



Shrimp FMP Amendment 2 Management in Special Secondary Nursery Areas

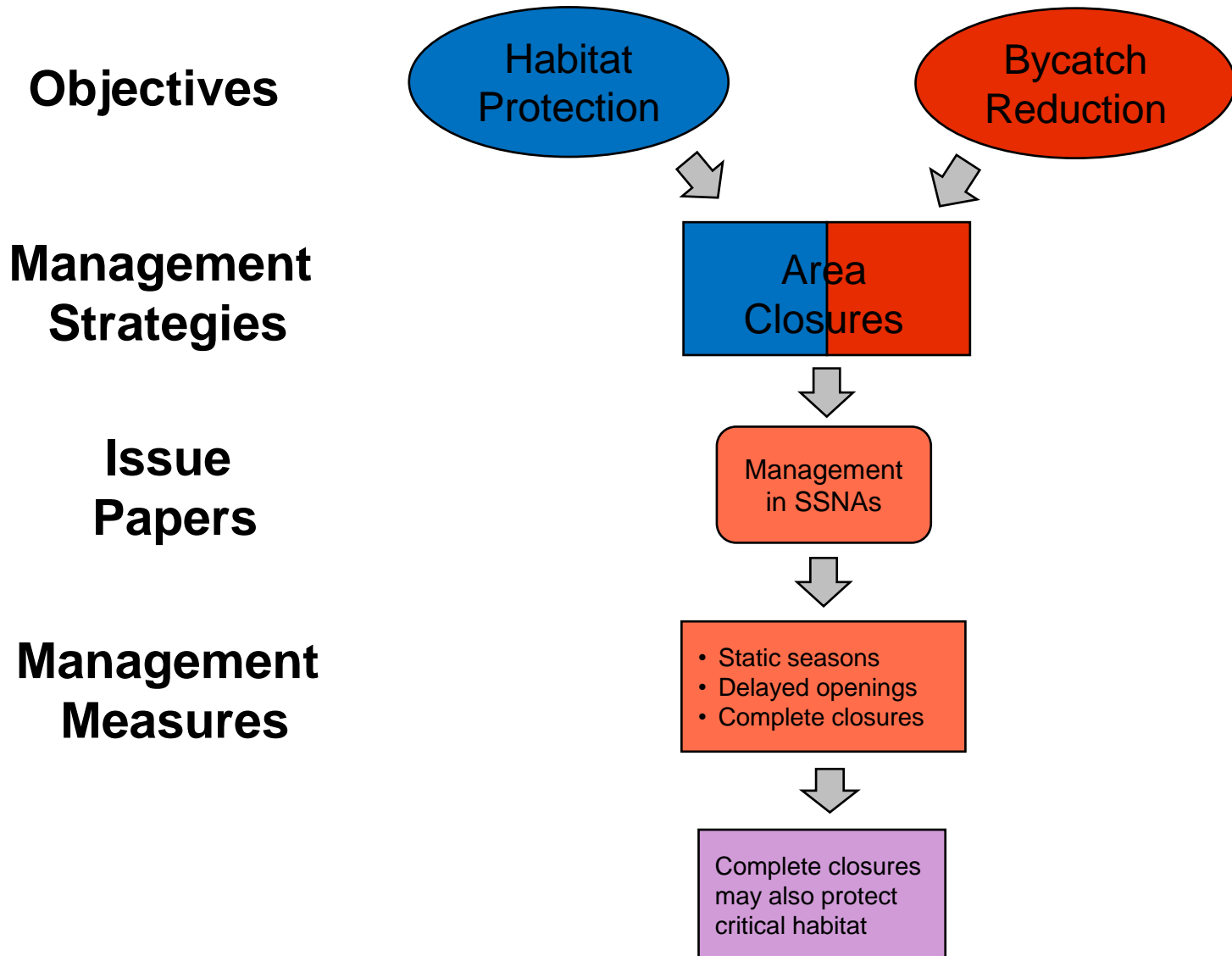
DEPARTMENT OF ENVIRONMENTAL QUALITY

Marine Fisheries

Shrimp Advisory Committee | Chris Stewart | March 9, 2021



Special Secondary Nursery Area Management Measures



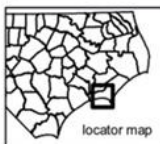
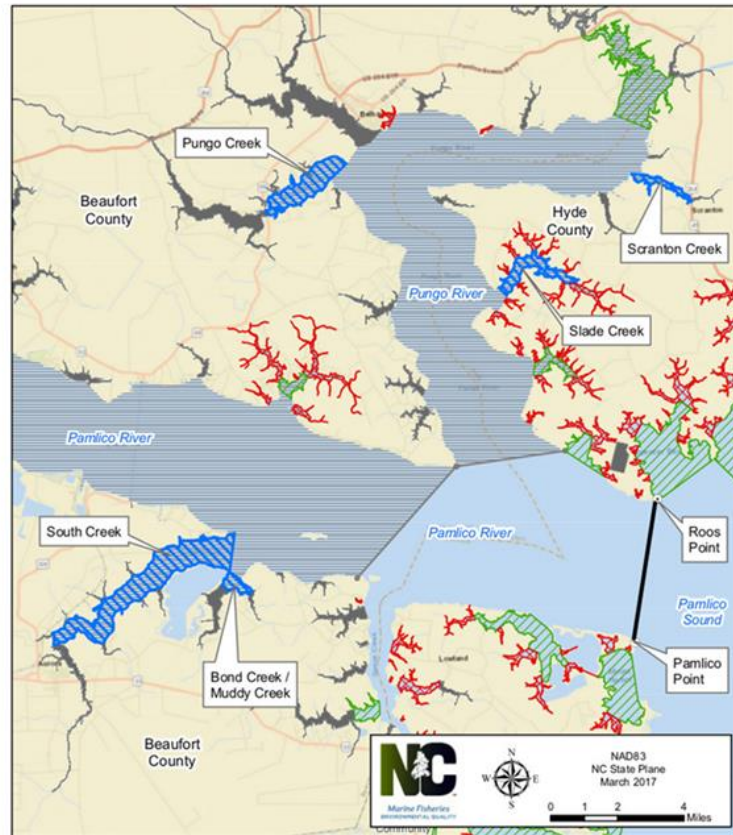
Nursery Area Designations

- Primary Nursery Areas (PNA)
- Secondary Nursery Areas (SNA)
- Special Secondary Nursery Areas (SSNA)

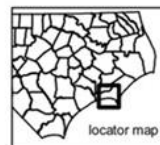
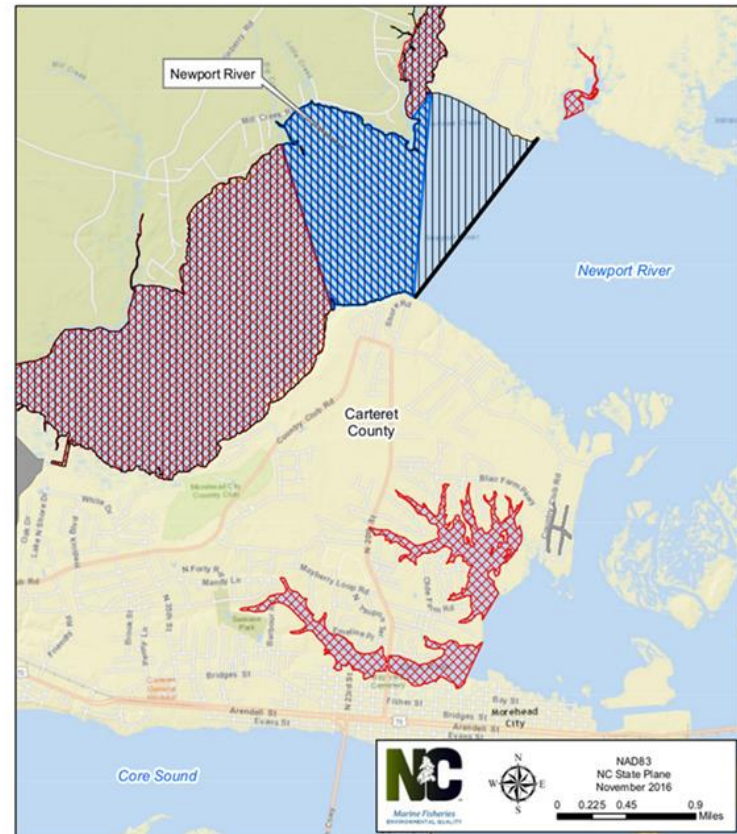
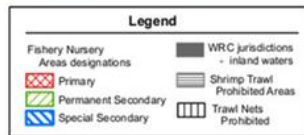


