



## **NORTH CAROLINA** Department of Transportation



# Ferry Division NCDOT Division Overview

Jed Dixon – Deputy Director

August 31, 2020

# Ferry Division Mission



*Connecting people, products and places safely and efficiently with customer focus, accountability and environmental sensitivity to enhance the economy and vitality of North Carolina.*

# Ferry System is an Economic Engine

*Annually North Carolina's Ferry System supports:*



**5,860 Jobs**  
(Direct, indirect, and induced)



**\$32.5 million**  
in Local & State Tax Dollars



**\$217.3 million**  
in N.C. Employee Earnings



**\$40.3 million**  
in Ferry Passenger Benefits:

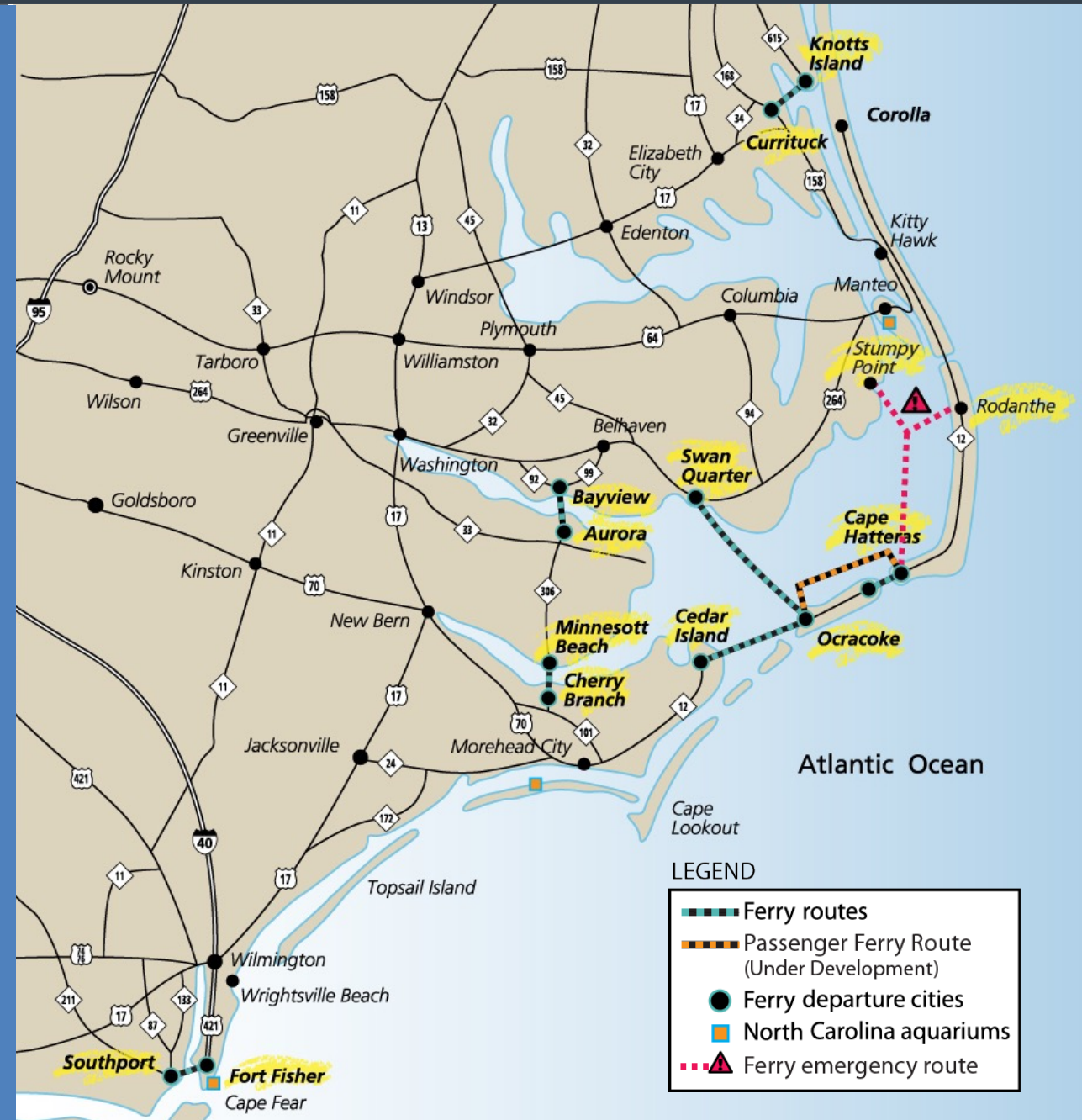
- \$18.1 million in vehicle cost savings
- \$13.9 million in travel time savings
- \$8.3 million in safety benefits



