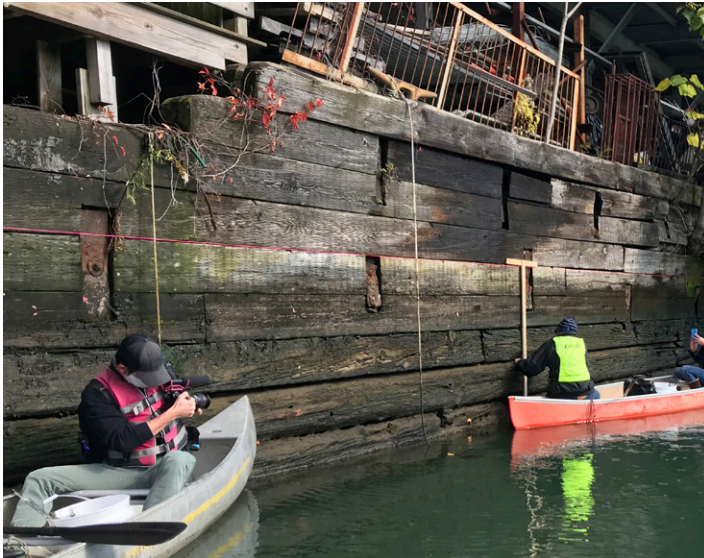


RIBBED MUSSEL BULKHEAD SURVEY AT THE SALT LOT

Organized by Gowanus Dredgers, October 31st, 2020

ATLANTIC RIBBED MUSSEL *GEUKENSIA DEMISSA*



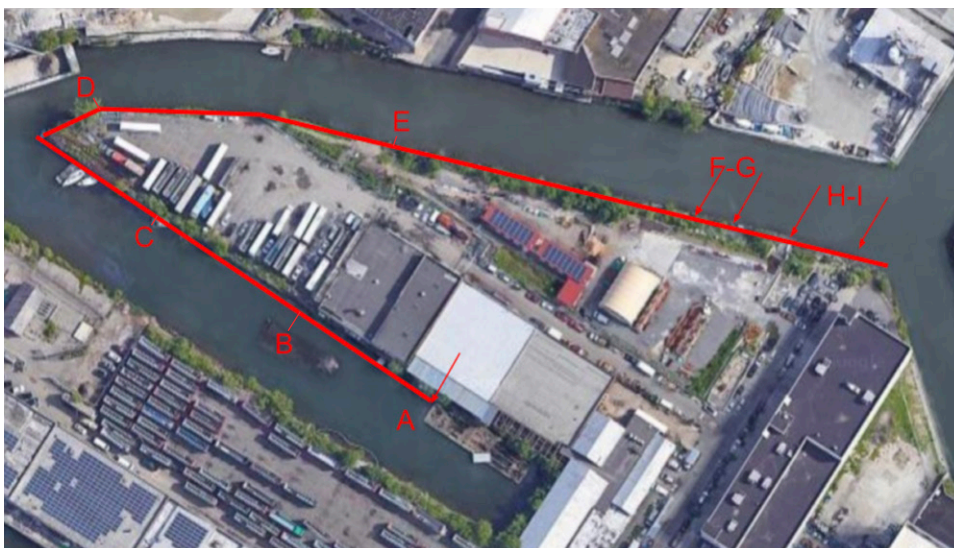
Surveying the bulkheads by canoe. Photo by Andrea Parker



Geukensia demissa on the wooden bulkhead. Photo by Andrea Parker

METHODOLOGY

On October 31st, 2020 The Gowanus Dredgers and Gowanus Canal Conservancy conducted a primary observation survey of Atlantic Ribbed Mussel in the Gowanus Canal to understand mussel populations and habitat along the canal bulkhead. Observations were made via canoe from the canal during afternoon low tide. Counts were made in vertical sections measured by distance from the mean high waterline. Mussels within shoreline wooden bulkhead and substrate material were counted. A total of 3 canoes, each consisting of two counters, tallied each visible mussel within a particular bulkhead section. Totals from each section were summed for a total estimated count. Each visible mussel was counted as one. Within clusters a best attempt was made to count each mussel within the cluster.



