South Fork Wind Telemetry Project (SFWTP)

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Project background

- Discussions were initiated by Ørsted in March 2020 to form a working group to deploy a passive acoustic array around and along the South Fork Wind Farm cable to assess movement and behavior of selected species.
- Working Group Goals: establish research needs, discuss study scope, identify partners/collaborators to carry out the study.
- Original Workgroup Members:

Orsted	Rutgers U.	NYSDEC
INSPIRE Environ.	CCE - Suffolk	East Hampton Trustees
DOF Subsea	Monmouth U.	Center for Sus. Fish.
Partridge Venture Engineering	Stony Brook U.	

Background

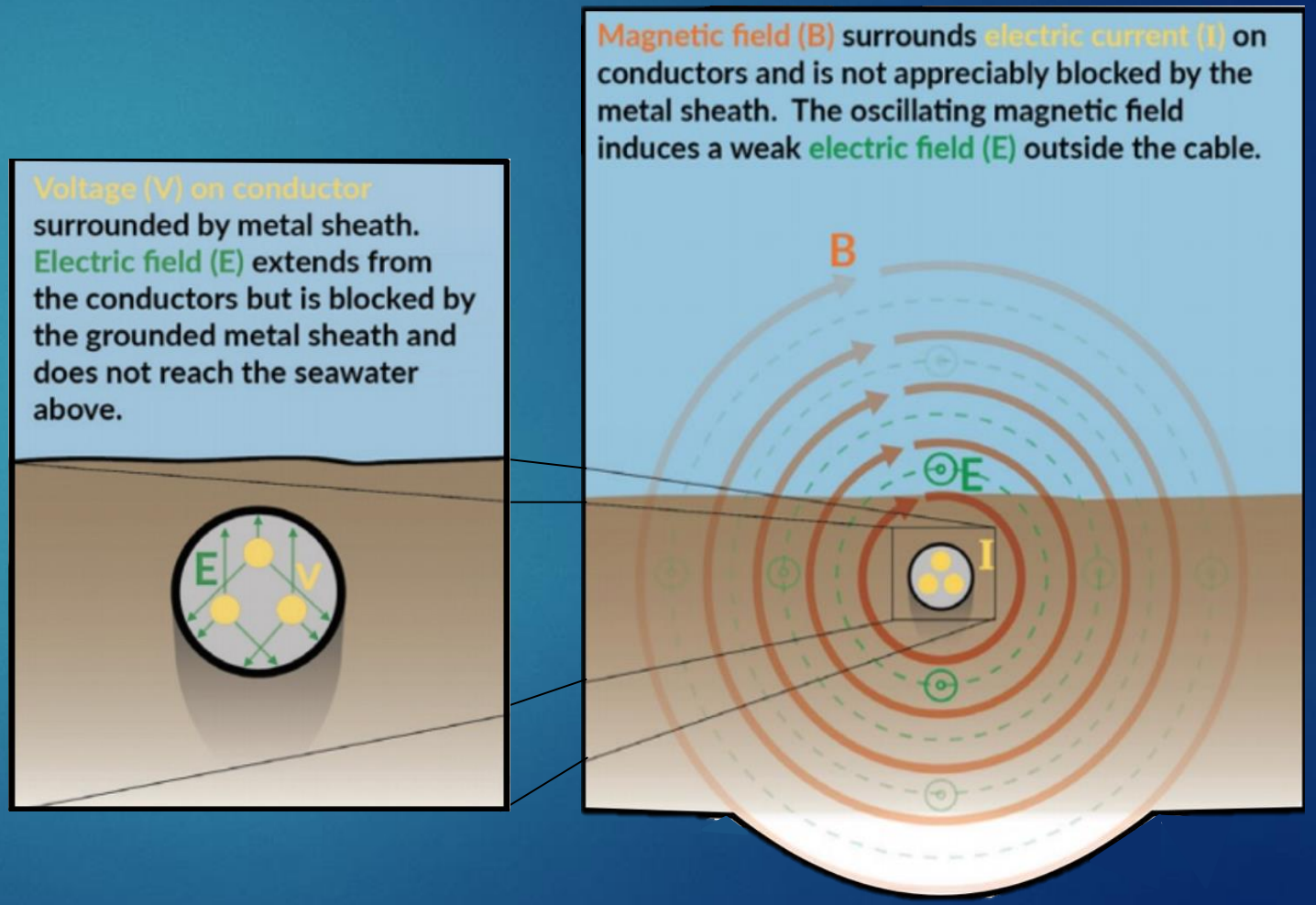
- The suggestion was made to form a smaller group of "subject matter experts" to develop a "Fisheries Study Proposal".

Orsted & their associates	CCE - Suffolk	East Hampton Trustees
	Monmouth U.	NYSDEC
	Stony Brook U.	

- Early discussions considered acoustic telemetry, trawl survey, BRUVs, benthic sampling.
- The committee settled on acoustic telemetry & trawl survey.

Electromagnetic Field Production

- The cable completely blocks the electric field produced by the transfer of energy BUT only partially blocks the electromagnetic field (EMF) produced.
- EMF field is emitted into the marine environment AND an electric field is induced through the movement of water or animals through the EMF



