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# SCIENCE PROJECTS UPDATE

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SENIOR RESEARCH ASSISTANT



## OUR OFFICE STAFF

- Shannon Scott-Tibbetts, Director of Operations
- Jessica MacDonald, Senior Research Assistant
- Jade Petritchenco, Research Assistant
- Thomas Baker, Ghost Gear Project Coordinator

# OVERVIEW OF 2019 PROJECTS

- Lobster Recruitment Index Project
- ESFPA Research Strategy
  - At-sea sampling and v-notching
- Nearshore Temperature Monitoring Program
- WWF Bait Project
- Sentinel Monitoring Program
- Ghost Gear Project
- LFA 36 Season Extension Data Collection

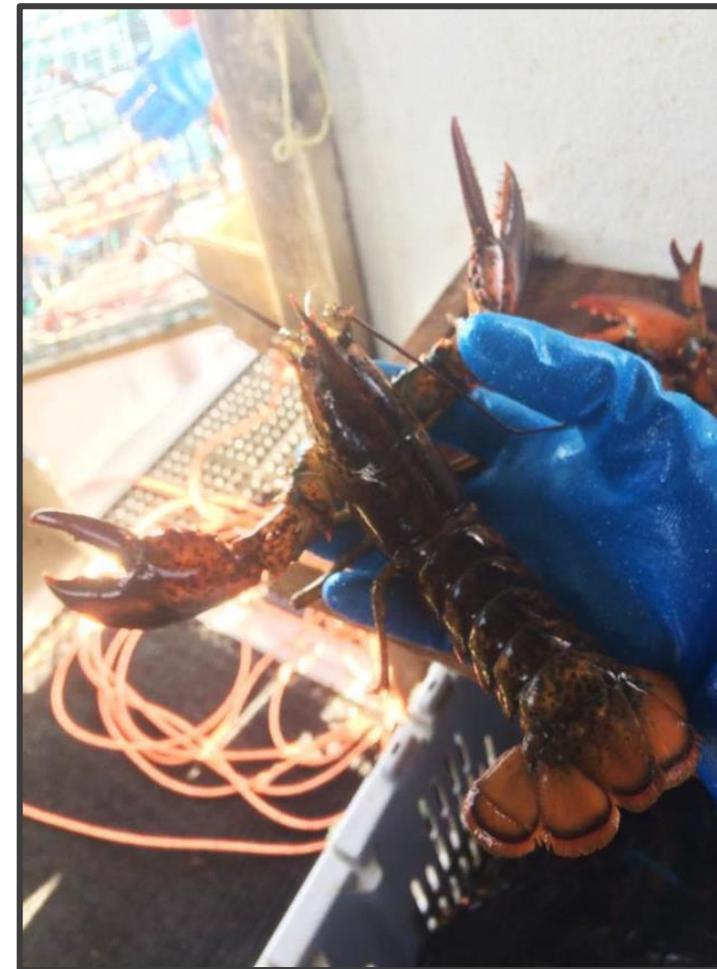
# LOBSTER RECRUITMENT INDEX PROJECT

- LFA's 27-35
- 126 participants for the 2018/2019 year
- Each participant fishes 2-5 science traps
- Placed nearshore where smaller class sizes are observed
- Lobsters caught are sexed and measured using FSRS gauge
- Data recorded in a logbook and sent back to FSRS
- Data entered for DFO to use in stock assessments
- Minilog or TidbiT temperature gauge deployed to record bottom temperatures

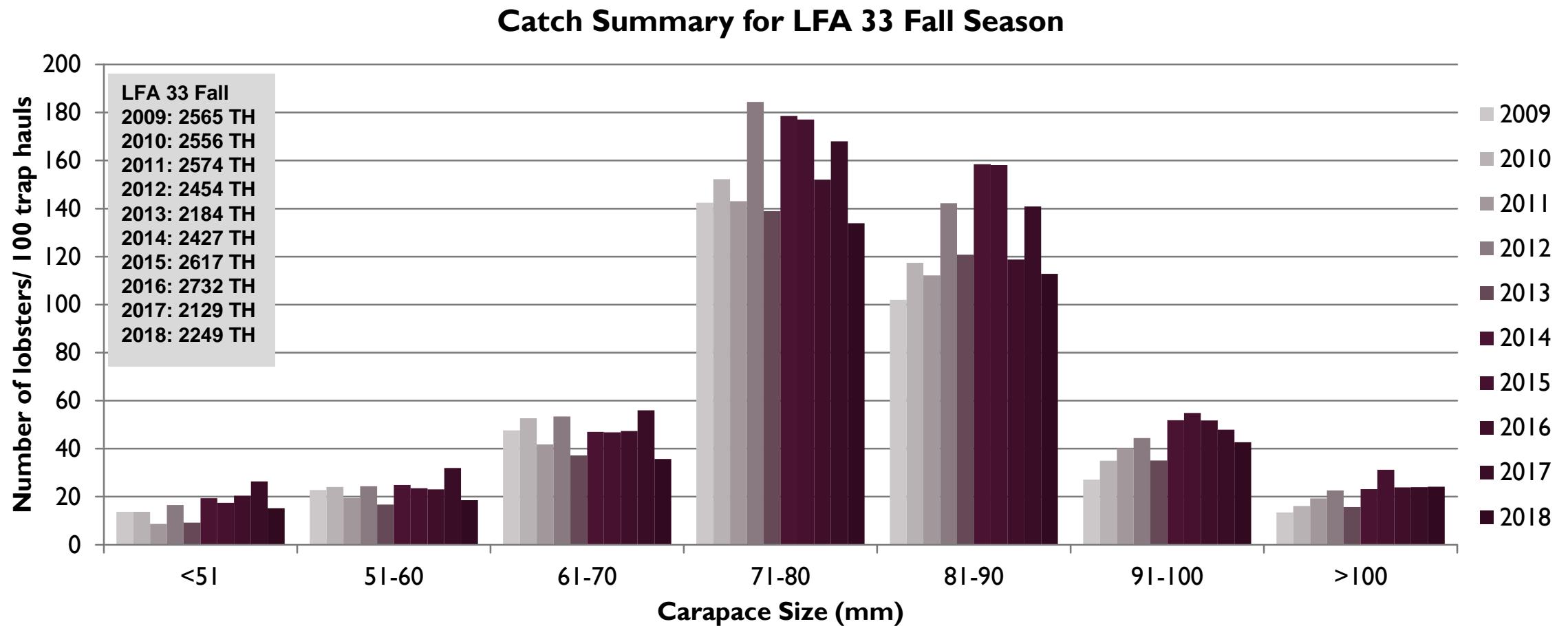


# LOBSTER RECRUITMENT INDEX PROJECT

- Fall 2018 Results
  - 54 participants from LFAs 33-35
  - 144 project traps were fished
  - 3430 trap hauls
  - 15448 lobsters measured
  - 4.5 lobsters caught per trap haul
- Spring 2019 Results
  - 126 participants from LFAs 27-35
  - 377 project traps were fished
  - 12917 trap hauls
  - 96764 lobsters measured
  - 7.5 lobsters caught per trap haul