**\$735.2 million**  
in Statewide Economic Output



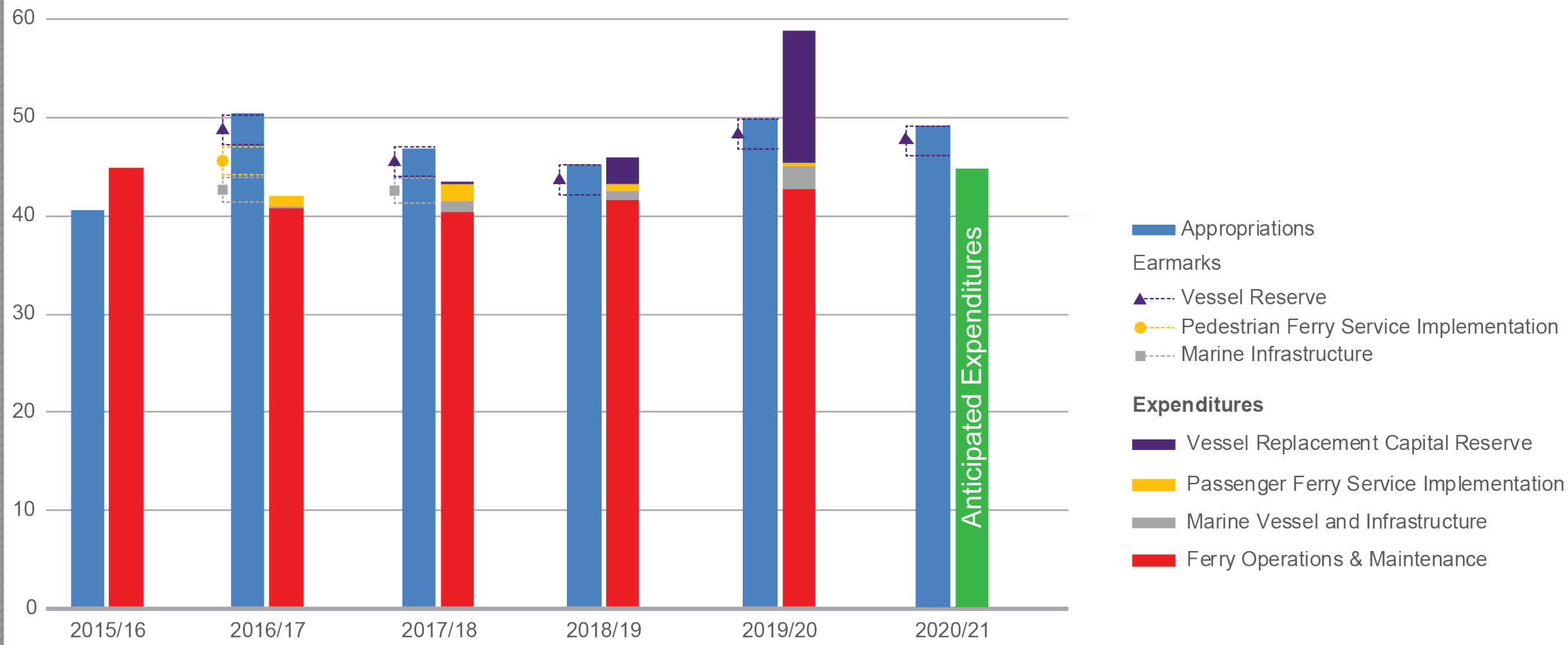
- 2<sup>nd</sup> Largest State-Operated Ferry System in the U.S.
- FY20 Ridership
  - Passengers 1,065,136
  - Vehicles 507,071
- 7 Scheduled Routes
- 1 Emergency Route
- 21 Ferries
- Support Fleet (4 tugs, 3 barges, 1 crane barge, 1 dredge)
- 13 terminals
- State-owned Shipyard
- 3 Field Maintenance Shops





# Annual Appropriations vs. Actual Expenses

Each overdraft must be addressed with the following year's appropriation.



# Federal vs. State Channel Designation

- Dredging waterways and channels used by the NC Ferry System is necessary to ensure safe passage of the vessels, reduce the risk of damage from vessels running aground, provide emergency services to locations such as Ocracoke Island
- State Designated Channels
  - 13 state designated ferry channels and basins maintained by the Ferry Division's Dredge Manteo
  - Dredge season is 4.5 – 5 months long
- Federally Designated Channels
  - Responsible for shallow draft projects
  - Depths of less than 20'
  - Includes 10 inlets and 14 inland waterways.
  - Ferry routes that are federally designated
    - Hatteras Inlet/Rollinson Channel
    - Silver Lake/ Big Foot Slough
    - Stumpy Point Bay



# State Dredging Project Planning & Tracking

- Regular bathymetric surveys are performed in both state and federal channels to monitor channel conditions
- Ferry Division plans dredge activities based on need, budget allocated each year, and use the newly updated 20-year dredge plan
- Dredge Plan tracks completed projects and projects future costs for channel maintenance and storm related dredging activities

Location	FY15	FY16	FY17	FY18	FY19	FY20	Completed	FY21
Knotts Island / Currituck							\$0	\$530,450
Stumpy Point							\$0	\$371,315
Stumpy Point		\$221,122					\$221,122	
Stumpy Point				\$209,801			\$209,801	
Manns Harbor							\$0	
South Dock							\$0	\$424,360
South Dock	\$185,060						\$185,060	
South Dock		\$66,001					\$66,001	
South Dock			\$128,476				\$128,476	
South Dock			\$26,152				\$26,152	
South Dock				\$138,718			\$138,718	
South Dock				\$66,101			\$66,101	
South Dock							\$0	\$424,360
South Dock			\$93,881				\$93,881	
South Dock					\$476,196		\$476,196	
South Dock						\$400,000	\$400,000	
Swan Quarter							\$0	
Pamlico River							\$0	
Cedar Island							\$0	
Cedar Island						\$206,890	\$206,890	
Cherry Branch							\$0	
Southport							\$0	
Southport		\$232,607					\$232,607	
Southport			\$220,264				\$220,264	
Southport						\$70,006	\$70,006	
Fort Fisher							\$0	
Fort Fisher				\$17,838			\$17,838	
Fort Fisher					\$241,039		\$241,039	
Hatteras Inlet Channel		\$287,178					\$287,178	
Hatteras Inlet Channel			\$123,017				\$123,017	