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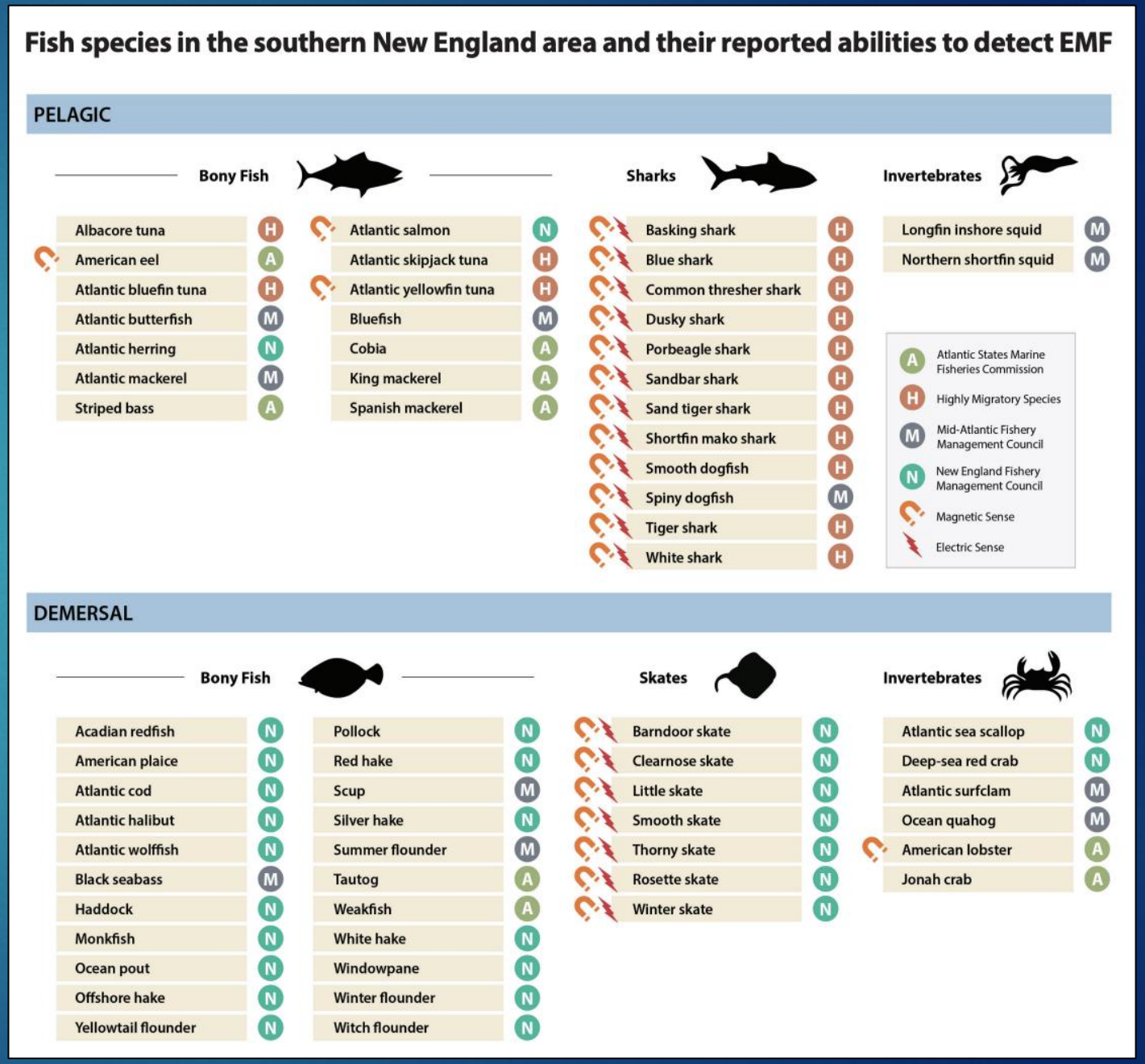
Interaction between EMF and marine species

- Naturally occurring EMF are present everywhere in the ocean
- Some fish have the ability to determine water motion with their lateral lines
- Elasmobranch have to ability to detect magnetic and electrical fields though sensory organs called ampullae of Lorenzini
- Migratory species use Earth's natural magnetic field for navigation



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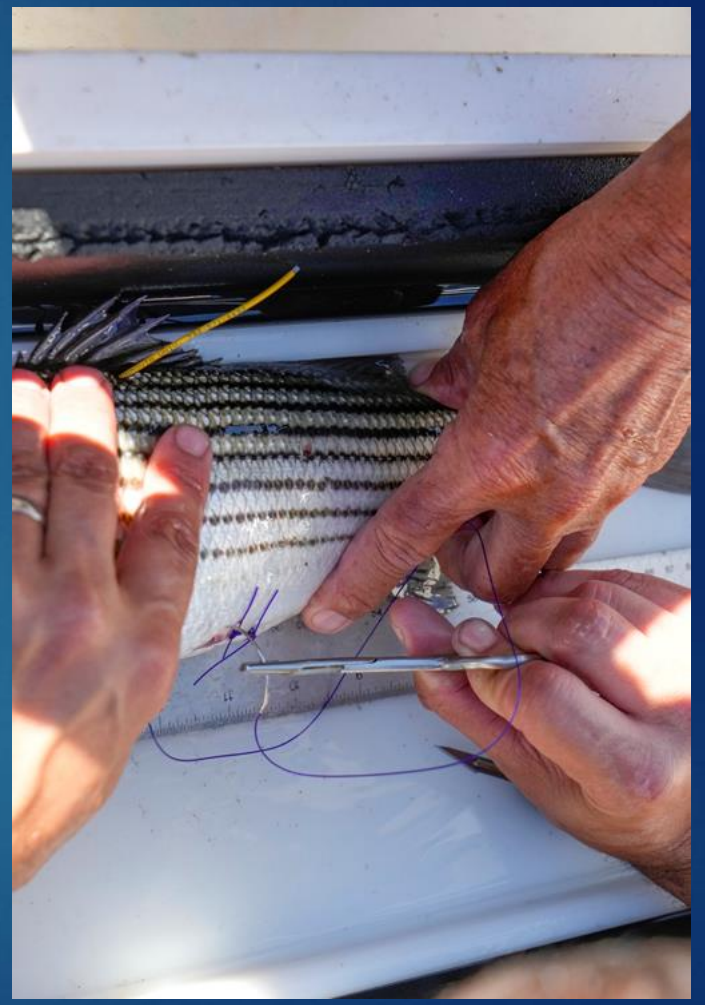
SFWTP: Research objectives

- Evaluate effects of electromagnetic fields (EMF) on behavior and movement on targeted species pre- and post-construction.

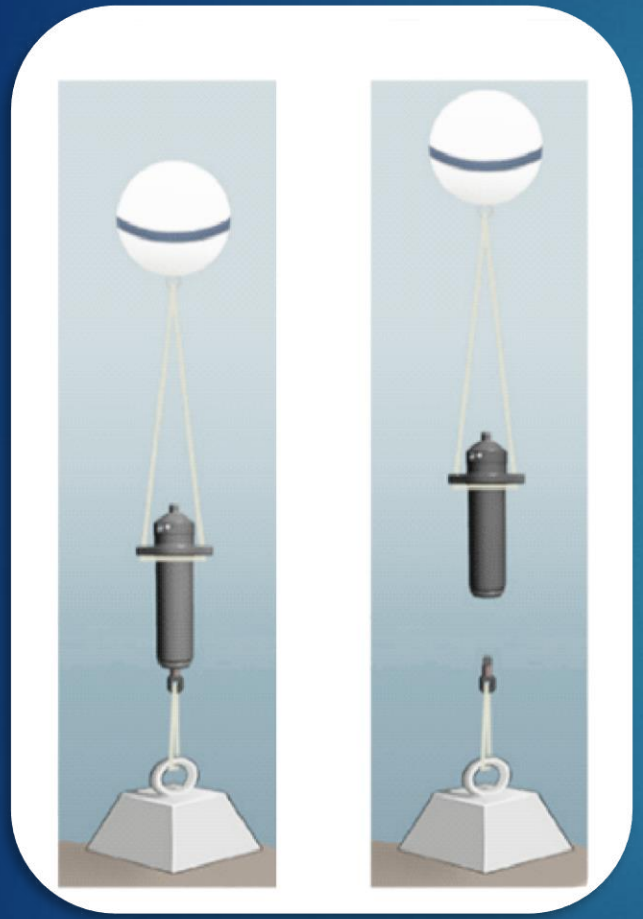
- Evaluate effects of South Fork Export Cable (SFEC) on fine-scale changes in behavior and movement in the near field environment around the cable.