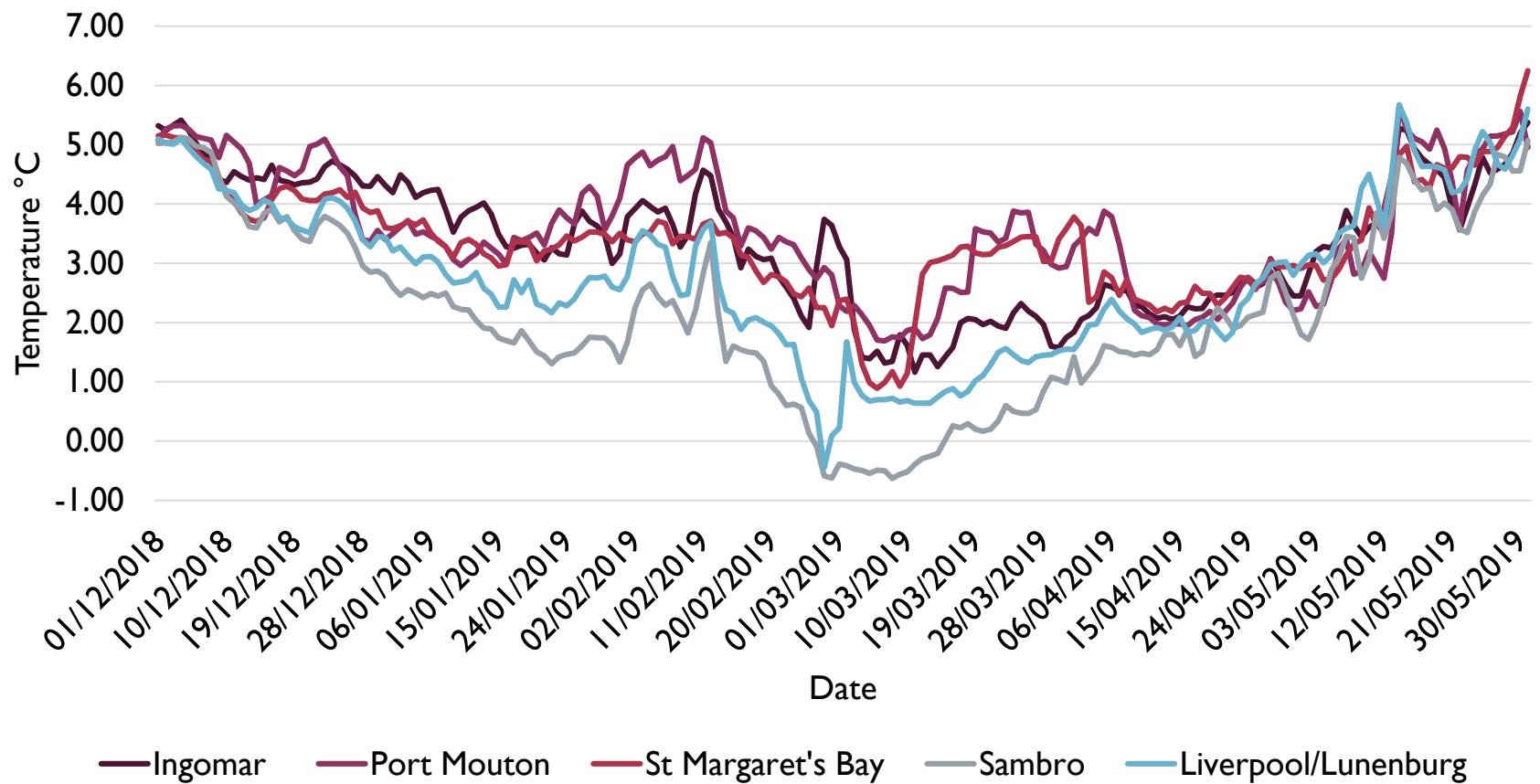


# LOBSTER RECRUITMENT INDEX PROJECT



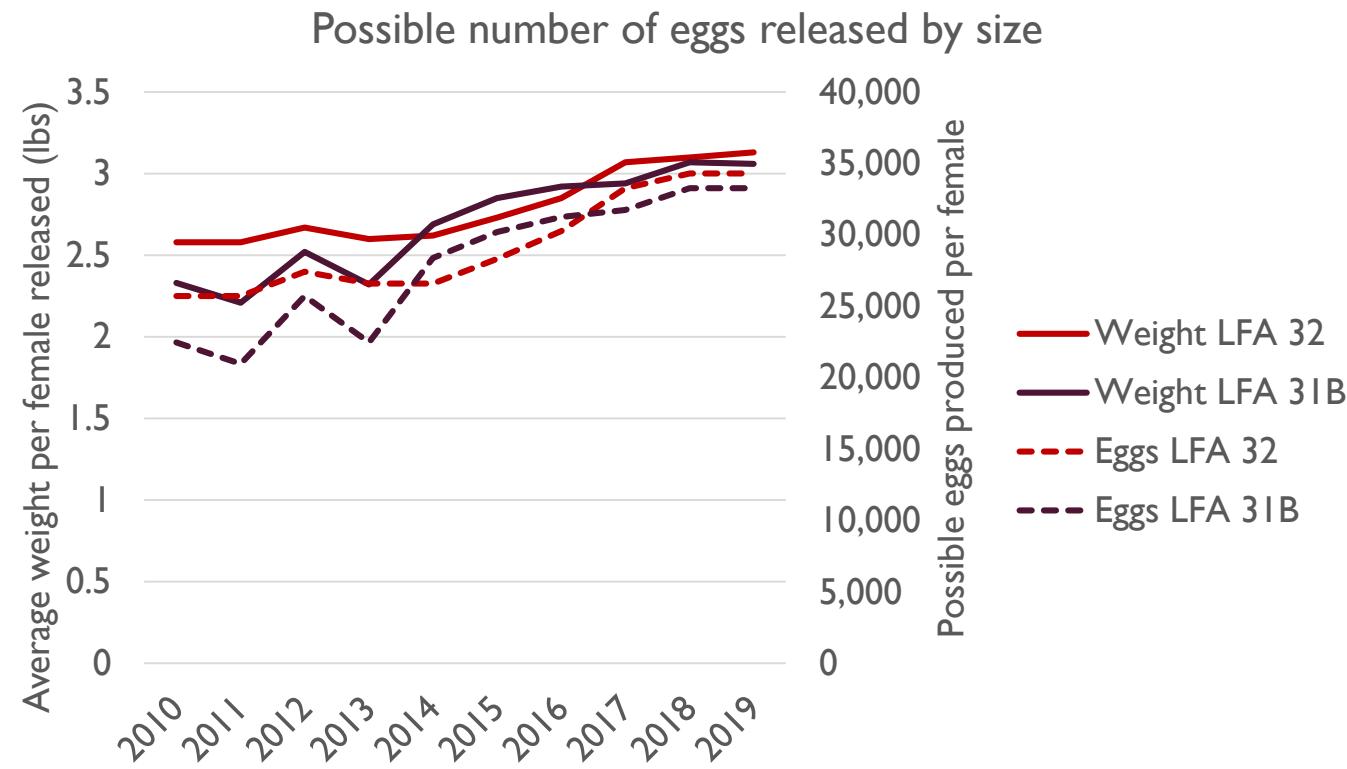
# LOBSTER RECRUITMENT INDEX PROJECT

Average Bottom Temperature for LFA 33  
Fall 2018 - Spring 2019



# ESFPA RESEARCH STRATEGY-V-NOTCHING

- Last year was the 20<sup>th</sup> season for v-notching
- Released 490,663 pounds to date
- FSRS technicians work to
  - Weigh, count, and measure lobsters to ensure they are >110mm in carapace length
  - Ensure lobsters are healthy and of superior quality
  - V-notch and release



# ESFPA RESEARCH STRATEGY-V-NOTCHING LFA 31B

<b>LFA</b>	<b>Harbour</b>	<b>Pounds Released</b>	<b>Number Released</b>	<b>Average Weight per Lobster</b>
<b>31B</b>	Carlos Cove	220	68	3.24
<b>31B</b>	Coddles Harbour	440	143	3.08
<b>31B</b>	Cole Harbour	277	101	2.74
<b>31B</b>	Drumhead	440	151	2.91
<b>31B</b>	Ecum Secum (LFA 31B)	550	174	3.16
<b>31B</b>	Fishermen's Harbour	440	157	2.80
<b>31B</b>	Isaac's Harbour	110	29	3.79
<b>31B</b>	Larry's River	440	149	2.95
<b>31B</b>	Liscomb	770	251	3.07
<b>31B</b>	Marie Joseph	440	145	3.03
<b>31B</b>	New Harbour	660	226	2.92
<b>31B</b>	Port Bickerton	881	269	3.28
<b>31B</b>	Port Felix	680	228	2.98
<b>31B</b>	Sonora	550	171	3.22
<b>31B</b>	Torbay	110	31	3.55
