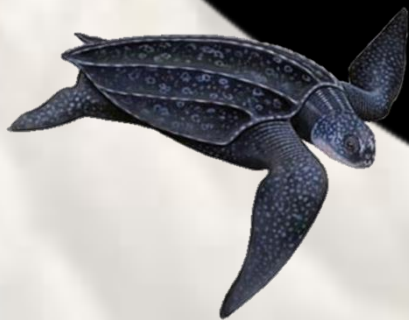


# NMFS ROPELESS ROADMAP



**NOAA**  
**FISHERIES**



# ROPELESS ROADMAP



CHARTER FUND  
BUDGET ASMFC



GEAR CONFLICT



PERMITTING



CERTIFICATION?



# THE PLAYERS

- Ropeless.org
- Agency
- Fishing Industry
- Inventors/engineers
- Academia
- Venture capital investors
- Conservation NGO's



# CHALLENGES



- Physics
- Economics
- Policy
- Behavior
- Enforcement

# ECONOMIC CHALLENGES



- Inventing
- Investing:
  - literally reinventing the mousetrap
  - Developing underwater 'cell network'

- Testing
- Startup



- Transition: wealthy and or closed fleets first
- “WHALE/TURTLE SAFE products”



# POLICY CHALLENGES



- Experimental fishing permits (EFP's)
- Convert 'Closure' to Ropeless fishing only?
- Ocean planning for larger scale implementation





# BEHAVIOR CHALLENGES



- Resistance to change
- Learning new ways of fishing and communicating

# ENFORCEMENT CHALLENGES



- VMS-light:
  - \$600 startup, \$300 annual
  - Who manages all that data?
- Weak rope 'id'
- Acoustic tagging/tracking of gear
- Describable regulations?
- Ghost gear?
- 'Extra traps?'





# WALK BEFORE YOU RUN

Make the rope out there less dangerous



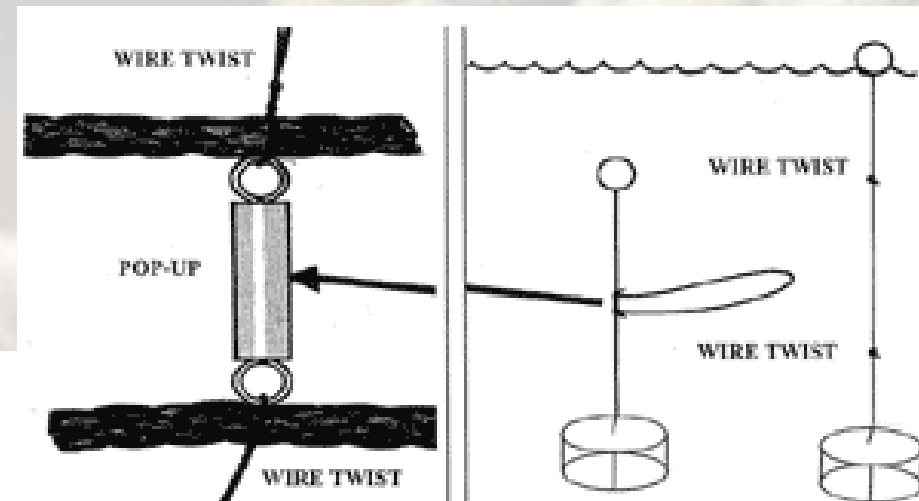
- Weak rope
- Breakaway Sleeves
- Time tension line cutters



