of $3.44 per pound.

Table 3.3.1.5 Number of vessels, number of trips and landings by year (2015 dollars).

Year	Number of vessels that caught dolphin (> 0 lbs ww)	Number of trips that caught dolphin	Dolphin landings (lbs ww)	Other species' landings jointly caught with dolphin (lbs ww)	Number of SATL trips that only caught other species	Other species' landings on SATL trips without dolphin (lbs ww)
2011	524	2,280	205,102	1,275,811	13,679	6,949,295
2012	538	2,235	176,329	1,354,130	12,754	6,074,003
2013	491	2,027	181,056	1,309,072	11,275	5,345,398
2014	561	2,722	252,556	1,362,747	15,143	6,953,563
2015	461	1,545	175,786	722,091	11,964	5,157,975
Average	515	2,162	198,166	1,204,770	12,963	6,096,047

Source: Personal communication, Office of Science and Technology, November 5th, 2016

Table 3.3.1.6 Number of vessels and gross ex-vessel revenues by year (2015 dollars).

Year	Number of vessels that caught dolphin	Gross Ex-vessel revenue from dolphin	Gross-Ex-vessel revenue from other species jointly caught with dolphin	Gross Ex-vessel revenue from 'other species' caught on SATL trips without dolphin	Total gross ex-vessel revenue	Average total gross ex-vessel revenue per vessel
2011	524	$555,143	$3,409,834	$13,582,059	$17,547,036	$33,487
2012	538	$549,144	$3,727,599	$13,747,480	$18,024,223	$33,502
2013	491	$545,909	$3,927,109	$13,047,714	$17,520,732	$35,684
2014	561	$752,500	$4,148,272	$20,603,906	$25,504,678	$45,463
2015	461	$604,488	$2,098,192	$16,105,120	$18,807,800	$40,798
Average	515	$601,437	$3,462,201	$15,417,256	$19,480,894	$37,787

Source: Personal communication, Office of Science and Technology, November 5th, 2016

Imports

Imports of seafood products compete in the domestic seafood market and have dominated many segments of the seafood market. Imports influence the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports have downstream effects on the local fish market and retailer. At the harvest level for dolphin, imports affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production of dolphin, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings or when domestic production cannot meet the demand for a seafood product. The following describes the imports of fish products which directly compete with domestic harvest of dolphin.

Imports[1] of fresh dolphin were 10.1 million lbs product weight (pw) in 2011. They increased to 14.6 million lbs pw in 2012 and remained fairly steady, with 15.1 million lbs pw reported in 2015. Total revenue from fresh dolphin imports increased from $28.4 million (2015 dollars) in 2011 to a five-year high of $44.9 million in 2015. Imports of fresh dolphin primarily originated in Central America or South America, and entered the U.S. through the port of Miami. Imports of fresh dolphin were the highest during the winter months.

Imports of frozen dolphin were substantially higher than imports of fresh dolphin. Frozen dolphin imports were 35.4 million lbs in 2011. Imports of frozen dolphin generally increased over time, with 42.5 million lbs of frozen dolphin imported in 2015. The annual value of frozen dolphin imports ranged from $133.7 million to $186.6 million (2015 dollars) during the time period, with a peak in 2012. Imports of frozen dolphin primarily originated in Eastern Asia and South America. Much like fresh imports, the majority of frozen dolphin imports entered the U.S. through the port of Miami and tended to be the highest from January through March.

Business Activity

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as dolphin purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would likely spend their money on substitute goods and services. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic effects may be distributed through regional markets and should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Estimates of the average annual business activity associated with the commercial harvest of dolphin are derived using the model developed for and applied in NMFS (2011b) and are provided in **Table 3.3.1.7**. This business activity is characterized as full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), value-added impacts (difference between the value of goods and the cost of materials or supplies), and output (sales) impacts (gross business sales). Income impacts, value added impacts, and output (sales) impacts should not be added because this would result in double counting. It should be noted that the results

1 NOAA Fisheries Service purchases fisheries trade data from the Foreign Trade Division of the U.S. Census Bureau. Data are available for download at http://www.st.nmfs.noaa.gov/st1/trade/index.html. (downloaded November 5th, 2016)

provided should be interpreted with caution and demonstrate the limitations of these types of assessments. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. For example, the results provided here apply to a general highly migratory species category rather than just dolphin and a harvester job is "generated" for approximately every $31,800 in ex-vessel revenue. These results contrast with the information provided in **Table 3.3.1.5**, which shows an average of 515 harvesters (vessels) with recorded landings of dolphin from 2011 through 2015.

Table 3.3.1.7. Average annual business activity (2011 through 2015) associated with the commercial harvest of dolphin. All monetary estimates are in 2015 dollars.

Species	Average Gross Ex-vessel Value ($ thousands)	Total Jobs	Harvester Jobs	Income Impacts ($ thousands)	Value-Added Impacts ($ thousands)	Output (Sales) Impacts ($ thousands)
Dolphin	$2,070	279	65	$7,505	$10,643	$20,589

Source: Calculated using the model developed for NMFS (2016).

3.3.1.1.2 Recreational Sector

The recreational sector of the dolphin fishery is comprised of a private and for-hire component. The private component includes anglers fishing from private or rental boats. The for-hire component is composed of charter boats and headboats (also called party boats). Charter boats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

The major sources of data summarized in this description are from the NMFS SERO Permits Information Management System (PIMS) and Marine Recreational Information Program (MRIP), supplemented by price indices taken from the Bureau of Labor Statistics (BLS) to adjust for inflation. Inflation adjusted revenues, values, and economic impacts are reported in 2015 dollars.

Permits

For-hire vessels are required to have a for-hire dolphin wahoo permit to fish for or possess dolphin in the Atlantic EEZ. This sector operates as an open access fishery and not all permitted vessels are necessarily active in the fishery. The number of for-hire vessel permits issued for the Atlantic dolphin wahoo fishery decreased over most of the time period, but an increase in the number of permits was seen in 2015 (**Table 3.3.1.8**). The majority of the dolphin wahoo for-hire permitted vessels were home-ported in Florida; a relatively high proportion of these permitted vessels were also home-ported in North Carolina. Additionally, many vessels with Atlantic for-hire dolphin wahoo permits were home-ported in states outside of the South Atlantic region. On average (2011 through 2015), these vessels accounted for 20% of the total number of for-hire dolphin wahoo permits issued.

Table 3.3.1.8. Number of Atlantic for-hire dolphin wahoo permits, by homeport state, 2011-2015.

Year	North Carolina	South Carolina	Georgia	Florida	Other States	Total
2011	323	111	20	873	358	1,685
2012	297	107	21	895	330	1,650
2013	281	117	22	844	313	1,577
2014	281	121	25	843	303	1,573
2015	292	142	23	858	286	1,601
Average	295	120	22	863	318	1,617

Source: NMFS SERO Permits Dataset.

Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on a determination by the Southeast Fisheries Science Center (SEFSC) that the vessel primarily operates as a headboat. The number of registered headboats operating in the South Atlantic remained relatively steady from 2011 through 2015, with an average of 76 South Atlantic for-hire vessels operating in the SRHS annually (**Table 3.3.1.9**).

Table 3.3.1.9 Number of headboats in the South Atlantic 2011-2015.

Year	Number of Vessels
2011	77
2012	78
2013	76
2014	76
2015	74
Average	76

Source: NMFS SRHS Program.

There are no specific permitting requirements for recreational anglers to harvest dolphin. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment.

Landings

Landings of dolphin from 2011 to 2015 along with the respective recreational ACL and percentage of the recreational ACL landed are presented in **Table 3.3.1.10**. As a result of Dolphin Wahoo Amendment 8, the recreational allocation of the total dolphin ACL decreased to 90%, which subsequently set the recreational ACL for dolphin at 13,810,361 lbs ww. The ACL and allocation decrease was implemented in 2016. The recreational sector has not come close to landing its sector ACL since implemented in 2012.

Table 3.3.1.10. Total recreational landings (lbs ww) and ACL (lbs ww) for dolphin harvested from the Atlantic Ocean, 2011-2015.

Year	Landings	Sector ACL	Percent ACL Landed
2011*	6,522,301	-	-
2012	6,099,788	13,530,692	45%
2013	4,444,755	13,530,692	33%
2014	5,240,659	14,187,845	37%
2015	7,586,553	14,187,845	53%
Average	5,978,811	-	-

Source: NMFS SEFSC MRIP ACL datasets (October 2016)
*ACL did not go into place until 2012

The breakdown of landings by state or region is made available in **Table 3.3.1.11**. In the New England Region (NE) recreational dolphin landings occurred in the states of Massachusetts, Connecticut, and Rhode Island. In the Mid-Atlantic Region (MA) recreational dolphin landings occurred in the states of New York, New Jersey, Delaware, Maryland, and Virginia. Much like the commercial sector, the majority of recreational dolphin landings occurred in the South Atlantic region (on average 90%), with most of the landings in the region occurring in North Carolina (NC) and the Florida East Coast (FL-E). The Mid and North Atlantic regions accounted for a substantially larger portion of the total recreational dolphin landings towards the end of the time period.

Table 3.3.1.11. Percentage of total recreational landings by region/state for dolphin harvested from the Atlantic Ocean, 2011-2015.

Year	NE	MA	NC	SC	GA	FL-E
2011	0%	5%	55%	1%	0.1%	40%
2012	0.3%	2%	43%	8%	0.1%	46%
2013	3%	3%	37%	2%	0.0%	56%
2014	2%	12%	26%	3%	0.5%	56%
2015	11%	12%	39%	1%	0.0%	37%
Average	3%	7%	40%	3%	0.1%	47%

Source: NMFS MRIP Query System

Angler Effort

Recreational effort derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or the second primary target for the trip. The species did not have to be caught.

Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.

Total recreational trips - The total estimated number of recreational trips, regardless of target intent or catch success.

Other measures of effort are possible, such as directed trips (the number of individual angler trips that either targeted or caught a particular species). **Table 3.3.1.12** and **Table 3.3.1.13** present target and catch effort estimates associated with dolphin. Target and catch trips are shown by fishing mode (charter and private/rental vessel) for New England states (NE), the Mid-Atlantic states (MA), North Carolina (NC), South Carolina (SC), Georgia (GA), and the Florida East Coast (FL-E). The majority of the estimated target and catch effort for dolphin occurred in Florida, with the private vessel mode being the most prevalent mode of fishing.

Dolphin is one of the few species where target trips generally exceed catch trips. The 2010-2015 average target trips were 35,387 for the charter mode and 600,411 for the private/rental vessel mode (**Table 3.3.1.12**). In contrast, the average catch trips were 92,46 for the charter mode and 327,499 for the private/rental vessel mode (**Table 3.3.1.13**). This is suggestive of a relatively strong interest in fishing for dolphin among recreational anglers across all fishing modes.

Table 3.3.1.12 Estimated number of angler trips that targeted dolphin, by mode and by state, 2011-2015.

Year	NE	MA	NC	SC	GA	FL-E	Total
Charter Mode							
2011	0	1,220	15,554	2,439	0	18,602	37,815
2012	0	721	17,025	2,027	0	5,240	25,013
2013	0	43,490	9,168	0	0	3,148	55,806
2014	0	457	11,529	0	401	7,442	19,829
2015	0	4,276	13,784	6,986	44	13,380	38,470
Average	0	10,033	13,412	2,290	89	9,562	35,387
Private/Rental Vessel Mode							
2011	0	11,530	54,053	3,665	3,553	582,059	654,860
2012	0	1,615	44,383	28,580	2,401	569,067	646,046
2013	5,386	2,000	52,579	1,429	0	487,509	548,903
2014	375	64,548	37,987	7,339	0	513,258	623,507
2015	4,027	32,565	71,778	2,098	0	418,270	528,738
Average	1,958	22,452	52,156	8,622	1,191	514,033	600,411
All Modes							
2011	0	12,750	69,607	6,104	3,553	600,661	692,675
2012	0	2,336	61,408	30,607	2,401	574,307	671,059
2013	5,386	45,490	61,747	1,429	0	490,657	604,709
2014	375	65,005	49,516	7,339	401	520,700	643,336
2015	4,027	36,841	85,562	9,084	44	431,650	567,208
Average	1,958	32,484	65,568	10,913	1,280	523,595	635,798

Source: NMFS MRIP Query System

Table 3.3.1.13 Estimated number of angler trips that caught dolphin, by mode and by state, 2011-2015.

Year	NE	MA	NC	SC	GA	FL-E	Total
Charter Mode							
2011	0	1,610	68,181	1,951	122	20,304	92,168
2012	0	1,047	65,227	1,718	204	17,096	85,292
2013	0	44,702	39,996	1,765	30	20,276	106,769
2014	0	3,525	28,821	12,657	401	25,124	70,528
2015	27	6,030	48,423	12,070	268	43,154	109,972
Average	5	11,383	50,130	6,032	205	25,191	92,946
Private/Rental Vessel Mode							
2011	1,774	25,446	48,850	1,281	0	260,479	337,830
2012	1,462	10,736	44,595	23,833	0	256,773	337,399
2013	13,479	8,195	48,518	1,602	0	173,485	245,279
2014	1,764	52,102	24,638	5,285	0	260,668	344,457
2015	10,482	40,988	69,590	612	0	250,859	372,531
Average	5,792	27,493	47,238	6,523	0	240,453	327,499
All Modes							
2011	1,774	27,056	117,031	3,232	122	280,783	429,998
2012	1,462	11,783	109,822	25,551	204	273,869	422,691
2013	13,479	52,897	88,514	3,367	30	193,761	352,048
2014	1,764	55,627	53,459	17,942	401	285,792	414,985
2015	10,509	47,018	118,013	12,682	268	294,013	482,503
Average	5,798	38,876	97,368	12,555	205	265,644	420,445

Source: NMFS MRIP Query System

Similar analysis of recreational effort is not possible for the headboat mode because headboat data are not collected at the angler level. Estimates of total effort by the headboat mode are provided in terms of angler days, or the total number of standardized full-day angler trips[2]. Headboat effort, in terms of angler days, increased substantially in Florida/Georgia from 2011 through 2015, while effort remained relatively constant in North Carolina and South Carolina (**Table 3.3.1.14**). Headboat effort was the highest, on average, during the summer months of June through August (**Table 3.3.1.15**).

2 Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

Table 3.3.1.14. South Atlantic headboat angler days by state, 2011-2015.

Year	NC	SC	GA/FLE	Total
2011	18,457	44,645	132,492	195,594
2012	20,766	41,003	147,699	209,468
2013	20,547	40,963	165,679	227,189
2014	22,691	42,025	195,890	260,606
2015	22,716	39,702	194,979	257,397
Average	21,035	41,668	167,348	230,051

Source: NMFS SRHS Program

Table 3.3.1.15. Headboat angler days and percent distribution by month (2011-2015).

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2011	4.3%	5.7%	7.3%	9.4%	9.6%	15.9%	17.7%	11.5%	5.9%	4.4%	3.5%	4.8%
2012	4.6%	4.8%	8.7%	9.8%	9.0%	13.7%	17.4%	12.4%	8.0%	4.3%	3.3%	4.1%
2013	4.5%	4.8%	6.4%	7.1%	9.2%	14.6%	17.4%	14.9%	7.2%	6.4%	2.9%	4.6%
2014	3.4%	5.2%	7.6%	8.7%	9.9%	15.0%	16.9%	12.6%	5.8%	5.8%	3.5%	5.6%
2015	4.9%	4.3%	8.5%	9.8%	9.8%	14.3%	16.5%	12.0%	6.1%	5.2%	3.7%	4.9%
Average	4.3%	5.0%	7.7%	9.0%	9.5%	14.7%	17.2%	12.7%	6.6%	5.2%	3.4%	4.8%

Source: NMFS SRHS Program

Economic Value

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus (CS). The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

Economic value can be measured in the form of CS per additional dolphin kept on a trip (the amount of money that an angler would be willing to pay for a fish in excess of the cost to harvest the fish). The available estimated values of CS per fish for a second, third, fourth, fifth, and sixth dolphin kept on a trip are approximately $15.21, $10.14, $7.47, $5.89, and $4.86, respectively (Carter and Liese 2012; values updated to 2015 dollars).