<b>31B</b>	Wine Harbour	330	103	3.20
<b>Total LFA 31B</b>		7338	2396	3.06

# ESFPA RESEARCH STRATEGY-V-NOTCHING LFA 32

LFA	Harbour	Lobster Released (lbs)	Lobster Released (number)	Average weight per lobster (lb/lobster)
32	Beaver Harbour	330	106	3.11
32	East Chezzetcook	440	139	3.17
32	Ecum Secum	2090	661	3.16
32	Harrigan Cove	440	148	2.97
32	Jeddore	2310	745	3.10
32	Little Harbour	990	299	3.31
32	Marie Joseph	495	169	2.93
32	Mitchell Bay	210	73	2.88
32	Murphy's Cove	1023	352	2.91
32	Mushaboom	1705	530	3.22
32	Musquodobiot Harbour	440	140	3.14
32	Owl's Head	990	335	2.96
32	Petpeswick	616	200	3.08
32	Port Dufferin	1100	331	3.32
32	Quoddy	330	104	3.17
32	Sober Island	660	214	3.08
32	Spry Bay	440	136	3.24
32	Three Fathom Harbour	935	304	3.08
32	Pleasant Harbour	110	33	3.33
32	Pope's Harbour	550	156	3.53
<b>Total LFA 32</b>		16204	5175	3.13

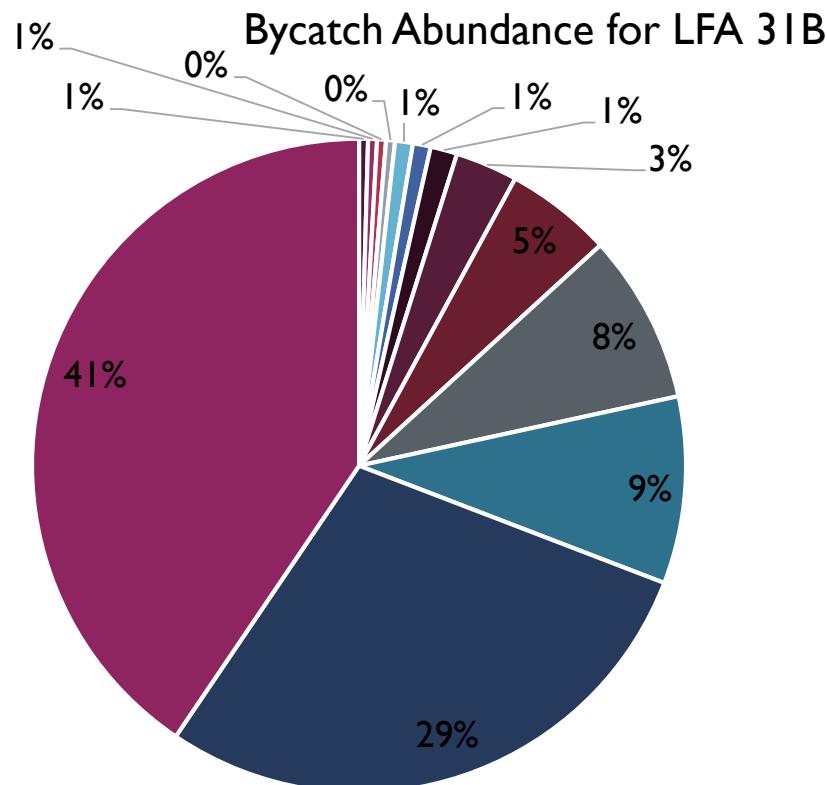
# ESFPA RESEARCH STRATEGY- AT-SEA SAMPLING LFA 31B

Location	Date	Lobsters Sampled	V-Notched	Traps Sampled	Empty Traps	Bycatch
<b>Liscomb</b>	April 26	326	0	204	3	0
	May 10	788	0	244	7	60
	May 23	789	1	249	4	62
	June 5	661	0	246	8	27
<b>Marie Joseph</b>	May 4	870	1	251	3	33
	May 24	953	6	248	2	32
	May 30	583	1	247	23	9
	June 12	350	6	137	3	4
	Total	5320	15	1826	53	227