Acoustic telemetry

- SBU researchers tagging



Receiver setups



Original

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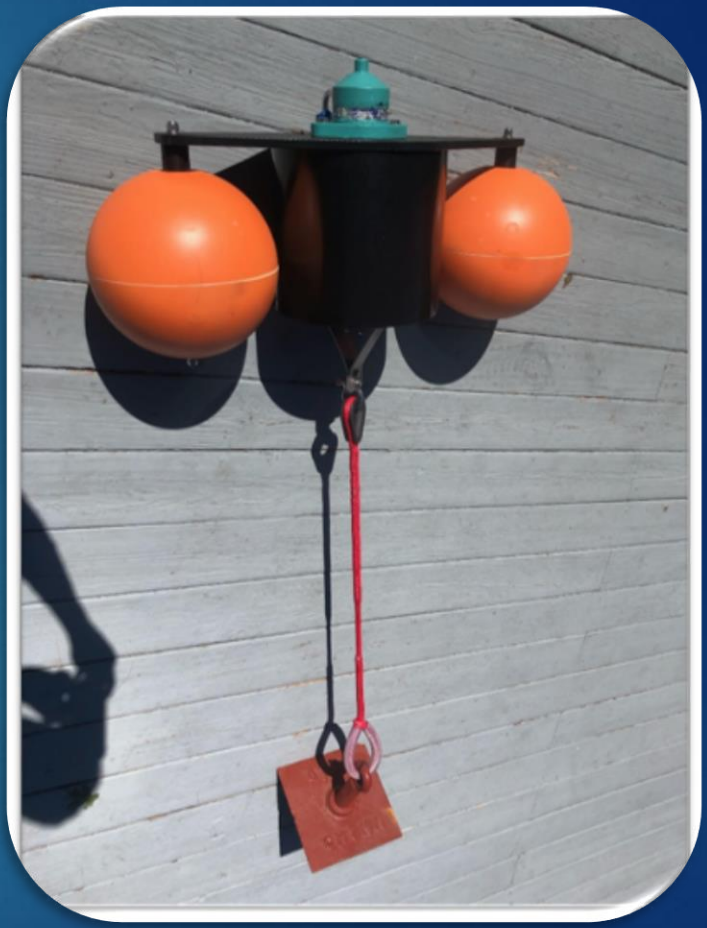
R/V Paumanok



New

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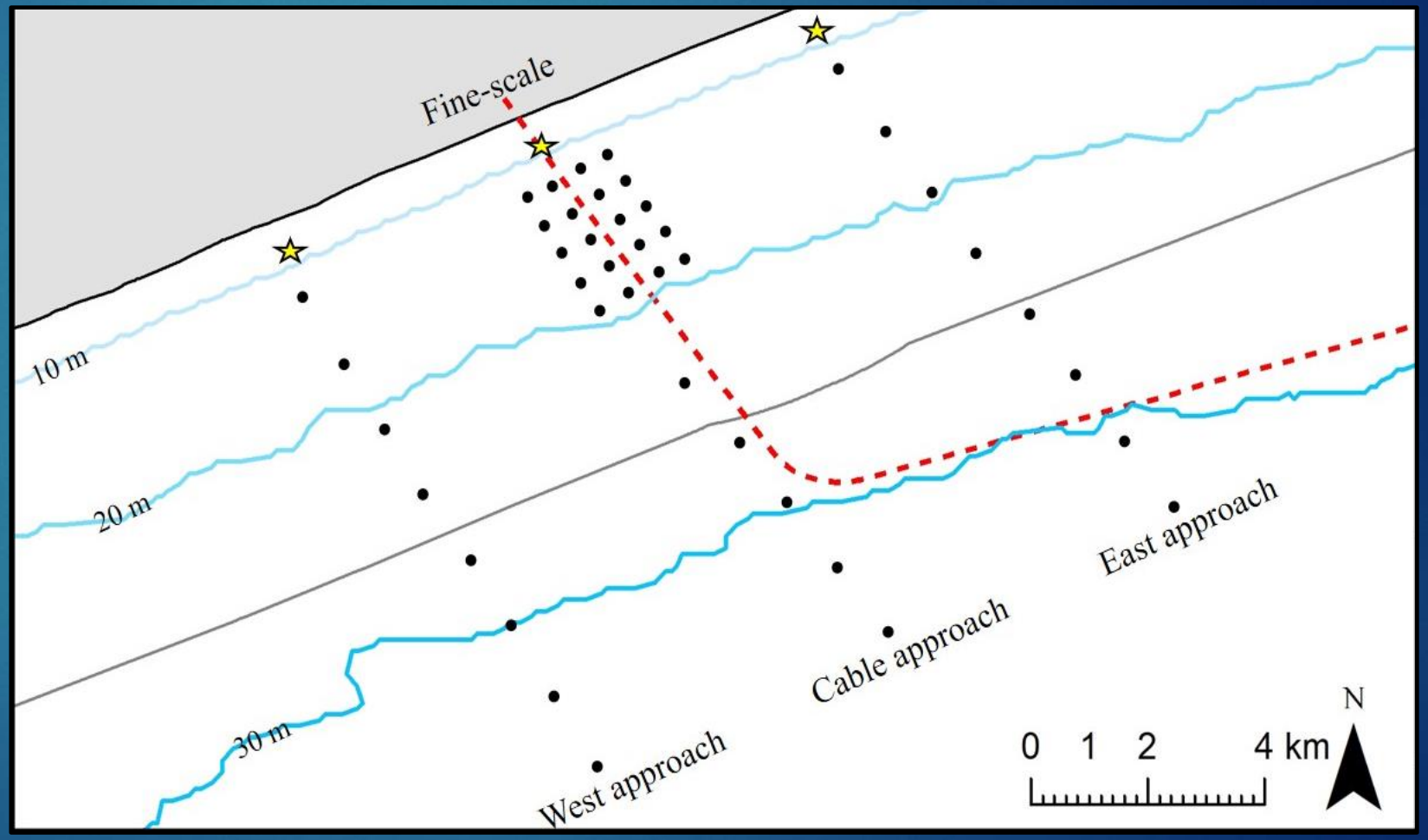
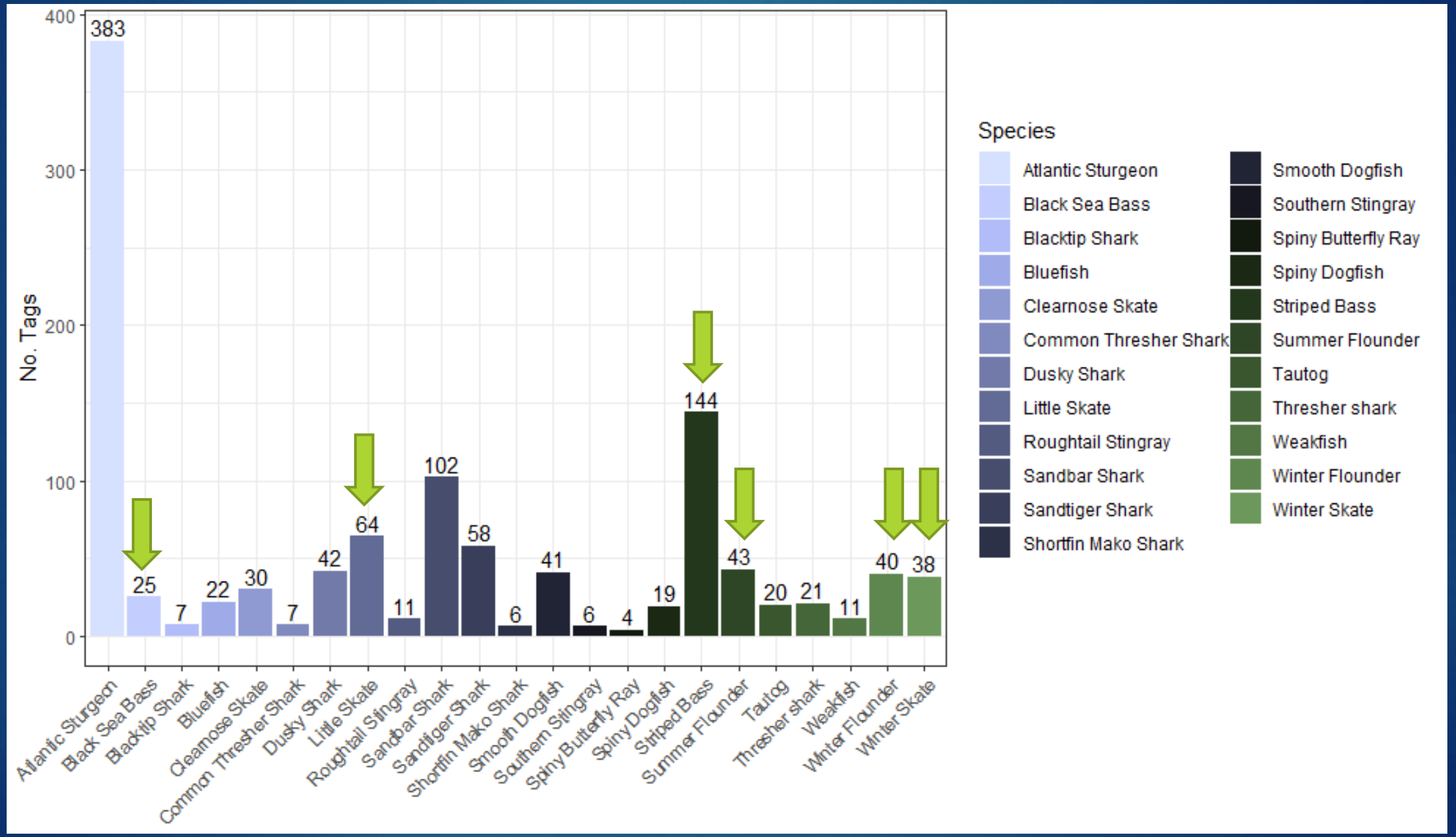
South Fork Wind Farm acoustic array