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The estimated NOR value is $153.63 (2015 dollars) per charter angler trip (Carter and Liese 2012). The estimated NOR value per headboat angler trip is $53.03 (2015 dollars) (SAFMC, 2016). Estimates of NOR per dolphin target trip are not available.

The foregoing estimates of economic value should not be confused with economic impacts associated with recreational fishing expenditures. Although expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for dolphin were derived using average impact coefficients for recreational angling for all species, as derived from an add-on survey to the MRIP to collect economic expenditure information, as described and utilized in NMFS (2011b). Estimates of the average expenditures by recreational anglers are also provided in NMFS (2011b) and are incorporated herein by reference.

Recreational fishing generates business activity (economic impacts). Business activity for the recreational sector is characterized in the form of full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), value-added impacts (difference between the value of goods and the cost of materials or supplies), and output (sales) impacts (gross business sales). Estimates of the average target effort (2011-2015) for dolphin and associated business activity (2015 dollars) are provided in **Table 3.3.1.16**. The average impact coefficients, or multipliers, used in the model are invariant to the "type" of effort and can therefore be directly used to measure the impact of other effort measures such as catch trips if desired. To calculate the multipliers from **Table 3.3.1.16**, simply divide the desired impact measure (income impact, value-added impact, output impact, or jobs) associated with a given mode by the number of target trips for that mode. It should be noted that the presented business activity focusses on trip expenditures and does not include business activity generated by expenditures on durable goods that may be used on trips targeting dolphin. While aggregate data does exist on durable goods expenditures, they cannot be specifically attributed to a species or group of species, as these goods can last multiple years and be used in a wide range of other fisheries and often times for uses other than fishing.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in the MRIP, so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted.

Table 3.3.1.16. Summary of dolphin target trips (2011 through 2015 average) and associated business activity (2015 dollars).

Mode	Average Annual Target Trips	Jobs	Income Impacts ($ thousands)	Value-Added Impacts ($ thousands)	Output (Sales) Impacts ($ thousands)
Private/Rented Vessel	600,411	396	$19,023	$32,884	$59,252
Charter	35,387	212	$10,705	$15,826	$27,237
Total	635,798	608	$29,728	$48,710	$86,489

Source: Effort data from MRIP; economic impact results calculated using the model developed for NMFS (2016).

3.3.2 Social Environment

Social Importance of Fishing

Socio-cultural values are qualitative in nature making it difficult to measure social valuation of marine resources and fishing activity. The following description includes multiple approaches to examining fishing importance. These spatial approaches focus on the community level (based on the address of dealers or permit holders) and identify importance by "community," defined according to geo-political boundaries (cities). A single county may thus have several communities identified as reliant on fishing and the boundaries of these communities are not discrete in terms of residence, vessel homeport, and dealer address. For example, a fisherman may reside in one community, homeport his vessel in another, and land his catch in yet another.

One approach to identify communities with the greatest engagement utilizes measures called the Regional Quotient (RQ) to identify commercial reliance. The RQ is a way to measure the relative importance of a given species across all communities in the region and represents the proportional distribution of commercial landings of a particular species. This proportional measure does not provide the number of pounds or the value of the catch, data which might be confidential at the community level for many places. The RQ is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities in the region. For most species, the top fifteen communities are reported as they usually encompass most of the landings. At this time we do not have a comparable measure for recreational fishing but do have other measures of engagement for that sector.

These measures are an attempt to quantify the importance of the components of a particular fishery to communities along the Atlantic coast and suggest where impacts from management actions are more likely to be experienced. The descriptions of the dolphin wahoo fishery that follow include these quantitative measures in addition to qualitative information about the communities.

Dolphin Wahoo Fishery

A description of the social environment of the dolphin wahoo fishery is contained in Dolphin Wahoo Amendment 5 (SAFMC 2013) and is incorporated herein by reference where appropriate. The South Atlantic, Mid-Atlantic, and New England regions are included in the description of the social environment. The referenced description focuses on available geographic and demographic data to identify communities with strong relationships with dolphin

or wahoo fishing (i.e., significant landings and revenue), and positive or negative impacts from regulatory change are expected to occur in places with greater landings of wahoo or dolphin.

The descriptions of South Atlantic communities in Amendment 5 (SAFMC 2013) include information about the top communities based upon regional quotients of commercial landings and value for dolphin and wahoo. These top communities are referred to in this document as "dolphin communities" and "wahoo communities" because these are the areas that would be most likely to experience the effects of proposed actions that could change the dolphin or wahoo fisheries and impact the participants and associated businesses and communities within the region. Additionally, the descriptions in Amendment 5 (SAFMC 2013) for all Atlantic regions also include reliance and engagement indices to identify other areas in which dolphin and wahoo fishing is important, and provide information of how a community overall is involved with commercial and recreational fishing and could experience effects from regulatory actions for any species (see Amendment 5 for more details about the reliance and engagement indices). The identified communities in this section are referenced in the social effects analyses in **Section 4** in order to provide information on how the alternatives could affect specific areas. Overall, the dolphin and wahoo fisheries are primarily recreational, and effort and landings predominantly occur in south Florida and the Florida Keys.

Commercial Dolphin and Wahoo Communities in the South Atlantic

Wadmalaw Island remains the top community for total commercial dolphin landings and value RQ (**Figure 3.3.2.1**) as in Amendment 5 (SAFMC 2013). However, several North Carolina communities have gained in RQ for dolphin in recent years with Beaufort, Hatteras, and Wanchese all within the top five communities since 2011 placing North Carolina second to Florida in overall landings of dolphin (SAFMC 2013). Florida communities include Palm Beach Gardens, Margate, Mayport, Miami, Jupiter, St. Augustine, Palm Beach Shores and Titusville in addition to communities in the Florida Keys (Key Largo, and Islamorada) but only one in the top five. No Georgia communities are identified within the top fifteen dolphin communities in terms of RQ.

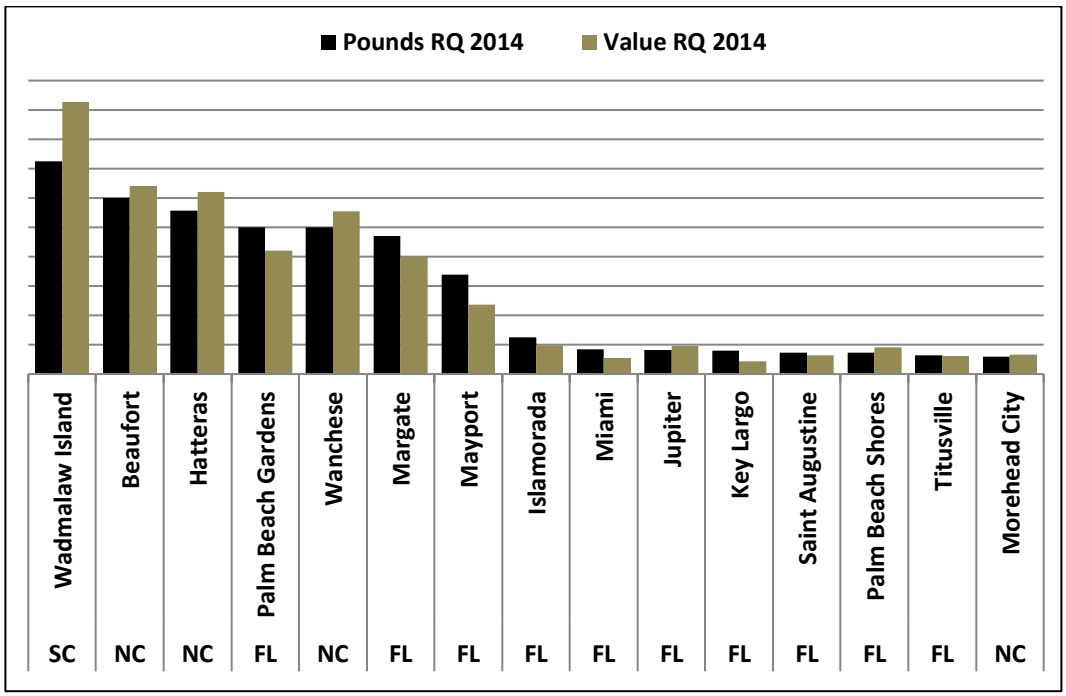


Figure 3.3.2.1. Dolphin Pounds and Value Regional Quotient for South Atlantic Fishing Communities in 2014.
(Source: SERO).

Again using the regional quotient to identify wahoo communities in **Figure 3.3.2.2**, Palm Beach Gardens remains the top community for total commercial wahoo landings and value RQ as in Amendment 5 (SAFMC 2013). As with dolphin, several North Carolina communities have gained in RQ for wahoo in recent years with Beaufort, Wilmington, Morehead City and Wanchese all within the top ten communities since 2011 (SAFMC 2013). Most wahoo commercial communities with high RQ are in Florida and include Jupiter, Fort Lauderdale, Miami, St. Augustine, and Margate in addition to two communities in the Florida Keys (Key West and Islamorada). The communities of Murrells Inlet and Little River, South Carolina also have a relatively high regional quotient for dolphin. No Georgia communities are identified as within the top fifteen Wahoo communities in terms of RQ.

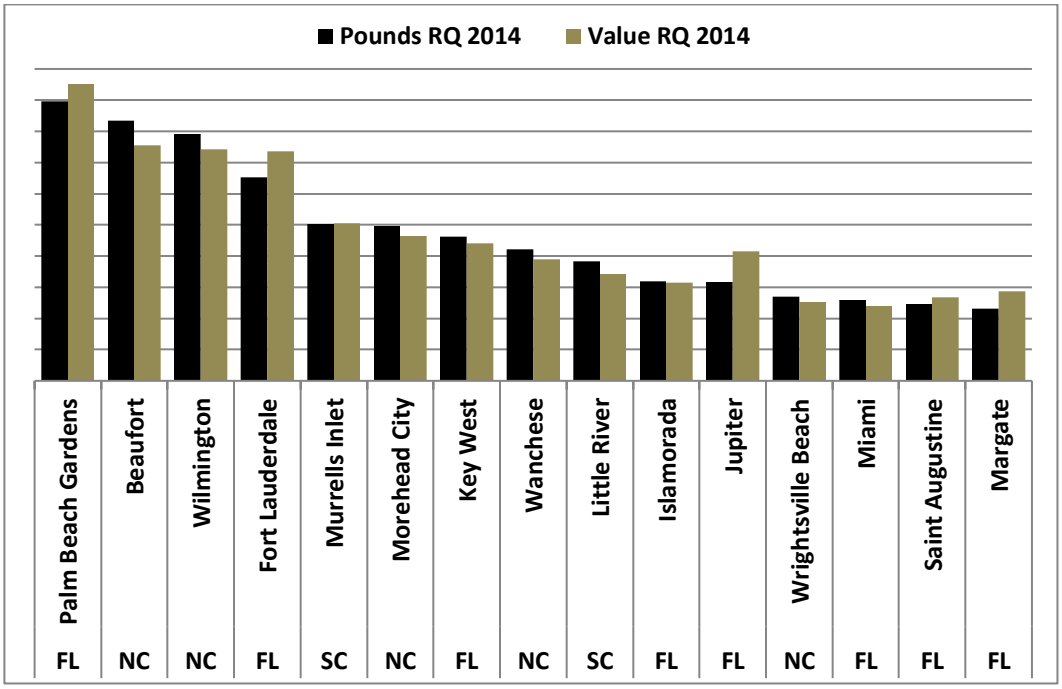


Figure 3.3.2.2. Wahoo Pounds and Value Regional Quotient for South Atlantic Fishing Communities in 2014.
(Source: SERO).

Reliance on and Engagement with Commercial and Recreational Fishing in the South Atlantic

Reliance and engagement indices identify several communities in the South Atlantic that are substantially engaged in commercial and recreational fishing are shown in **Figure 3.3.2.3 and 3.3.2.4**. The communities of Miami, Jupiter, St. Augustine, Key Largo, Islamorada, Mayport and Palm Beach Gardens Florida; Wanchese, Beaufort, Hatteras, and Morehead City, North Carolina are above the threshold for commercial engagement (**Figure 3.3.2.3**). Wanchese, Hatteras, NC and Mayport, FL all exceed both the engagement and reliance thresholds of 1 standard deviation demonstrating a higher dependence upon commercial fishing and its supporting businesses. The communities of Islamorada, St Augustine, Key Largo, Miami, Jupiter and Titusville, Florida; and Hatteras, Morehead City, Beaufort, and Wanchese, North Carolina are all highly engaged in recreational fishing as shown in **Figure 3.3.2.4**. Only the communities of Islamorada and Mayport, FL and Hatteras and Wanchese, NC demonstrate reliance upon recreational fishing with scores over 1 standard deviation. These communities would most then most likely have local economies with some dependence upon recreational fishing and its supporting businesses.

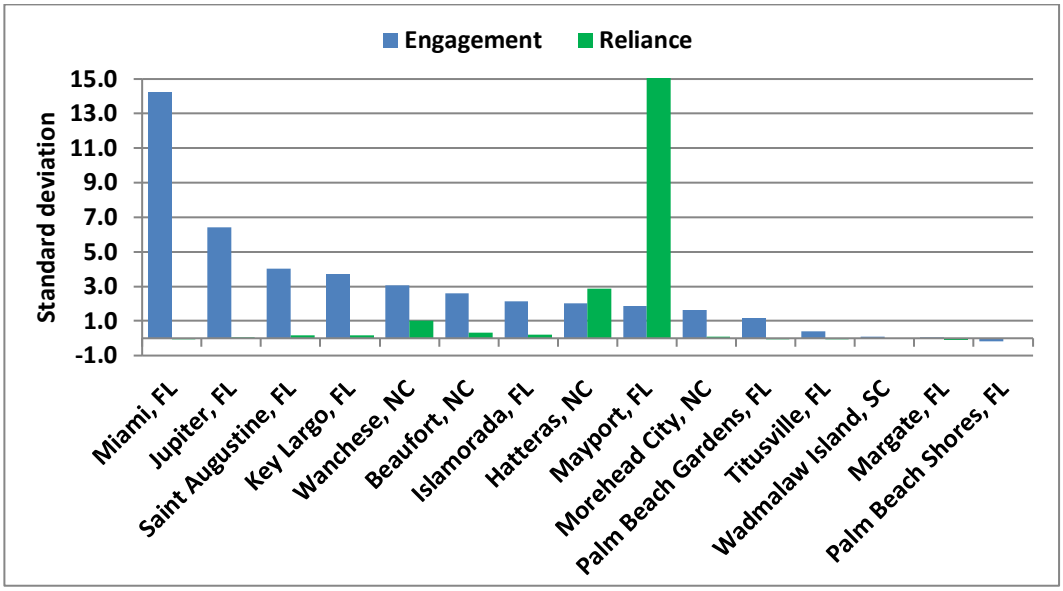


Figure 3.3.2.3. The top dolphin communities for engagement and reliance on commercial fishing. Source: SERO 2014.