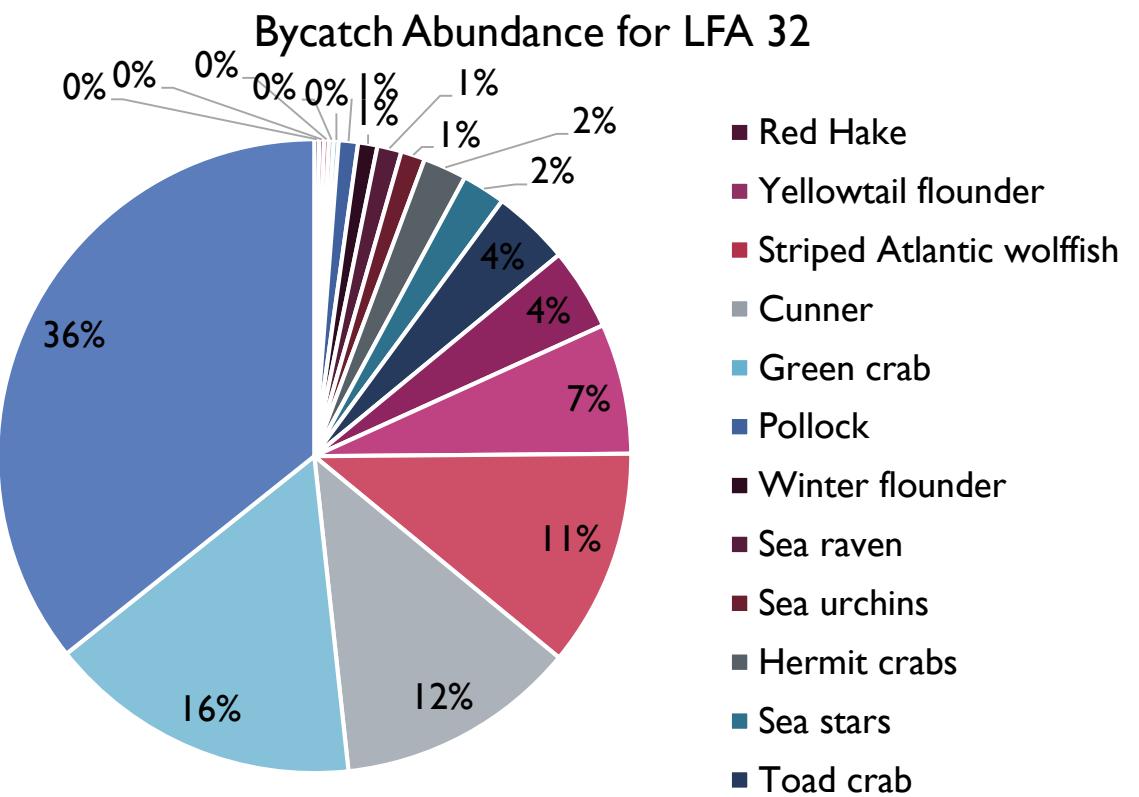
# ESFPA RESEARCH STRATEGY- AT-SEA SAMPLING LFA 32

Location	Date	Lobsters Sampled	V-Notched	Traps Sampled	Empty Traps	Bycatch
<b>Owl's Head</b>	May 4	319	0	224	51	42
	May 13	421	1	248	53	36
	May 29	605	4	248	41	9
	June 11	431	2	226	44	16
<b>Port Dufferin</b>	May 2	440	0	230	34	13
	May 17	434	2	231	37	7
	June 1	485	1	247	19	20
	June 11	465	5	246	37	7
<b>Tangier</b>	May 8	205	0	97	27	19
	May 23	982	2	250	21	24
	May 28	579	7	240	27	45
	June 4	674	5	241	22	68
<b>Three Fathom Harbour</b>	April 26	258	1	86	11	3
	May 7	325	0	119	13	10
	May 17	990	1	243	4	29
	June 5	149	1	50	1	11
	June 19	491	1	168	9	47
	Total	8253	33	3394	451	406

# ESFPA RESEARCH STRATEGY- BYCATCH SUMMARY

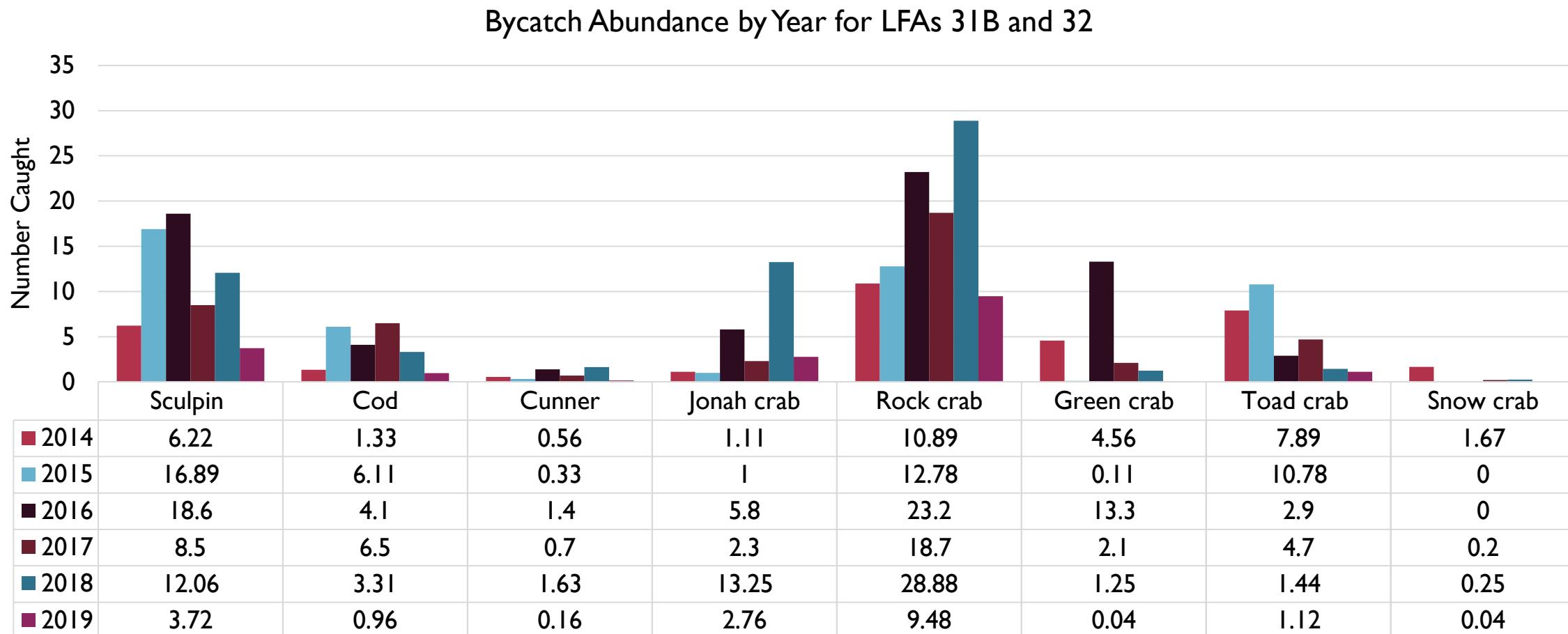


- Redfish
- Winter flounder
- Snow crab
- Sea urchins
- Hermit crabs
- Sea stars
- Cunner
- Atlantic cod
- Toad crab
- Jonah crab
- Shorthorn sculpin
- Whelks