Shrimp Fishery Management Plan Amendment 1

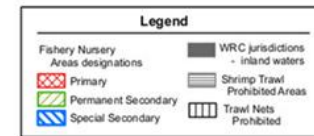
SSNAs re-designated permanent SNAs:



Hyde, Beaufort, and Pamlico Counties

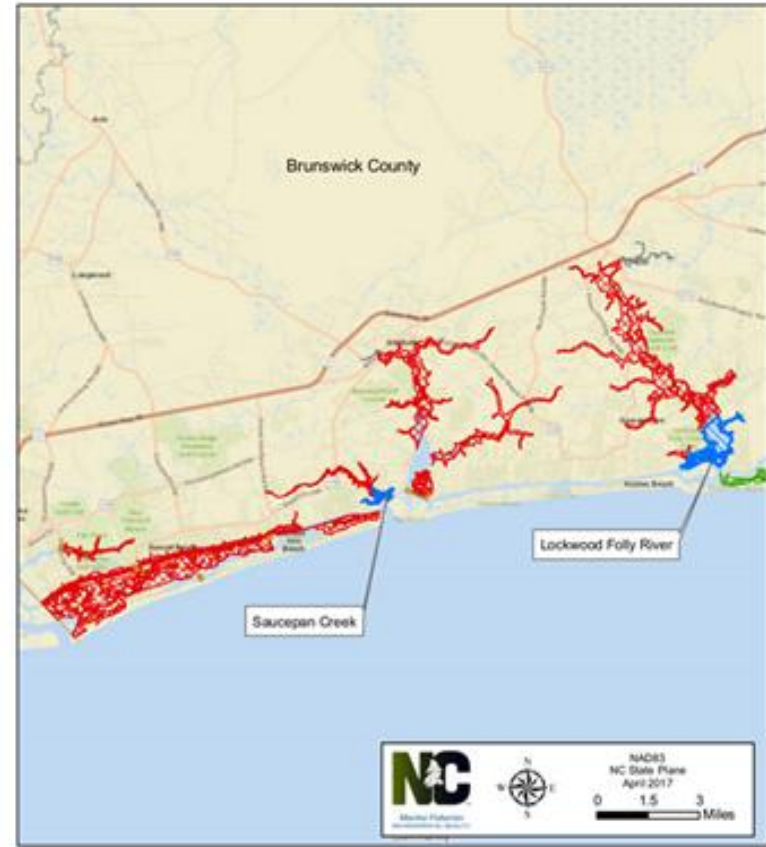


Carteret County



Shrimp Fishery Management Plan Amendment 1

SSNAs re-designated permanent SNAs:



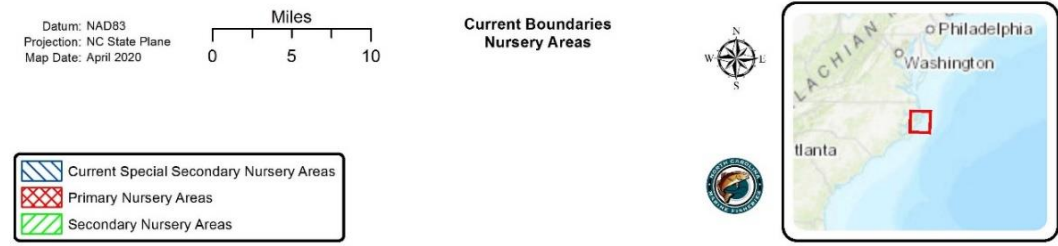
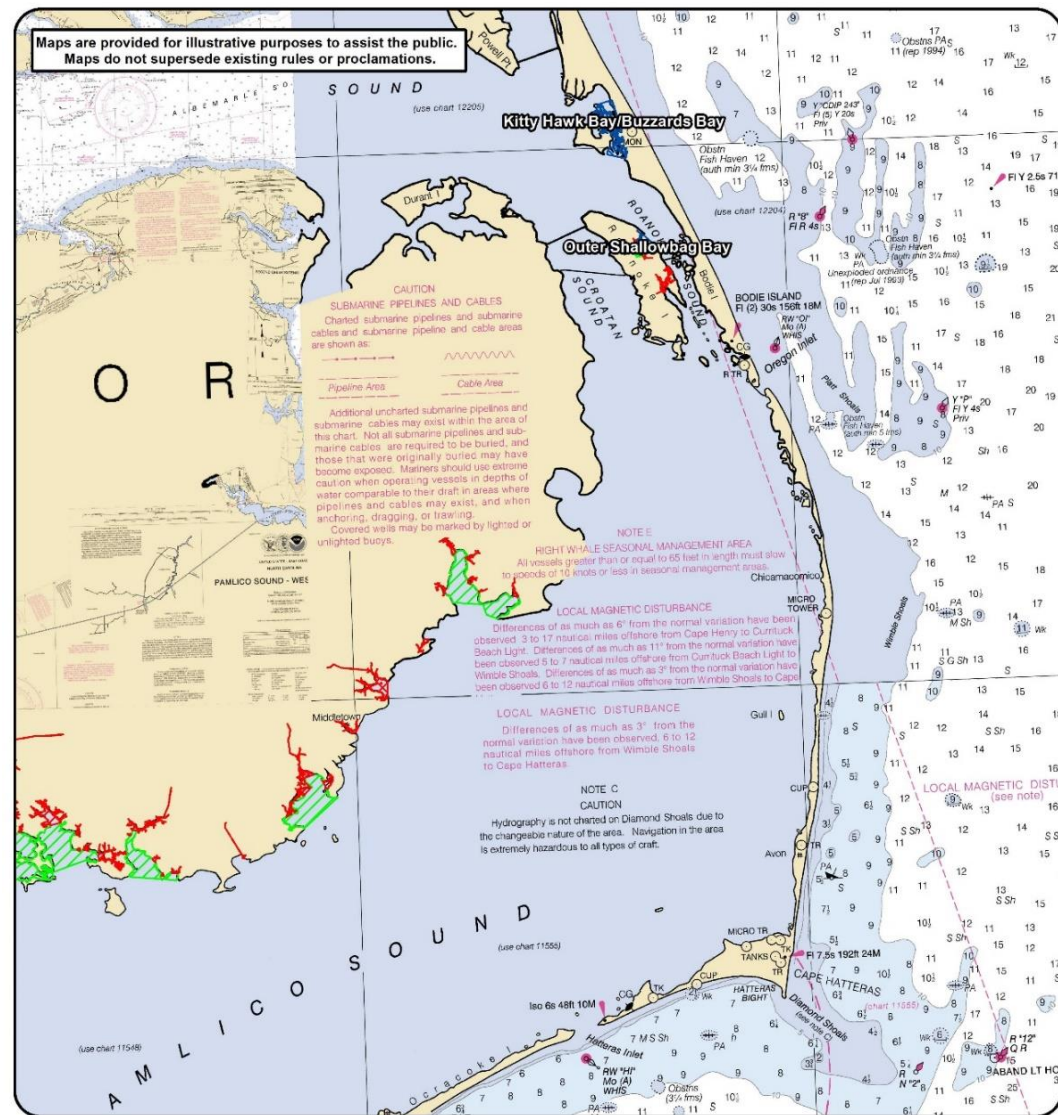
Brunswick County
and
New Hanover County



Brunswick County



Roanoke Sound (Amendment 2)

