



Collaborative Ghost Gear Remediation: LFA 33 & 34 Year 1 Retrieval Update

Alexa Goodman

Ghost Gear Project Coordinator,
Coastal & Marine Team
alexa@coastalaction.org

Jessie McIntyre

Ghost Gear Field Technician,
Coastal & Marine Team
jessie@coastalaction.org

Coastal & Marine Team



Ariel Smith
Team Lead



Alexa Goodman
Ghost Gear
Project Coordinator



Jessie McIntyre
Ghost Gear
Field Technician

Marine Debris: Ghost Gear

- Abandoned, lost and discarded fishing gear (ALDFG), aka 'ghost gear', makes up 40 – 70% of all macro marine debris. (GGGI, 2017).
- In Atlantic Canada, it's estimated that 0.5 - 2% of total allowable traps are lost annually in trap fisheries, like lobster and crab. (Goodman, 2020).



Recovered wooden lobster trap trawl off Shelburne aboard 'Bradley & Emma'

The Local Problem

- Lobster is Atlantic Canada's **largest inshore fishery**
- **High annual gear use**; not always brought to shore; **unclear estimation** of how much remains at-sea
- **Generation**: environmental conditions, gear conflicts, poor gear condition, inappropriate disposal, mis-management accidents
- **Effects** on humans & the environment:



Project Overview

- Goal: Prevent, reduce, and assess impacts of ALDFG on the South Shore of Nova Scotia (LFAs 33, 34, and 35 – NS only) from July 2020 to March 2022.
- Objectives:
 - Equip 10 harbours with rope recycling bins
 - Complete 159 retrieval days
 - Divert ~2,000 lobster traps and 22 tonnes of rope
 - Engage ~40 partners and apply new technologies



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Canada

This project was undertaken with the financial support of Fisheries and Oceans Canada's (DFO) [Sustainable Fisheries Solutions and Retrieval Support Contribution Program](#).



