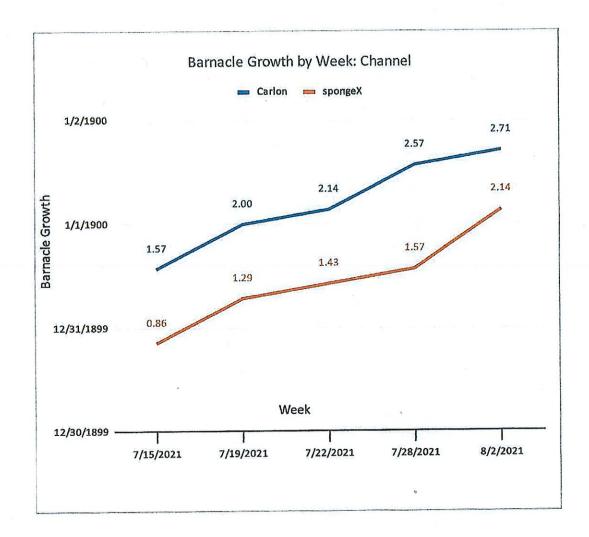
Ghost pots are the result of Barnacles Michael W. Joslin 12/07/2021

INTRODUCTION:

Barnacles attach themselves to crab pot buoys. These barnacles have detrimental effects on watermen, recreational boaters, and most importantly the environmental health of the river. Heavy barnacle growth on the buoys results in a weighted buoy. This excess weight causes to buoys to sink below the surface of the water which makes them out of visibility to boaters.

The buoys are hit and severerd from the rope causing the pot to sink to the bottom of the river. Hundreds and hundreds of pots are in the river because of this problem. I have found that the buoys that are named **Carlon** buoys made from hard plastic are more likely to have barnacle activity than the **Sponge X** buoy made from hardened styrofoam.

The purpose of this study was to investigate the barnacle activity with the two "known" buoys. (Carlon and Sponge X) They were placed near the channel and on a mudflat in the Nansemond River. Every fishing day, data was collected as to the growth of the barnacle activity. The study was conducted for 4 weeks for 2 sessions.



ence.

	97	cation: C	hannel (I	Location: Channel (Nansemond River)	d River)		
			9/13	9/20	72/6	10/4	10/11
1	1 A-Sponge X		N	Z	z	z	Z
2	2 A-Sponge X		N	z	z	z	Z
3	3 A-Sponge X	1	N	Z	z	Z	Z
4	4 A-Sponge X	I	N	Z	z	z	z
5	5 A-Sponge X		N	Z	z	z	z
9	6 A-Sponge X	_	N	N	z	z	Z
7	7 A-Sponge X	_	Z	z	z	Z	z
			9/13	9/20	9/27	10/4	10/11
1	1 B-Carlon	ı	N	N	z	z	Z
2	B-Carlon	-	Z	Z	Z	Z	z
3	B-Carlon	,	N	N	z	Z	z
4	B-Carlon	_	N	Z	z	z	z
5	B-Carlon	_	Z	z	z	z	z
9	6 B-Carlon	-	Z	z	z	Z	z
7	7 B-Carlon	-	Z	z	z	z	z

L= Light Barnacle Growth

M= Moderate Barnacle Growth

H= Heavy Barnacle Growth

N= No Barnacle Activity (Moss Growth Only)

CONCLUSIONS:

- 1. Barnacles have a growing season. The season appears to be late spring, early summer.
- 2. During the growing season, the Carlon buoys had considerably more barnacle activity as the SpongeX buoys.
- 3. The second investigation was flawed due to the expiration of the growing season. (9/13-10/11)
- 4. The Carlon buoys are used by many commercial watermen. They are less expensive, therefore more economical for the watermen.
- 5. Hundreds of ghost pots in the river are possibily due to the barnacle growth on the Carlon buoy. Barnacle growth causes the buoy to be weighted down resulting in lack of visibility to the boaters. The buoys are severed from the rope resulting in ghost pots.
- 6. The study needs to be extended to cover the entire growing season of the barnacles. Because the second investigation was flawed, there is not enough data to be certain the Carlon Buoys are the reason there are so many ghost pots in the Nansemond River.

		Loc	ation: Cha	nnel (Nanser	nond River)			
		7/5	7/9	7/15	7/19	7/22	7/28	8/2
1	A-Sponge X	0	0	1	2	2	2	2
2	A-Sponge X	0	0	1	1	1	2	3
3	A-Sponge X	0	0	1	1	1	1	2
4	A-Sponge X	0	0	1	2	2	2	2
5	A-Sponge X	0	0	1	1	2	2	3
6	A-Sponge X	0	0	0	1	1	1	1
7	A-Sponge X	0	0	1	1	1	1	2
verage o	of SpongeX buoys			0.86	1.29	1.43	1.57	2.14
		7/5	7/9	7/15/2021	7/19/2021	7/22/2021	7/28/2021	8/2/2021
1	B-Carlon	0	0	2	2	3	3	3
2	B-Carlon	0	0	2	2	2	3	3
3	B-Carlon	0	0	1	2	2	3	3
4	B-Carlon	0	0	2	2	2	2	2
5	B-Carlon	0	0	1	2	2	3	3
6	B-Carlon	0	0	1	2	2	2	3
7	B-Carlon	0	0	2	2	2	2	2
Average of Carlon buoys			1.57	2.00	2.14	2.57	2.71	

Difference between Carlon & SpongeX		0.71	0.71	0.71	1.00	0.57
Mean difference between Carlon & SpongeX		0.74				
Standard Deviation of difference		0.156	i)			
Stanard Error		0.070				
95% confidence interval	0.60		0.88			

Conclusion: Carlon buoys grow more barnacles than SpongeX buoys. Difference is 0.74 +/- 0.14 at 95% confide