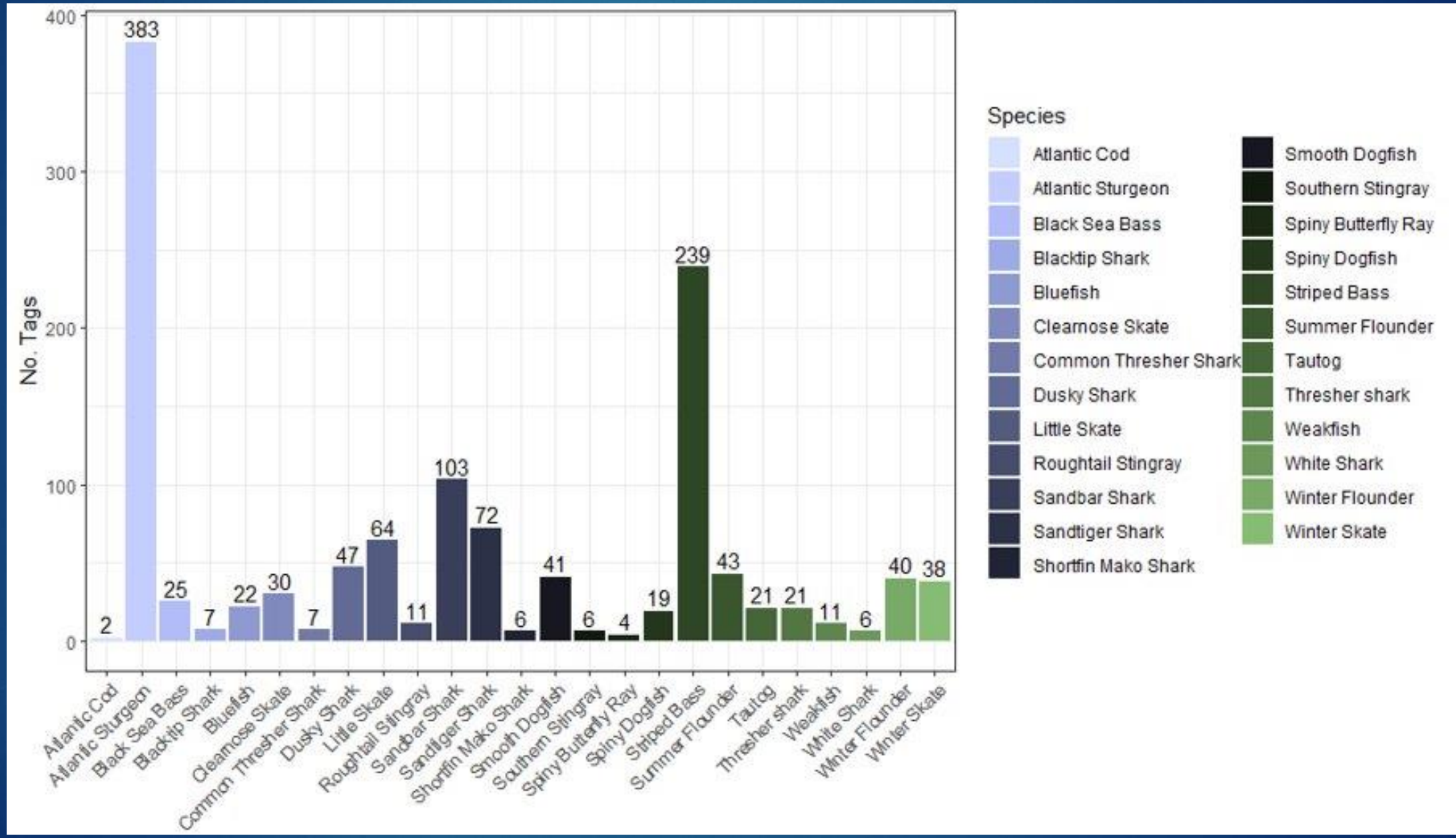
- Red-dashed line represents the planned cable route. Yellow stars represent the location of real-time acoustic receivers (3) and black dots represent VR2W (41) receivers.