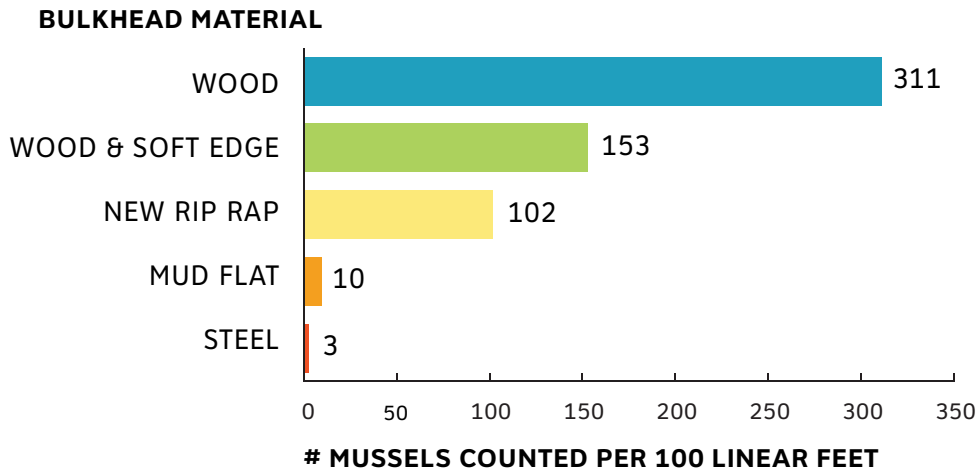
LOCATION

Observations we made along a contiguous stretch of bulkheads and edges spanning from the end of Second Avenue, around the Salt Lot, and along the north edge of the 6th st turning basin.

Bulkhead materials observed include steel bulkheads, timber, rip rap, rocks, mud flats.

TOTAL MUSSELS COUNTED: 4,129

MUSSEL COUNTS BY BULKHEAD MATERIAL



WOODEN BULKHEADS PROVIDE SIGNIFICANT HABITAT FOR MUSSELS (311 MUSSELS/100LF)

WOOD SUPPORTS 103 TIMES MORE MUSSELS THAN STEEL

STEEL BULKHEADS PROVIDE MINIMAL TO NO MUSSEL HABITAT (3 MUSSELS/100LF)

LOCATION	SUBSTRATE	POSITION BELOW MHW	# MUSSELS OBSERVED	MAP SECTION
T1 Top section	Wooden Bulkhead	.9m-1.1m	93	A-B
T1 Upper Middle Section	Wooden Bulkhead	1.2m-1.5m	678	A-B
T1 Lower Middle Section	Wooden Bulkhead	1.6-1.8m	715	A-B
T1 Bottom Section	Wooden Bulkhead	1.9-2m	417	A-B
6th St Turning basin Upper Middle section	Wooden Bulkhead	1.2m	663	B-C
6th St Turning Basin Lower Middle Section	Wooden Bulkhead	1.6m	887	B-C
Canal turn b/t 5th & 6th St	Steel Bulkhead old	.9-1.9m	0	C-D
Main canal End of 5th St Lot	Steel Bulkhead new	.9-1.9m	16	D-E
Salt Lot Timber	Wood & soft edge	.9-1.9m	585	E-G
Salt Lot Rip Rap	New Rip Rap	.9-1.9m	67	G-H
2nd Ave Street End	Mud Flat	.9-1.9m	8	H-I

SUMMARY OF SURVEY RESULTS

The existing wooden bulkheads along the Gowanus Canal within the survey area are providing critical habitat to Atlantic Ribbed Mussels. Significantly more mussels were observed in the wooden bulkhead and timber than in the rip rap or mud flat. For example, the maximum number of mussels observed in a single section of steel bulkhead was 16, whereas up to 887 mussels were observed in a wooden bulkhead of similar size.

We analyzed the mussel counts by bulkhead material and found that on average wooden bulkheads provide significant habitat for mussels at a rate of 311 mussels per 100 linear feet. Wood supports 103 times more mussels than steel. Steel bulkheads provide minimal to no mussel habitat, at an average rate of 3 mussels per 100 linear feet.