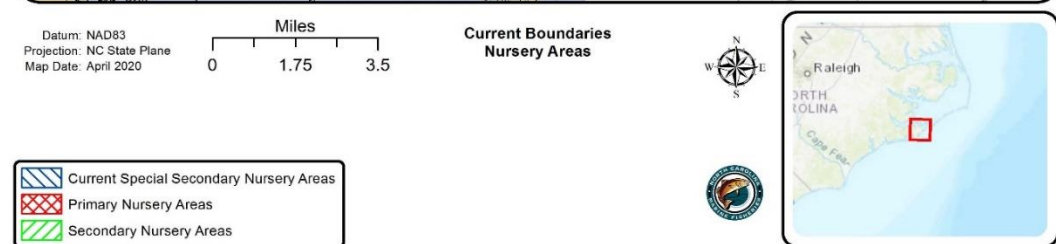
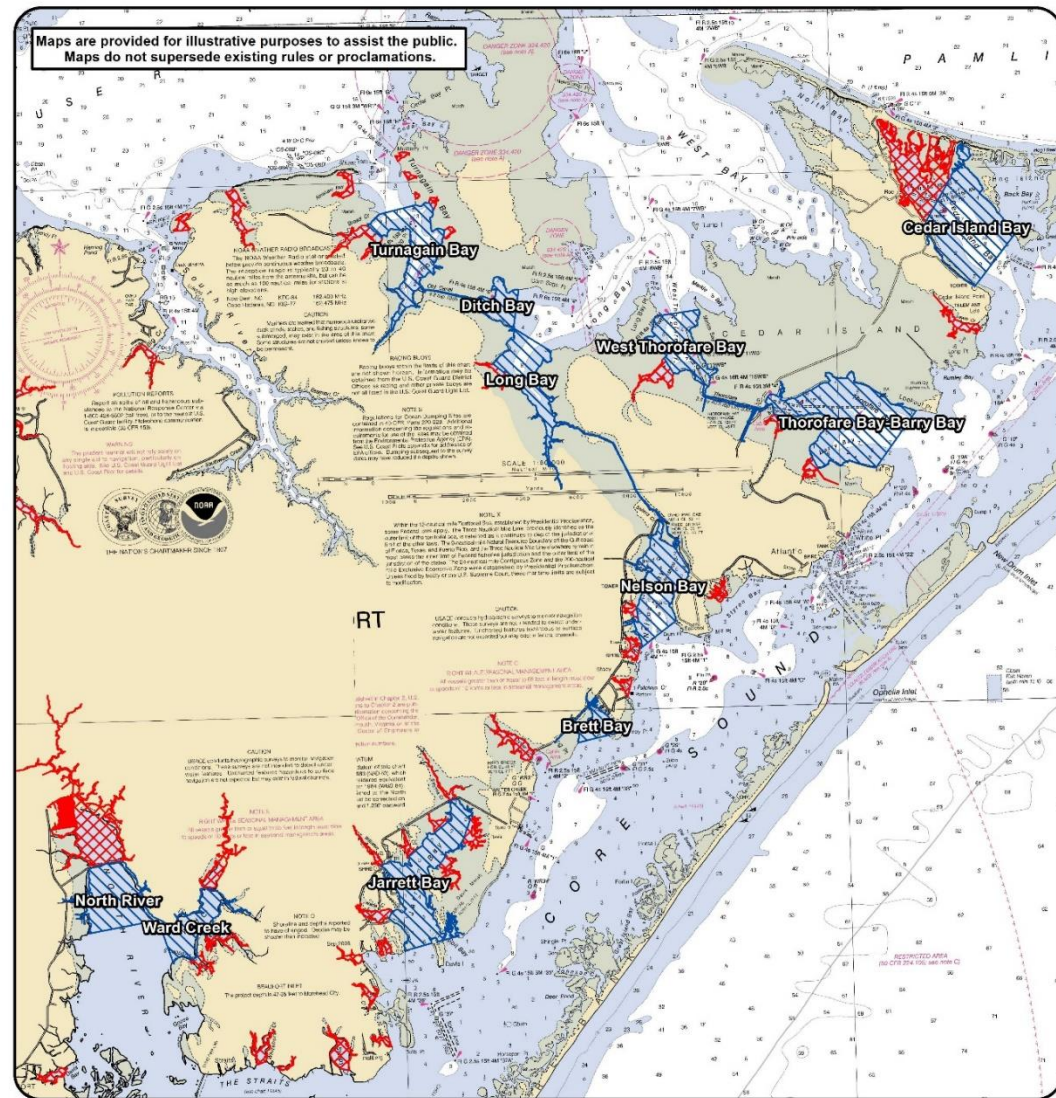


Description	Year Designated (reclassified)	Latest Year Opened
Shallowbag Bay	2004	2017
Kitty Hawk Bay- Buzzard Bay*	2004	-

*Not opened after SSNA designation

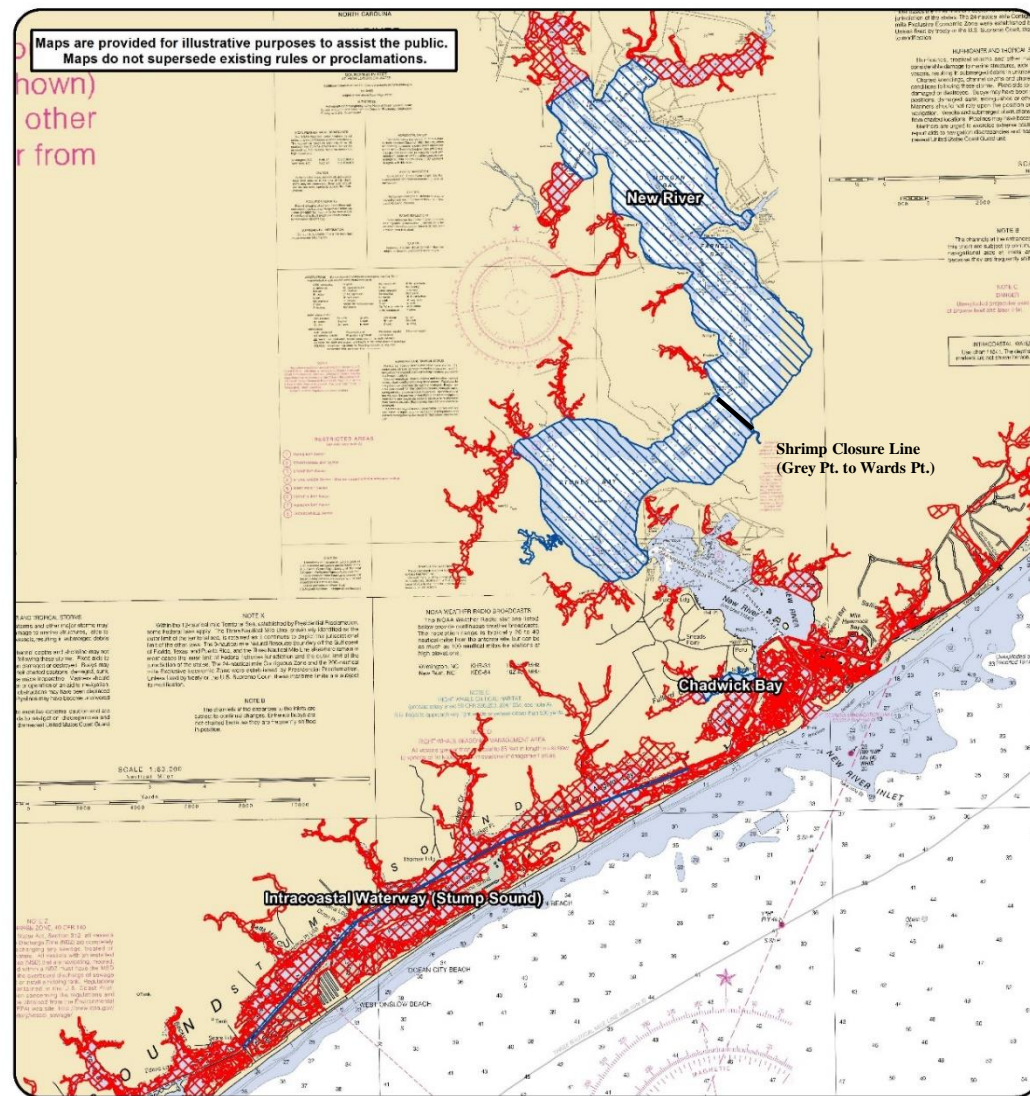
Core Sound and North River River (Amendment 2)