Project Partners

Partners



**Clean Annapolis
River Project**



**DALHOUSIE
UNIVERSITY**



Collaborators



Special Thanks To



Small Craft
Harbours

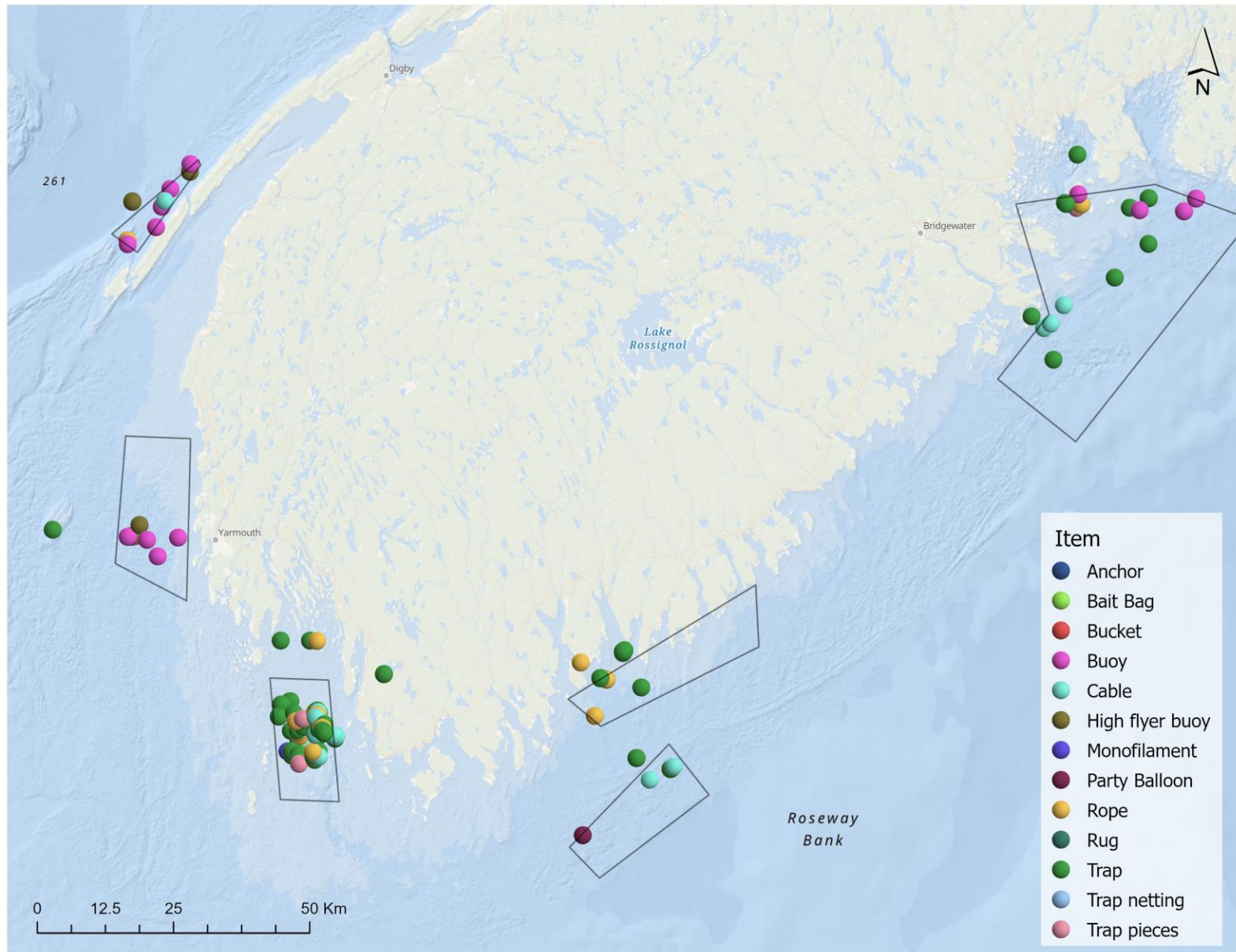


Accomplishments to date

- 60 retrieval days completed in LFA 33 & 34 with 5 captains
 - Consistent collaboration & communication with partners
 - Many of the retrieval days happened simultaneously
 - Weather and uncontrollable factors managed quickly and efficiently
- Tested 6 different grapple types
- Removed ~7 tonnes of debris from the seafloor and ~2 tonnes from shorelines, ~9 tonnes total