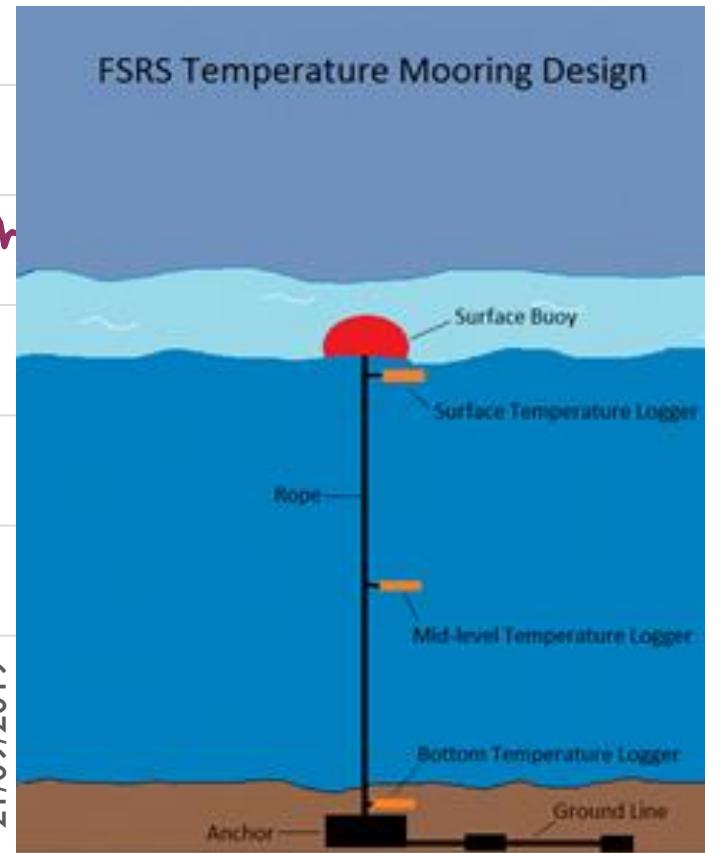
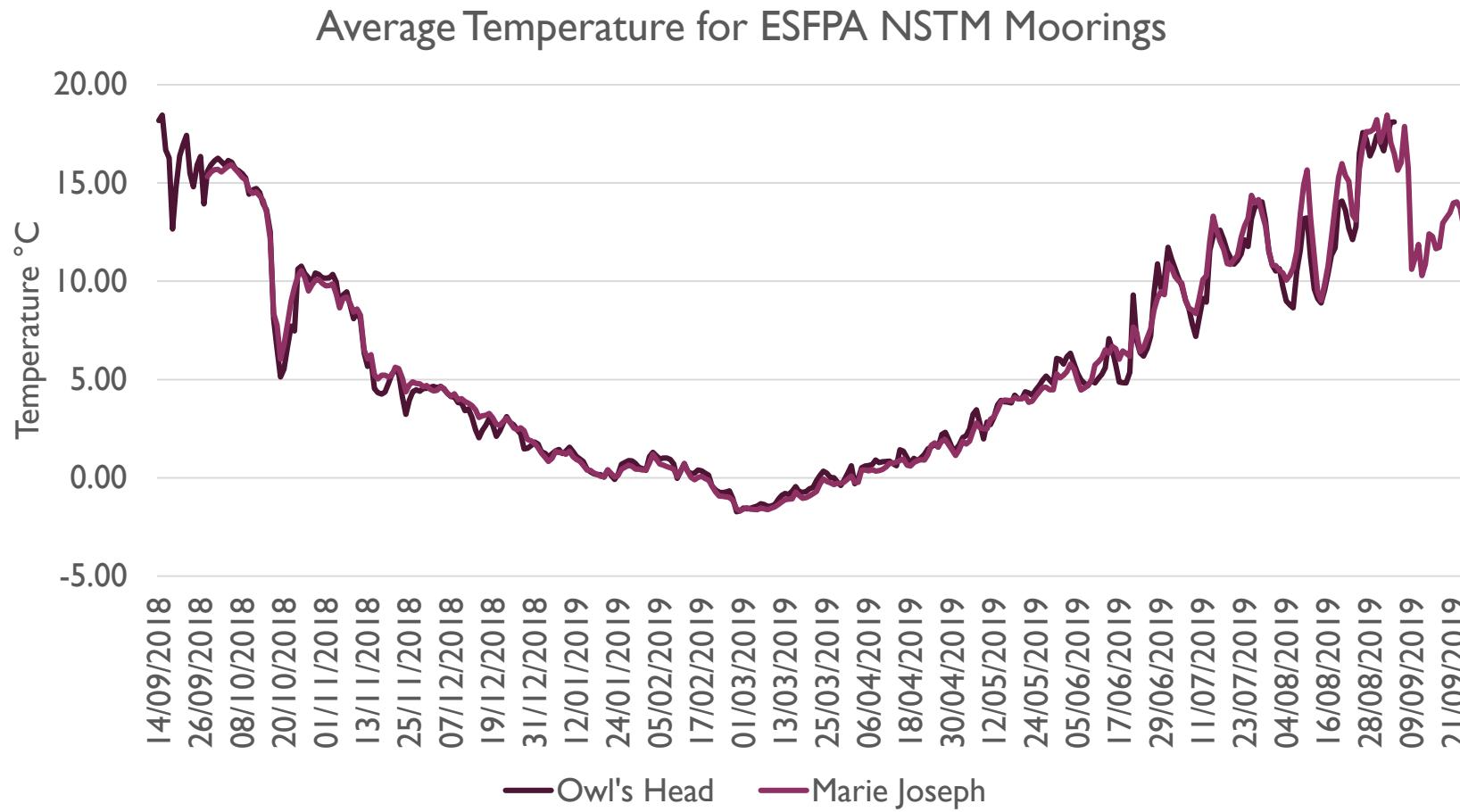


- Red Hake
- Yellowtail flounder
- Striped Atlantic wolffish
- Cunner
- Green crab
- Pollock
- Winter flounder
- Sea raven
- Sea urchins
- Hermit crabs
- Sea stars
- Toad crab