Description	Year Designated (reclassified)	Latest Year Opened
West Thorofare Bay	1986	2018
Long Bay-Ditch Bay	1986	2018
Turnagain Bay	1995	2018
Cedar Island Bay	1986	2018
Thorofare Bay-Barry Bay	1986	2018
Nelson Bay	1986	2018
Brett Bay	1986	2018
Jarrett Bay	1986	2018
North River	1986	2000
Ward Creek	1986	2000

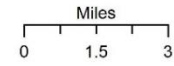


New River and Stump Sound (Amendment 2)

Description	Year Designated (reclassified)	Latest Year Opened
New River (above HWY 172 Bridge)	1995	2019
Chadwick Bay	2011	2012
IWW (Stump Sd.)	1995	2019



Datum: NAD83
 Projection: NC State Plane
 Map Date: April 2020

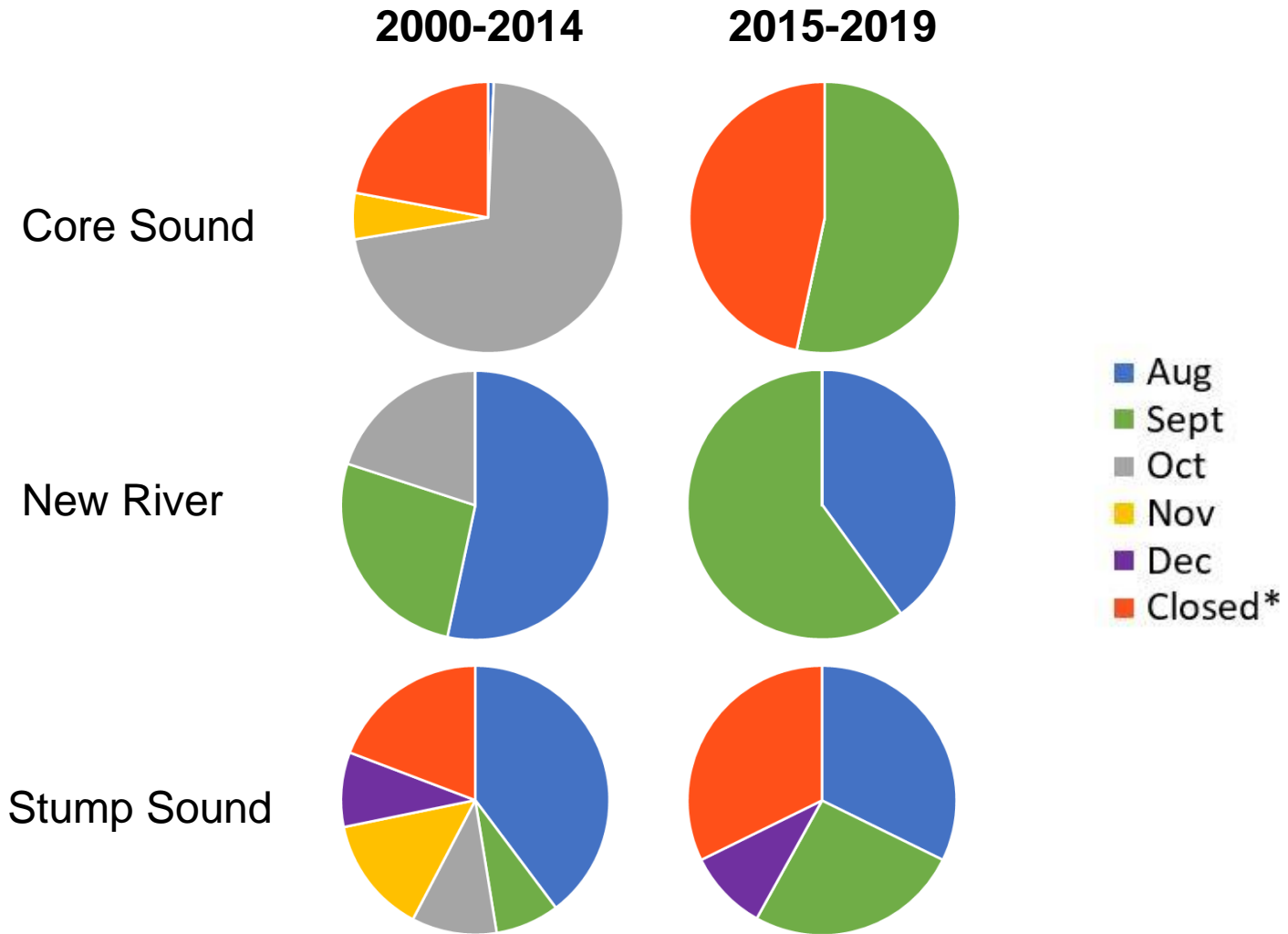


Current Boundaries
 Nursery Areas

- Current Special Secondary Nursery Areas
- Primary Nursery Areas
- Secondary Nursery Areas



