

# Science on a freezer longliner ... a how to guide



- FLC boats as research platforms
- Recent projects
- Lessons learned
- Future projects and participants



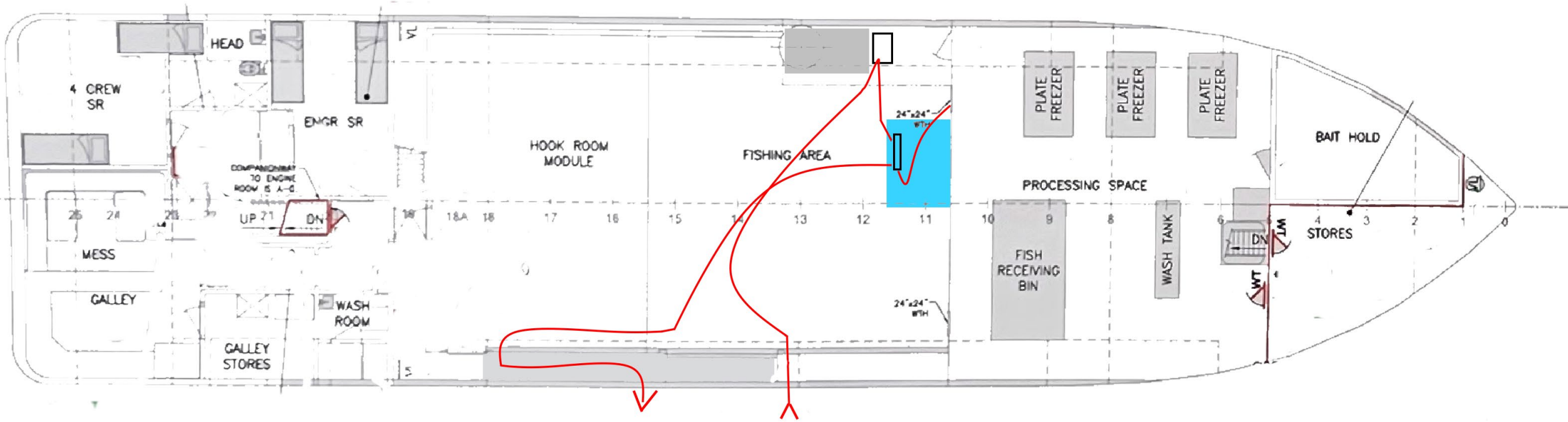




RIEKER INST. CO.  
PHILA., PA  
PAT. NO. D-195,431







- Work space
- 1-2 Assistants
- Comm device
- Water hose
- Safe release platform









“Slow the retrieve”

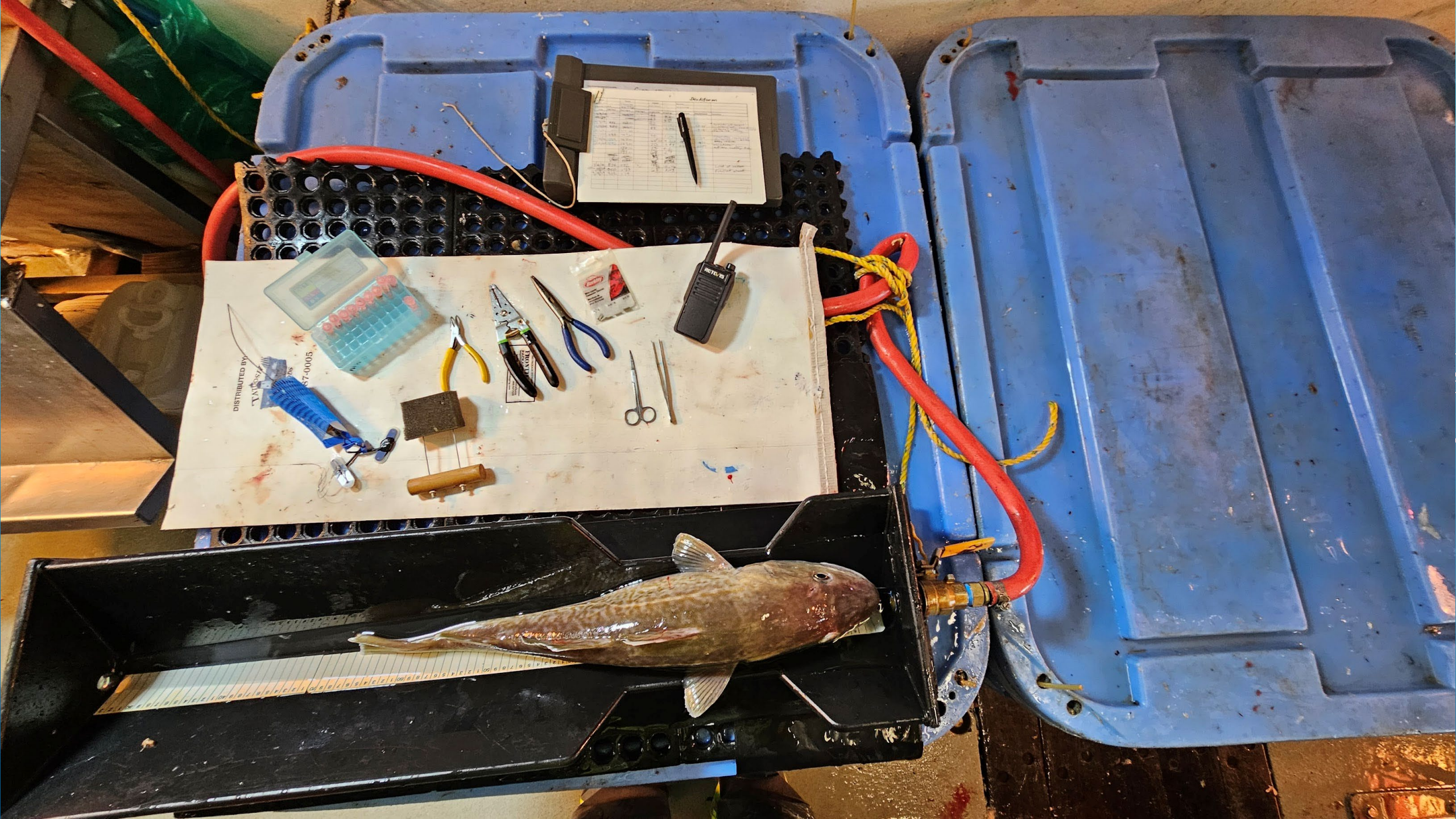
Depth (fa)	Depth (ft)	Retrieve rate hooks per sec (normal)	Duration of retrieve (min)	Duration of retrieve (sec)	Length of LL (ft)	
75	450	0.8 -1	5	300	840	1,050
80	480	0.8 -1	6	360	1,008	1,260
85	510	0.8 -1	7	420	1,176	1,470
90	540	0.8 -1	8	480	1,344	1,680