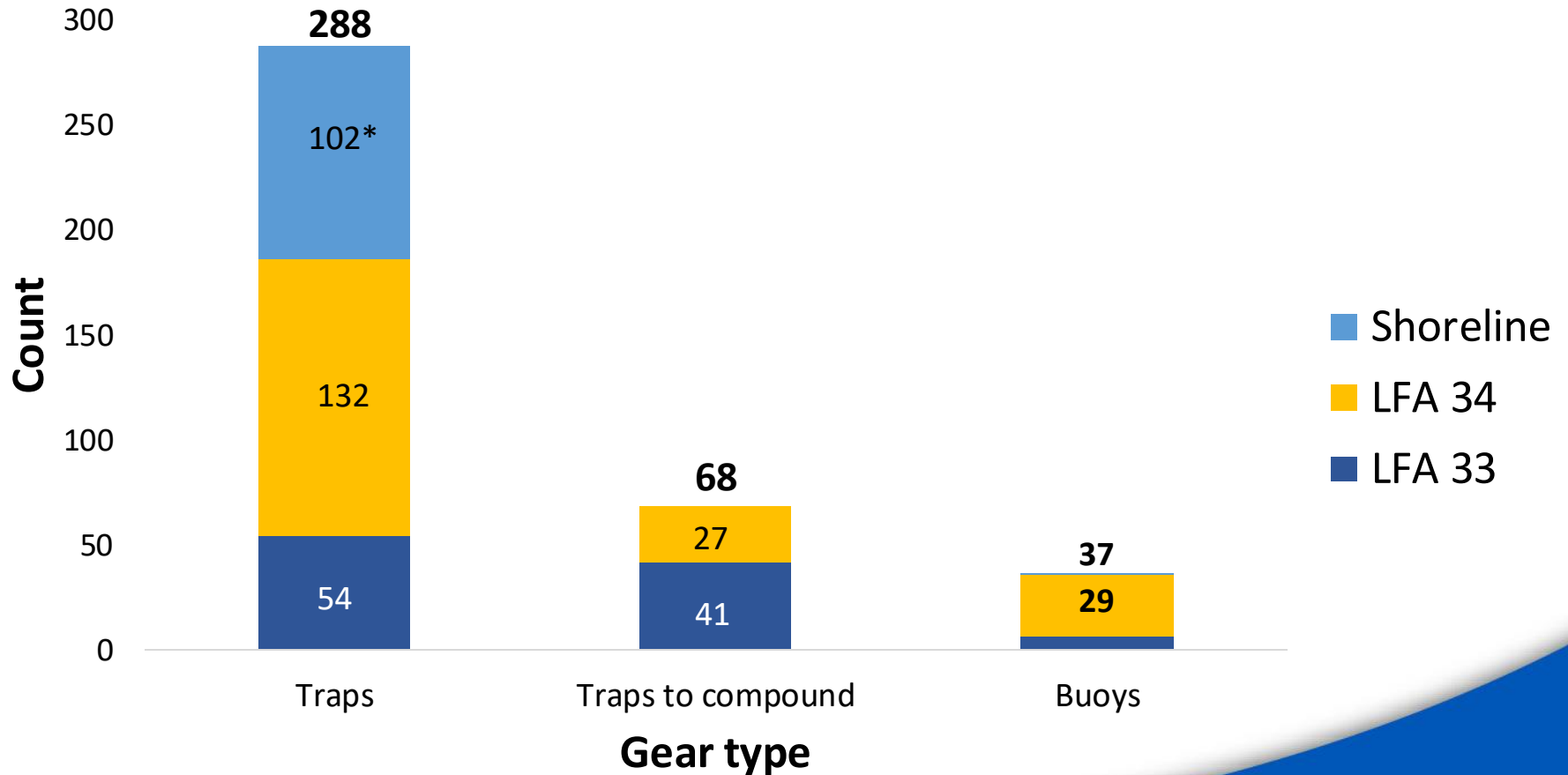


LFA 33 & 34 Retrieval Areas



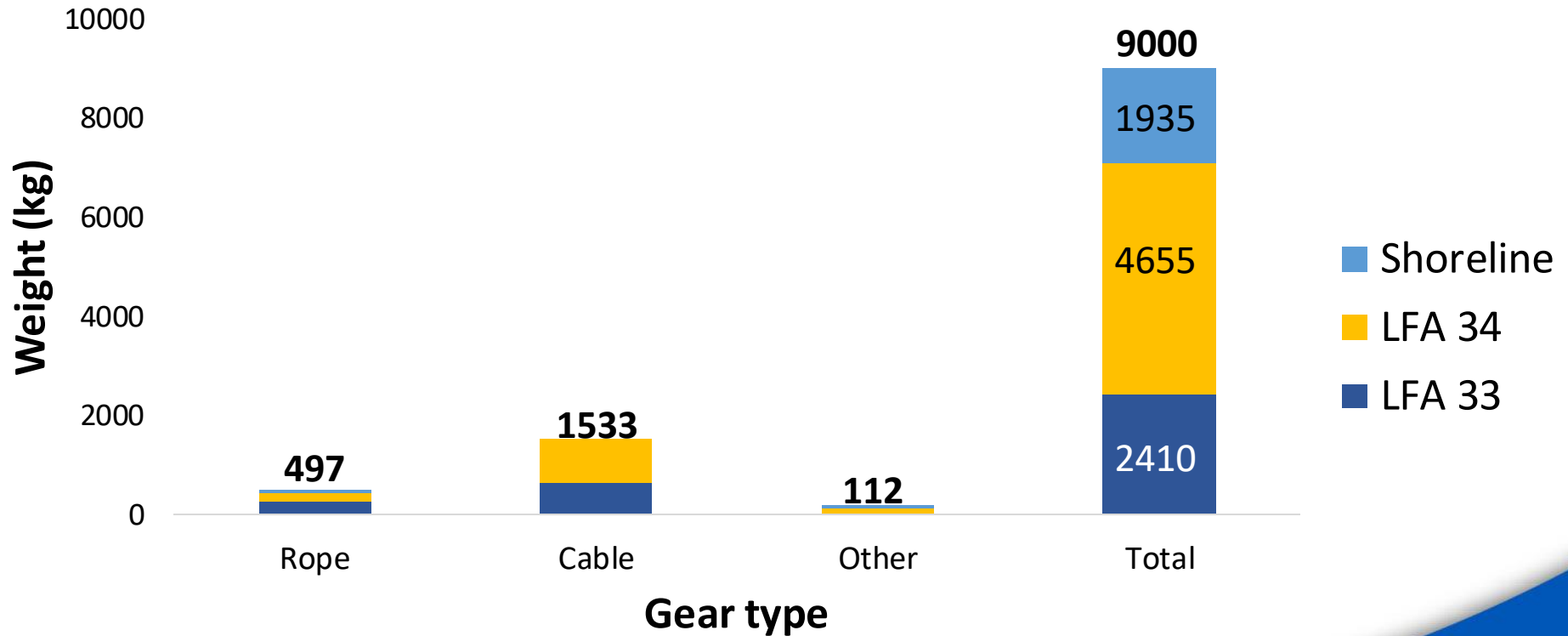
Notable Retrieval Results

From LFA 33 & 34 in Year 1



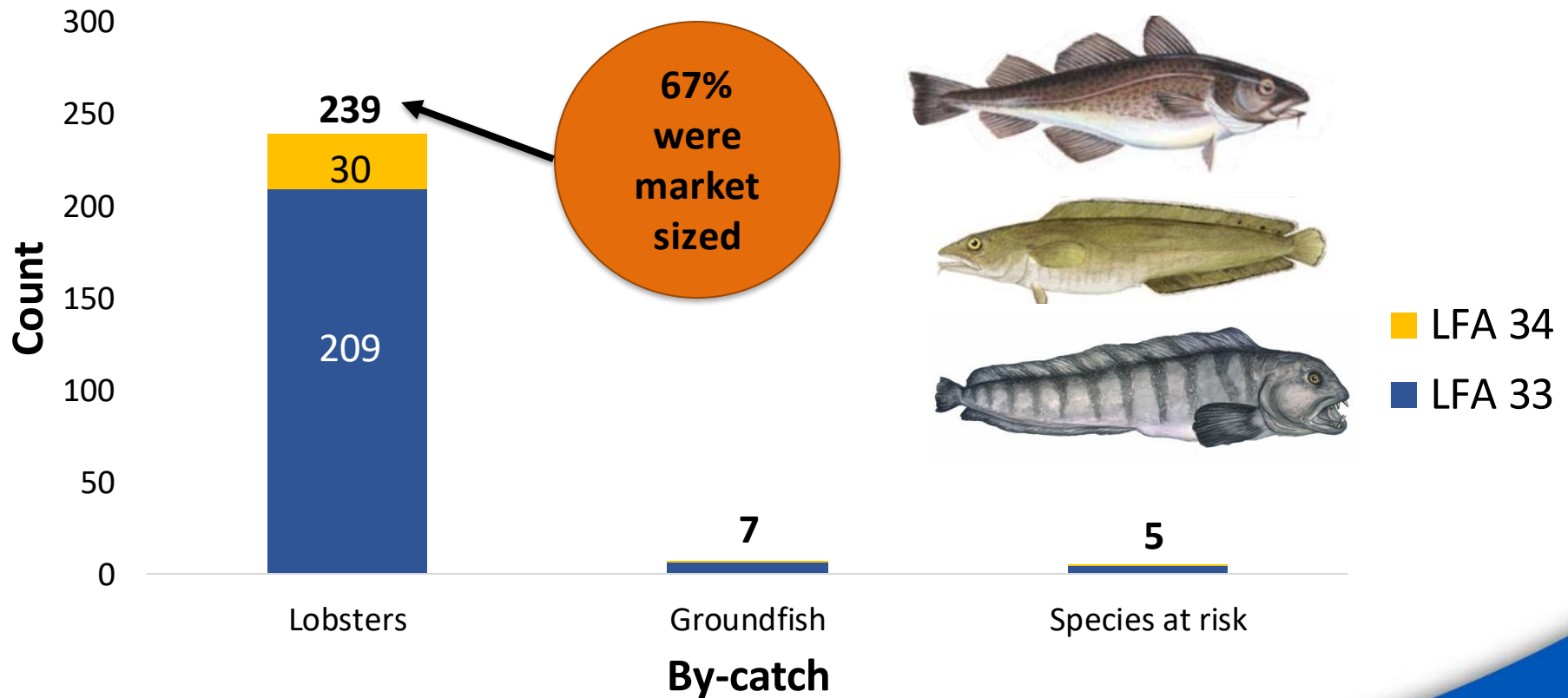
Notable Retrieval Results

From LFA 33 & 34 in Year 1



Notable Retrieval Results

From LFA 33 & 34 in Year 1



Notable Retrieval Results

From LFA 33 & 34 in Year 1

- Species at risk released were relatively large and had some injuries
- Most traps were not degraded (<25%) and were < 5 years old
 - Newer gear ghost fishes more effectively until ~4 years old
 - Traps may become habitat after ~4 years old



Recovering a lost trap in Lunenburg filled with lobsters aboard 'Kennedy Skye'



Injured wolfish released

Further analysis

From LFA 33 & 34 in Year 1

- ~25% of by-caught lobsters were in traps where escape panel had fallen off
 - Targeting newer lost gear
- Towing for gear on hard bottom difficult
 - Grapple type testing