SoMAS and MU Active Tags



Total Active Tags



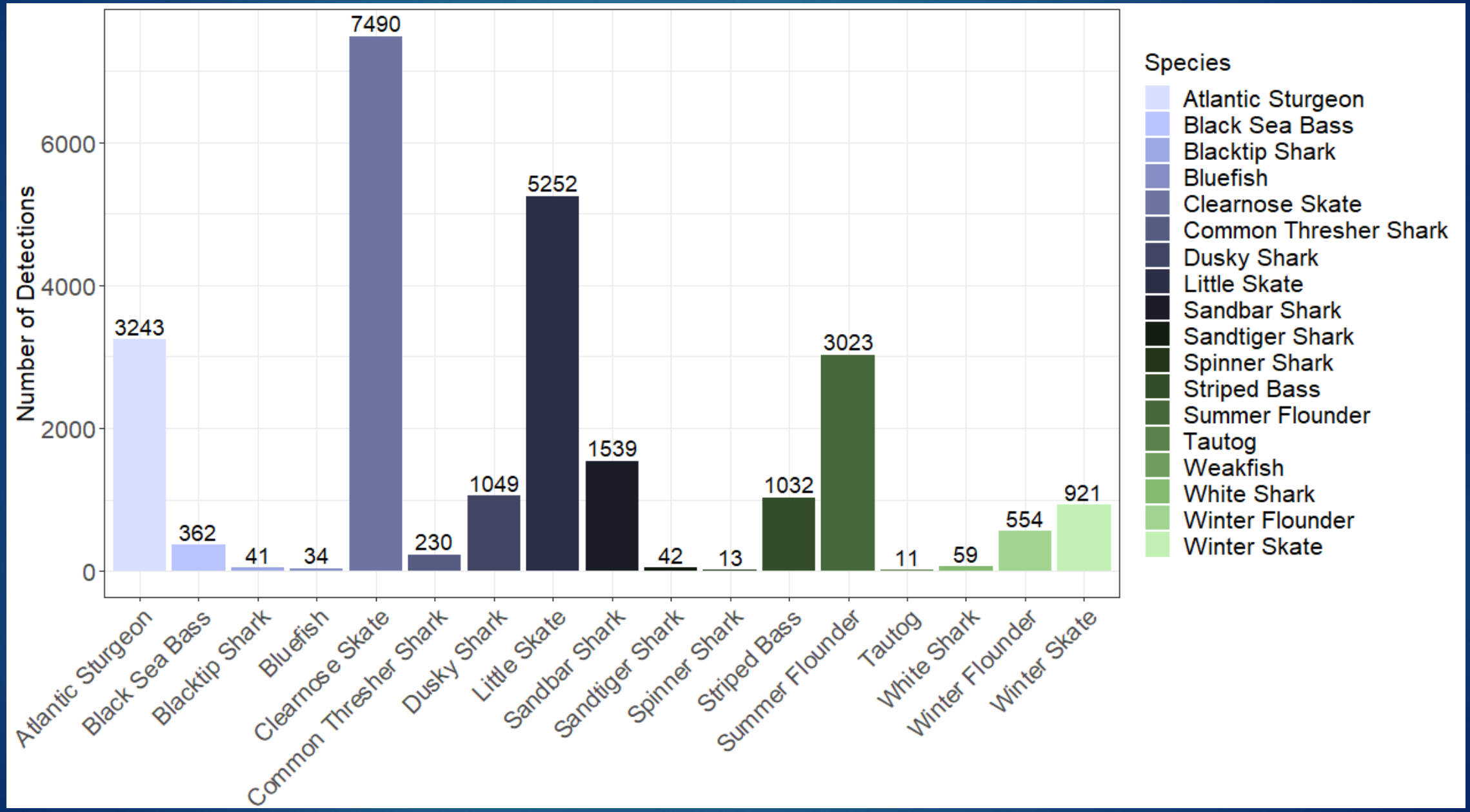
Downloads

	Fine Scale Array	East Approach	Cable Approach	West Approach
Total Receivers	20 Receivers	8 Receivers	7 Receivers	8 Receivers
	Spring Download Receiver Status			
Successfully Downloaded	20/20	5/8	3/7	4/8
Lost & Recovered	-	-	-	**1
Lost	-	3	*4*	3
	Summer Download Receiver Status			
Successfully Downloaded	13/20	7/8	5/7	5/8
Lost & Recovered	2 Returned by Trawlers: 06/23/22	1 Returned by Trawlers: 09/20/22	1 Returned by Trawlers: 09/20/22	-
Lost	5	-	1	3