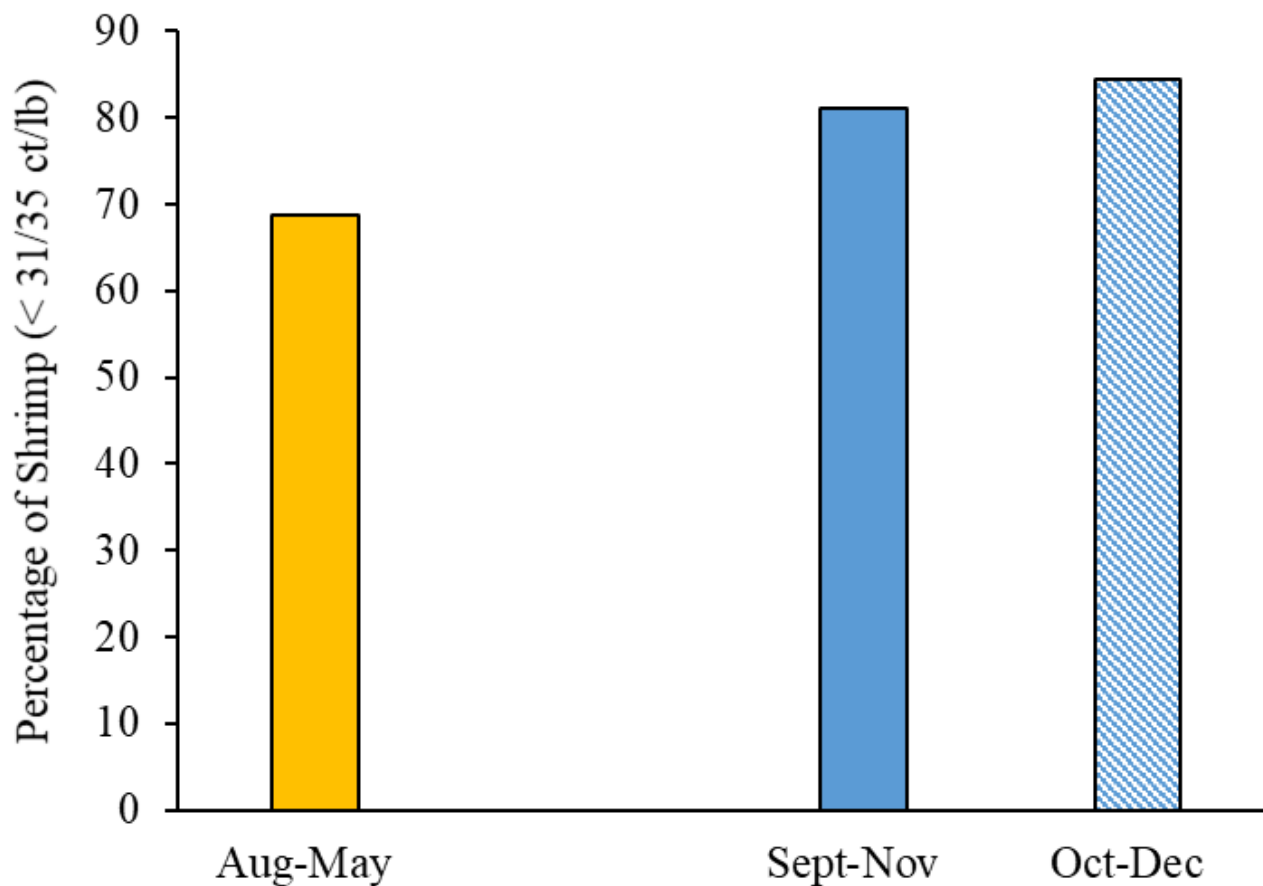
Special Secondary Openings



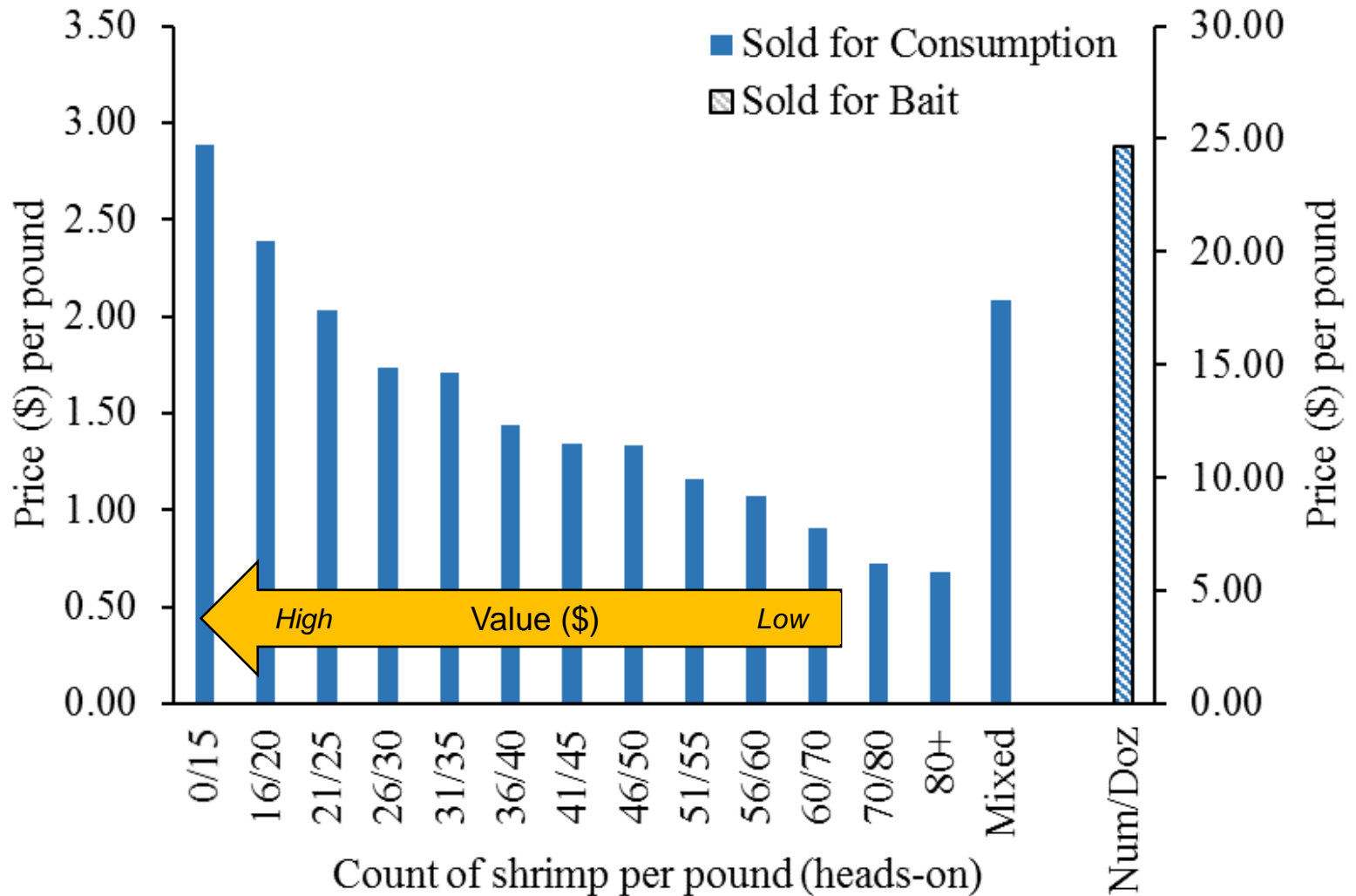
**Closures in Stump Sound may be partial closures*



Static Season with Delayed Openings



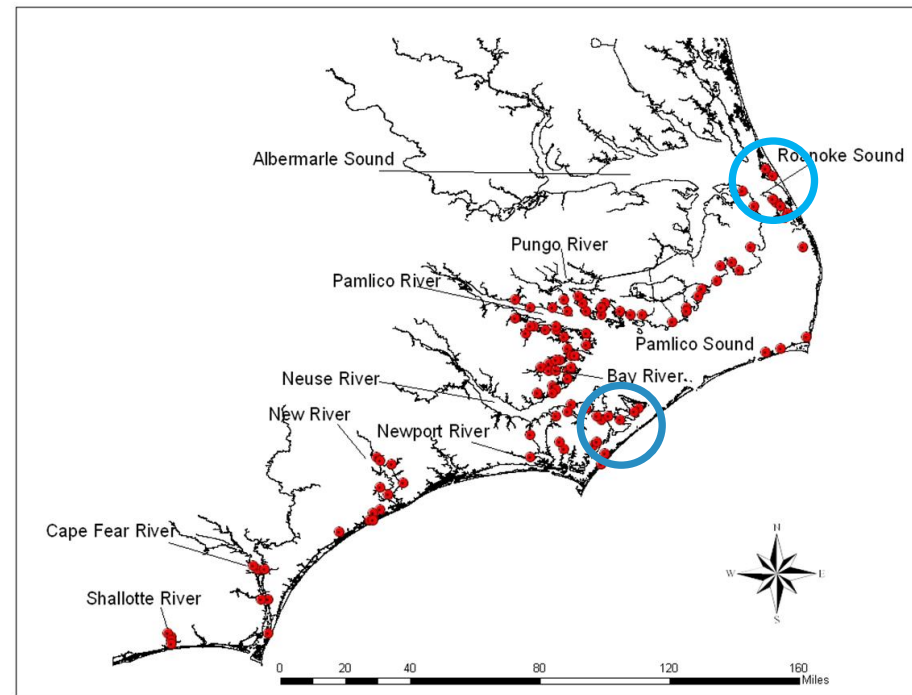
Value of Shrimp by Count Size



Nursery Comparisons

Data Source

- Estuarine Trawl Survey
- Core Sound: 1978-1981,
Roanoke Sound: 2006-2019
- May - November
- Fixed station