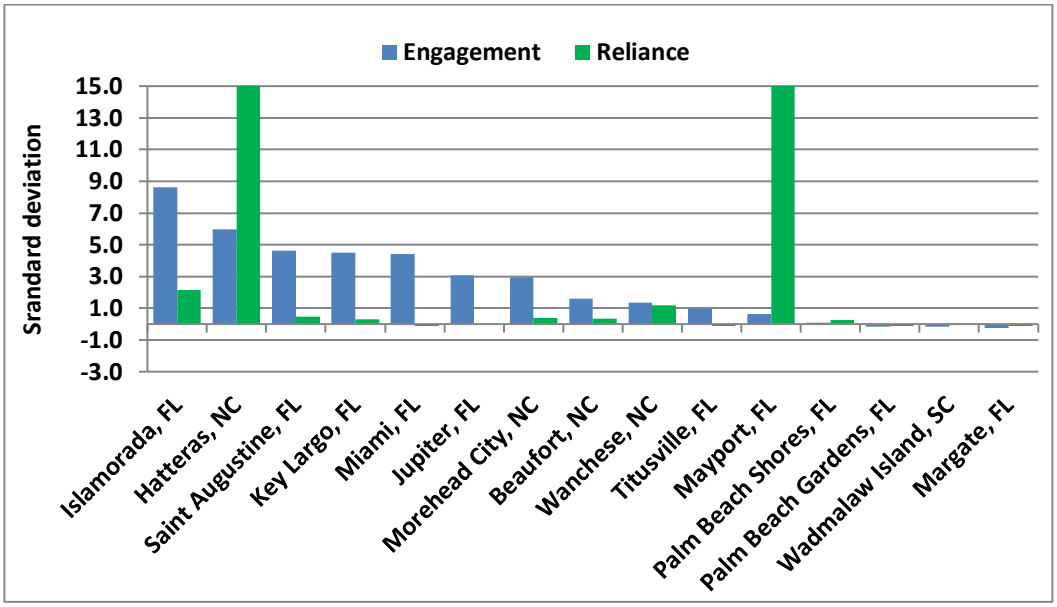


Figure 3.3.2.4. The top dolphin communities for engagement and reliance on recreational fishing. Source: SERO 2014.

Mid-Atlantic and New England Regions

The South Atlantic Council manages dolphin and wahoo through the Mid-Atlantic and New England regions. Overall, landings of these species in the Mid-Atlantic and New England regions are very low compared to landings in the South Atlantic, and management actions by the South Atlantic Council likely have minimal impacts on Mid-Atlantic and New England communities. More detailed information about these communities and how they were identified is described in Amendment 5 since we do not have updated landings for those communities (SAFMC 2013).

Commercial Dolphin and Wahoo Communities in the Mid-Atlantic and New England Regions

New Bedford, Massachusetts is the leading port in terms of dolphin landings with Ocean City, Maryland a distant second. Several other communities follow with near comparable amounts of dolphin landed but far less than the leading community. Wahoo landings for 2011were far less than dolphin with only three communities reporting landings: New Bedford, Massachusetts; Hatteras, North Carolina; and Cape May, New Jersey (SAFMC 2013).

Reliance on and Engagement with Commercial and Recreational Fishing in the Mid-Atlantic and New England Regions

Ocean City, Maryland; Belmar, Barnegat Light, Cape May, and Point Pleasant, New Jersey; Montauk, New York; Virginia Beach, and Wachapreague, Virginia; Boston, and New Bedford, Massachusetts; and Point Lookout, New York are all over either the engaged or reliant threshold for commercial fishing or both. In terms of recreational fishing engagement and reliance for Northeast communities with dolphin and wahoo landings, almost every community is over the threshold for either engagement or reliance for recreational fishing (SAFMC 2013).

3.3.3 Environmental Justice Considerations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. The main focus of Executive Order 12898 is to consider "the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories…" This executive order is generally referred to as environmental justice (EJ).

Commercial fishermen and coastal communities in the South Atlantic, Mid-Atlantic and New England regions may experience some impacts by the proposed action depending upon the alternatives selected and whether they have negative or positive social effects. However, information on the race and income status for many of the individuals involved in fishing is not available. To evaluate where EJ concerns might exist, a suite of social vulnerability indices have been developed; the three indices are poverty, population composition and personal disruptions. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community's vulnerability. Indicators such as increased poverty rates for different groups, more single female-headed households and households with children under the age of 5, disruptions such as higher separation rates, higher crime rates and unemployment all are signs of populations experiencing vulnerabilities. These vulnerabilities signify that it may be difficult for someone living in these communities to recover from significant social disruption that might stem from a change in their ability to work or maintain a certain income level.

Because many of the communities included in both the commercial and recreational engagement and reliance figures are the same, a select group most common from each region and sector were included in **Figures 3.3.3.1 and 3.3.3.2.**

In **Figure 3.3.3.1** there are very few selected communities in Florida that exceed the thresholds for social vulnerability. Hialeah and Miami are the only two that demonstrate substantial social vulnerabilities with all three indices over 1 standard deviation. St. Augustine and Marathon display high poverty vulnerabilities but low vulnerabilities for others.

Communities outside of Florida (**Figure 3.3.3.2**) also demonstrate little vulnerability as Beaufort, NC is the only community with personal disruption and poverty vulnerabilities over the threshold of 1 standard deviation. Morehead City and Wilmington demonstrates some vulnerability with poverty and personal disruption just above ½ standard deviation.

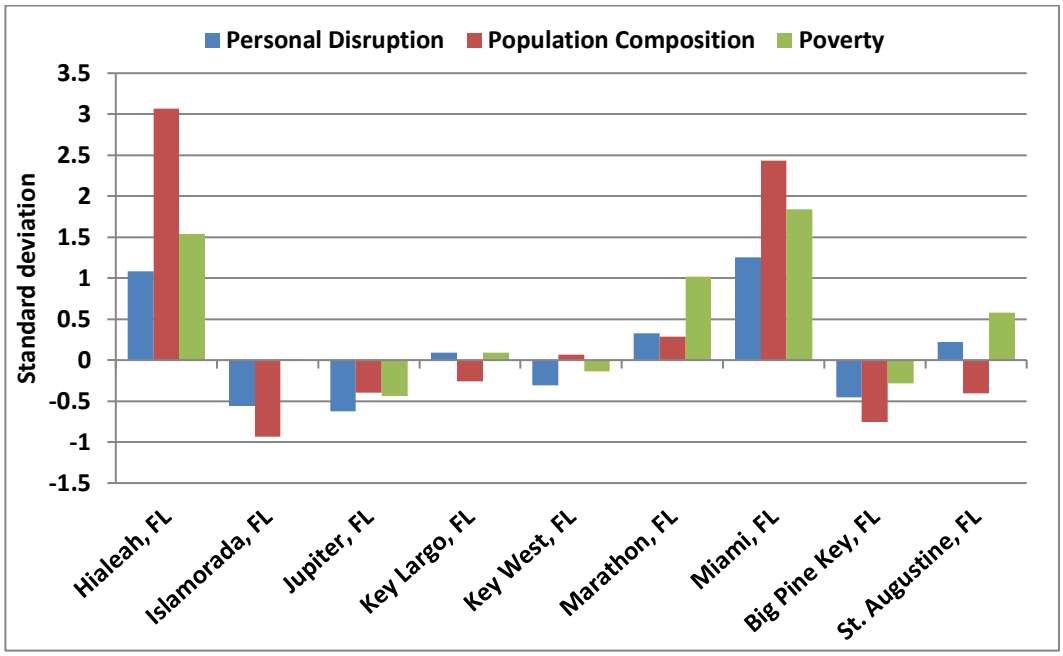


Figure 3.3.3.1 Social vulnerability measures for selected Florida communities.
Source: SERO 2014.

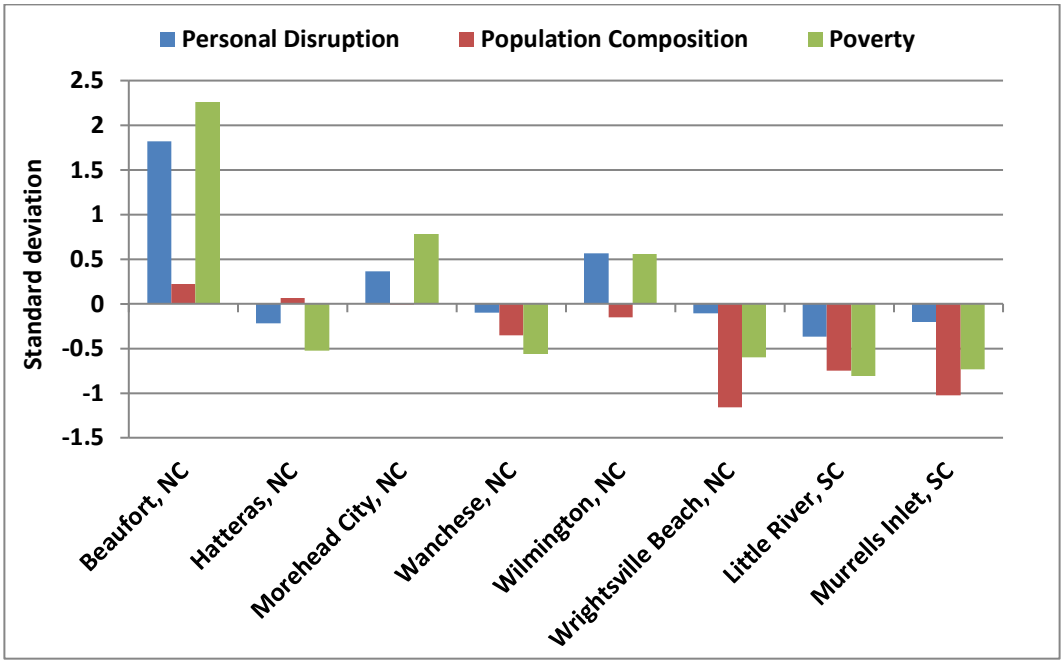


Figure 3.3.3.2 Social vulnerability measures for selected South Carolina and North Carolina communities. Source: SERO 2014

While some communities expected to be affected by this proposed amendment may have social vulnerabilities that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. It is anticipated that the impacts from the proposed regulations may impact minorities or the poor, but not through discriminatory application of these regulations.

Finally, the general participatory process used in the development of fishery management measures (e.g., scoping meetings, public hearings, and open South Atlantic Council meetings) is expected to provide sufficient opportunity for meaningful involvement by potentially affected individuals to participate in the development process of this amendment and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the amendment.

3.4 Administrative Environment

3.4.1 The Fishery Management Process and Applicable Laws

3.4.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nm from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

Responsibility for federal fishery management decision-making is divided between the U.S. Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for collecting and providing the data necessary for the councils to prepare fishery management plans and for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws. In most cases, the Secretary has delegated this authority to NMFS.

The South Atlantic Council, in cooperation with the Mid-Atlantic Fishery Management Council and the New England Fishery Management Council, is responsible for conservation and management of dolphin and wahoo in federal waters off the Atlantic states. These waters extend from 3 to 200 mi offshore from the seaward boundary of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NMFS; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. On the South Atlantic Council, there are two public members from each of the four South Atlantic States. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard, State Department, and Atlantic States Marine Fisheries Commission (ASMFC). The South Atlantic Council has adopted procedures whereby the non-voting members serving on the South Atlantic Council Committees have full voting rights at the Committee level but not at the full South Atlantic Council level. South Atlantic Council members serve three-year terms and are recommended by state governors and appointed by the Secretary from lists of nominees submitted by state governors. Appointed members may serve a maximum of three consecutive terms.

Public interests also are involved in the fishery management process through participation on Advisory Panels and through council meetings, which, with few exceptions for discussing personnel matters and litigation, are open to the public. The South Atlantic Council uses its Scientific and Statistical Committee (SSC) to review the data and science being used in assessments and fishery management plans/amendments. In addition, the regulatory process is in accordance with the Administrative Procedure Act, in the form of "notice and comment" rulemaking.

3.4.1.2 State Fishery Management

The state governments of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia North Carolina, South Carolina, Georgia, and Florida have the authority to manage fisheries that occur in waters extending three nautical miles from their respective shorelines. The Department of Marine Fisheries is responsible for marine fisheries in Maine's state waters. In New Hampshire, marine fisheries are managed by the Marine Fisheries Division of the New Hampshire Fish and Game Department. Massachusetts's marine fisheries are managed by the Division of Marine Fisheries of the Massachusetts Department of Fish and Game. Rhode Island's marine fisheries are managed by the Division of Fish and Wildlife of Rhode Island's Department of Environmental Management. Connecticut manages its marine fisheries through the Department of Energy and Environmental Protection. New York's marine fisheries are managed by the

Division of Fish, Wildlife and Marine Resources of the Department of Environmental Conservation. New Jersey manages its marine fisheries through the Division of Fish and Wildlife of the Department of Environmental Protection. Pennsylvania manages its fisheries through the Pennsylvania Fish and Boat Commission. Marine fisheries in Delaware are managed by the Fisheries Section of the Division of Fish and Wildlife. Maryland's Department of Natural Resources manages its marine fisheries. Marine fisheries in Virginia are managed by the Virginia Marine Resources Commission. North Carolina's marine fisheries are managed by the Marine Fisheries Division of the North Carolina Department of Environment and Natural Resources. The Marine Resources Division of the South Carolina Department of Natural Resources regulates South Carolina's marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Marine Fisheries Division of the Florida Fish and Wildlife Conservation Commission is responsible for managing Florida's marine fisheries. Each state fishery management agency has a designated seat on the South Atlantic Council. The purpose of state representation at the South Atlantic Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters.

The Atlantic States are also involved through the Atlantic States Marine Fisheries Commission (ASMFC) in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries. It has significant authority, through the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act, to compel adoption of consistent state regulations to conserve coastal species. The ASFMC is also represented at the South Atlantic Council level, but does not have voting authority at the South Atlantic Council level.

NMFS' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act) programs. Additionally, it works with the ASMFC to develop and implement cooperative State-Federal fisheries regulations.

3.4.1.3 Enforcement

Both the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries (NMFS) Office for Law Enforcement (NOAA/OLE) and the United States Coast Guard (USCG) have the authority and the responsibility to enforce South Atlantic Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

Neither NOAA/OLE nor the USCG can provide a continuous law enforcement presence in all areas due to the limited resources of NOAA/OLE and the priority tasking of the USCG. To supplement at sea and dockside inspections of fishing vessels, NOAA entered into Cooperative Enforcement Agreements with all but one of the states in the Southeast Region (North Carolina), which granted authority to state officers to enforce the laws for which NOAA/OLE has jurisdiction. In recent years, the level of involvement by the states has increased through Joint

Enforcement Agreements, whereby states conduct patrols that focus on federal priorities and, in some circumstances, prosecute resultant violators through the state when a state violation has occurred.

The NOAA Office of General Counsel Penalty Policy and Penalty Schedules can be found at www.gc.noaa.gov/enforce-office3.html.

Chapter 4. Environmental Consequences

4.1 Action 1. Revise the optimum yield (OY) definition for dolphin.

Alternatives

1. **(No Action)**. OY is equal to the total ACL.
2. OY is equal to the sum of the commercial ACL and the recreational ACT.
3. OY is equal to 75% MSY.
4. OY is the long-term average catch, which is not to exceed the total ACL, and will fall between the total ACL and the total ACT.

4.1.1 Biological Effects

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) defines optimum yield (OY) as the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems; that is prescribed on the basis of the maximum sustainable yield (MSY) from the fishery, as reduced by any relevant economic, social, or ecological factor; and, in the case of an overfished fishery, that provides for rebuilding to a level consistent with producing the MSY in such fishery [600.310 (i)(A)].