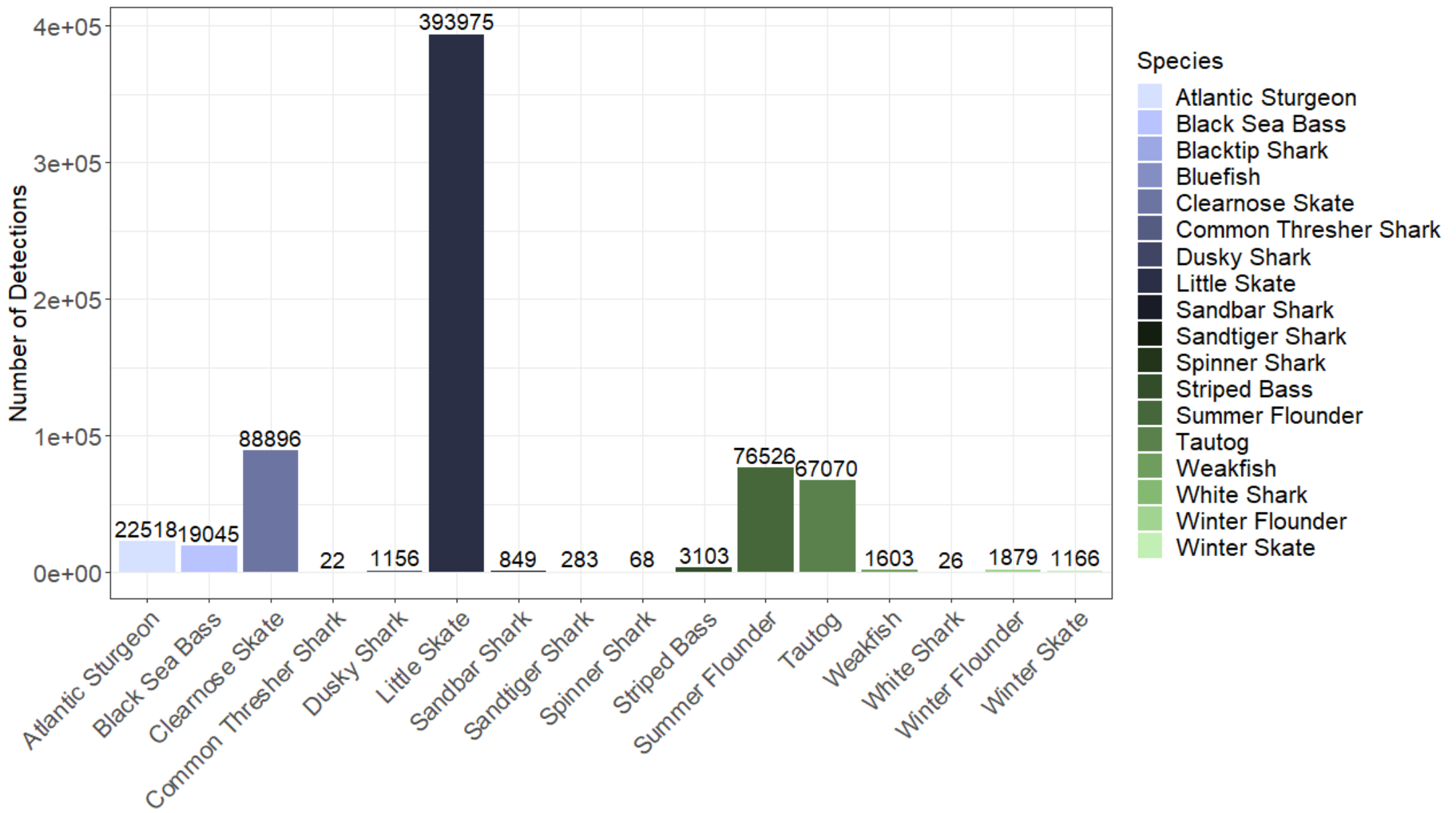
Detections

Total	Known Identity
1,511,633 detections	703,080 detections
905 individuals	402 individuals 18 species

