Shellfish Lea	se Investigation Report
Investigation Date	8/15/2022
Applicants name	William Clower and Aaron Hopkins
Lease Number	22-069BL/22-070WC
County	Dare
Waterbody/location	Blossie Creek
Proposed Lease Size (acres)	0.70
Lease Type	Bottom/Water Column
Investigation Team	S. Tripp/D. Walters
Gear Used	766 - Patent Tong
Sediment Type	8 - sand (sand in hard and firm strata)
Bottom Composition	B - grass/O - no grass
Depth (m)	1
Tidal Stage	Falling
Water Temperature (°C)	24.8
Salinity (ppt)	28.3
Dissolved Oxygen (mg/L)	7.1
Comments on SAV in or around Proposed Lease location	Dense widgeon grass visible on approx. 50% of lease before modified footprint.
Other Species Collected In PNA?	No
	No No Approved
In Polluted Area? In Mechanical Clam Harvest	No - Approved
Area?	No
In Mechanical Methods	
Prohibited Area	No
Other Comments	Verified modified pole locations 11/29/2022

Application (	Coordinates	Modified Application Coordinates		Investigation	Coordinates	Actual Co	ordinates
-75.55290000	35.80000000	-75.55222000	35.80045000	-75.55224317	35.80044450	-75.55231833	35.80039215
-75.55330000	35.80010000	-75.55172795	35.79946883	-75.55276650	35.80015967	-75.55222800	35.79984031
-75.55340000	35.79920000	-75.55207638	35.79928011	-75.55204567	35.79927217	-75.55271133	35.79970465
-75.55380000	35.79930000	-75.55278084	35.80016898	-75.55169350	35.79946867	-75.55293383	35.80004981

Coordinate Changes 2 of 18

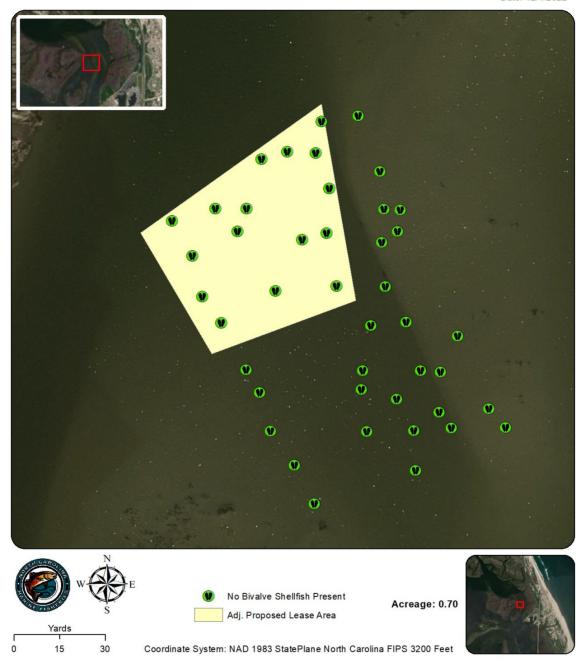
#### Proposed Shellfish Lease Biological Investigation Sampling Data

Applicant: William Clower and Aaron Hopkins Proposed Lease #: 22-069BL/22-070WC Date: 8/15/2022

Lease size:	0.70	acres		# of Samples:	16			
Sample #	Presence of SAV  Density class	# of Oysters (Eastern Oyster)	# of Clams (Quahogs)	# of Scallops	Date collected	Comments	Bottom Comp.	Sediment Type
1	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
2	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
3	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
4	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
5	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
6	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
7	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
8	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
9	1	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
10	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
11	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
12	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
13	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
14	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
15	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
16	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
	SAV	Oysters (Eastern Oyster)	Clams (Quahogs)	Scallops				
	1				6%	OF SAMPLES	CONTAINED SAV	
TOTAL	OF EACH SPECIES	0	0	0				
TOTAL BUS	HELS PER SPECIES	0	0	0	0	TOTAL BUSH	IELS OF SHELLFISH PER AC	CRE







Date: 12/1/2022 No SAV Present SAV Present Acreage: 0.70 Adj. Proposed Lease Area

Coordinate System: NAD 1983 StatePlane North Carolina FIPS 3200 Feet









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Lease Investigation Photos 11 of 18