- Need load cell testing

Reduce the time line is in water column

- Partial ropeless- timer releases
  - Galvanic releases
  - Programmable timers



<https://www.underseareleases.com/timetempchart.htm>

<http://neptunemarineproducts.com/galvanic-timed-releases/>

- Old school -grappling



# ROPELESS TECHNOLOGY NOW AVAILABLE

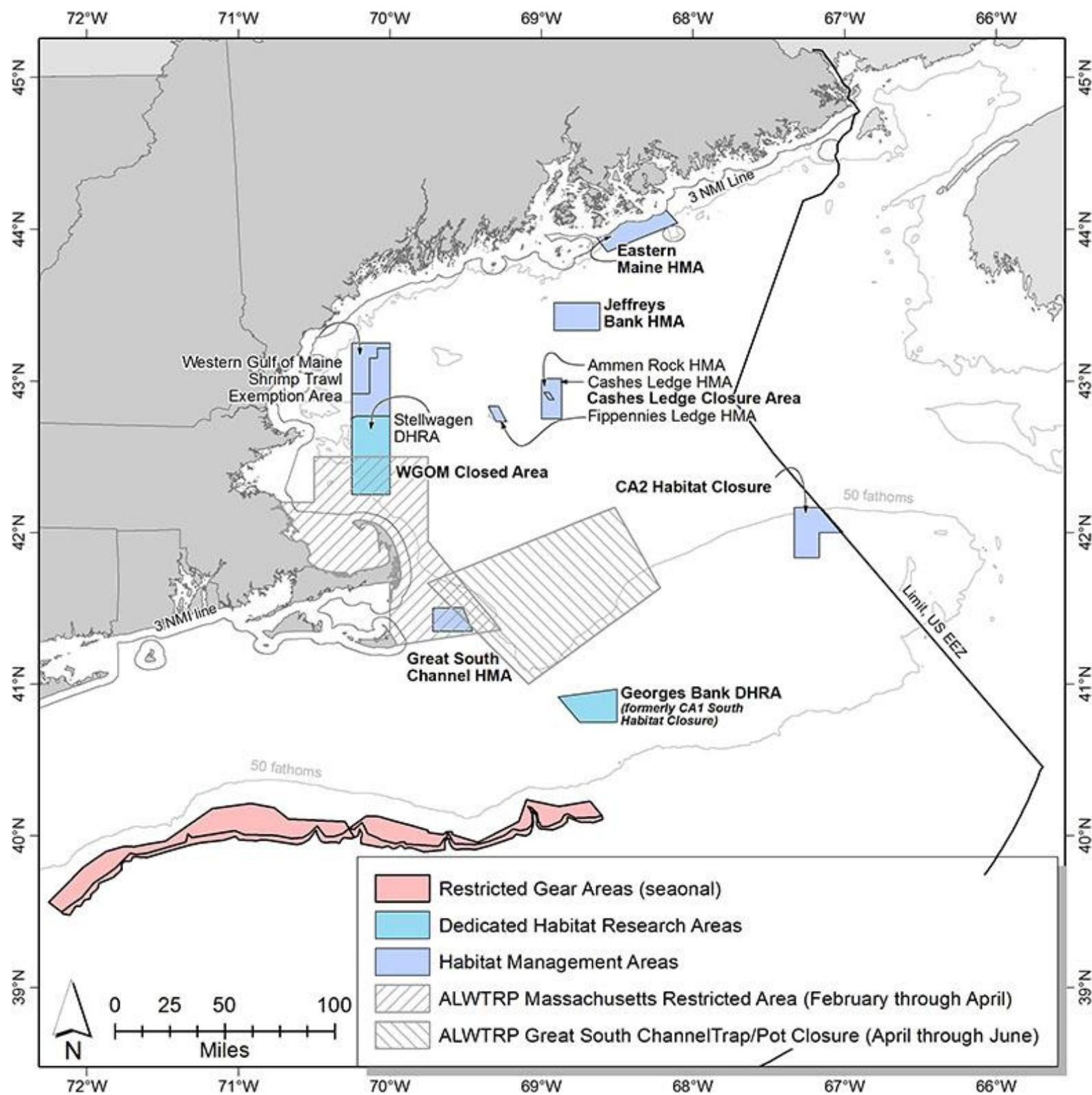
BRAND	WEBSITE
Ashored	<a href="https://ashored.enlivened.ca/?contact-us/">https://ashored.enlivened.ca/?contact-us/</a>
Desert Star	<a href="http://www.desertstar.com/ropeless-fishing">http://www.desertstar.com/ropeless-fishing</a>
Edgetech	<a href="#">5112 Ropeless</a>
FioMarine	<a href="http://fiomarine.com/fiobuoy-models/">http://fiomarine.com/fiobuoy-models/</a>
Lobster Lift, LLC	<a href="https://www.lobsterlift.com/solution">https://www.lobsterlift.com/solution</a>
SMELTS	<a href="https://www.smelts.org/lineless">https://www.smelts.org/lineless</a>
WHOI	<a href="https://www.whoi.edu/oceanus/feature/how-would-on-call-buoys-work">https://www.whoi.edu/oceanus/feature/how-would-on-call-buoys-work</a>

# DEVELOP EXPERIMENTAL FISHING



- Data collection opportunity for economic analysis
- Allows opportunity for fishermen to use the gear
  - Evaluates functionality
  - Develop gear conflict solutions
  - Evaluates 'gut feel' on cost
  - Word of mouth support if/when something works
- Create feedback loop that accelerates development

# POTENTIAL GEAR TESTING AREAS





# NMFS ROLE



## SCIENCE

- Facilitate relationships between inventors and fishing industry
- Seed funding
  - Charters
  - Gear library
- Build experimental protocols- PSB Gear team
- Expand capacity to fleet scale- Cooperative Research Branch

## MANAGEMENT

- Send message to all players- ROPELESS IS COMING
- Experimental fishing permits
- Define acceptable criteria
- Ocean Planning



**NOAA**  
**FISHERIES**

# HOW DOES THIS PLAY OUT?

- FY18

- Reprogrammed staff
- Charter funds established with ASMFC
- Build relationships

- FY19

- Early field testing of gear
- Establishing relationships with interested fishers and inventors
- Build gear library
- Engage Cooperative Research branch
- Engage external funders
- EFP applications
- Identify ropeless testing areas

- FY20

- Potentially 1+ established ropeless testing areas
- Putting cooperative research staff on vessels
- Getting fishers to lead gear conflict solutions
- Finalize ROAD MAP

- FY21

- More of the above???





# WHERE CAN IT WORK?



Thank you!



# PHYSICS CHALLENGES



- Buoyancy: getting gear to the surface
- Murphy's law: even ropeless can get tangled
- Gear conflict: same space at the same time