# ESFPA RESEARCH STRATEGY- BYCATCH SUMMARY

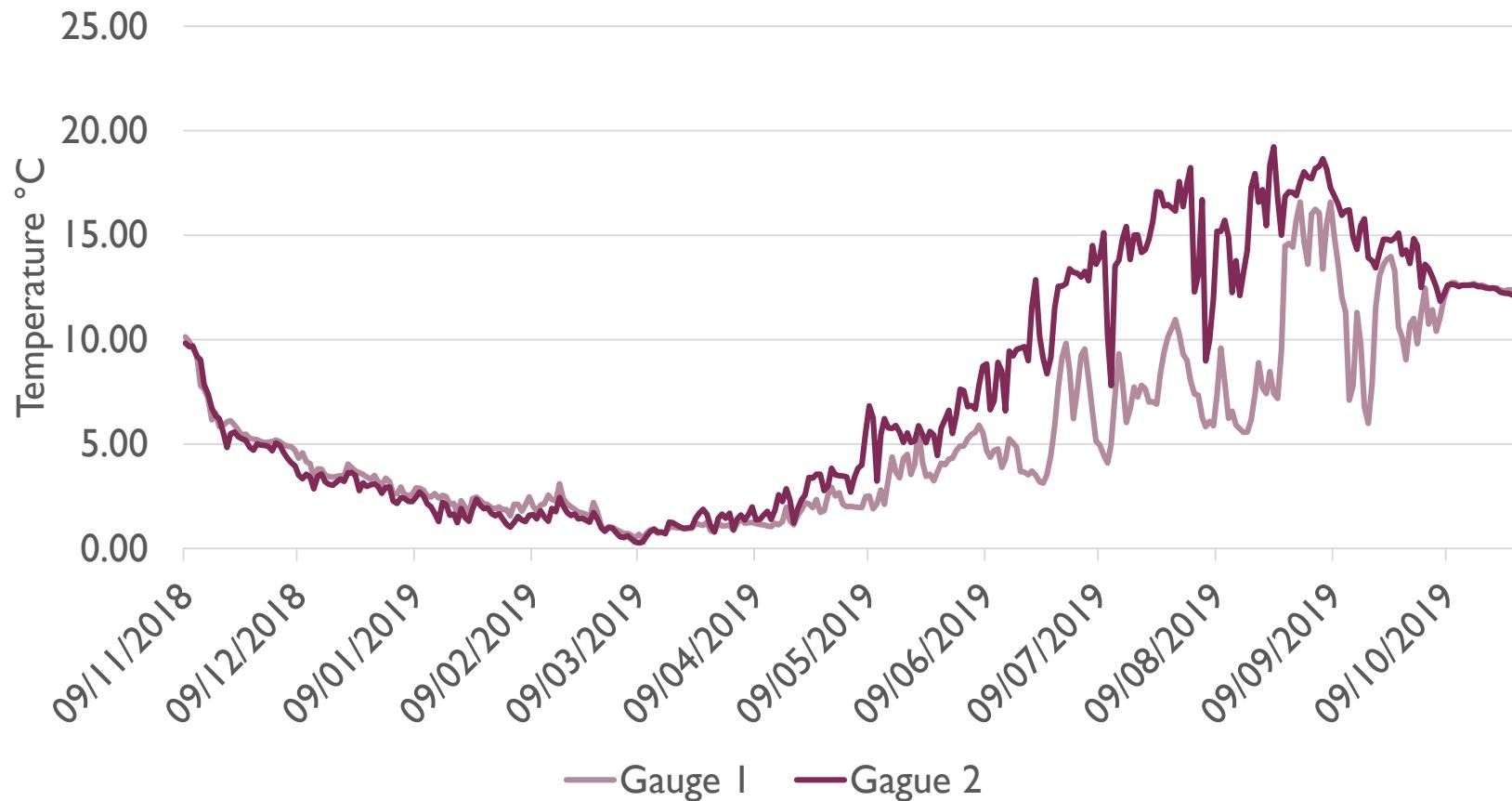


# ESFPA RESEARCH STRATEGY- TEMPERATURE MONITORING



# NEARSHORE TEMPERATURE MONITORING PROGRAM

NSTM 2018-2019 Northwest Cove



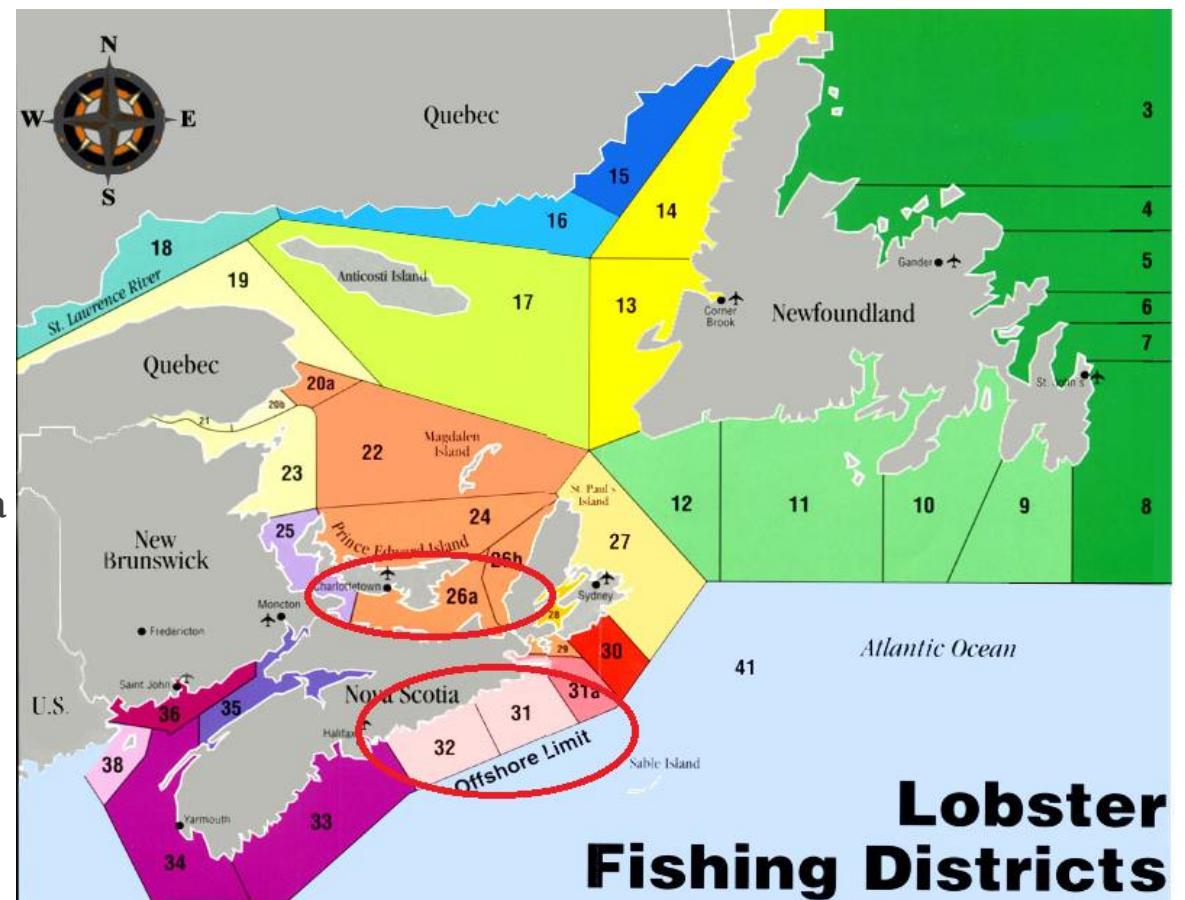
# NEARSHORE TEMPERATURE MONITORING PROGRAM

NSTM 2018-2019 Camp Cove