## LEGEND

Planned but delayed

Planned

Completed

High Priority

Lower Priority - Flexible Schedule

FEMA

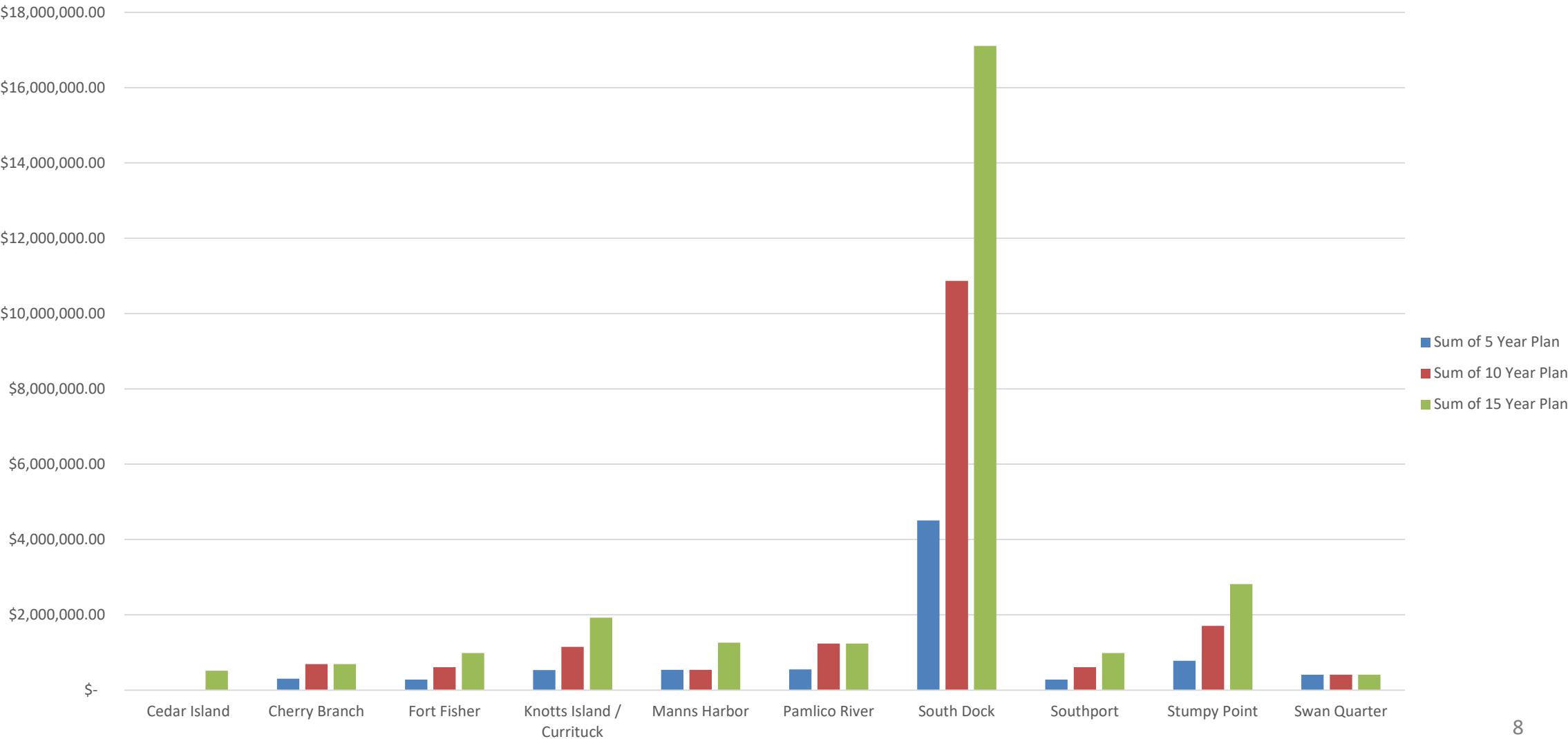
Outside Funding Job

Planning Line

Blank Location Cells are projects

# Dredge Plan

## 5, 10, and 15 Year Estimated Costs by Location

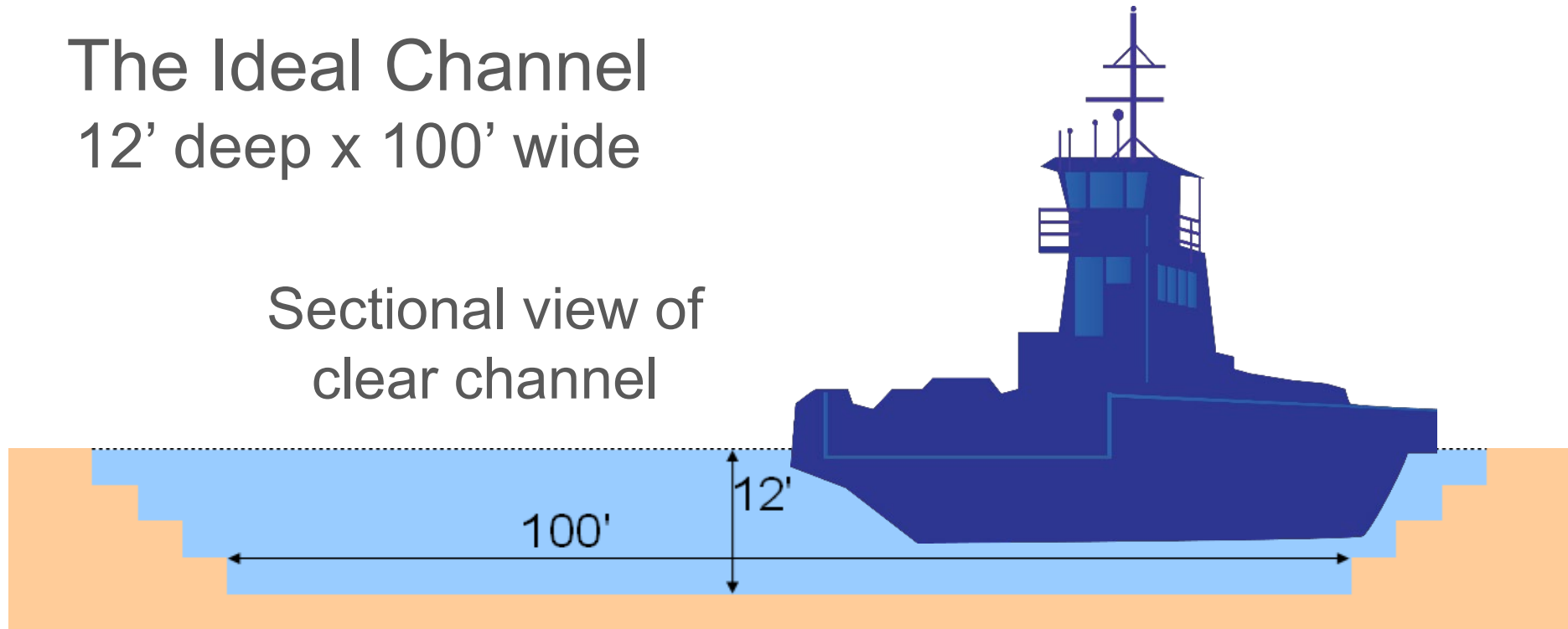




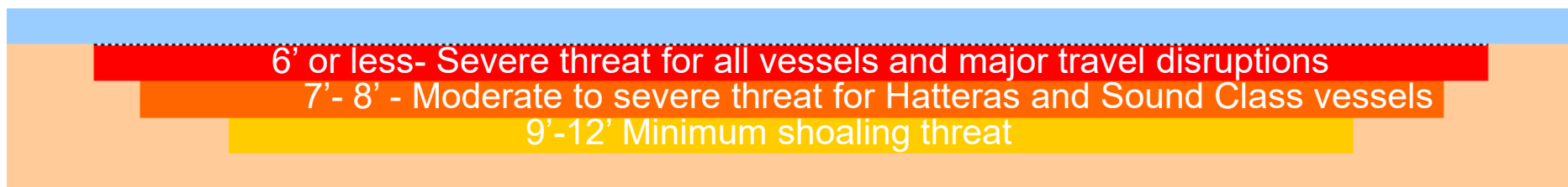
# The Ideal Channel

12' deep x 100' wide

Sectional view of  
clear channel