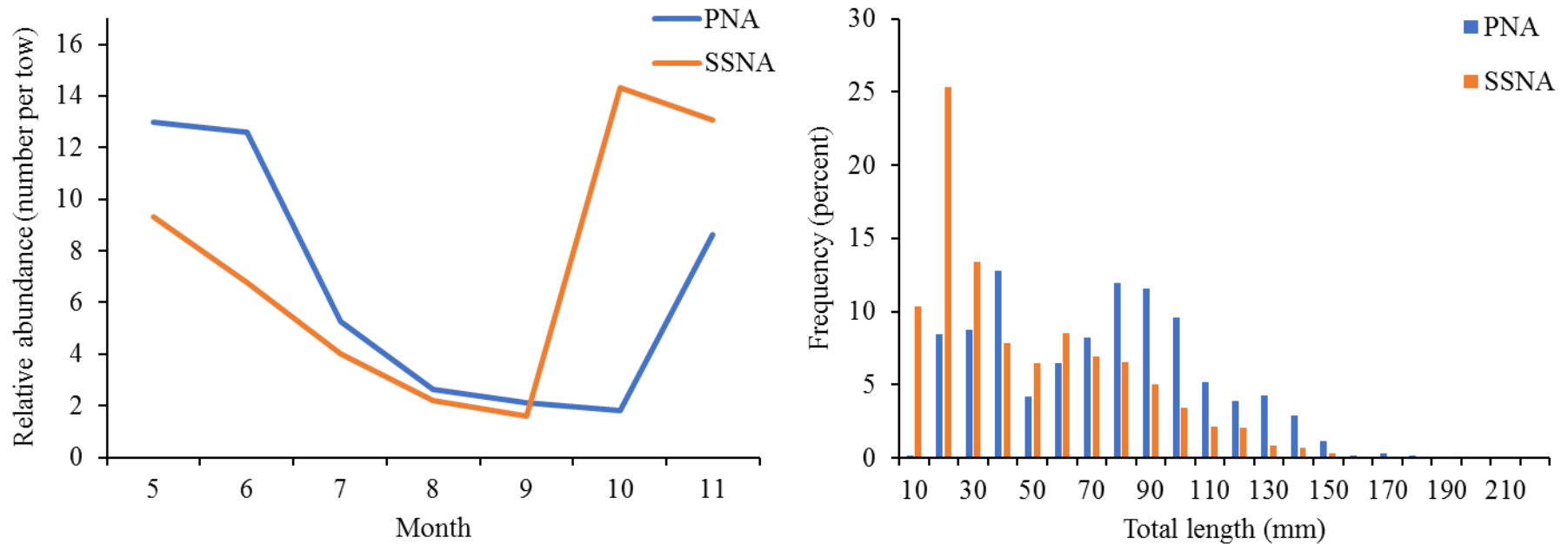


Community Analysis Example

Species	Habitat A	Habitat B
Weakfish	100	10
Atlantic croaker	90	40
Spot	110	250
Total individuals (abundance)	300	300
Total # species (species richness)	3	3



Nursery Comparisons



Atlantic Croaker (*Micropogonias undulatus*)



Nursery Comparisons

Summary

- Relative abundance of Atlantic croaker, southern flounder, summer flounder, and weakfish was not significantly different between SSNAs and PNAs
- Length frequency distribution was similar for target species in both nursery types
- Species richness, diversity, and evenness higher in SSNAs
- SSNAs and PNAs are ecologically similar
- Both nursery types function as essential habitat for developing sub-adult finfish and invertebrates



Crab and Peeler Trawl Participants: 2009-2019

Year	ASMA		Pamlico Sound Region		Core/Bogue Sound to New River		New River to SC state line	
	Participants	Trips	Participants	Trips	Participants	Trips	Participants	Trips
2009	4	17	57	430	3	37	0	0
2010	3	11	29	143	25	150	0	0
2011	2	3	20	123	20	143	0	0
2012	3	3	9	17	5	25	0	0
2013	1	2	12	42	9	70	0	0
2014	0	0	23	58	17	165	0	0
2015	1	1	28	109	25	380	0	0
2016	2	2	20	84	23	391	0	0
2017	0	0	19	71	21	297	0	0
2018	1	1	8	10	20	168	0	0
2019	6	27	17	74	19	222	0	0
Average	2	6	22	106	17	186	0	0

Gill Net Attendance (<5 inch stretched mesh)

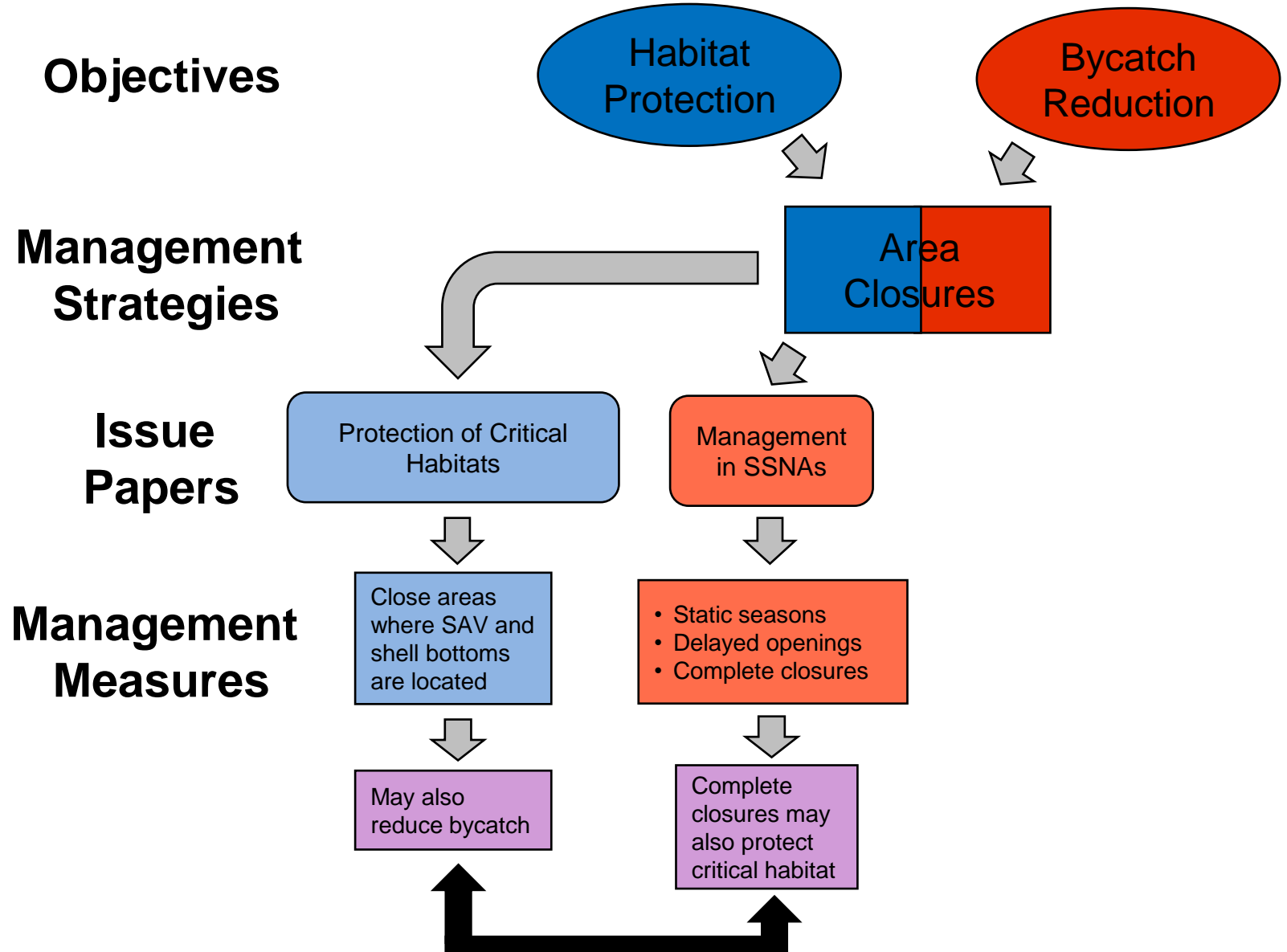
Management Option	Management Requirements	Number of Waterbodies
Status quo	Attendance not required	2
	Attendance within 50 yards of shore from May 1 - November 30	2
	Attendance within 50 yards of shore from May 1 - September 30	10
	Attendance within 200 yards from shore in all waters year round	1
Static season	No change to attendance requirements	15
Change SSNA to SNA	<u>Gill net attendance period in all waters from May 1 - November 30</u>	2
	Extends gill net attendance period in <u>all waters</u> from May 1 - November 30	12
	No Change to Turnagain Bay	1