- Lost traps cause economic losses to the industry- considering 2% total traps lost:
 - \$81,921 LFA 33
 - \$176,216 LFA 34
 - Likely underestimate



By-caught lobsters ready for release aboard 'Jace's Jem'

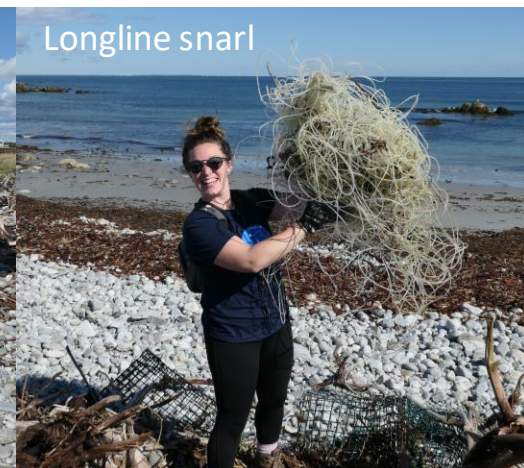


Releasing lobsters caught in ghost gear aboard 'Bradley & Emma'

Notable Cleanup Results

The Hawk Beach on Oct 4 with Ocean Wise Youth

- In 4 hours, 10 youth removed ~2 tonnes of debris from 2 km of shoreline
- Notable finds included:
 - 72 lobster traps
 - Rope snarls & pieces (60 kg)
 - Longline snarl (10 kg)
 - Buoys, escape panels, lobster bands, bait bags, etc.
- High accumulation area, hundreds of traps still ashore. Possible site to be considered for future retrieval



Bright Spots

- Learning how to increase success with known positions and adapting to different bottom types.
- Some rope, buoys and other gear has been reused or repurposed; One fisher reused 500 kg of cable found.
- Strong interest from the greater community for rope recycling, looking to increase engagement with community stakeholders.



Recovering ghost gear aboard 'Double Vision'



Recovered cable

Next Steps

- Data analysis from retrieval (report) and communication of results (infographics) with partners, fishers and the public.
- Retrieval in LFA 35 for Year 1 (Jan and Feb 2021):
 - Either at-sea retrieval depending on captain availability or heavy-duty shoreline cleanups targeting coastal ALDFG
- Rope recycling: Finalize plan (working with SCH and HAs), install bins (late Jan/early Feb) and notify fishers. Preliminary locations:
 - LFA 33: Lunenburg, Gunning Cove, Port La Tour
 - LFA 34: Tiverton, Meteghan, Wedgeport, Lower East Pubnico
 - LFA 35: Victoria Beach, Digby, Parker's Cove
- End-of-life gear management research and education

COASTAL ACTION

CONSERVATION AT WORK

Jessie releasing a 'jumbo'
lobster aboard 'Kennedy Skye'



Questions?

Alexa with a proud haul
aboard 'Double Vision'