In the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011), the South Atlantic Fishery Management Council (South Atlantic Council) specified OY for dolphin = Total ACL = acceptable biological catch (ABC) at 14,596,216 pounds whole weight (lbs ww). In the same amendment, MSY for dolphin in the Atlantic, U.S. Caribbean, and Gulf of Mexico was determined to be between 18.8 and 46.5 million lbs. The South Atlantic Council's guidance was that this MSY value would remain until a Southeast Data, Assessment, and Review (SEDAR) stock assessment is conducted for dolphin (SAFMC 2011). The commercial ACL was specified at 1,065,524 lbs ww and the recreational ACL was specified at 13,530,692 lbs ww. The Comprehensive ACL Amendment was effective April 16, 2012 (52 FR 15916).

Amendment 5 to the Dolphin Wahoo FMP (Amendment 5; SAFMC 2013) revised the OY (= ABC = total ACL) at 15,344,846 lbs ww, commercial ACL at 1,157,001 lbs ww and recreational ACL at 14,187,845 lbs ww, and the recreational annual catch target (ACT) at 12,769,061 lbs ww. Amendment 5 was effective July 9, 2014 (79 FR 32878). Amendment 8 to the Dolphin Wahoo FMP (part of the Generic AM and Dolphin Allocation Amendment (SAFMC 2015)) adjusted the sector ACLs based on more recent years and specified the commercial ACL at 1,534,485 lbs ww, and the recreational ACL at 13,810,361 lbs ww. Regulations under Amendment 8 were effective February 22, 2016 (81 FR 3731). The recreational ACT equal to

[sector ACL *(1-PSE)] or [ACL*0.5], whichever is greater) is 12,769,061 lbs ww and has not been changed since its implementation (Amendment 5; SAFMC 2013). There is no commercial ACT for dolphin.

Table 4.1.1.1 and **Figure 4.1.1.1** show annual dolphin landings during 2005-2015. Total landings for dolphin were well under the total ACL during 2005-2015 (**Table 4.1.1.1**). Commercial landings were higher in 2009, 2014, and 2015 (**Table 4.1.1.1** and **Figure 4.1.1.1**). However, ACLs were not in place in 2009 and updated commercial landings were not available in a timely manner during 2014. The commercial ACL was projected to be met in 2015, and hence, the commercial sector was closed. Updated commercial landings data revealed that 96% of the commercial ACL was met in 2015. During 2005-2015, recreational landings did not exceed the recreational ACL and harvested an average of 47 percent of the recreational ACL.

Table 4.1.1.1. Landings of dolphin (lbs ww) during 2005-2015. Data includes North, Mid-, and South Atlantic Regions. The current total ACL for dolphin is 15,344,846 lbs ww, commercial ACL is 1,534,485 lbs ww, and the recreational ACL is 13,810,361 lbs ww.

Year	Commercial (lbs ww)	Recreational (lbs ww)	Total (lbs ww)
2005	577,655	8,629,313	9,206,968
2006	650,121	8,898,207	9,548,328
2007	998,023	9,598,943	10,596,966
2008	835,177	7,833,547	8,668,724
2009	1,296,014	7,570,195	8,866,209
2010	715,334	6,243,399	6,958,733
2011	792,293	6,529,705	7,321,998
2012	709,131	6,104,412	6,813,543
2013	616,953	4,029,380	4,646,333
2014	1,301,757	5,249,693	6,551,450
2015	1,109,581	7,556,535	8,666,116
Average	872,913	7,113,030	7,985,942

Note: Commercial data from ACL_FILES_12152016.xlsx
Recreational data comes from MRIPACLspec_rec81_16wv4_10Nov16_14and15LACreel.xlsx

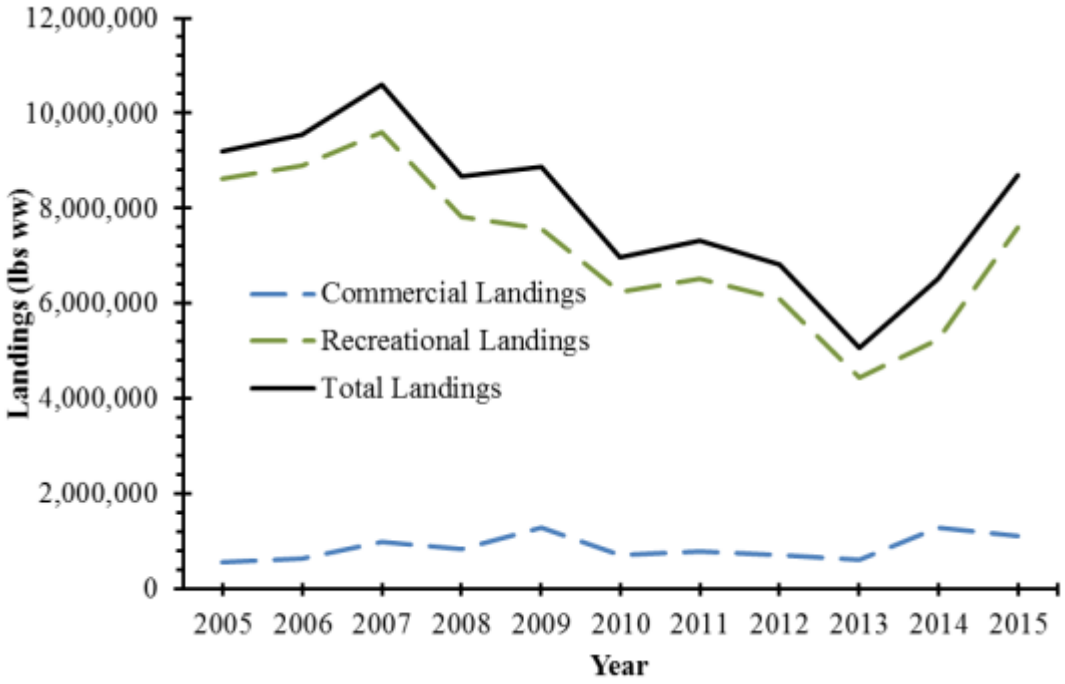


Figure 4.1.1.1. Annual landings of dolphin (lbs ww) for the North, Mid-, and South Atlantic Regions during 2005-2015.

Table 4.1.1.2. OY values (lbs ww) in **Action 1** under the different alternatives.

Alternative 1 (No Action) (OY=Total ACL=ABC) (lbs ww)	**Alternative 2** (OY=Comm. ACL + Rec. ACT) (lbs ww)	**Alternative 3** (OY=75% MSY) (lbs ww)	**Alternative 4** (OY=Value between Total ACL and Total ACT) (lbs ww)
15,344,846	14,303,546	Value between 14,000,000 – 35,000,000	Value between 12,769,061-15,344,846

Alternative 1 (No Action) would retain the OY=total ACL=ABC at 15,344,846 lbs ww as specified in Amendment 5 (SAFMC 2013). National Standard 1 (NS1) establishes the relationship between conservation and management measures, preventing overfishing, and achieving OY from each stock, stock complex, or fishery. The NS1 guidelines discuss the relationship of overfishing limit (OFL) to the MSY and the ACL to OY. The OFL is an annual amount of catch that corresponds to the estimate of maximum fishing mortality threshold applied to a stock; and MSY is the long-term average of such catches. The long-term objective is to achieve OY through annual achievement of an ACL. The NS1 guidelines state that OY cannot exceed MSY, and if OY is set close to MSY, the conservation and management measures must have very good control of the amount of catch to achieve the OY without overfishing. Under **Alternative 2**, OY would 14,303,546 lbs ww (commercial ACL + recreational ACT). Compared with **Alternative 1 (No Action)** the OY would be reduced by 1,041,300 lbs ww. **Alternative 3** would specify the OY at a value between 14 million lbs ww and 35 million lbs ww. **Alternative 4** would specify the OY between 12,769,061 and 15,344,846, a value equal to or less than the OY under **Alternative 1 (No Action)** (**Table 4.1.1.2**). OY values for **Alternative 3** and **Alternative 4** assume that the current recreational ACT will be unchanged and the commercial ACT will remain unspecified in **Action 2** and **Action 3** respectively.

The biological effects would be expected to be neutral under all the alternatives considered in this action with the exception that a lower OY resulting in a lower ACL may result in a closure, which in turn would result in discards of dolphin.

4.1.2 Economic Effects

The economic effects of changing OY for a stock depend on how the level is set in comparison to current and potential yield of the species. The economic value derived from OY can include the harvest allowed under the specified amount and the potential benefits that may occur due to additional fish left in the water beyond MSY that such as improving the value of a recreational trip or potentially decreasing harvesting costs on a commercial trip. The constraining factor depends on the level where OY is set in comparison to how the fishery operates and how it may guide other management decisions that may grow or limit a fishery.

Realized economic effects would not occur unless OY is set in a manner that constrains harvest in a fishery. All of the alternatives propose levels of OY are above observed harvest in the for dolphin from 2005 through 2015, therefore, realized economic effects are not anticipated under current management and extraction levels for any of the alternatives. The potential for negative economic effects occurring from a change in OY are greatest for **Alternative 4**, as this alternative sets OY at the lowest potential harvest level, which may presumably minimize the benefits that are received from harvest of dolphin. **Alternative 3** has the second most potential to cause negative economic effects in regards to benefits that can be derived from harvest, followed by **Alternative 3** and **Alternative 1 (No Action)**. When examining economic benefits that may accrue to dolphin fishery participants through maintained abundance in the population, the ranking would be inverse, with **Alternative 1 (No Action)** providing the fewest potential benefits, followed by **Alternative 2**, **Alternative 3**, and **Alternative 4**.

4.1.3 Social Effects

The concept of OY has been used in fisheries for several decades and is still required by the Magnuson-Stevens Act. National Marine Fisheries Service guidance states that OY is based on the defined MSY for the stock and must not exceed the MSY level. However, fisheries management has adapted to the ABC and ACL system mandated by the 2006 Reauthorization of the Magnuson-Stevens Act, which may broaden the potential definition of OY by removing the need for the association with MSY. Additionally, ecosystem-based management and managing for multi-fishery participation—looking at the bigger picture—may help to construct a new approach to defining OYs and overall management goals.

The social effects of defining the OY for dolphin would be linked to how the definition affects the access of each user group at the present and in the future. **Chapter 3.3.2** includes detailed information about fishermen and communities associated with the dolphin portion of the dolphin wahoo fishery. For the commercial sector, an OY that allowed the commercial fleet to access the maximum proportion of the ACL (**Alternative 1 (No Action)**) would likely be the most beneficial by maximizing the commercial landings. The effects of **Alternatives 2-4** would depend on how much of the ACL is available to the commercial fleet. For the recreational fleet, the effects of OY would be associated with the trade-off between allowing access and retention of dolphin to keep trip satisfaction, but also leaving enough dolphin in the water to allow continued target recreational trips. It would be expected that an OY that results in a lower

proportion of the total ACL removed each year would be more beneficial for the recreational fleet.

4.1.4 Administrative Effects

If the OY is changed under **Alternatives 2, 3,** and **4**, administrative effects would be related to educating the public and enforcing the new catch levels that may result from the change in the OY.

4.2 Action 2. Modify the recreational annual catch target (ACT) for dolphin.

Alternatives

1. **(No Action)**. The ACT for the recreational sector equals [sector ACL*(1-PSE)] or [ACL*0.5], whichever is greater.
2. The recreational ACT equals 50% of the recreational ACL [recreational ACL*0.5].
3. The recreational ACT equals 60% of the recreational ACL [recreational ACL*0.6].
4. The recreational ACT equals 70% of the recreational ACL [recreational ACL*0.7].

4.2.1 Biological Effects

Alternative 1 (No Action) would retain the recreational ACT of 12,769,061 lbs ww implemented by Dolphin Wahoo Amendment 5 (Amendment 5; SAFMC 2013) (**Table 4.2.1.1**). **Alternatives 2, 3,** and **4** would reduce the recreational ACT by 50%, 40% and 30%, respectively (**Table 4.2.1.1**). The recreational ACT for dolphin functions as a performance standard, and does not trigger an AM. Therefore, the biological effects of **Alternatives 2, 3,** and **4** compared with **Alternative 1 (No Action)** would be negligible. If an evaluation concludes that the recreational ACL is being chronically exceeded for a species, and post-season AMs are repeatedly needed to correct for recreational ACL overages, adjustments to management measures would be made in a future action. Furthermore, alternatives in **Action 2** of this amendment would modify the AMs for dolphin, potentially providing additional protection against exceeding the ACL.

Table 4.2.1.1. Recreational ACT values (lbs ww) under the alternatives in Action 2.

Alternative	Recreational ACT (lbs ww)
Alternative 1 (No Action)	12,769,061
Alternative 2 (Recreational ACL *0.5)	6,906,181
Alternative 3 (Recreational ACL *0.6)	8,286,217
Alternative 4 (Recreational ACL *0.7)	9,667,253

4.2.2 Economic Effects

The purpose of ACTs is to help prevent a sector from exceeding its ACL due to management uncertainty or in the case of dolphin, to also potentially help define OY. Exceeding an ACL would have direct negative economic effects on all sectors potentially due to a reduced stock size. Without being able to predict exactly how much precaution is needed in setting the ACL, it is difficult to compare alternatives. However, if a species were closed too early for a sector based on the ACT, there would be direct negative economic effects as well because the sector was prohibited from harvesting fish. The ACT being established by this action only

applies to the recreational sector and is not tied to the AMs; therefore, there are no realized economic effects of **Action 2** expected.

While there currently are no AMs triggered by the ACT for dolphin, should AMs to be tied to the ACT in the future potential economic effects could occur. **Alternative 2** provides the largest step-down from the ACL to the ACT and would create the largest potential negative economic effect if set as trigger for the AMs, while **Alternative 1** provides the smallest step-down from the ACL to the ACT, thereby leading to the smallest potential negative economic effect. **Alternative 3** and **Alternative 4** falls in between the other two alternatives.

4.2.3 Social Effects

The effects on fishermen and communities due to modifications in the recreational ACT depends on any mechanism triggered by landings meeting the ACT. If there is a mechanism that can be triggered by the ACT that results in restricted access to the dolphin resource, there may be short-term negative effects on recreational fishermen, and associated communities and businesses. For dolphin, a modified recreational ACT may also determine the OY for the fishery (**Action 1**). In general, a higher ACT (**Alternative 4)** would likely contribute to reduced risk of triggering any corrective action that could affect recreational access than lower ACTs (**Alternatives 1-3**). However, the potential effects of the ACT and any associated mechanism would depend on the likelihood of recreational landings reaching the ACT.

4.2.4 Administrative Effects

The mechanism for monitoring and documentation of recreational ACT for dolphin is already in place through implementation of the Comprehensive ACL Amendment (SAFMC 2011a) and Dolphin Wahoo Amendment 5 (Amendment 5; SAFMC 2013), and reflects **Alternative 1** (**No Action**). The administrative impacts of **Alternatives 2, 3,** and **4** would be similar to **Alternative 1** (**No Action**). Other administrative burdens that may result from revising the values under **Alternatives 2, 3,** and **4** would take the form of development and dissemination of outreach and education materials for fishery participants and law enforcement.

4.3 Action 3. Establish a commercial annual catch target (ACT) for dolphin.

Alternatives

1. **(No Action)**. There is no ACT for the commercial sector.
2. The commercial ACT equals 80% of the commercial ACL [commercial ACL*0.8].
3. The commercial ACT equals 90% of the commercial ACL [commercial ACL*0.9].
4. The commercial ACT equals the commercial ACL.

4.3.1 Biological Effects

Alternative 1 (No Action) would not establish a commercial ACT. **Alternative 4** would establish a commercial ACT equal to the commercial ACL of 1,534,485 lbs ww (**Table 4.3.1.1**). **Alternatives 2** and **3** would establish a commercial ACT 20% and 10% less than the commercial ACL, respectively (**Table 4.3.1.1**).