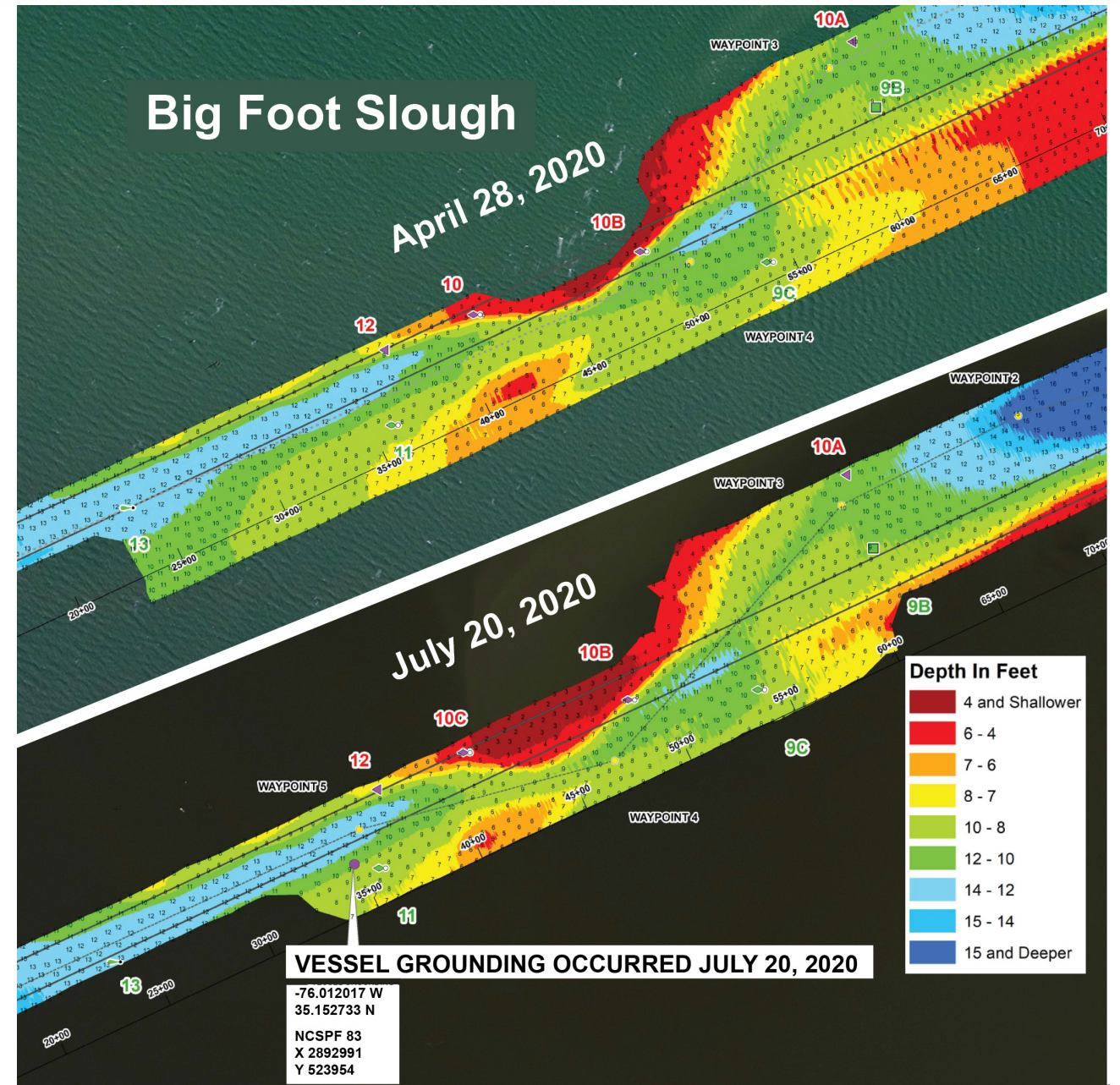
Passage hindered by shoaling sands when channel depth reduced:





## Big Foot Slough is a Federal Channel

- Dredging responsibility of USACE
- March 2020 USACE dredging was a “band aid”
- USACE now out of funds until new FFY
- Cost estimates for 2 options provided by USACE
  - \$535,332 for 12' depth project (ideal)
  - \$251,666 for 10' depth project
- Hyde Co and Carteret County partnership to apply for NCDEQ Shallow Draft Fund Grant