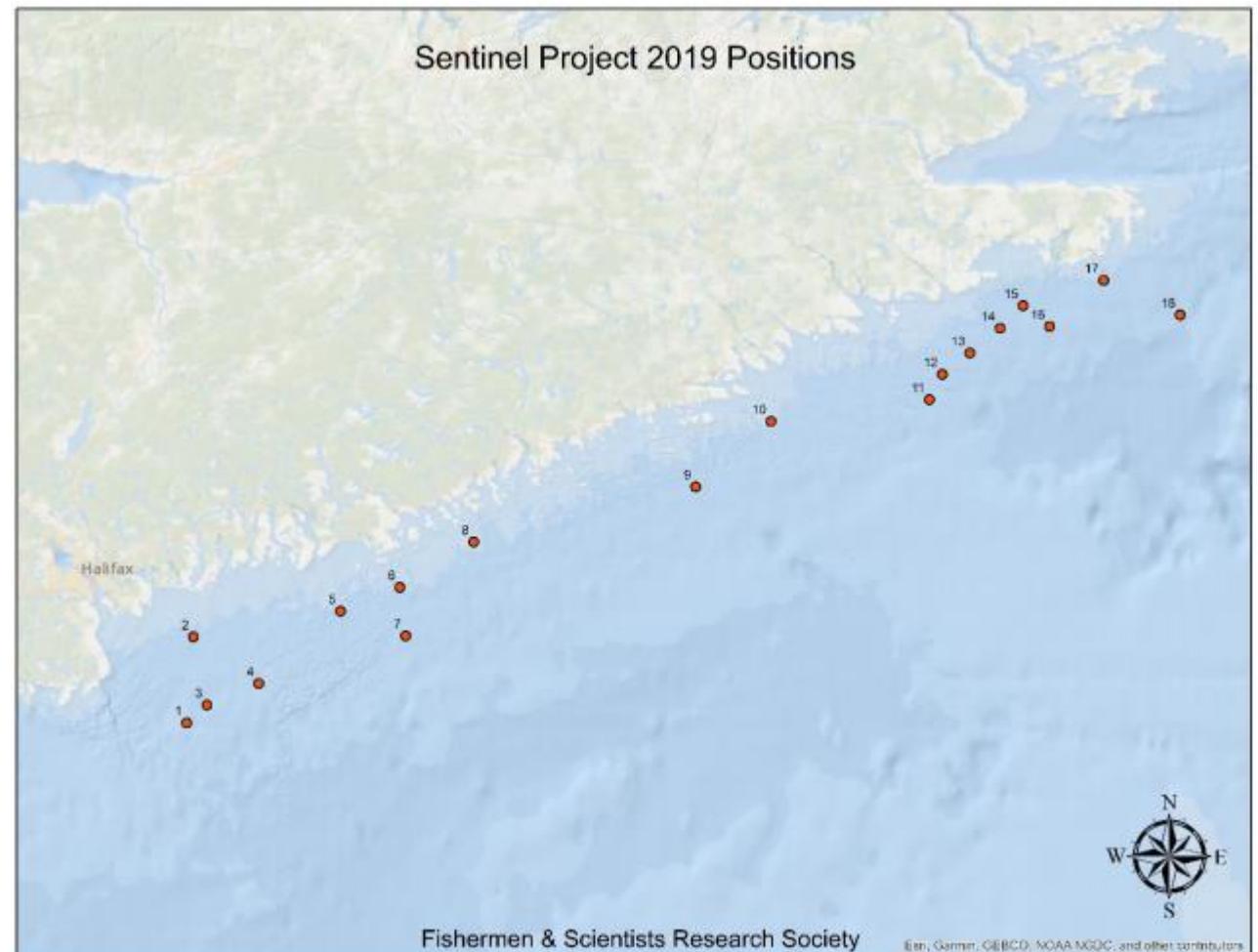
# WWF BAIT PROJECT

- Phase 2 of the WWF Bait Project
- Following recommendations of the Atlantic Mackerel Working Group and feedback from participants:
  - Moving to the Northern and Eastern Shores of Nova Scotia
  - Including crab fisheries
- Continuing to conduct focus groups