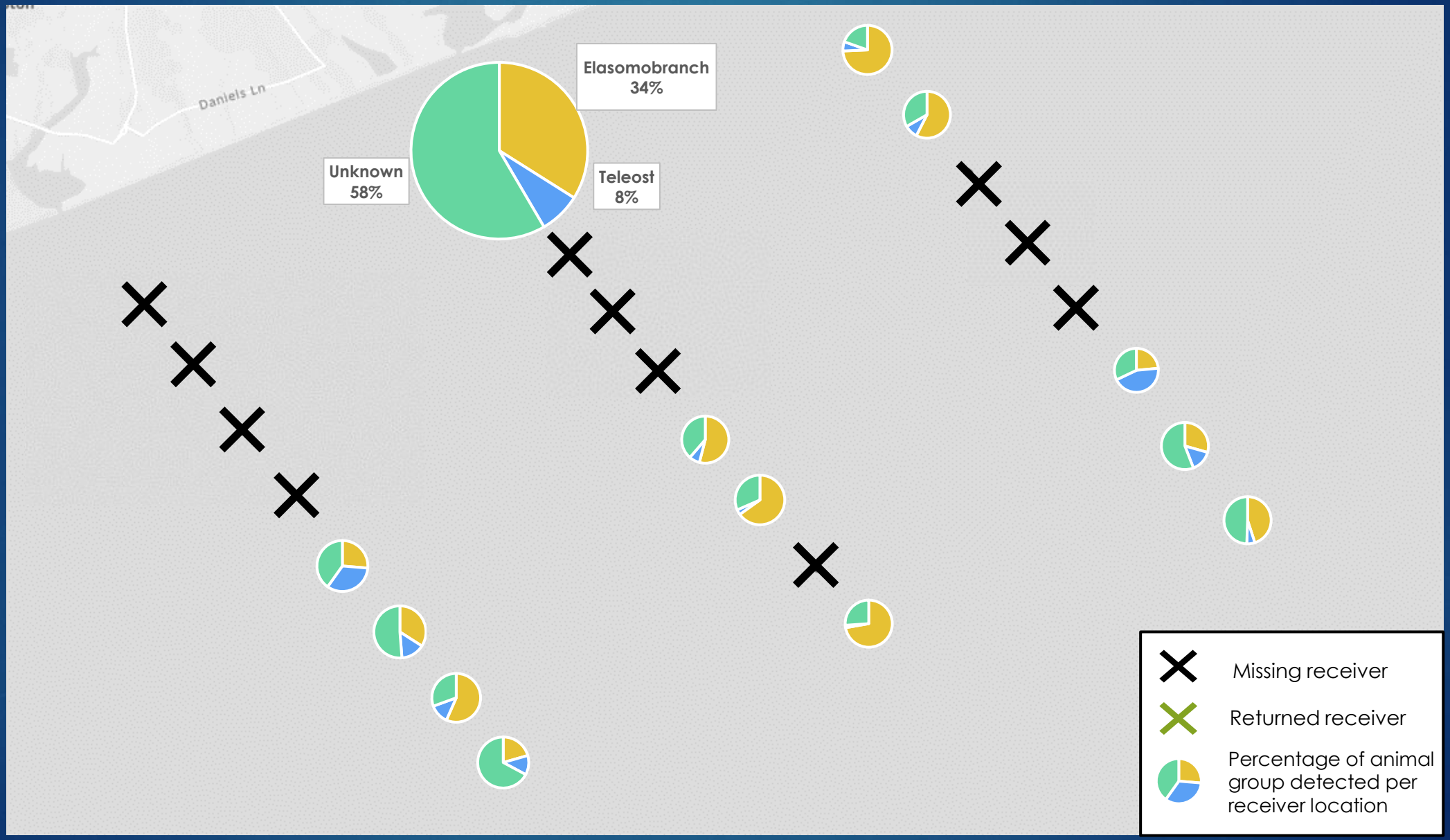
Detections Approach Arrays



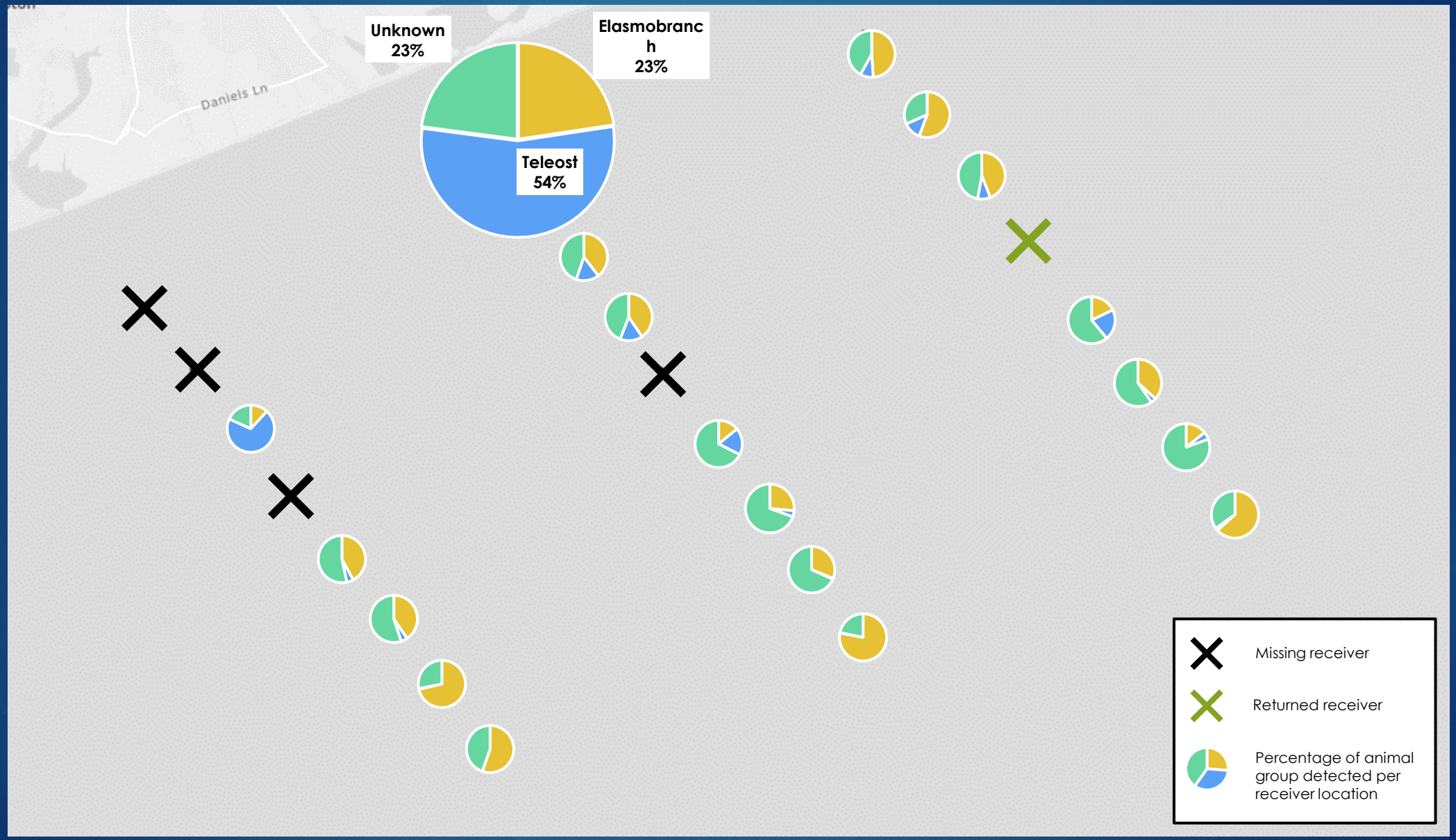
Detections Fine-Scale Array



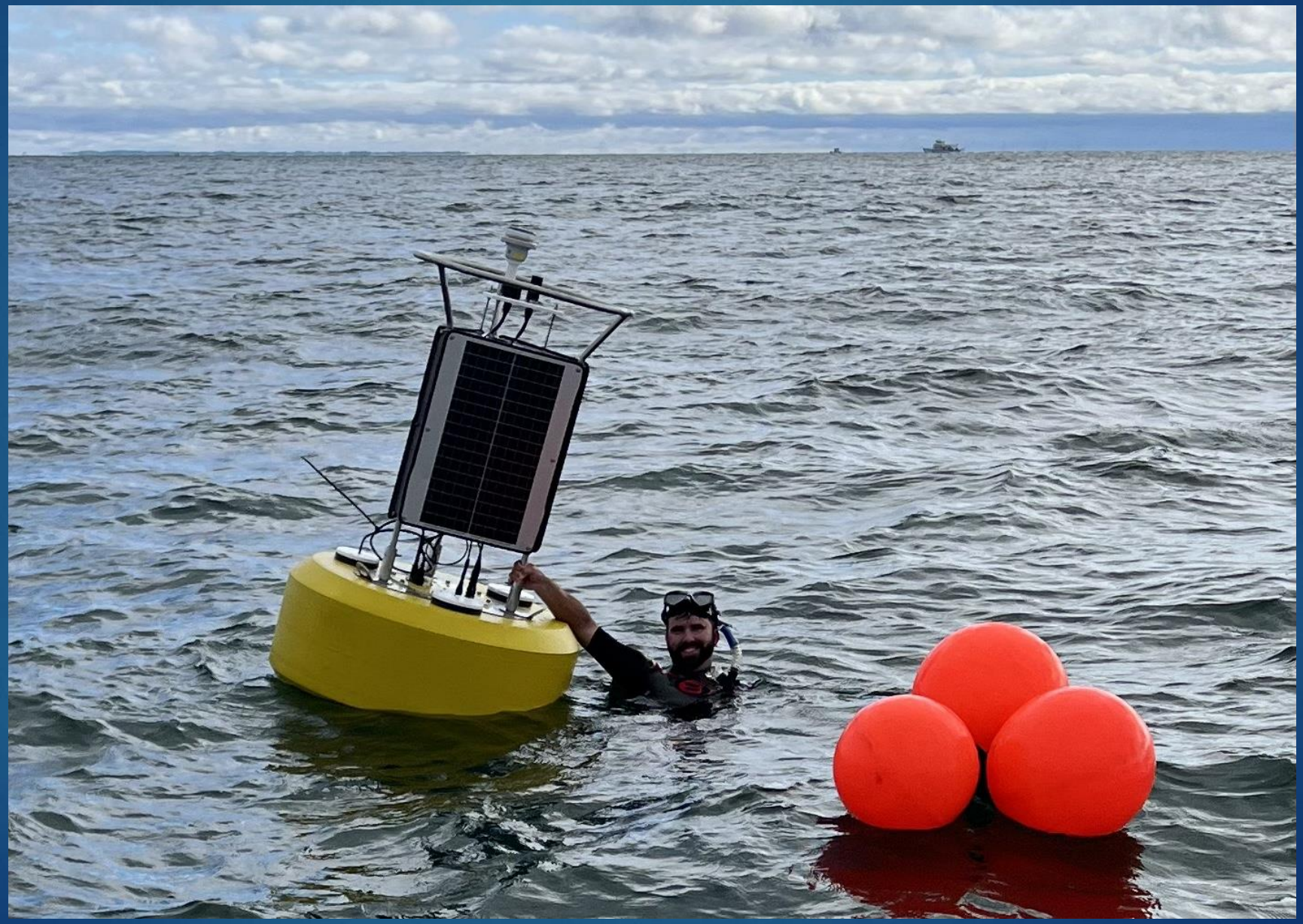
April & May 2022 Download