Discussion Points

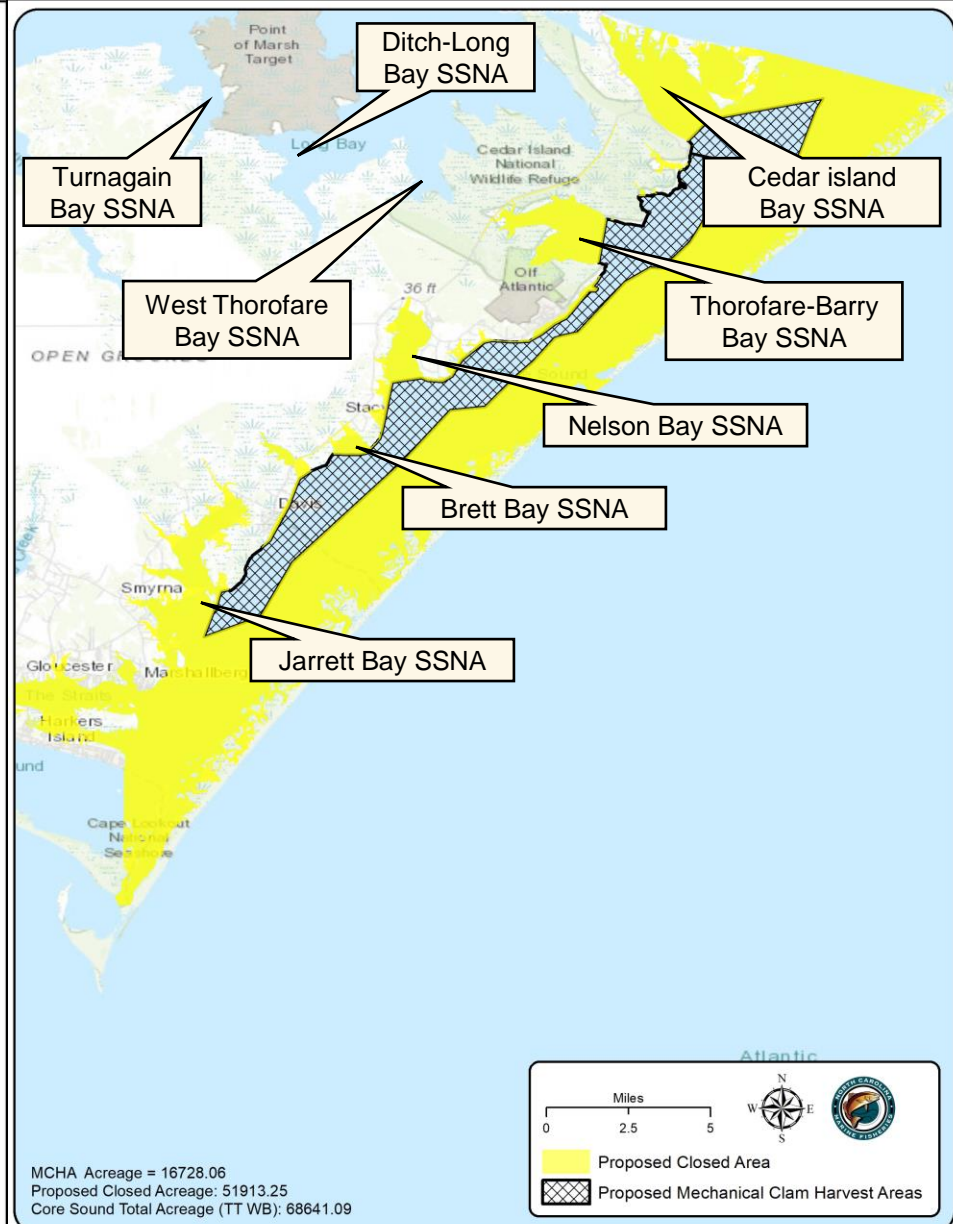
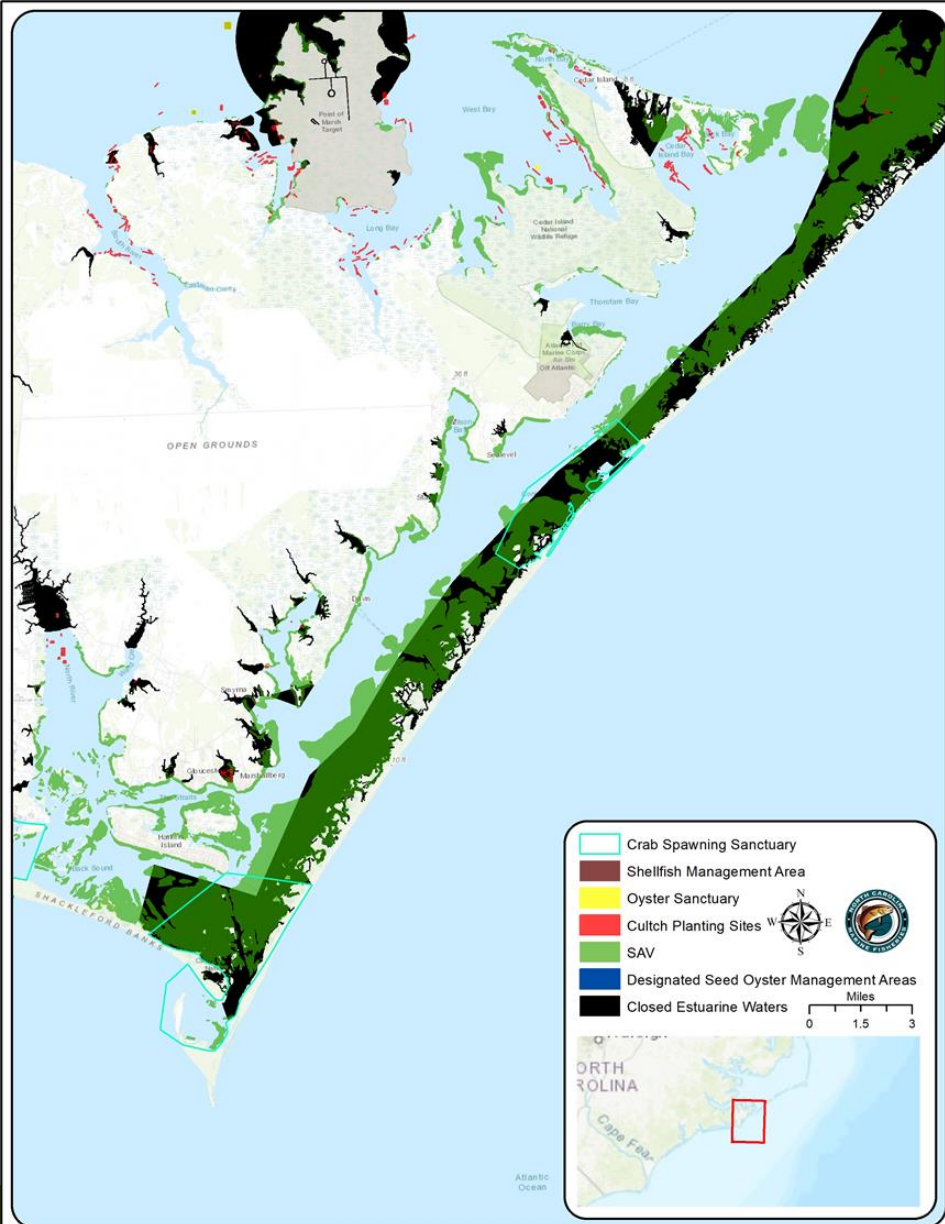
Points to consider when discussing the questions below:

- The focus of this issue paper is in the remaining 15 SSNAs.
- The goal is to reduce bycatch and provide protections on critical habitats in SSNAs.
- Management options in the *Management of Shrimp Trawling for Protection of Critical Seagrass and Shell Bottom Habitats and Reducing Shrimp Trawl Bycatch Through Area Closures that Increase Connectivity Between Closed Areas* issue papers may also provide additional protections on sub-adult finfish and invertebrates and should be considered in conjunction with this issue paper.
- The amount of bycatch reduction and benefits to habitat are non-quantifiable.
- Impacts to stakeholders if additional measures are implemented.