Table 4.3.1.1. Commercial ACT values (lbs ww) under the alternatives in Action 3.

Alternative	Commercial ACT (lbs ww)
Alternative 1 (No Action)	n/a
Alternative 2 (commercial ACL *0.8)	1,227,588
Alternative 3 (commercial ACL *0.9)	1,381,037
Alternative 4 (commercial ACL)	1,534,485

4.3.2 Economic Effects

The purpose of ACTs is to help prevent a sector from exceeding its ACL due to management uncertainty or in the case of dolphin, to also potentially help define OY. Exceeding an ACL would have direct negative economic effects on all sectors potentially due to a reduced stock size. Without being able to predict exactly how much precaution is needed in setting the ACL, it is difficult to compare alternatives. However, if a species were closed too early for a sector based on the ACT, there would be direct negative economic effects as well because the sector was prohibited from harvesting fish. The ACT being established by this action only applies to the commercial sector and is not tied to the AMs; therefore, there are no realized economic effects of **Action 3** expected.

While there currently are no AMs triggered by the ACT for dolphin, should AMs to be tied to the ACT in the future potential economic effects could occur. **Alternative 2** provides the largest step-down from the ACL to the ACT and would create the largest potential negative economic effect if set as trigger for the AMs, while **Alternative 1** provides the smallest step-down from the

ACL to the ACT, thereby leading to the smallest potential negative economic effect. **Alternative 3** and **Alternative 4** falls in between the other two alternatives.

4.3.3 Social Effects

The effects on fishermen and communities due to establishment of a commercial ACT depends on any mechanism triggered by landings meeting the ACT. If there is a mechanism that can be triggered by the ACT that results in restricted access to the dolphin resource, there may be short-term negative effects on commercial fishermen, and associated communities and businesses. In general, a higher ACT (**Alternative 4)** would likely contribute to reduced risk of triggering any corrective action that could affect the commercial fleet than lower ACTs (**Alternatives 1-3**). However, the potential effects of the ACT and any associated mechanism would depend on the likelihood of commercial landings reaching the commercial ACT.

4.3.4 Administrative Effects

Currently, there is no commercial ACT for dolphin (**Alternative 1, No Action**). Establishing a commercial ACT would add to the administrative burden under **Alternatives 2, 3,** and **4**. Other administrative burdens would take the form of development and dissemination of outreach and education materials for fishery participants and law enforcement.

4.4 Action 4. Allow adaptive management of sector annual catch limits (ACLs) for dolphin.

Alternatives

1. **(No Action)**. The current allocation for the recreational sector for dolphin is 90% of the total ACL. The current allocation for the commercial sector for dolphin is 10% of the total ACL.

2. Set aside a portion of the total ACL that can be used by either sector as a common pool allocation.
   Sub-alternative 2a: 1% of the total ACL becomes a common pool category. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
   Sub-alternative 2b: 2.5% of the total ACL becomes a common pool category. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
   Sub-alternative 2c: 5% of the total ACL becomes a common pool category. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.
   Sub-alternative 2d: 10% of the total ACL becomes a common pool category. The remaining total ACL is split between the recreational sector and the commercial sector according to the current allocation.

3. If the commercial ACL is not met in a given fishing year, the unused ACL may be carried forward to the next fishing year only. The carried-forward balance shall not exceed a given percentage (Sub-alternatives 3a-3c) of the commercial sector ACL.
   Sub-alternative 3a: The carried forward balance shall not exceed 5% of the total commercial sector ACL.
   Sub-alternative 3b: The carried forward balance shall not exceed 10% of the total commercial sector ACL.
   Sub-alternative 3c: The carried forward balance shall not exceed 20% of the total commercial sector ACL.

4. **Alternative 4.** If the recreational ACL is not met in a given fishing year, the unused ACL may be carried forward to the next fishing year only. The carried-forward balance shall not exceed a given percentage (Sub-alternatives 4a-4c) of the recreational sector ACL.
   Sub-alternative 4a: The carried forward balance shall not exceed 5% of the total recreational sector ACL.
   Sub-alternative 4b: The carried forward balance shall not exceed 10% of the total recreational sector ACL.
   Sub-alternative 4c: The carried forward balance shall not exceed 20% of the total recreational sector ACL.

5. Conditionally transfer for the next fishing year a certain percentage (Sub-alternatives 5a-5d) of the ACL from a sector that is not landing its ACL to the other sector that is landing at least 90% of its ACL, if the landings of the donating sector are below the minimum landings threshold (Sub-alternatives 5e-5g). The highest landings from the donating sector, based on available finalized data from the five years prior, will be used as criteria to determine if landings are below the minimum threshold for a conditional transfer to occur.

Conditional Quota Transfer (MUST CHOOSE ONE):
Sub-alternative 5a: Conditionally transfer 1% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5b: Conditionally transfer 2.5% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5c: Conditionally transfer 5% of the unadjusted ACL of one sector to the other sector.
Sub-alternative 5d: Conditionally transfer 10% of the unadjusted ACL of one sector to the other sector.

Donating sector's ACL Minimum Threshold (MUST CHOOSE ONE), if the donating sector's landings are:
Sub-alternative 5e: less than 50% of its unadjusted ACL.
Sub-alternative 5f: less than 65% of its unadjusted ACL.
Sub-alternative 5g: less than 75% of its unadjusted ACL.

4.4.1 Biological Effects

Alternative 1 (No Action) would retain the commercial ACL at 1,534,485 lbs ww (10%) and the recreational ACL at 13, 810,361 lbs ww (90%). Under these ACLs, neither sector would be expected to exceed their respective ACLs (**Table 4.3.1.1**). In 2014, the commercial ACL of 1,157,001 lbs ww was exceeded by 13% (**Table 4.3.1.1**), but, updated commercial landings were not available in a timely manner during 2014 to close the commercial sector that year. The commercial ACL (1,157,001 lbs ww) was projected to be met in 2015, and hence the commercial sector was closed. Updated commercial landings data revealed that 96% of the commercial ACL was met in 2015 (**Table 4.3.1.1**). The current in-season and post-season AMs would also remain in place under **Alternative 1 (No Action)**.

Table 4.3.1.1. Dolphin landings (lbs ww) by sector and percentage (%) of sector ACL harvested each year, during 2005-2015. The current commercial ACL is 1,534,485 lbs ww, and the recreational ACL is 13,810,361 lbs ww (as per Amendment 8; February 22, 2016).

Year	Commercial landings (lbs ww)	Commercial ACL/Soft cap (lbs ww)	% of Commercial ACL/Soft cap Harvested	Recreational Landings (lbs ww)	Recreational ACL (lbs ww)	% of Recreational ACL Harvested
2005	577,655	1,500,000	39	8,629,313	N/A	N/A
2006	650,121	1,500,000	43	8,898,207	N/A	N/A
2007	998,023	1,500,000	67	9,598,943	N/A	N/A
2008	835,177	1,500,000	56	7,833,547	N/A	N/A
2009	1,296,014	1,500,000	86	7,570,195	N/A	N/A
2010	715,334	1,500,000	48	6,243,399	N/A	N/A
2011	792,293	1,500,000	53	6,529,705	N/A	N/A
2012	709,131	1,065,524	67	6,104,412	13,530,692	45
2013	616,953	1,065,524	58	4,029,380	13,530,692	30
2014	1,301,757	1,157,001	113	5,249,693	14,187,845	37
2015	1,109,581	1,157,001	96	7,556,535	14,187,845	53
Average	872,913	1,358,641	66	7,113,030	13,859,269	41

Note: Prior to 2011, there was a soft cap in place for the commercial sector rather than a hard quota (13% for the commercial sector and 87% of the total allowable catch (TAC) for the recreational sector). Percentage of ACLs harvested prior to 2011 are based on the commercial soft cap and the previously used TAC.
Commercial data is from ACL_FILES_12152016.xlsx
Recreational data is from MRIPACLspec_rec81_16wv4_10Nov16_14and15LACreel.xlsxLandings include north, mid, and south Atlantic regions

Alternative 2 and its **Sub-alternatives 2a-2d** would set aside a portion (1% - 10%) of the total ACL (= ABC = OY) that could be used by either sector as a common pool allocation. The current allocations (10% commercial and 90% recreational) would be applied to the remaining total ACL resulting in the sector ACLs as shown in **Table 4.3.1.2**.

Table 4.3.1.2. Commercial and Recreational ACLs (lbs ww) under Sub-alternatives 2a-2d. The current total ACL for dolphin is 15,344,846 lbs ww, commercial ACL is 1,534,485 lbs ww, and the recreational ACL is 13,810,361 lbs ww.

	Common pool ACL (lbs ww) / Percentage (%) of Total ACL	Remaining Total ACL (lbs ww)	Commercial ACL (lbs ww)	Recreational ACL (lbs ww)	*Commercial ACL (lbs ww) + common pool ACL	*Recreational ACL (lbs ww) + common pool ACL
Sub-alternative 2a	153,448/ 1%	15,191,398	1,518,140	13,672,258	1,671,588	13,825,706
Sub-alternative 2b	383,621/ 2.5%	14,961,225	1,496,123	13,465,103	1,879,744	13,848,724
Sub-alternative 2c	767,242/ 5%	14,577,604	1,457,760	13,119,844	2,225,002	13,887,086
Sub-alternative 2d	1,534,485/ 10%	13,810,361	1,381,036	12,429,325	2,915,521	13,963,810

During 2005-2015, the commercial landings were highest in 2009, at 1,296,014 lbs ww; and the recreational landings were highest in 2007, at 9,598,841 lbs ww (**Table 4.1.1.1**). The current commercial ACL is 1,534,485 lbs ww and the current recreational ACL is 13,810,361 lbs ww. Both sectors would have their ACLs lowered (by 1%-10%) initially to contribute to the common pool. However, as shown in **Table 4.3.1.1**, removing up to 10% of both sector's ACLs would still not result in the current sector ACLs being met. Furthermore, all the sector ACLs under **Sub-alternatives 2a-2d** with the inclusion of the common pool ACL, if utilized, would provide additional pounds of dolphin (1%-10%, respectively) (**Table 4.3.1.3**). Therefore, biological effects of **Sub-alternatives 2a-2d** would be neutral compared with each other and with **Alternative 1 (No Action)**, since ACLs and AMs are already be in place to prevent the stock from over-harvesting.

Alternative 3 and its sub-alternatives would allow for unused commercial ACL to be carried forward to the next fishing year only. The carried forward balance shall not exceed 5% (57,850 lbs ww; **Sub-alternative 3a**), 10% (115,700 lbs ww; **Sub-alternative 3b**), or 20% (231,400 lbs ww; **Sub-alternative 3c**) of the commercial ACL. As shown in Table 4.3.1.1, during 2005-2015, an average of 66% of the commercial ACL was harvested, with a range of 39% to 113%. Based on the average percentage of the commercial ACL harvested during 2005-2015, none of the percentages used to carry forward under all the sub-alternatives in **Alternative 3** would be expected to result in an overage of the commercial ACL. However, the commercial ACL was exceeded in 2014 by 13% and reached 96% in 2015. Therefore, biological benefits would be expected to be higher under the more conservative sub-alternatives under **Alternative 3**. Therefore, biological benefits would be most beneficial under **Sub-Alternative 3a**, followed by **Sub-Alternative 3b**, and **Sub-Alternative 3c**.

Alternative 4 and its sub-alternatives would allow for unused recreational ACL to be carried forward to the next fishing year only. The carried forward balance shall not exceed 5% (709,392 lbs ww; **Sub-alternative 4a**), 10% (1,418,785 lbs ww; **Sub-alternative 4b**), or 20% (2,837,569 lbs ww; **Sub-alternative 4c**) of the recreational ACL. As shown in Table **4.3.1.1**, during 2005-2015, an average of 41% of the recreational ACL was harvested, with a range of

30% to 53%. Based on the average percentage of the recreational ACL harvested during 2005-2015, none of the percentages used to carry forward under all the sub-alternatives in **Alternative 4** would be expected to result in an overage of the recreational ACL. However, biological benefits would be expected to be higher under the more conservative sub-alternatives under **Alternative 4**. Therefore, biological benefits would be most beneficial under **Sub-Alternative 4a**, followed by **Sub-Alternative 4b**, and **Sub-Alternative 4c**.

Alternative 5 would conditionally transfer 1%-10% (**Sub-alternatives 5a-5d**) of the ACL from a sector that is not landing its ACL to the other sector that is landing all or almost all of its ACL in the next fishing year. The condition is that the minimum landings threshold of 50%-75% of the donating sector's ACL must not be met (**Sub-alternatives 5e-5f**). Furthermore, if the receiving sector does not land at least 90% of its unadjusted ACL, this transfer would not occur. Logistically, the sub-alternatives under **Alternative 5** would be very difficult to monitor and administer due to the delay in the availability of landings and time required to implement the changes. It could be two years before the sector that needs the extra ACL is able to utilize it. As long as the total ACL is not exceeded, transferring ACL from one sector to another would not be expected to have negative biological effects on the stock. Since the expected harvest would be reduced under **Alternative 1 (No Action),** it would be expected to have greater biological benefits than **Alternative 5** and **Sub-alternatives 5a-5g**.

Negative biological effects to dolphin would not be expected under all the alternatives and their respective sub-alternatives under **Action 3** because ACLs and AMs are already in place to prevent overfishing. Among the alternatives, the greatest biological benefits would be expected from alternatives that constrain harvest to the greatest degree. However, **Alternative 2** and its sub-alternatives, especially **Sub-alternative 2e,** would be expected to extend the fishing season the longest for both sectors without triggering the current AMs and reduce the likelihood of discards due to a closure.

4.4.2 Economic Effects

Realized and potential changes in sector allocations can alter fishing behavior and the economic benefits received from a fishery. Changes in allocation can also impact whether or not closures occur, which impose costs in a fishery. **Alternative 1 (No Action)** keeps the current allocation in the dolphin portion of the dolphin wahoo fishery in place. Under the current total ACL, neither the commercial nor the recreational sector is expected to reach its respective sector ACL based on recent historic landings. Given the increasing trend in commercial landings, the potential does exist that the commercial sector could harvest its ACL, triggering an in-season closure in that sector. A closure in the commercial sector would impose a loss of potential revenue when dolphin incidentally caught are discarded. The recreational sector is not likely to be affected by **Alternative 1 (No Action)**, as the sector has not come close to landing the entire sector allocation in recent years.

Alternative 2 and its **Sub-alternatives 2a** through **2d** would reduce the sector ACLs for both the recreational and commercial sectors, but allow access to a common pool allocation when needed to help prevent a closure in the fishery from occurring. The size of the common pool ACL increases progressively from **Sub-alternative 2a** to **2d**, with the sector ACLs decreasing accordingly. Under the largest decrease in sector ACLs in **Sub-alternative 2d**, the

revised commercial and recreation ACLs would still remain above observed historic landings in for dolphin from 2005-2015, therefore, there are no realized economic effects anticipated. There are potential economic benefits that may occur with the addition of the common pool ACL. Each sector has the potential to increase its landings beyond the levels specified in current sector ACLs, decreasing the possibility of a dolphin closure, as long as one sector continues to under harvest its revised sector ACL.

Since the commercial sector has not harvested the current sector ACL in recent years, there are no anticipated economic effects that would be realized for **Alternative 3**, which would allow unused commercial ACL to be carried forward for use in the next fishing year. The commercial sector has demonstrated the ability to reach its sector ACL in some years (**Table 4.3.1.1**), and would potentially be able to utilize additional ACL in years of exceptionally high landings. Creating a credit that is earned through an underage of harvest for a sector's ACL would have some potential positive economic effects by decreasing the probability of a harvest closure occurring in the sector due to accountability measures becoming active. The likelihood of a harvest closure for the commercial sector is the lowest under **Sub-alternative 3c** since it would allow the largest amount of ACL to be carried forward. Conversely, **Sub-alternative 3a** would have a higher likelihood of a harvest closure, as it would allow the smallest among of ACL to be carried forward. **Sub-alternative 3b** would fall in between the two outlined scenarios.

