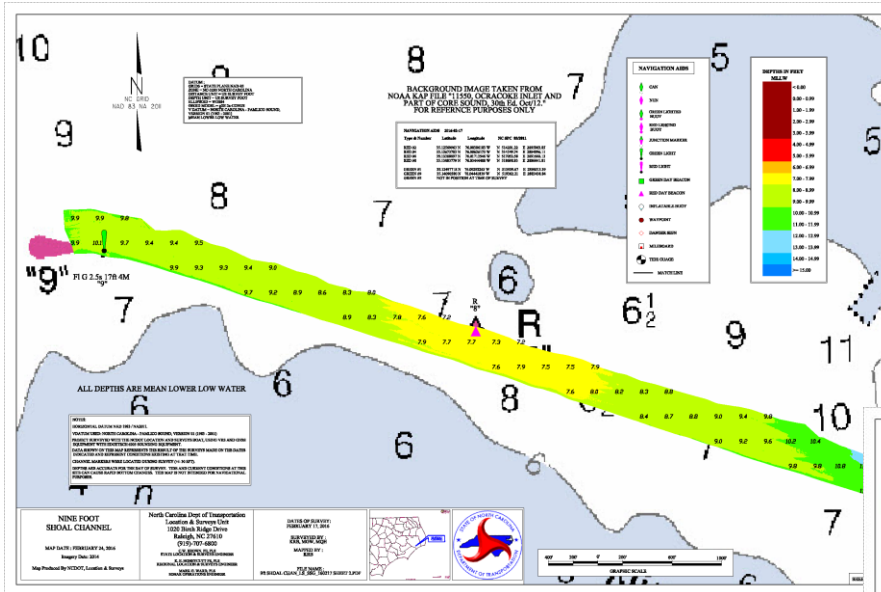


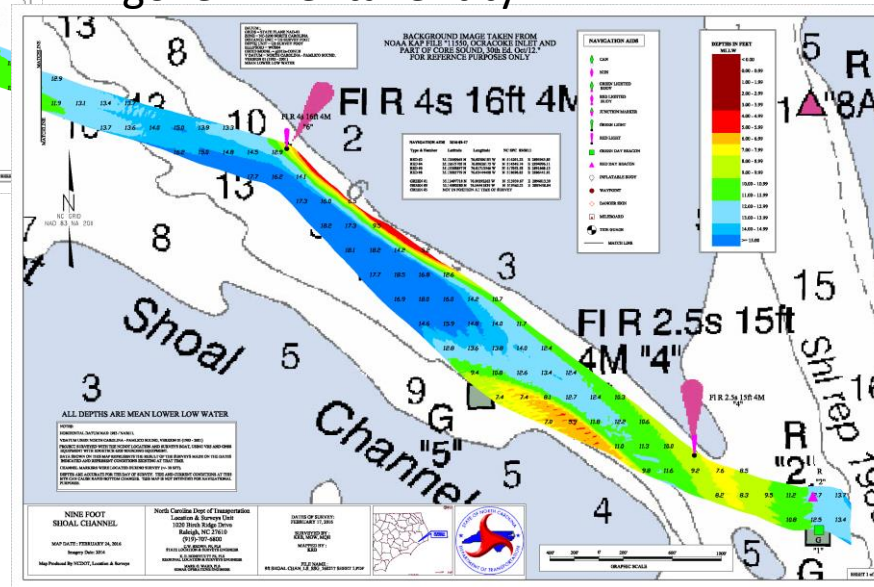
9' Channel near entrance to Silver Lake and Possible Shortcut along Hatteras Inlet Ferry Route

Presented by David Hilton
Ocracoke Waterways Commission

9' Channel surveyed March 7, 2018



- 9' Shoal Channel does seem to be a viable alternative to Big Foot Slough
- Big Foot Slough is a Federally maintained channel under USACE jurisdiction
- 9' Shoal Channel is a natural channel that appears to be stable, but it is not currently maintained by any governmental entity



- 9' Shoal Channel is about 13,900'
- long (2.6 miles).
- The NCDOT Marine Maintenance Unit
- only has approximately 10,000' of pipe.
- NCDOT Dredge Manteo would be
- Pushing it limits in this area as such
- the viability of dredging would be extremely weather dependent

Permit Requirements

Due to this area not being dredged before, it would necessitate that a number of permit requirements be investigated and large amounts of data gathered to fully satisfy all of the regulatory agencies having jurisdiction over this work to even be considered for approval

Environmental Assessment and documentation – \$100K

Data collection along with Biological Assessments (BA), Critical Fish Habitat assessment (CFH), Submerged Aquatic Vegetation assessment (SAV), Endangered Species Assessment (ESA)- \$50K

Geotechnical Vibracores - \$100K

Natural Resource Surveys - \$50K

The cost to get everything together just to apply for the permits would approximately be \$300K.

Then the permits would have to be applied for. This process would take approximately 1-1.5 years to complete.