Lease Investigation Photos 12 of 18

#### Proposed Shellfish Lease Biological Investigation Sampling Data

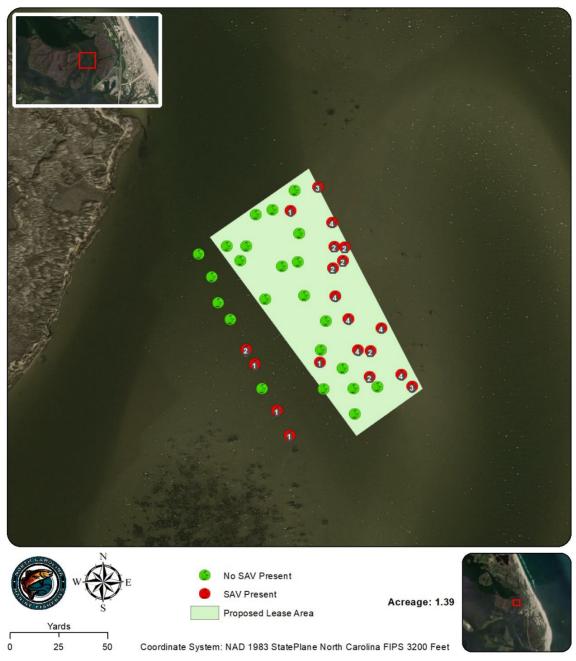
Proposed Lease #: 22-069BL/22-070WC Date: 8/15/2022 Applicant: William Clower and Aaron Hopkins

Sample   Presence of SAV   Entire Potative   For Claims   For Scallops   Comments   Bottom Comp.   Sediment Type   Claims   For Claim	Lease size:	1.39	acres		# of Samples:	43			
1   3   0   0   0   8/15/2002   NA   B   - grassO - no grass   8 - and (and in hard and firm strata)	Sample #				# of Scallops	Date collected	Comments	Bottom Comp.	Sediment Type
3	1				0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
4	2	4	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
S	3	4	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
6	4	4	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
6	5	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
8	6	0	0	0	0		NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
9	7	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
9	8	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
10					0		NA		
11	10	0	0	0	0		NA		8 - sand (sand in hard and firm strata)
122	-	0	0	0	0				8 - sand (sand in hard and firm strata)
13									
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19									
20 0 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 21 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 22 2 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 23 0 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 24 1 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 25 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 26 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 26 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 27 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 28 2 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 28 2 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 29 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 30 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 31 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 32 1 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 33 1 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 34 4 4 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 35 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 36 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 37 4 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 38 0 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 39 2 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 39 2 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard									
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25 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 26 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 27 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 28 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 29 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 30 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 31 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 32 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 33 1 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 33 1 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 33 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 33 1 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 34 4 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 35 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 36 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 37 4 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 38 0 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 40 2 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 41 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 42 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 43 9 2 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 44 9 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 45 9 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata) 46 9									
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41   2   0   0   0   8/15/2022   NA   B - grass/O - no grass   8 - sand (sand in hard and firm strata)									,
42									
43 0 0 0 0 8/15/2022 NA B - grass/O - no grass 8 - sand (sand in hard and firm strata)  SAV Oysters (Eastern Oyster) (Quahogs) Scallops  20 47% OF SAMPLES CONTAINED SAV  TOTAL OF EACH SPECIES 0 0 0 0									,
SAV   Oysters (Eastern Oyster)   Clams (Quahogs)   Scallops									
20   Quahogs   Scallops   Guahogs   Scallops   47%   OF SAMPLES CONTAINED SAV	43	0	0	0	0	8/15/2022	NA	B - grass/O - no grass	8 - sand (sand in hard and firm strata)
20   Quahogs   Scallops   Guahogs   Scallops   47%   OF SAMPLES CONTAINED SAV									
20         47%         OF SAMPLES CONTAINED SAV           TOTAL OF EACH SPECIES         0         0         0		SAV			Scallops				
TOTAL OF EACH SPECIES 0 0 0				47%	OF SAMPLES	CONTAINED SAV			
	TOTAL	-	n	n	n	4770			
			_			0	TOTAL BUSH	IELS OE SHELLEISH DED VA	*PF

Ī		SAV	Oysters (Eastern Oyster)	Clams (Quahogs)	Scallops		
		20				47%	OF SAMPLES CONTAINED SAV
	TOTAL	OF EACH SPECIES	0	0	0		
	TOTAL BUSHELS PER SPECIES		0	0	0	0	TOTAL BUSHELS OF SHELLFISH PER ACRE
_			•		•		

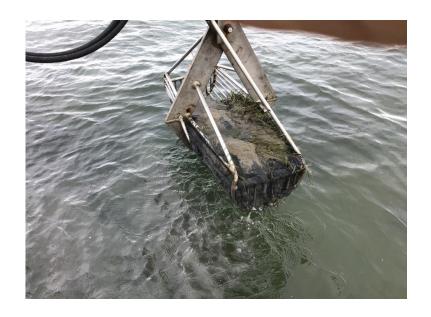
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Date: 12/1/2022



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