The recreational sector has not harvested the current or past sector ACL in recent years, therefore there are no anticipated economic effects that would be realized for **Alternative 4**, which would allow unused recreational ACL to be carried forward for use in the next fishing year. Creating a credit that is earned through an underage of harvest for a sector's ACL would have some potential positive economic effects by decreasing the probability of a harvest closure occurring in the sector due to accountability measures becoming active. The likelihood of a harvest closure for the recreational sector is the lowest under **Sub-alternative 4c** since it would allow the largest amount of ACL to be carried forward. Conversely, **Sub-alternative 4a** would have a higher likelihood of a harvest closure, as it would allow the smallest among of ACL to be carried forward. **Sub-alternative 4b** would fall in between the two outlined scenarios.

The conditional transfer of ACL, as outlined in **Alternative 5** does allow for potential positive economic effects to occur in the dolphin portion of the dolphin wahoo fishery when one sector is consistently under-harvesting its sector ACL, while the other sector is harvesting all or almost all of its sector ACL. Based on the observed landings for dolphin over the past five years, a transfer of ACL could occur under **sub-alternatives 5f** and **5g** from the recreational sector to the commercial sector. This would lead to potential positive economic effects for the commercial sector if the additional ACL is used. The extent to which these economic effects would occur would depend on the amount of ACL transferred (**Sub-alternatives 5a** through **5d**), with **Sub-alternative 5a** providing the smallest increase in ACL for the commercial sector and **Sub-alternative 5d** providing the largest increase in commercial ACL. The realized positive economic effects for the commercial sector are expected to be minimal, as the sector has not exceeded its current ACL in recent years.

The potential economic effects of the **Alternative 2** through **Alternative 5** in comparison to **Alternative 1 (No Action)** would be very dependent on the sub-alternatives that are chosen. Based on the potential to trigger a closure for dolphin, **Alternative 1 (No Action)** has the greatest potential for negative economic effects, followed by **Alternative 5, Alternative 3, Alternative 4** and **Alternative 2** being approximately equal respectively.

4.4.3 Social Effects

Modifications in sector allocations of the dolphin ACL could result in some changes in fishing behavior and impacts to the social environment. Although sector allocations are currently in place under **Alternative 1 (No Action)**, changes could increase perceptions of scarcity and change the fishing behavior of those within a particular sector. Because there has been an initial allocation between the commercial and recreational sectors, **Alternative 1 (No Action)** may have few direct social effects. However, if one sector has not or does not reach its ACL, the resource may be underutilized and available quota would not be available to the other sector.

Creating a portion of the total ACL to be common pool (**Alternative 2**) could be beneficial in allowing both sectors to access additional quota when needed, but also may create derby conditions if both sectors are reaching their respective ACLs. In general, a larger proportion of the ACL designated as common pool would be more likely to result in the benefits to the fishermen. The effects of **Sub-alternatives 2a-2d** on each sector depends on the likelihood of needing to access the common pool quota and at what time of year. If landings for each sector continue as in recent years (**Table 4.4.3.1**), the commercial sector would benefit more from access to a common pool quota than the recreational sector. **Sub-alternative 2d** would be most beneficial to the commercial sector, followed by **Sub-alternative 2c, Sub-alternative 2b**, and then **Sub-alternative 2a**. Because recreational landings have not reached the recreational ACL in recent years (**Table 4.4.3.1**), the effects of **Sub-alternatives 2a-2d** on participants in the recreational sector would be expected to be minimal or none. However, if recreational effort increased in the future but commercial landings stayed at the same level, the loss of the portion of the ACL designated for recreational harvest could reduce access to the dolphin resource by recreational fishermen.

Establishing a system to allow a carry-over in **Alternative 3** and **4** could be beneficial to both sectors if the total landings were still under the total ACL, and if there were no negative effects on the stock due to an "overage" the year with a carry-over. In the long term, it would likely be more beneficial that a higher threshold be in place to allow for the "credit" to occur only when there is sufficient unharvested ACL, in order to minimize the risk of negative biological effects on the dolphin resource that could later impact fishing opportunities. **Sub-alternative 3c** and **4c** would have the lowest risk of negative long-term effects on the resource and future fishing opportunities, followed by **Sub-alternative 3b** and **4b**, and then **Sub-alternative 3a** and **4a**.

Alternative 5 could provide a flexible and adaptive system to allow each sector more or less access to the total ACL each year. Although there may be some years when a transfer ends up negatively affecting the 'donating' sector, the flexible mechanisms would allow the allocations to return to the current allocations at the beginning of the next fishing year. Because

it is expected that transfers will benefit the commercial sector and have little effect on the recreational sector under current fishery conditions (**Table 4.4.3.1**), **Sub-alternative 5d** would be the most beneficial to the commercial sector, followed by **Sub-alternative 5c**, **Sub-alternative 5b**, and then **Sub-alternative 5a.** If recreational landings are similar to landings in recent years, the effects of **Sub-alternatives 5a-5d** are expected to be minimal or none for participants in the recreational sector. **Sub-alternative 5e**, **Sub-alternative 5f**, and **Sub-alternative 5f** would likely be effective in minimizing negative long-term effects on the dolphin resource and fishing opportunities, but may be too low to allow for benefits to the fishermen to accrue.

4.4.4 Administrative Effects

On July 27, 2016, NMFS released a fisheries allocation review policy (http://www.fisheries.noaa.gov/op/pds/documents/01/01-119.pdf; NMFSSPD 01-119; Appendix X), outlining the fisheries allocation review process (**Figure 4.3.1**). The policy includes the Council Coordination Committee's guidance on when sector allocation decisions for a species need to be made, and what triggers are applicable for each of the Council's fishery management plans (FMP; Procedural Directive 01-119-01, Appendix X). The policy also includes NMFS's guidance on what factors need to be considered when making sector allocation decisions (Procedural Directive 01-119-02, Appendix X). NMFS and the South Atlantic Council have three years (July 2019), or as soon as practicable, to determine whether or not trigger mechanisms have been established for FMPs that contain a species sector allocation.

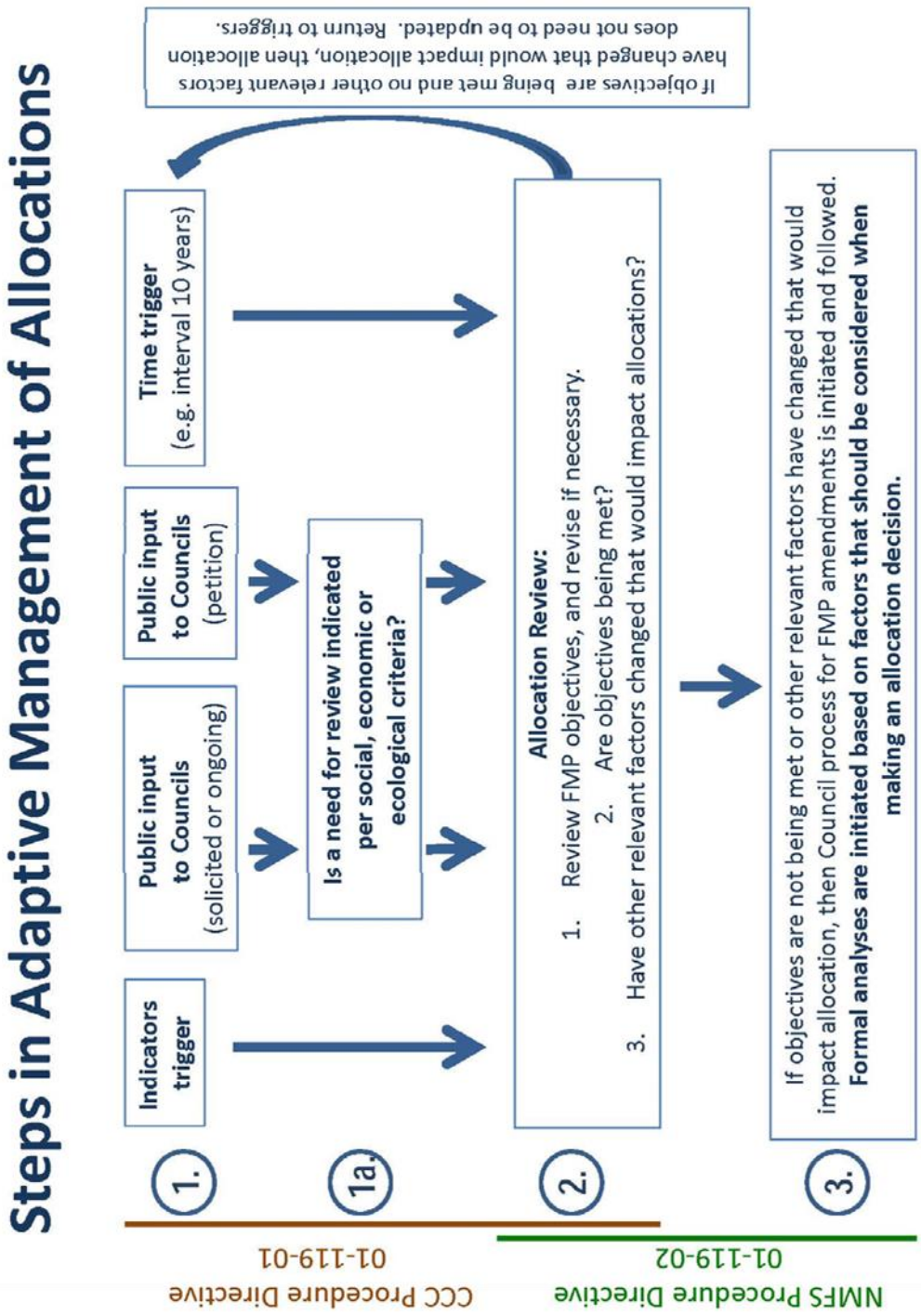


Figure 4.3.1. Fisheries allocation review process as outlined in the NMFS allocation policy published July 27, 2016.

NMFS and the South Atlantic Council received ample input from the public when the commercial sector for dolphin closed in 2015. This input, combined with the recreational sector landing less than 50% (on average) of its ACL in recent years (**Table 4.3.1.1**), is the rationale for revisiting the sector allocations for dolphin.

Sector ACLs and AMs are already in place, and therefore, **Alternative 1 (No Action)** and would have the least negative administrative effects followed by **Alternatives 3, 4**, **2**, and **5**,(and their respective sub-alternatives). **Alternative 3** and **Sub-alternatives 3a-3d** would add to the administrative burden in terms of monitoring the ACLs, educating the public, and enforcing the new ACLs. **Alternative 5** and **Sub-alternatives 5a-5g** would be the most difficult logistically and a tremendous burden to administer, compounded by the lack of timely recreational data to make the adjustments necessary to implement carry-over credit. **Alternatives 3** and **4** and **their respective sub-alternatives** would also add to the administrative burden, and could have up to a two-year delay before a sector transfer of ACLs could be made.

4.5 Action 5. Revise the accountability measures for dolphin.

Alternatives

1. **(No Action)**. The current commercial AM includes an in-season closure to take place if the commercial ACL is met or projected to be met. If the commercial ACL is exceeded, it will be reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

   The current recreational AM includes a shortening of the recreational season that may be triggered if the recreational ACL is exceeded, but only after recreational landings have been monitored for persistence in increased landings. The length of the recreational season will not be reduced if the RA determines the best available science shows that it is not necessary. If a reduction is necessary, the recreational season may be reduced and the ACL in the following fishing year will be reduced by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

2. Neither the commercial or recreational sector will face an in-season closure unless the total ACL is met or projected to be met. Both sectors will close when the total ACL is met or projected to be met. However, if the landings of one or both sectors are estimated by the SRD to have exceeded the sector ACL then:
   Sub-alternative 2a. The AA will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to reduce the length of the fishing season for the commercial sector that year by the amount estimated to prevent that sector's ACL from being exceeded.
   Sub-alternative 2b. The AA will file a notification with the Office of the Federal Register, at or near the beginning of the following fishing year, to reduce the length of the fishing season for recreational sector that year by the amount estimated to prevent that sector's ACL from being exceeded.
   Sub-alternative 2c. Implement a trip limit for the commercial sector the following fishing year, if applicable, by the amount estimated to prevent that sector's ACL from being exceeded..
   Sub-alternative 2d. Implement a bag limit reduction for the recreational sector the following fishing year, if applicable, by the amount estimated to prevent that sector's ACL from being exceeded.

3. The commercial AM will include an in-season closure if the commercial ACL and the available common pool ACL is met or projected to be met. The commercial ACL is reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

   The recreational AM will include an in-season closure if the recreational ACL and the available common pool ACL is met or projected to be met. A shortening of the recreational season may be triggered if the recreational ACL is exceeded, but only after recreational landings have be monitored for persistence in increased landings. The length of the recreational season is not reduced if the Regional Administrator determines the best available science shows it is not necessary. If a reduction is necessary, the recreational season may be shortened and the recreational ACL reduced in the following fishing year by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

4. The commercial AM will include an in-season closure to take place if the commercial ACL and the available uncaught sector ACL from the previous fishing year is met or projected to be met. If the commercial ACL and the available uncaught sector ACL from the previous fishing year is exceeded, it will be reduced by the amount of the commercial overage in the following fishing year only if the species is overfished and the total ACL is exceeded.

5. The recreational AM will include a shortening of the recreational season that may be triggered if the recreational ACL and the available uncaught sector ACL from the previous fishing year is exceeded, but only after recreational landings have been monitored for persistence in increased landings. The length of the recreational season will not be reduced if the RA determines the best available science shows that it is not necessary. If a reduction is necessary, the recreational season may be reduced and the ACL in the following fishing year will be reduced by the amount of the recreational overage only if the species is overfished and the total ACL is exceeded.

4.5.1 Biological Effects

4.5.2 Economic Effects

4.5.3 Social Effects

4.5.4 Administrative Effects

4.6 Action 6. Revise the acceptable biological catch (ABC) control rule for dolphin and wahoo.

Alternatives

1. (No Action). Retain the ABC Control Rule for dolphin and wahoo. ABC is equal to the third highest point in landings in the 1999-2008 time series.

2. Revise the Acceptable Biological Catch (ABC) Control Rule for dolphin and wahoo by adding a carry-over provision. If the Overfishing Limit (OFL) is known, then the Acceptable Biological Catch (ABC) for dolphin and wahoo can be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed a certain percentage of the OFL (Sub-alternatives 2a through 2c).

Sub-alternative 2a: Revised ABC may not exceed 95% of the OFL.
Sub-alternative 2b: Revised ABC may not exceed 90% of the OFL.
Sub-alternative 2c: Revised ABC may not exceed 85% of the OFL.

3. Revise the Acceptable Biological Catch (ABC) Control Rule for dolphin and wahoo by adding a carry-over provision. If the Overfishing Limit (OFL) is unknown, then the Acceptable Biological Catch (ABC) for dolphin and wahoo can be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed a certain percentage of the original ABC (Sub-alternatives 3a through 3c).

Sub-alternative 3a: Revised ABC may not exceed 101% of the original ABC.
Sub-alternative 3b: Revised ABC may not exceed 102.5% of the original ABC.
Sub-alternative 3c: Revised ABC may not exceed 105% of the original ABC.

4.6.1 Biological Effects

Alternative 1 (No Action) would retain the ABC for dolphin as specified by the ABC Control Rule at 15,344,846 lbs ww. The current ABC control rule for dolphin and wahoo was established by the Comprehensive ACL Amendment (SAFMC 2011) (Table 4.5.1.1).