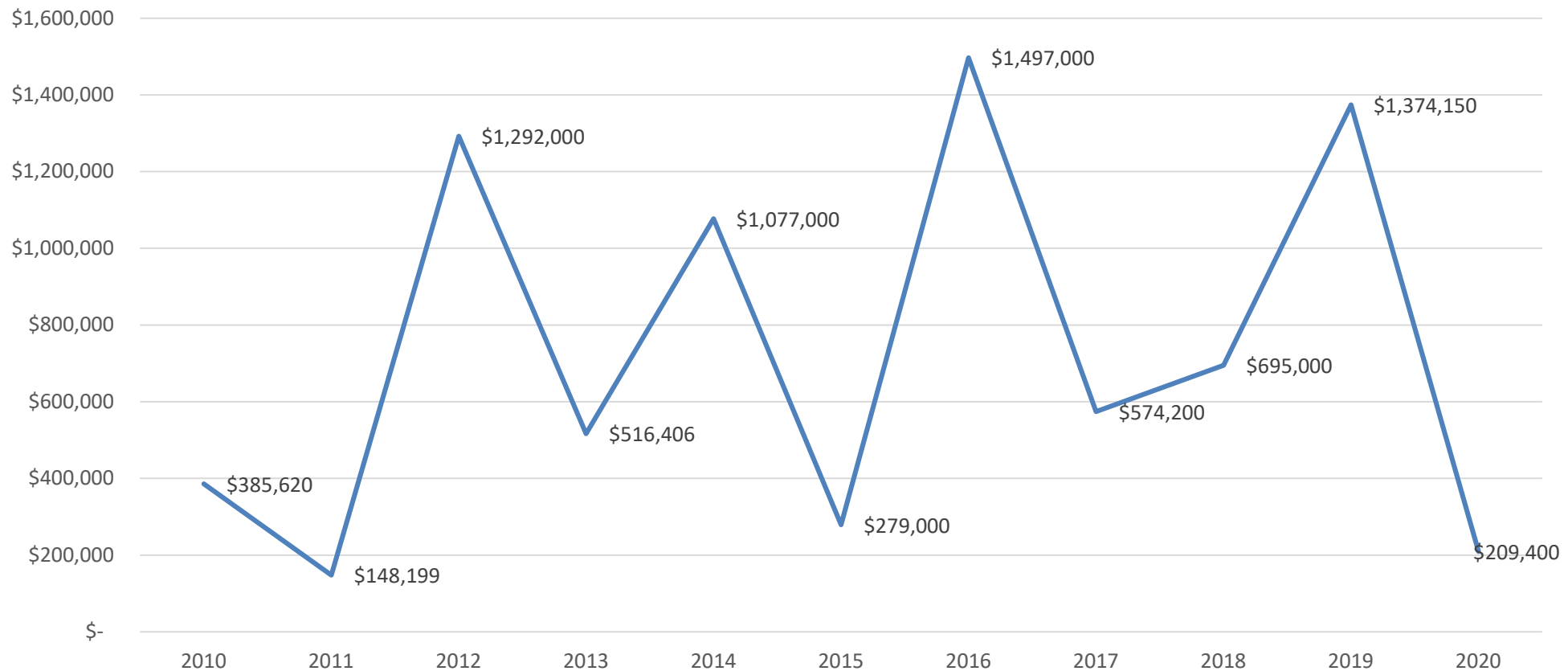




# Federal Channel Maintenance & Funding

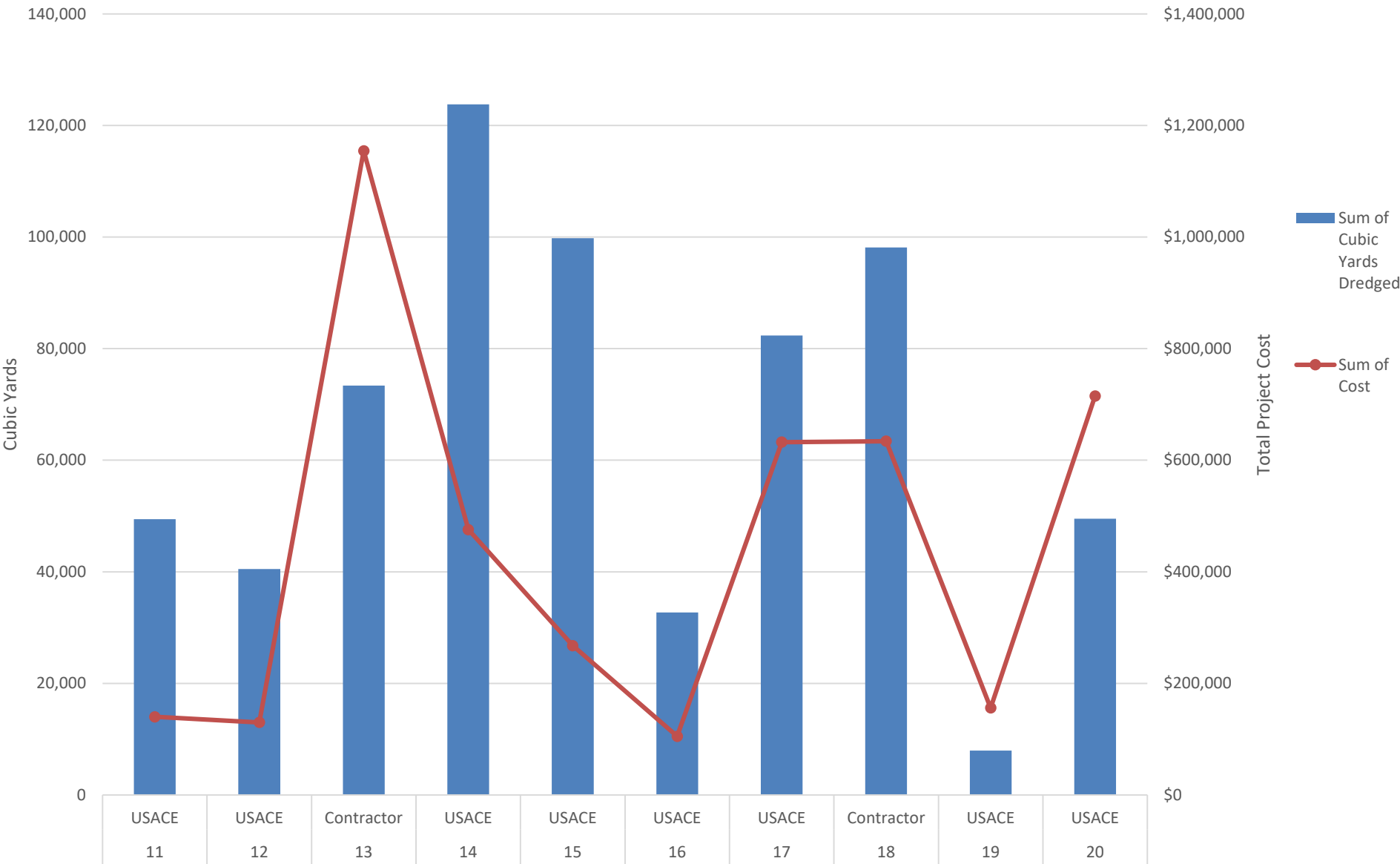
- In addition to North Carolina's federal channels the USACE Wilmington District dredge vessels are a national asset deployed from Maine to Texas
- **Funding** for Big Foot Slough has decreased and is inconsistent year to year