How Issues are Inter-related

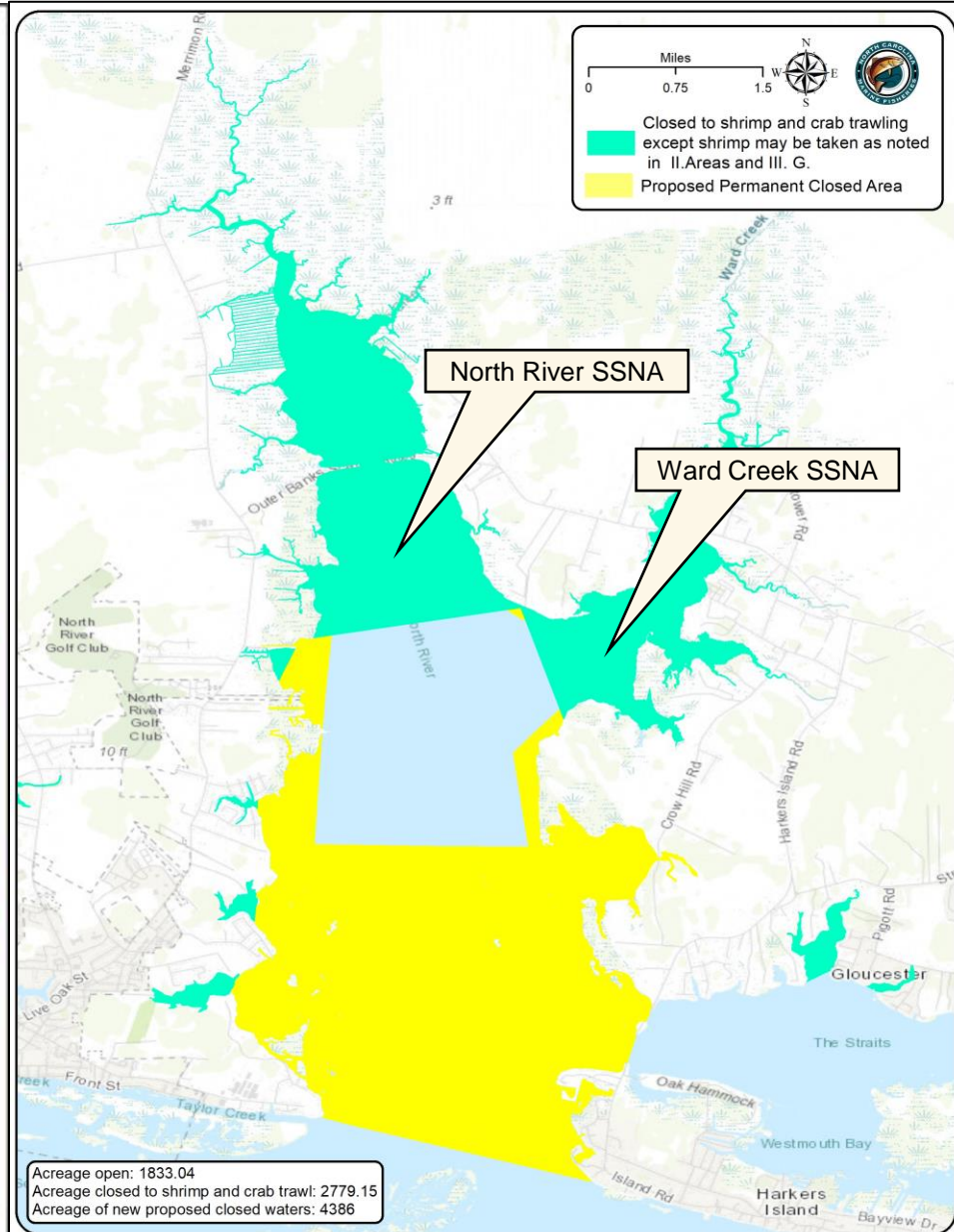
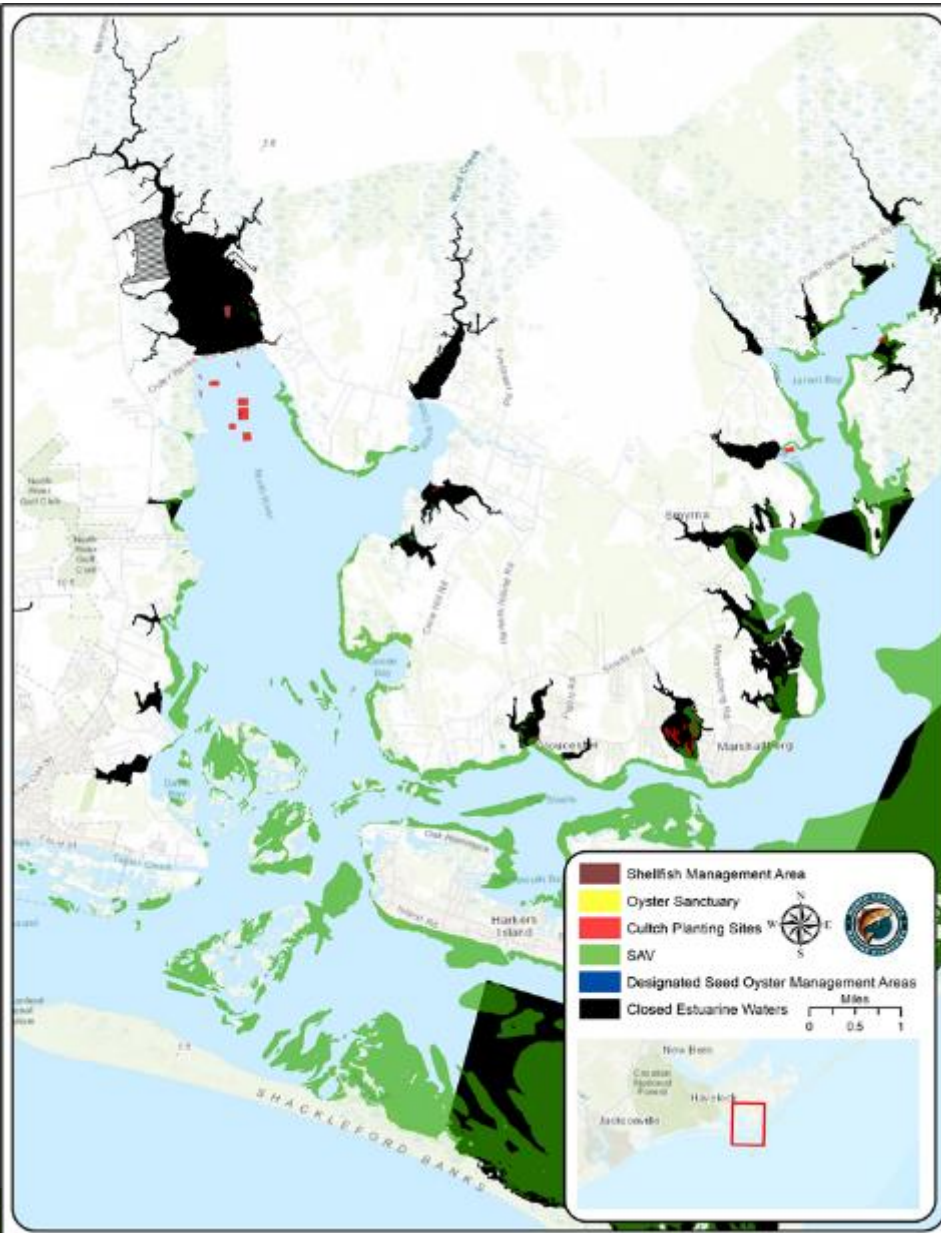


Core Sound



MCHA Acreage = 16728.06
 Proposed Closed Acreage: 51913.25
 Core Sound Total Acreage (TT WB): 68641.09

North River



Acreage open: 1833.04
 Acreage closed to shrimp and crab trawl: 2779.15
 Acreage of new proposed closed waters: 4386

Discussion Points

Establishing static seasons with delayed openings could reduce bycatch and allow access to larger more marketable shrimp later in the season.

- If static seasons are implemented, should different seasons be established to account for regional differences in the timing of shrimp migration?

Discussion Points

Changing the designation of all SSNAs to permanent SNAs would prohibit all trawling in these areas and eliminate bycatch in essential habitats used by many developing finfish and invertebrates.

- How would changes in SSNA management affect the shrimp trawl industry?
- How would changes in SSNA management affect the crab trawl industry?

Discussion Points

Changing the designation of all SSNAs to permanent SNAs would also require gill net attendance in all waters of permanent SNAs from May 1 through November 30 and would further reduce finfish bycatch.

- How would changes to the current gill net attendance requirements affect gill net fisheries in these areas?

Questions?