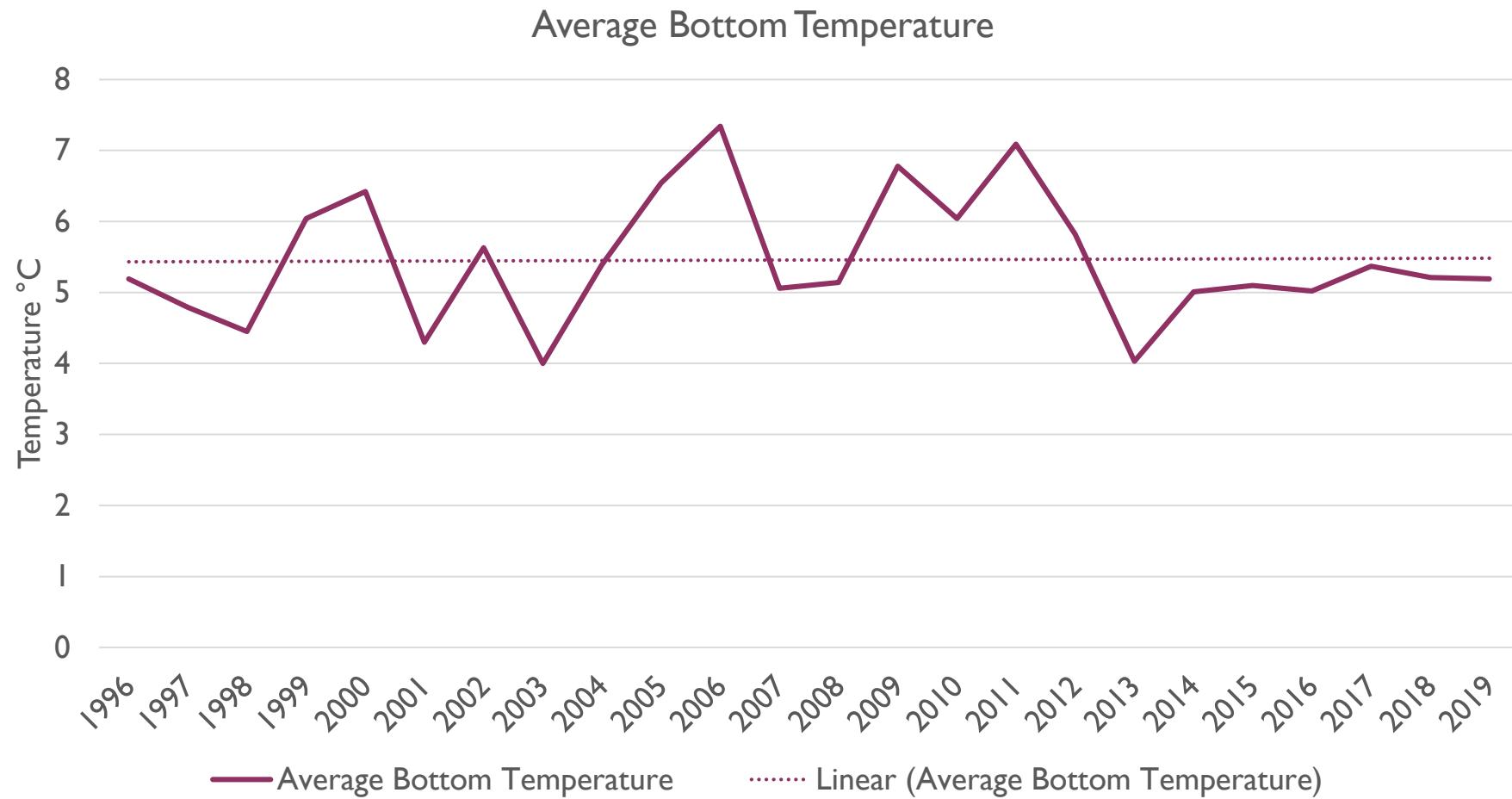


# SENTINEL MONITORING PROGRAM

- Groundfish survey
- Monitoring catch rates
- 4VsW on the Eastern Shore
- Vessels set gear in 18 inshore (less than 50 fathoms) stations
- Sampled September 28 – October 4, 2019



# SENTINEL MONITORING PROGRAM



# HOST GEAR PROJECT

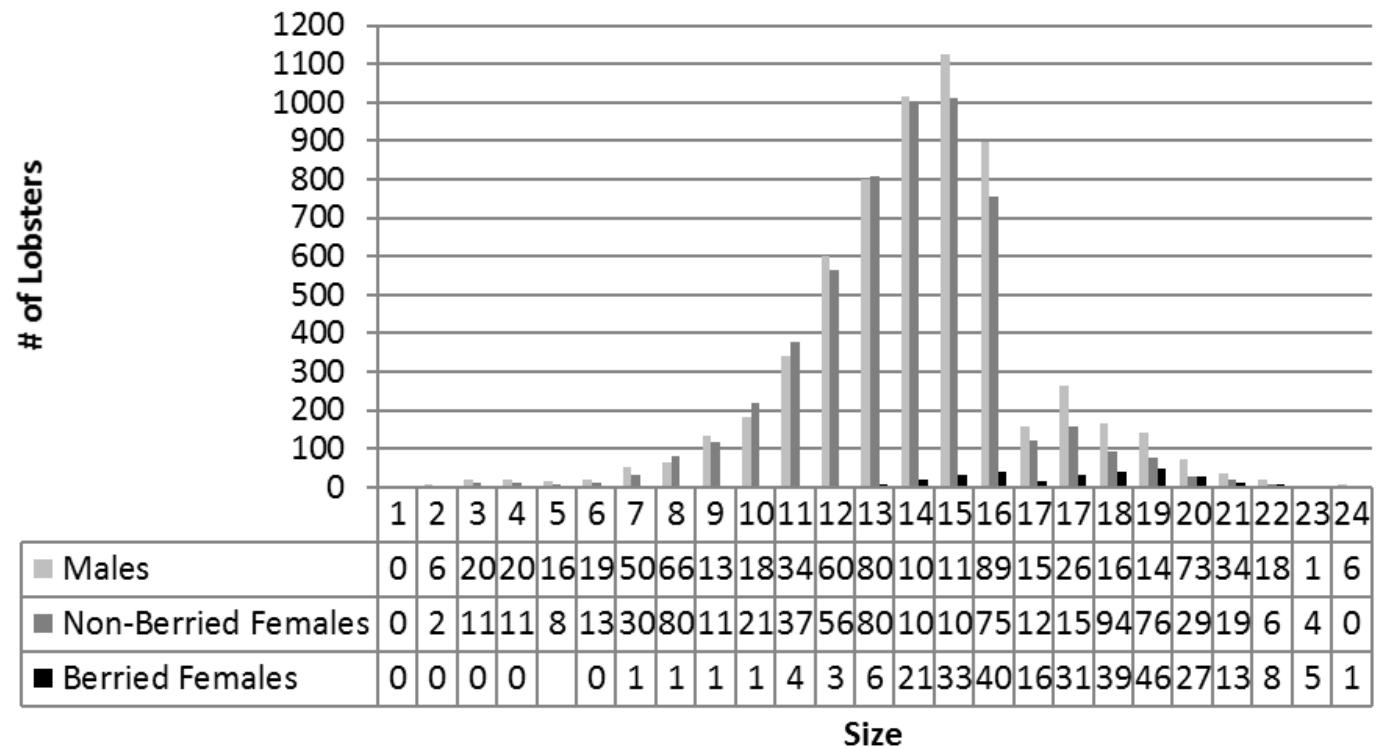
- Collecting local ecological knowledge through focus groups where participants meet to answer questions relating to quantifying, recovering, disposing, and reducing ghost gear in Nova Scotia
- 23 participants from the lobster fishing industry in LFAs 32 & 33
- Most common causes of gear loss were weather and vessel strikes
- Barriers to collecting lost gear include the inability to find it and legislation preventing the possession of another fishers' gear on board



# LFA 36 SEASON EXTENSION DATA COLLECTION

- 10-day season extension
- Must implement a monitoring program to show no harm to the stock
- Spring 2019 season:
  - 23 participants
- We will be continuing on with this program for the Spring 2020 season
  - 38 participants

**Size and Sex of Lobsters Caught in LFA 36, Spring 2019**



## UPCOMING PROJECTS

- Lobster Recruitment Index Project
- ESFPA Research Strategy
  - At-sea sampling and v-notching
- Sentinel Monitoring Program
- Nearshore Temperature Monitoring Program
- LFA 36 Season Extension Data Collection