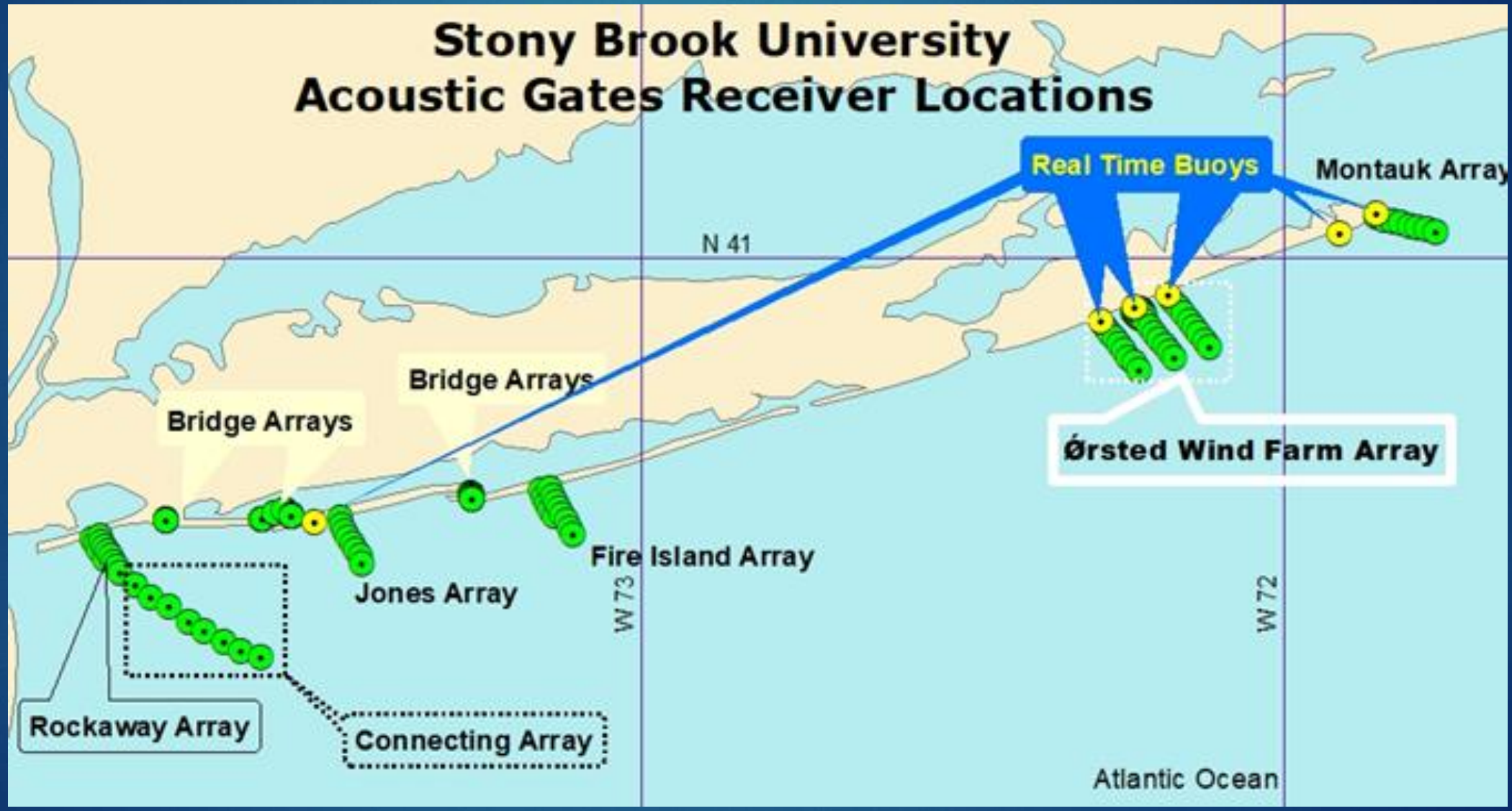
August 2022 Download



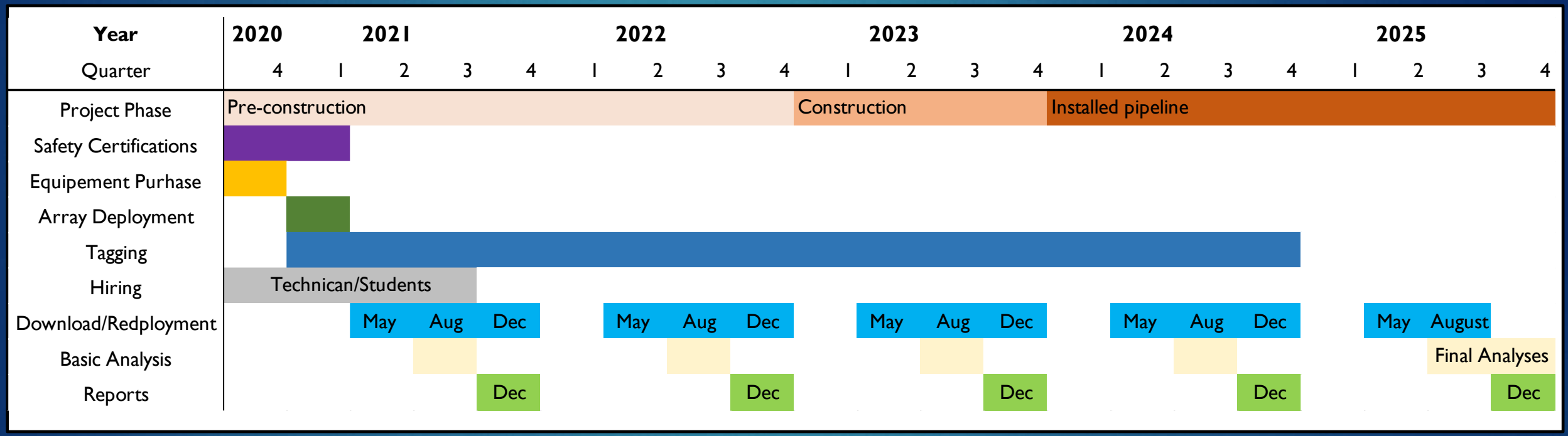
Real-time Status



Contribution to Broader Scientific Research



Project timeline



Questions