Silver Lake Harbor / Big Foot Slough Historical Funding





# Big Foot Slough Historical Project Cost & Cu. Yrds Removed



## Big Foot Slough Dangerous Shoaling Impacts

- Vessels hitting bottom
- Damage requiring emergency repairs
- Departure cancellations
- Schedule modified to use only certain smaller vessels



# Sound Route Departures

## 4 Boat Schedule

- Historical summer schedule
- Cedar Island to Ocracoke
  - 5 departures from each side for 10 total
- Swan Quarter to Ocracoke
  - 4 departures from each side for 8 total

## 2 Boat Schedule

- Utilized during height of COVID19 restrictions
- Most currently used due to shoaling issues
- Cedar Island to Ocracoke
  - 2 departures from each side for 4 total
- Swan Quarter to Ocracoke
  - 2 departures from each side for 4 total

## 3 Boat Schedule

- Off season – Spring/Fall/Winter schedule
- Cedar Island to Ocracoke
  - 3 departures from each side for 6 total
- Swan Quarter to Ocracoke
  - 3 departures from each side for 6 total
- Utilized in June after some local COVID19 restrictions lifted

## 1 Boat Schedule

- Current schedule due to extreme shoaling conditions
- Cedar Island to Ocracoke
  - 1 departures from each side for 2 total
- Swan Quarter to Ocracoke
  - 1 departures from each side for 2 total

## Departure Schedule Change Due to Shoaling

- Daily ferry schedule on Pamlico Sound was reduced by one trip each way between Ocracoke and both Cedar Island and Swan Quarter
- **Effective Thursday, July 23:** (Two Boat Schedule)
  - Cedar Island to Ocracoke: 10:30 a.m. and 4:30 p.m.
  - Ocracoke to Cedar Island: 7:30 a.m. and 1:00 p.m.
  - Swan Quarter to Ocracoke: 10:00 a.m. and 4:30 p.m.
  - Ocracoke to Swan Quarter: 7:00 a.m. and 1:30 p.m.
- **Effective Wednesday, Aug. 5:** (One boat schedule)
  - Ocracoke to Cedar Island: 7:30 a.m.
  - Cedar Island to Ocracoke: 10:30 a.m.
  - Ocracoke to Swan Quarter: 1:30 p.m.
  - Swan Quarter to Ocracoke: 4:30 p.m.
- Effective Sunday, Aug 16: Returned to two boat schedule

### Ridership in FY20

Ocracoke to Cedar Island:  
62,379 passengers  
27,764 vehicles

Ocracoke to Swan Quarter:  
62,631 passengers  
31,440 vehicles



# Sustainability of Hatteras Inlet South Terminal

- Engineering firm study has developed recommendations to slow erosion rate but project has been put on hold indefinitely due to potential of IHA being removed and funding concerns
- Inlet Hazard Area (IHA) “line” may be removed in the future allowing for further sheet pile installation instead of installing groins
- Growing concerns from environmental agencies and NPS