Table 4.5.1.1. ABC control rule for dolphin and wahoo as recommended by the South Atlantic Council's SSC's.

Note: The ABC control rule provides a hierarchy of dimensions and tiers within dimensions used to characterize uncertainty associated with stock assessments in the South Atlantic. Parenthetical values indicate (1) the maximum adjustment value for a dimension; and (2) the adjustment values for each tier within a dimension. See **Appendix Q** of the Comprehensive ACL Amendment (SAFMC 2011) for details on the methodology.

Level 1 – Assessed Stocks	
Tier	**Tier Classification and Methodology to Compute ABC**
1. Assessment Information (10%)	6. Quantitative assessment provides estimates of exploitation and biomass; includes MSY-derived benchmarks. (0%) 7. Reliable measures of exploitation or biomass; no MSY benchmarks, proxy reference points. (2.5%) 8. Relative measures of exploitation or biomass, absolute measures of status unavailable. Proxy reference points. (5%) 9. Reliable catch history. (7.5%) 10. Scarce or unreliable catch records. (10%)
2. Uncertainty Characterization (10%)	6. Complete. Key Determinant – uncertainty in both assessment inputs and environmental conditions are included. (0%) 7. High. Key Determinant – reflects more than just uncertainty in future recruitment. (2.5%) 8. Medium. Uncertainties are addressed via statistical techniques and sensitivities, but full uncertainty is not carried forward in projections. (5%) 9. Low. Distributions of F_{MSY} and MSY are lacking. (7.5%) 10. None. Only single point estimates; no sensitivities or uncertainty evaluations. (10%)
3. Stock Status (10%)	6. Neither overfished nor overfishing. Stock is at high biomass and low exploitation relative to benchmark values. (0%) 7. Neither overfished nor overfishing. Stock may be in close proximity to benchmark values. (2.5%) 8. Stock is either overfished or overfishing. (5%) 9. Stock is both overfished and overfishing. (7.5%) 10. Either status criterion is unknown. (10%)
4. Productivity and Susceptibility – Risk Analysis (10%)	4. Low risk. High productivity, low vulnerability, low susceptibility. (0%) 5. Medium risk. Moderate productivity, moderate vulnerability, moderate susceptibility. (5%) 6. High risk. Low productivity, high vulnerability, high susceptibility. (10%)
Level 2 - Unassessed Stocks. Reliable landings and life history information available	
OFL derived from "Depletion-Based Stock Reduction Analysis" (DBSRA). ABC derived from applying the assessed stocks rule to determine adjustment factor if possible, or from expert judgment if not possible.	
Level 3 - Unassessed Stocks. Inadequate data to support DBSRA	
ABC derived directly, from "Depletion-Corrected Average Catch" (DCAC). Done when only a limited number of years of catch data for a fishery are available. Requires a higher level of "informed expert judgment" than Level 2.	
Level 4 - Unassessed Stocks. Inadequate data to support DCAC or DBSRA	
OFL and ABC derived on a case-by-case basis. ORCS ad hoc group is currently working on what to do when not enough data exist to perform DCAC.	

At their April 2011 meeting, the SSC discussed ABC levels for unassessed species in the Comprehensive ACL Amendment (SAFMC 2011) and recommended setting the ABC at the third highest landings value (1999-2008). Amendment 5 to the Fishery Management Plan (FMP)

for the Dolphin Wahoo Fishery of the Atlantic (Amendment 5; SAFMC 2013) revised the OY (= ABC = total ACL) at 15,344,846 lbs ww.

Currently, the OFL is unknown for dolphin. When the OFL is known, **Alternative 2** and its sub-alternatives would allow the ABC to be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed 95% (**Sub-alternative 2a**), 90% (**Sub-alternative 2b**), or 85% (**Sub-alternative 2c**) of the OFL.

Alternative 3 and its sub-alternatives would allow the ABC to be increased by carrying over unused ABC from the previous year. The revised ABC will remain in place for no more than one year and may not exceed 101% or 15,498,294 lbs ww (**Sub-alternative 2a**), 102.5% or 15,728,467 lbs ww (**Sub-alternative 2b**), or 105% (16,112,088 lbs ww) (**Sub-alternative 2c**) of the OFL.

It is important to note that there are a number of reasons why an ABC may not be met. One possibility is that the fishery is restrained by management measures. Another possible reason is that the stock abundance is too low to support that level of catch, in which case, increasing next year's ABC may not be the desired approach. The potential reason why a stock is not achieving an ABC is an important consideration in determining whether a revised ABC is appropriate.

4.6.2 Economic Effects

Setting the ABC can have noticeable economic effects, depending on how the ABC may restrict harvest in a fishery and conversely, how it may protect a fishery resource from overharvest, thus providing lasting and sustained economic benefits. Allowing a temporary increase in the ABC can lead to economic benefits, assuming overfishing does not occur. The benefits will be dependent on how ACLs and ACTs are set in relation to the ABC. **Alternatives 2** and **3** would allow a temporary increase in the ABC, and therefore are expected to result in economic benefits for fishery participants.

4.6.3 Social Effects

That ABC can have important social effects as it is in many ways the determination of stock status and all decisions of allowable harvest level are derived from that threshold. Setting thresholds that adequately assess biological risk through harvest levels on stocks that are vulnerable can help stabilize landings and thereby provide long-term benefits to the fishery, which should translate into positive social benefits over time. It is the short-term costs involved that often drive perceptions of negative impacts. These impacts can translate into real costs that have significant impacts to both the commercial and recreational sectors. The effects of **Alternatives 1-3** would depend on the resulting ACLs, ACTs and associated accountability measures that could restrict access to the dolphin and wahoo resources.

4.6.4 Administrative Effects

An ABC control rule for dolphin already exists. The administrative impacts of revising the control rule under **Alternatives 2** and **3** would be minimal and not differ much between them and **Alternative 1 (No Action)**.

4.7 Action 7. Allow properly permitted vessels with gears onboard that are not authorized for use in the dolphin wahoo fishery to possess dolphin or wahoo.

Alternatives

1. **(No Action).** The following are the only authorized gear types in the fisheries for dolphin and wahoo in the Atlantic EEZ: Automatic reel, bandit gear, handline, pelagic longline, rod and reel, and spearfishing gear (including powerheads). A person aboard a vessel in the Atlantic EEZ that has on board gear types other than authorized gear types may not possess a dolphin or wahoo.

2. Allow the possession of dolphin or wahoo on properly permitted vessels with gears onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed the commercial trip limit.

3. Allow the possession of dolphin or wahoo on properly permitted vessels with gears onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed a certain percentage of the total commercially harvested species onboard by weight.

4. Allow the possession of dolphin or wahoo on properly permitted vessels with gears onboard that are not authorized in the dolphin wahoo fishery. The amount of dolphin or wahoo allowed onboard cannot exceed the recreational limit.

4.7.1 Biological Effects

Alternative 1 (No Action) would not allow any un-authorized gear including lobster pots to be stowed on board the vessel when fishing for dolphin and wahoo. **Alternatives 2, 3**, and **4** would allow the possession of dolphin and wahoo on vessels with commercial vessel permits for dolphin and wahoo, in addition to gear such as lobster pots on board. In the regulations, "gear" applies to the dolphin wahoo fishery itself. While the intent behind **Alternative 2** is to allow fishers to stow lobster pots on board the vessel while fishing for dolphin and wahoo, the regulations (if implemented under **Alternative 2**) would authorize fishers to utilize lobster pots to fish for dolphin and wahoo. However, dolphin and wahoo are fast swimming pelagic fish and would not be harvested using lobster pots (**Alternative 2**). **Alternatives 2, 3,** and **4** would also allow other types of pots and traps to be used in the dolphin wahoo fishery. Trap gear could also have negative indirect effects to non-targeted species and protected species due the potential for entanglement with buoy lines. Under **Alternative 2**, the amount of dolphin or wahoo allowed on board would not be allowed to exceed the commercial trip limit. There would be no commercial trip limit for allowable dolphin on board until 75% of the commercial ACL is met. The amount of dolphin allowed on board cannot exceed 4,000 lbs ww once 75% of the commercial ACL is met (867,751 lbs ww). The trip limit for wahoo would be 500 lbs provided the vessel is not operating as a charter vessel of headboat. Direct biological effects would not be expected from

Alternative 2 compared to **Alternative 1 (No Action)**, because commercial ACLs and AMs are already in place.

Alternative 3 is the same as **Alternative 2**, except that the amount of dolphin or wahoo allowed on board cannot exceed a certain percentage of the total weight of all legally commercially harvested species on board. Alternative 3, in essence would allow dolphin or wahoo caught as bycatch when the fisher targets other species, to be harvested and retained. The biological effects of **Alternative 3** would not differ compared to **Alternative 1 (No Action)** since ACLs and AMs are already in place. **Alternative 3** would allow the recreational bag limit of dolphin (10 per person or 60 per vessel, whichever is less) or wahoo (2 per person per day) to be harvested and retained on board. The amount of dolphin. Biological effects would be the same as Alternative 1 (No Action) since ACLs and AMs are already in place.

4.7.2 Economic Effects

Action 1 (No Action) would continue to prohibit the possession of dolphin or wahoo onboard vessels that have gear onboard that is not authorized for use in the dolphin fishing, including lobster pot gear. This excludes such vessels from the potential harvest of dolphin or wahoo and the revenue that may be received from the sale of landings for the two species or the benefits received from personal consumption. The marginal decrease in harvest opportunity that is forgone under **Alternative 1 (No Action)** is expected to be fairly small due to the limited number of vessels that would likely be impacted and the amount landings that is likely to occur of either species on such vessels.

Due to its non-specific nature, **Alternative 2** has the potential for development of additional gear to target dolphin and wahoo with gear that are currently prohibited in the dolphin wahoo fishery. **Alternative 2** would benefit commercial fishermen targeting either species using the newly allowed gear types, but may impose potentially sizeable, negative economic effects on other dolphin wahoo fishery participants should the increase in landings lead to a negative impact on the dolphin and wahoo resource, either locally and/or for the entire resource. Also, new gear and likely new participants entering the dolphin wahoo fishery may lead to an increase in conflict among participants. In addition, **Alternative 2** could result in an increase commercial landings that could cause the commercial ACLs for dolphin and wahoo to be met more quickly, which would result an in-season closure in the commercial sectors for the species.

The economic effects of **Alternative 3** and **Alternative 4** that could occur if unauthorized gears were onboard while dolphin or wahoo are in possession would likely be positive, but overall effects would be minimal in comparison to **Alternative 1 (No Action).** It is not anticipated that harvest of dolphin or wahoo would increase appreciably by vessels fishing gears not authorized in the dolphin wahoo fishery if a bycatch provision or the recreational limit is imposed to cap total harvest per trip.

The potential for negative economic effects is the greatest for **Alternative 2**, with **Alternative 1 (No Action), Alternative 4** and **Alternative 3** imposing likely minimal and negligible economic effects.

4.7.3 Social Effects

The social effects of modifying authorized gear for dolphin and wahoo would be associated with improved trip satisfaction (recreational), increased potential to commercially harvest dolphin and wahoo (commercial), and the outcomes of adding gear that may interact with protected species. Under **Alternative 1 (No Action)**, there would be no additional opportunities for fishermen to harvest dolphin and wahoo with gear other than the authorized gear, which may result in some waste if fish have to be discarded. If a specified possession limit was allowed under **Alternatives 2-4**, this would be expected to result in benefits for commercial and recreational fishermen by increasing opportunity to retain fish that currently must be discarded. It is likely that a more restrictive limit would reduce the likelihood of negative effects, such as increased target trips with unauthorized gear types. However, there may be little difference for most recreational and commercial fishermen between **Alternatives 1-4** if most fishermen harvest dolphin and wahoo with hook and line gear.

4.7.4 Administrative Effects

Alternatives 2, 3, and **4** would have greater administrative effects compared to **Alternative 1 (No Action)**. Administrative burden would take the form of educating the public and enforcing the new regulations.

4.8 Action 8. Remove the requirement of vessel operators or crew to hold an Operator Card in the Dolphin Wahoo Fishery.

Alternatives

1. **(No Action)**. An Atlantic Charter/Headboat for Dolphin/Wahoo Permit or a Atlantic Dolphin/Wahoo Commercial Permit is not valid unless the vessel operator or a crewmember holds a valid Operator Card issued by either the Southeast Regional Office or by the Greater Atlantic Regional Fisheries Office.
2. Neither a vessel operator nor any crewmember is required to have an Operator Card for an Atlantic Charter/Headboat for Dolphin/Wahoo Permit to be valid.
3. Neither a vessel operator nor any crewmember is required to have an Operator Card for an Atlantic Dolphin/Wahoo Commercial Permit to be valid.

4.8.1 Biological Effects

Operator cards were required by the original Dolphin Wahoo FMP (SAFMC 2003). Current regulations under 50 C.F.R. Part 622.270 would be retained under **Alternative 1 (No Action)** are:

(c) *Operator permits.* (1) An operator of a vessel that has or is required to have a charter vessel/headboat or commercial permit for Atlantic dolphin and wahoo issued under this section is required to have an operator permit.

(2) A person required to have an operator permit under paragraph (c)(1) of this section must carry on board such permit and one other form of personal identification that includes a picture (driver's license, passport, etc.).

(3) An owner of a vessel that is required to have a permitted operator under paragraph (c)(1) of this section must ensure that at least one person with a valid operator permit is aboard while the vessel is at sea or offloading.

(4) An owner of a vessel that is required to have a permitted operator under paragraph (c)(1) of this section and the operator of such vessel are responsible for ensuring that a person whose operator permit is suspended, revoked, or modified pursuant to subpart D of 15 CFR part 904 is not aboard that vessel.

The intent of including operator cards in the Dolphin Wahoo FMP (SAFMC 2003) was to improve enforcement and aid in data collection. It was also believed to decrease costs to vessel owners from fisheries violations, and make vessel captains more accountable for damaging habitat or violating regulations intended to protect the long-term viability of the stock. At the

March 2016 Council meeting, NMFS OLE gave a presentation on operator cards (http://blog.safmc.net/download/BriefingBook_12_2016/TAB%2002%20Law%20Enforcement%20Committee/A4_LE_OperatorCardPresentation_08_2016_Pres.pdf), and one of the slides mentioned that currently, operator cards are not used for gathering data, distributing information, or enforcement to a large extent.

Alternative 2 would remove the requirement for the vessel operator or crew member to hold an operator card for an Atlantic dolphin-wahoo charter permit to be valid. It would still require commercial dolphin-wahoo permit holders to have an operator card. **Alternative 3** would be the converse of **Alternative 2**. Biological effects would not vary between **Alternative 1 (No Action)** and **Alternatives 2** and **3**, because this is a purely procedural and administrative action.

4.8.2 Economic Effects

It is unknown is the operator card has improved compliance of fishing regulations in the dolphin wahoo fishery, therefore the economic effects of removing the requirement to hold a card is unknown but expected to be minimal. **Action 1 (No Action)** requires for-hire and commercial participants in the dolphin wahoo fishery to obtain an operator card, which imposes an opportunity cost in doing so. **Action 2** would remove this requirement for the for-hire, thus removing the burden to obtain the card and thus the potential opportunity costs that is imposes. **Action 3** extends this action to commercial participants in the dolphin wahoo fishery as well.