Moratoriums for Dredging for locations maintained by NCDOT

Location	Moratorium (Can't Dredge)	Allowable Dredge Days
Aurora	February 1st - Sept 30th	124
Bayview	February 1st - Sept 30th	124
Cedar Island	NONE	365
Cherry Branch	February 1st - Sept 30th	124
Currituck	March 1st - Sept 30th	151
Ft. Fisher	February 1st - Sept 30th	124
Knotts Island	March 1st - Sept 30th	151
Minnesott Beach	February 1st - Sept 30th	124
Shipyard	February 1st - Oct 31st	92
Southdock	April 1st - Sept 30th	182
Southport	February 1st - Sept 30th	124
Stumpy Point	Feb 15th - Oct 31st	106
Swan Quarter	April 1st - Sept 30th	182
9' Shoal Channel	April 1st - Sept 30th	182

Additional Equipment Needed By NCDOT For Dredging 9' Shoal Channel

Landing Craft Unit (LCU) Needed for transporting equipment to and from spoil site during dredging. Rent app.\$50K -\$100K

Another 1 mile of pipe to be able to dredge entire channel. 18.00' x 5,280' = \$95,040

Another barge to set additional booster pump on during dredging operations. Will need to check into a barge for price.

Additional employees will have to be hired to man extra equipment plus night watching duties.

Potential Cost Savings for NCDOT if 9' Shoal Channel Is Utilized

Sound class crew salaries could potentially save money depending on a newly formed schedule with the reduced transit times.

Estimates could potentially see an annual savings of \$130K on fuel if 15 minutes were cut off of current schedules.

This would depend on a new schedule being developed in order to more closely determine the amount of potential savings.

Estimated Costs If NCDOT Marine Maintenance Crew Were to Dredge 9' Shoal Channel

With extra equipment, 5 more deckhands will be needed. 2 to man booster pumps and 3 for night watchmen.

Captain – \$519.24 per day \$3,634.68 per week

Dredge Leverman – \$321.24 per day \$2,248.68 per week

Dredge Engineer – \$407.04 per day \$2,849.28 per week

Dredge Deckhands – \$321.24 per day \$2,248.68 per week total of 10 per shift equals \$22,486.80 per week

Per diem for crews staying on vessels – \$3485.30 a week with extra personnel hired

Equipment - Bulldozer - \$1,000.00 a week, Excavator - \$1480.00 a week, Jet boat - \$1520.00 a week.

Fuel – Burn approximately 5,000 gallons a week or about \$10,000 a week.

LCU – average rent will be \$50,000 per month or \$150,000 per project

Hydrographic surveys – App. \$10,000 each Will need a pre and post dredging survey.

A week would cost approximately \$48,704.74 per week Depending on weather, it would take anywhere from 12-16 weeks to dredge the entire channel, or \$754,456.88 to \$999,275.84

It may take longer depending on weather, plus crews will have to transport fuel barge to either Cedar Island or Hatteras to refuel each week.

Summary for 9' Channel

Pros

- May have cost savings running new ferry schedules by cutting off 15 minutes travel time using 9' channel which could result in salaries and fuel savings.
- Shorter commute for passengers by 15 minutes.

Cons

- Initial cost to complete studies and environmental documents needed for permit could be as high as \$300,000
- Rent extra equipment for extra booster pump, pipeline, and personnel.
- Risk of damaging equipment and safety concerns for crew in bad weather. Need to look into this more.
- May need to contract with a contract dredging company to withstand this environment which would cost more.
- Would take away from dredging other ferry channels due to cost and permit constraints with moratorium.
- Abandoning Big Foot Slough would increase the transit time of the passenger ferry by approximately 15 minutes.

Permit Requirements

- **Due to this area not being dredged before, it would necessitate that a number of permit requirements be investigated and large amounts of data gathered to fully satisfy all of the regulatory agencies having jurisdiction over this work to even be considered for approval**
- Environmental Assessment and documentation – \$100K
- Data collection along with Biological Assessments (BA), Critical Fish Habitat assessment (CFH), Submerged Aquatic Vegetation assessment (SAV), Endangered Species Assessment (ESA)- \$50K
- Geotechnical Vibracores - \$100K
- Natural Resource Surveys - \$50K
- The cost to get everything together just to apply for the permits would approximately be \$300K.
- Then the permits would have to be applied for. This process would take approximately 1-1.5 years to complete.
- A Study would also have to be completed to determine the feasibility and the approximate frequency the portion would need to be dredged in this dynamic environment.

Summary for Possible Shortcut Along Hatteras to Ocracoke Ferry route

Pros

- May add additional ferry departures depending on time saved with shorter route once a newly formed schedule is made.
- Shorter commute for passengers by 10-15 minutes.

Cons

- Initial cost to complete studies and environmental documents needed for permit could be as high as \$300,000, plus the cost of a feasibility study.
- A spoil site will have to be identified. Depending on where the site is located will determine the cost associated with dredging to the site.
- Additional costs associated with additional personnel and equipment.
- Would take away from dredging other ferry channels due to cost and permit constraints with moratorium.

Conclusion: In Regards to New Dredging Along 9' Shoal Channel and Possible Shortcut Along Hatteras to Ocracoke Ferry Route

Pros

- May add additional ferry departures depending on time saved with shorter route once a newly formed schedule is made.
- Shorter commute for passengers.
- Sustainability will be determined by a new study on both proposed areas.

Cons

- Initial cost to complete studies and environmental documents needed for permit could be as high as \$300,000 for each area, plus the cost of a feasibility study.
- A spoil site will have to be identified. Depending on where the site is located will determine the cost associated with dredging to the site.
- Additional costs associated with additional personnel and equipment.
- Would take away from dredging other ferry channels due to cost and permit constraints with moratorium.
- Any additional funding would have to come from the North Carolina General Assembly and would have the potential to negatively affect other ferry channels being maintained by the Ferry Division Marine Maintenance Crews due to moratoriums.