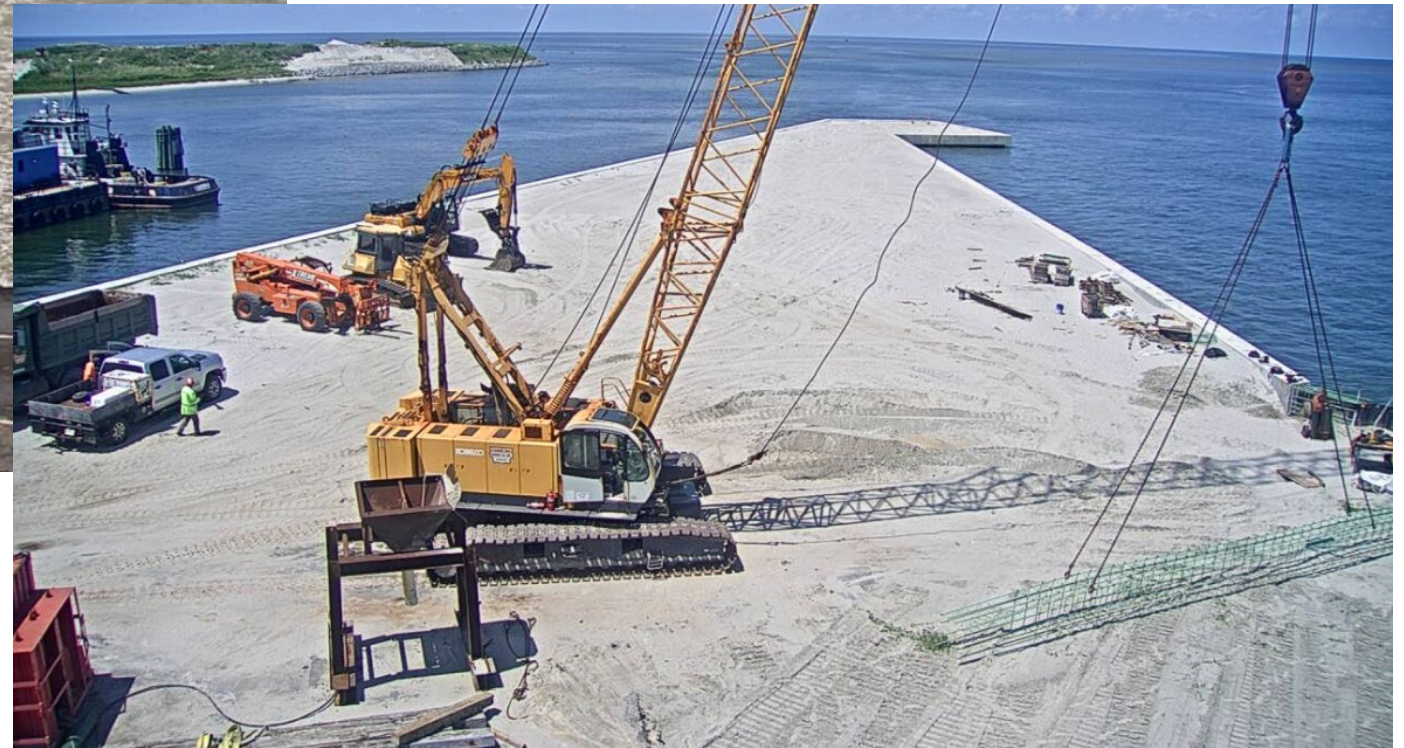




# Sustainability of Hatteras Inlet South Terminal



Short term, the Ferry Division is installing sheet piling to stabilize the point. Work is 40% complete and should be finished end of Jan. 2020.





# Operational Challenges - Shipyard Staffing

*Workforce of qualified marine trade personnel progressively shrinking*

- **Workforce**
  - Current: 61
  - Prior to 1998: 100
- **Large Number of Vacancies**
  - 7 positions currently open
    - 2 Marine Mechanics
    - 3 Marine Welders
    - 1 Marine Painter
    - 1 Marine Sandblaster
- **Hard to Find Qualified Applicants**
  - Engineer II & III
  - Both have been posted several time



# Operational Challenges - Shipyard Schedule

*US Coast Guard requires ferries to be dry-docked twice every 5 years*

- Limited space and workforce result in delayed preventive maintenance and refurbishment project delivery
- Unplanned emergency haul outs reduce available space for planned work and takes away needed personnel for planned projects
- **Dry-dock Requirements**
  - Prior to 1998: 11 of 22 ferries
  - Current: 21 of 21 ferries
- **Increase in Man-hours per Dry-dock**
  - Approximately 8.5K to 12.5K

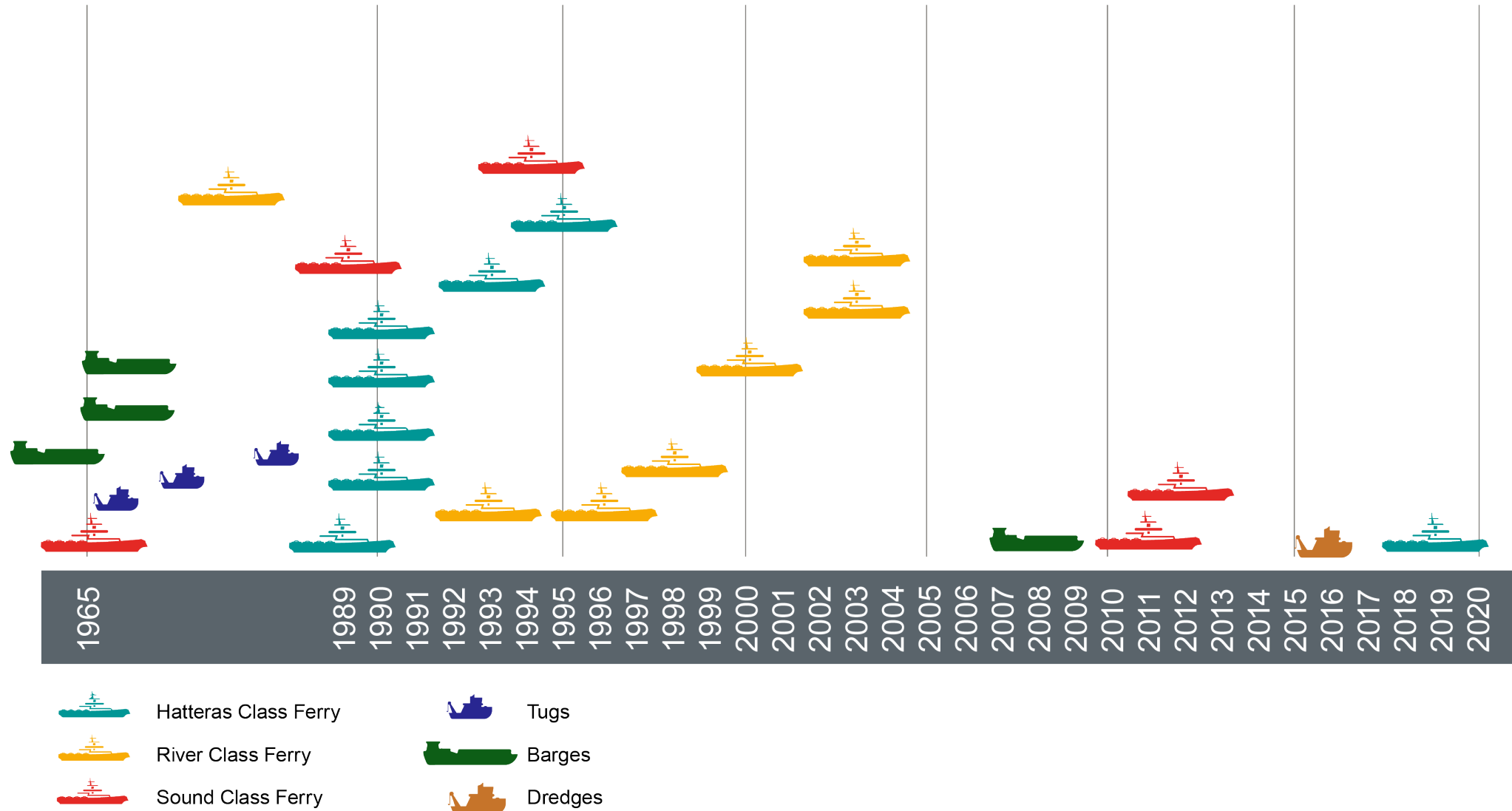




# Shipyard Schedule











[illegible][illegible]