4.8.3 Social Effects

The operator card requirement (**Alternative 1 (No Action)**) was implemented to improve accountability for operators even if the vessel permit was not in the operators' name. However, because it is unknown if the operator card requirement has helped improve compliance and enforcement, **Alternative 1 (No Action)** may just be an unnecessary burden on operators. Removing the requirement under **Alternatives 2** and **3** is expected to have minimal effects on operators, except to reduce the burden of obtaining the operator card for captains on vessels with the Dolphin Wahoo For-Hire permit (**Alternatives 2** and **3**) or on vessels with the Dolphin Wahoo Commercial permit (**Alternative 3**).

4.8.4 Administrative Effects

Alternatives 2 and **3** could decrease the administrative burden compared to **Alternative 1 (No Action)** in that there would be less paperwork for law enforcement to monitor and for operators (purchase the card, etc.). However, if there were skippers with violations that were allowed to captain vessels because of no requirement for an operator card, and if there were violations, there could an increase in the administrative burden for law enforcement and vessel owners.

Chapter 5. Council's Choice for the Preferred Alternative

Chapter 6. Cumulative Effects

Chapter 7. List of Preparers

Table 7-1. List of preparers of the document.

Name	SAFMC	Title
Brian Cheuvront	SAFMC	IPT Lead/Deputy Executive Director for Management
John Hadley	SAFMC	IPT Lead/Economist
Nikhil Mehta	NMFS/SF	IPT Lead/Fishery Biologist
David Dale	NMFS/HC	EFH Specialist
Mike Errigo	SAFMC	Data Analyst
Chip Collier	SAFMC	Fishery Biologist
Mike Travis	NMFS/SF	Economist
Noah Silverman	NMFS/SER	Regional NEPA Coordinator
Mike Jepson	NMFS/SF	Fishery Social Scientist
Mike Larkin	NMFS/SF	Data Analyst
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Scott Crosson	NMFS/SEFSC	Economist
Jack McGovern	NMFS/SF	Fishery Biologist
Roger Pugliese	SAFMC	Senior Biologist
Monica Smit-Brunello	NMFS/GC	Attorney
Kari MacLauchlin	SAFMC	Social Scientist
Scott Sandorf	NMFS/SF	Technical Writer & Editor
Rick DeVictor	NMFS/SF	Fishery Biologist

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Table 7-2. List of interdisciplinary plan team members for the document.

Name	Organization	Title
John Hadley	SAFMC	IPT Lead/Economist
Brian Cheuvront	SAFMC	IPT Lead/ Deputy Executive Director for Management
Nikhil Mehta	NMFS/SF	IPT Lead/Fishery Biologist
Scott Sandorf	NMFS/SF	Technical Writer & Editor
Scott Crosson	NMFS/SEFSC	Economist
Mike Travis	NMFS/SF	Economist
David Dale	NMFS/HC	EFH Specialist
Rick DeVictor	NMFS/SF	Fishery Biologist
Mike Larkin	NMFS/SF	Data Analyst
Tracy Dunn/Manny Antonaras	NMFS/LE	Special Agent(s)
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Noah Silverman	NMFS/SER	Regional NEPA Coordinator
Roger Pugliese	SAFMC	Senior Biologist
Myra Brouwer	SAFMC	Fishery Biologist
Mike Errigo	SAFMC	Data Analyst
Chip Collier	SAFMC	Fishery Biologist
Mike Jepson	NMFS/SF	Fishery Social Scientist
Kari MacLauchlin	SAFMC	Fishery Social Scientist
Monica Smit-Brunello	NOAA/GC	Attorney
Jack McGovern	NMFS/SF	Fishery Biologist
Kyle Shertzer	NMFS/SEFSC	Fishery Biologist

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Chapter 8. Agencies and Persons Consulted

Responsible Agency for CE
NMFS, Southeast Region
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5301 (TEL)
(727) 824-5320 (FAX)

List of Agencies, Organizations, and Persons Consulted
SAFMC Law Enforcement Advisory Panel
SAFMC Dolphin Wahoo Advisory Panel
SAFMC Scientific and Statistical Committee
SAFMC Information and Education Advisory Panel
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
Atlantic States Marine Fisheries Commission
Gulf of Mexico Fishery Management Council
Mid Atlantic Fishery Management Council
New England Fishery Management Council
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

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Appendix A. Alternatives Considered, but Eliminated from Detailed Analysis

Appendix B. Glossary

Acceptable Biological Catch (ABC Acceptable Biological Catch (ABC): Maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

Accountability measure (AM): AMs are fishery management rules that prevent annual catch limits from being exceeded (i.e. prevent overfishing) and make corrections when fishing goes over the annual catch limit.

ALS: Accumulative Landings System. NMFS database which contains commercial landings reported by dealers.

Annual Catch Limit (ACL): The amount of a particular fish species, stock or stock complex that can be caught in a given year.

Annual Catch Target (ACT): An annual catch target is an amount of annual catch that serves as the management target, set below the annual catch limit to account for management uncertainty.

Biomass: Amount or mass of some organism, such as fish.

B_{MSY}: Biomass of population achieved in long-term by fishing at F_{MSY}.

Bycatch: Fish harvested in a fishery, but not sold or kept for personal use. Bycatch includes economic discards and regulatory discards, but not fish released alive under a recreational catch and release fishery management program.

Caribbean Fishery Management Council (CFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The CFMC develops fishery management plans for fisheries off the coast of the U.S. Virgin Islands and the Commonwealth of Puerto Rico.

Catch Per Unit Effort (CPUE): The amount of fish captured with an amount of effort. CPUE can be expressed as weight of fish captured per fishing trip, per hour spent at sea, or through other standardized measures.

Charter Boat: A fishing boat available for hire by recreational anglers, normally by a group of anglers for a short time period.

Cohort: Fish born in a given year. (See year class.)

Control Date: Date established for defining the pool of potential participants in a given management program. Control dates can establish a range of years during which a potential participant must have been active in a fishery to qualify for a quota share.

Constant Catch Rebuilding Strategy: A rebuilding strategy where the allowable biological catch of an overfished species is held constant until stock biomass reaches B_{MSY} at the end of the rebuilding period.

Constant F Rebuilding Strategy: A rebuilding strategy where the fishing mortality of an overfished species is held constant until stock biomass reached BMSY at the end of the rebuilding period.

Directed Fishery: Fishing directed at a certain species or species group.

Discards: Fish captured, but released at sea.

Discard Mortality Rate: The percent of total fish discarded that do not survive being captured and released at sea.

Derby: Fishery in which the TAC is fixed and participants in the fishery do not have individual quotas. The fishery is closed once the TAC is reached, and participants attempt to maximize their harvests as quickly as possible. Derby fisheries can result in capital stuffing and a race for fish.

Effort: The amount of time and fishing power (i.e., gear size, boat size, horsepower) used to harvest fish.

Exclusive Economic Zone (EEZ): Zone extending from the shoreline out to 200 nautical miles in which the country owning the shoreline has the exclusive right to conduct certain activities such as fishing. In the United States, the EEZ is split into state waters (typically from the shoreline out to 3 nautical miles) and federal waters (typically from 3 to 200 nautical miles).

Exploitation Rate: **Amount of fish harvested from a stock relative to the size of the stock, often expressed as a percentage.**

F: **Fishing mortality.**

Fecundity: A measurement of the egg-producing ability of fish at certain sizes and ages.

Fishery Dependent Data: Fishery data collected and reported by fishermen and dealers.

Fishery Independent Data: Fishery data collected and reported by scientists who catch the fish themselves.

Fishery Management Plan: **Management plan for fisheries operating in federal waters. Produced by regional fishery management councils and submitted to the Secretary of Commerce for approval.**

Fishing Effort: **Usually refers to the amount of fishing. May refer to the number of fishing vessels, amount of fishing gear (nets, traps, hooks), or total amount of time vessels and gear are actively engaged in fishing.**

Fishing Mortality: A measurement of the rate at which fish are removed from a population by fishing. Fishing mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Fishing Power: Measure of the relative ability of a fishing vessel, its gear, and its crew to catch fishes, in reference to some standard vessel, given both vessels are under identical conditions.

$F_{30\%SPR}$: Fishing mortality that will produce a static SPR = 30%.

$F_{45\%SPR}$: Fishing mortality that will produce a static SPR = 45%.

F_{OY}: Fishing mortality that will produce OY under equilibrium conditions and a corresponding biomass of B_{OY}. Usually expressed as the yield at 85% of F_{MSY}, yield at 75% of F_{MSY}, or yield at 65% of F_{MSY}.

F_{MSY}: Fishing mortality that if applied constantly, would achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}

Fork Length (FL): The length of a fish as measured from the tip of its snout to the fork in its tail.

Gear restrictions: **Limits placed on the type, amount, number, or techniques allowed for a given type of fishing gear.**

Growth Overfishing: When fishing pressure on small fish prevents the fishery from producing the maximum poundage. Condition in which the total weight of the harvest from a fishery is improved when fishing effort is reduced, due to an increase in the average weight of fishes.

Gulf of Mexico Fishery Management Council (GFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The GFMC develops fishery management plans for fisheries off the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.

Head Boat: A fishing boat that charges individual fees per recreational angler onboard.

Highgrading: Form of selective sorting of fishes in which higher value, more marketable fishes are retained, and less marketable fishes, which could legally be retained are discarded.

Individual Fishing Quota (IFQ): Fishery management tool that allocates a certain portion of the TAC to individual vessels, fishermen, or other eligible recipients.

Longline: Fishing method using a horizontal mainline to which weights and baited hooks are attached at regular intervals. Gear is either fished on the bottom or in the water column.

Magnuson-Stevens Fishery Conservation and Management Act: Federal legislation responsible for establishing the fishery management councils and the mandatory and discretionary guidelines for federal fishery management plans.

Marine Recreational Fisheries Statistics Survey (MRFSS): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data.

Marine Recreational Information Program (MRIP): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data.

Maximum Fishing Mortality Threshold (MFMT): The rate of fishing mortality above which a stock's capacity to produce MSY would be jeopardized.

Maximum Sustainable Yield (MSY): The largest long-term average catch that can be taken continuously (sustained) from a stock or stock complex under average environmental conditions.

Minimum Stock Size Threshold (MSST): The biomass level below which a stock would be considered overfished.

Modified F Rebuilding Strategy: A rebuilding strategy where fishing mortality is changed as stock biomass increases during the rebuilding period.

Multispecies fishery: Fishery in which more than one species is caught at the same time and location with a particular gear type.

National Marine Fisheries Service (NMFS): Federal agency within NOAA responsible for overseeing fisheries science and regulation.

National Oceanic and Atmospheric Administration: Agency within the Department of Commerce responsible for ocean and coastal management.

Natural Mortality (M): A measurement of the rate at which fish are removed from a population by natural causes. Natural mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Optimum Yield (OY): The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Overfished: A stock or stock complex is considered overfished when stock biomass falls below the minimum stock size threshold (MSST) (e.g., current biomass < MSST = overfished).

Overfishing: Overfishing occurs when a stock or stock complex is subjected to a rate of fishing mortality that exceeds the maximum fishing mortality threshold (e.g., current fishing mortality rate > MFMT = overfishing).

Quota: Percent or annual amount of fish that can be harvested.

Recruitment (R): Number or percentage of fish that survives from hatching to a specific size or age.

Recruitment Overfishing: The rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. This is characterized by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch, and generally very low recruitment year after year.

Scientific and Statistical Committee (SSC): Fishery management advisory body composed of federal, state, and academic scientists, which provides scientific advice to a fishery management council.

Selectivity: The ability of a type of gear to catch a certain size or species of fish.

South Atlantic Fisheries Management Council (SAFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

Spawning Potential Ratio (Transitional SPR): Formerly used in overfished definition. The number of eggs that could be produced by an average recruit in a fished stock divided by the number of eggs that could be produced by an average recruit in an unfished stock. SPR can also be expressed as the spawning stock biomass per recruit (SSBR) of a fished stock divided by the SSBR of the stock before it was fished.

% Spawning Per Recruit (Static SPR): Formerly used in overfishing determination. The maximum spawning per recruit produced in a fished stock divided by the maximum spawning per recruit, which occurs under the conditions of no fishing. Commonly abbreviated as %SPR.

Spawning Stock Biomass (SSB): The total weight of those fish in a stock which are old enough to spawn.

Spawning Stock Biomass Per Recruit (SSBR): The spawning stock biomass divided by the number of recruits to the stock or how much spawning biomass an average recruit would be expected to produce.

Total Allowable Catch (TAC): The total amount of fish to be taken annually from a stock or stock complex. This may be a portion of the Allowable Biological Catch (ABC) that takes into consideration factors such as bycatch.

Total Length (TL): The length of a fish as measured from the tip of the snout to the tip of the tail.

Appendix C. Other Applicable Law

Appendix D. History of Management

History of Management of the Atlantic Dolphin and Wahoo Fisheries

The dolphin and wahoo fisheries are highly regulated and have been regulated since 2004. The following table summarizes actions in each of the amendments to the original FMP.

Time period/dates	Cause	Observed and/or Expected Effects
Effective June 28, 2004	Fishery Management Plan for the Dolphin Wahoo Fishery off the Atlantic states (Dolphin Wahoo FMP).	1) A 20-inch fork length minimum size limit for dolphin off the coasts of Georgia and Florida with no size restrictions elsewhere; (2) prohibition of longline fishing for dolphin and wahoo in areas closed to the use of such gear for highly migratory pelagic species; and (3) allowable gear to be used in the fishery (hook-and-line gear including manual, electric, and hydraulic rods and reels; bandit gear; handlines; longlines; and spearfishing (including powerheads) gear. In addition, other approved portions of the FMP were also effective on this date, including (1) the management unit and designations of stock status criteria for the unit; (2) a fishing year of January 1 through December 31; (3) a 1.5 million pound (or 13% of the total harvest) cap on commercial landings; (4) establishment of a framework procedure by which the SAFMC may modify its management measures; and (5) designations of Essential Fish Habitat (EFH) and EFH-Habitat Areas of Particular Concern (HAPC).
Effective September 24, 2004	Dolphin Wahoo FMP	1) owners of commercial vessels and/or charter vessels/headboats must have vessel permits and, if selected, submit reports; (2) dealers must have permits and, if selected, submit reports; (3) longline vessels must comply with sea turtle protection measures; (4) a recreational bag limit of 10 dolphin and 2 wahoo per person per day, with a limit of 60 dolphin per boat per day (headboats are excluded from the boat limit); (5) prohibition on recreational sale of dolphin and wahoo caught under a bag limit unless the seller holds the necessary commercial permits; and (6) a commercial trip limit of 500 pounds for wahoo.
Effective November 23,	Dolphin Wahoo FMP	Operators of commercial vessels,

Time period/dates	Cause	Observed and/or Expected Effects
2004		charter vessels and headboats that are required to have a federal vessel permit for dolphin and wahoo must display operator permits.
Effective Date July 22, 2010	Amendment 1 to the Dolphin Wahoo FMP (Comprehensive Ecosystem Based Amendment (CE-BA) 1)	Updated spatial information of Council-designated EFH and EFH-HAPCS.
Effective Date April 16, 2012	Amendment 2 to the Dolphin Wahoo FMP (Comprehensive ACL Amendment SAFMC 2011C)	Set ABC, ACL, ACT and AMs
Target 2014	Amendment 5 to the Dolphin Wahoo FMP	Revisions to acceptable biological catch estimates (ABCs), annual catch limits (ACLs) (including sector ACLs), recreational annual catch targets (ACTs), and accountability measures (AMs) implemented through the Comprehensive ACL Amendment; modifications to the sector allocations for dolphin; and revisions to the framework procedure in the Dolphin Wahoo FMP.

Appendix E. Bycatch Practicability Analysis

Appendix F. Regulatory Impact Review

Appendix G. Regulatory Flexibility Act Analysis

Appendix H. *Fishery Impact Statement*

Appendix I. Essential Fish Habitat and Move to Ecosystem Based Management