# Fleet Age



# New Vessel Construction

TODAY

Vessel Official Number	Builder Location Contract Start/End	Cost Contract No.	Funding Source WBS No. / TIP No.	2019				2020				Target % Complete	Actual % Complete
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4		
 OCRACOE EXPRESS 1281353	US Workboats Swansboro, NC 1-Jun-2017 / 28-Apr-2018	\$4,470,719.83 C204020	FF-0012(046) 44973.3.3 / F-5702C		F	G	H					95%	86%
 AVON	Gulf Island Fab. Houma, LA 6-Nov-2018 / 22-Aug-2020	\$11,883,016.52 C204243	O&M Budget Funds 47892	A			B C D E	F G H				48%	48%
 SALVO	Gulf Island Fab. Houma, LA 6-Nov-2018 / 8-Oct-2020	\$10,968,006.00 C204243	O&M Budget Funds 47892			A	B C D E	F G H				65%	65%
 WANCHESE*	Metal Shark Boats Bayou La Batre, AL 28-Jan-2019 / 3-Aug-2020	\$5,217,228.00 C204260	State Trust Funds 47256.3.1 / F-5703A		A			B C D E	F	G H		84%	84%
 MOREHEAD CITY*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$2,370,787.76 C204310	State Trust Funds 47256.3.2 / F-5703B				A	B C D E	F G H			95%	95%
 CAPE FEAR*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$2,370,787.76 C204310	State Trust Funds 47256.3.2 / F-5703B				A	B C D E	F G H			93%	93%
 HOBUCKEN*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$1,599,192.14 C204310	State Trust Funds 47256.3.2 / F-5703B					A B C E	D F G H			91%	91%
 MANNS HARBOR*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$1,599,192.14 C204310	State Trust Funds 47256.3.2 / F-5703B					A B C E	D F G H			88%	88%
 NC-4*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$134,454.84 C204310	State Trust Funds 47256.3.2 / F-5703B					A B C				98%	98%
 NC-5*	Conrad Morgan City, LA 29-Apr-2019 / 29-Jun-2020	\$134,454.84 C204310	State Trust Funds 47256.3.2 / F-5703B					A B C				98%	98%

# Ferry Vessel Replacement Fund

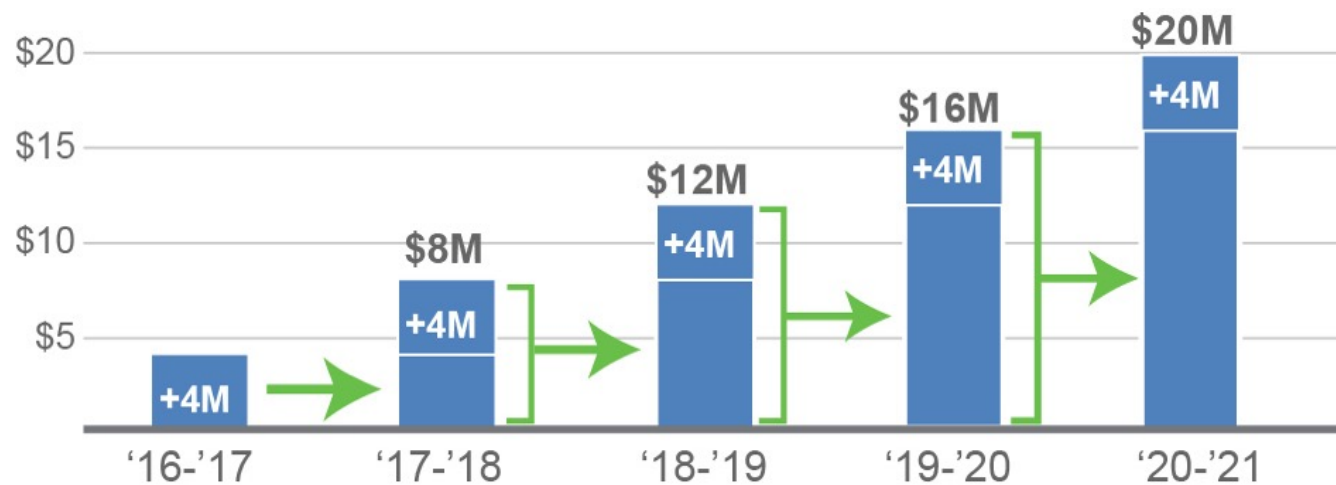
- Established 2016 for construction of new ferries
- Appropriated YTD: \$16M
  - Construction underway on Avon and Salvo



Avon (River-class Ferry)  
Cost: \$11.833M  
Under construction  
Completion Date: Spring 2021



Salvo (River-class Ferry)  
Cost: \$10.968M  
Under construction  
Completion Date: Winter 2020





# STI-funded Vessels under Construction



70' Support Tug  
Cost: \$5.217M  
Under construction  
Completion Date: 10/20



Additional Support Vessels  
(Tugs and Barges)  
Cost: \$8.209M  
Under construction  
Completion Date: 9/20

# Passenger Ferry Season

## July 3 – September 10

- COVID19 Impacts:
  - Reduced capacity from 149 to 96 to encourage social distancing
  - Thorough cleanings after each completed trip
- Same departure schedule as last year
- Ticket Prices
  - Passengers: \$5 one way / \$10 round trip
  - Free for 3 and under
  - Bicycles: \$1 one way / \$2 round trip
- Ridership 07/3 – 08/29
  - 6,293 Passengers
    - When purchasing a round trip ticket you are counted twice, once for going over and once for returning.
  - 480 Bicycles
- Suspended operation 07/31 – 08/05 due to Hurricane Isaias

**Departs from  
Hatteras**

9:30 AM\*  
1:00 PM  
4:30 PM\*

**Departs from  
Ocracoke**

11:00 AM  
3:00 PM  
8:00 PM\*





# Ocracoke Dorm Update

- Damage from Hurricane Dorian
  - Building destroyed and uninhabitable due to flooding and wind-driven rain
  - Employees currently utilizing travel trailers for housing
  - Anticipate project to go out to bid by first of the year, contractor would have 6 months to complete

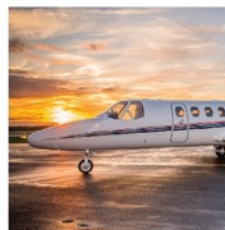






## **NORTH CAROLINA**

Department of Transportation



# Ferry Division Overview

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