Depth (fa)	Depth (ft)	Retrieve rate hooks per sec (slow)	Duration of slow retrieve (min)	Duration of slow retrieve (sec)	Length of LL (ft)	
75	450	0.20 - 0.25	5	300	210	263
80	480	0.20 - 0.25	6	360	252	315
85	510	0.20 - 0.25	7	420	294	368
90	540	0.20 - 0.25	8	480	336	420



“Got our fish”





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87-0005

Clipboard with a pen and a piece of paper.

WALKIE-TALKIE









“Ready to  
release”





# Recompression



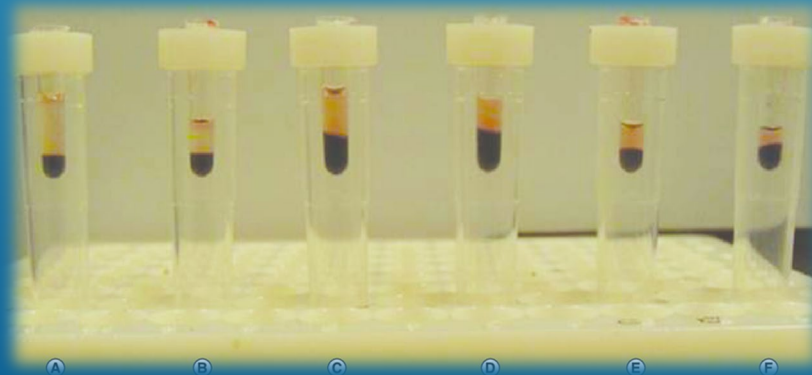








# OTHER PROJECTS





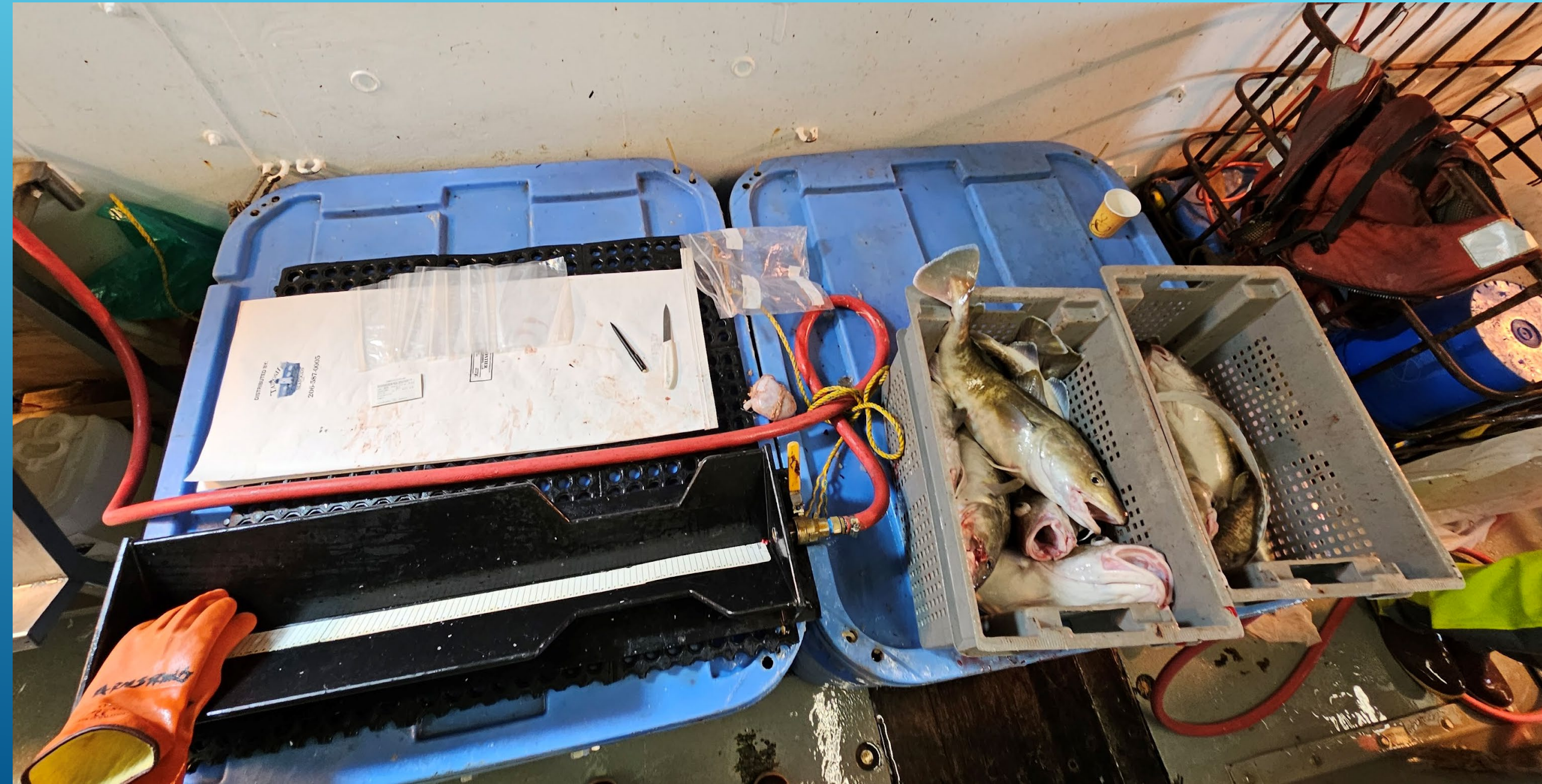
# COD STOMACH SAMPLING

- Extent of crab consumption
- Any king crab
- Seasonal differences in prey
- Spatial differences
- Easy!! but need clear instructions

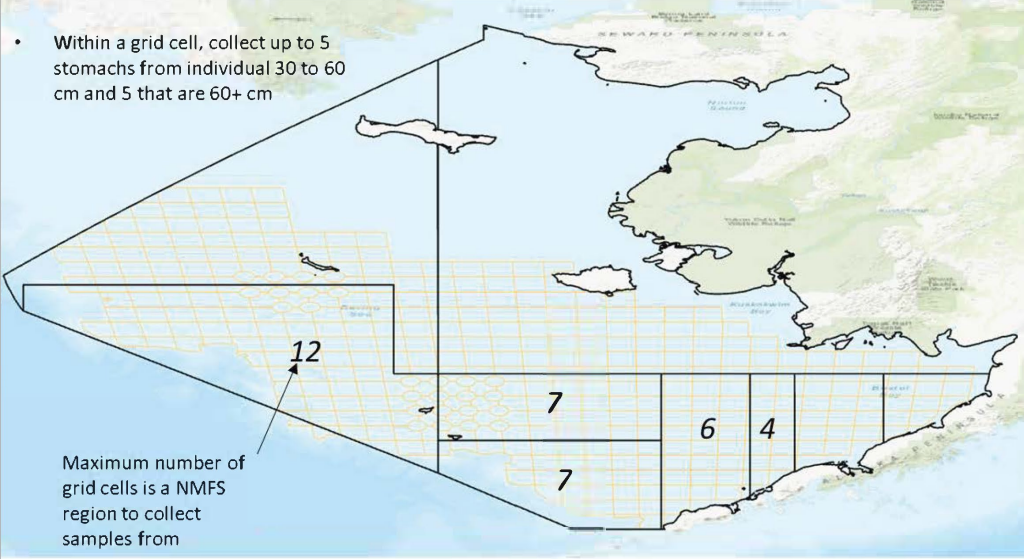




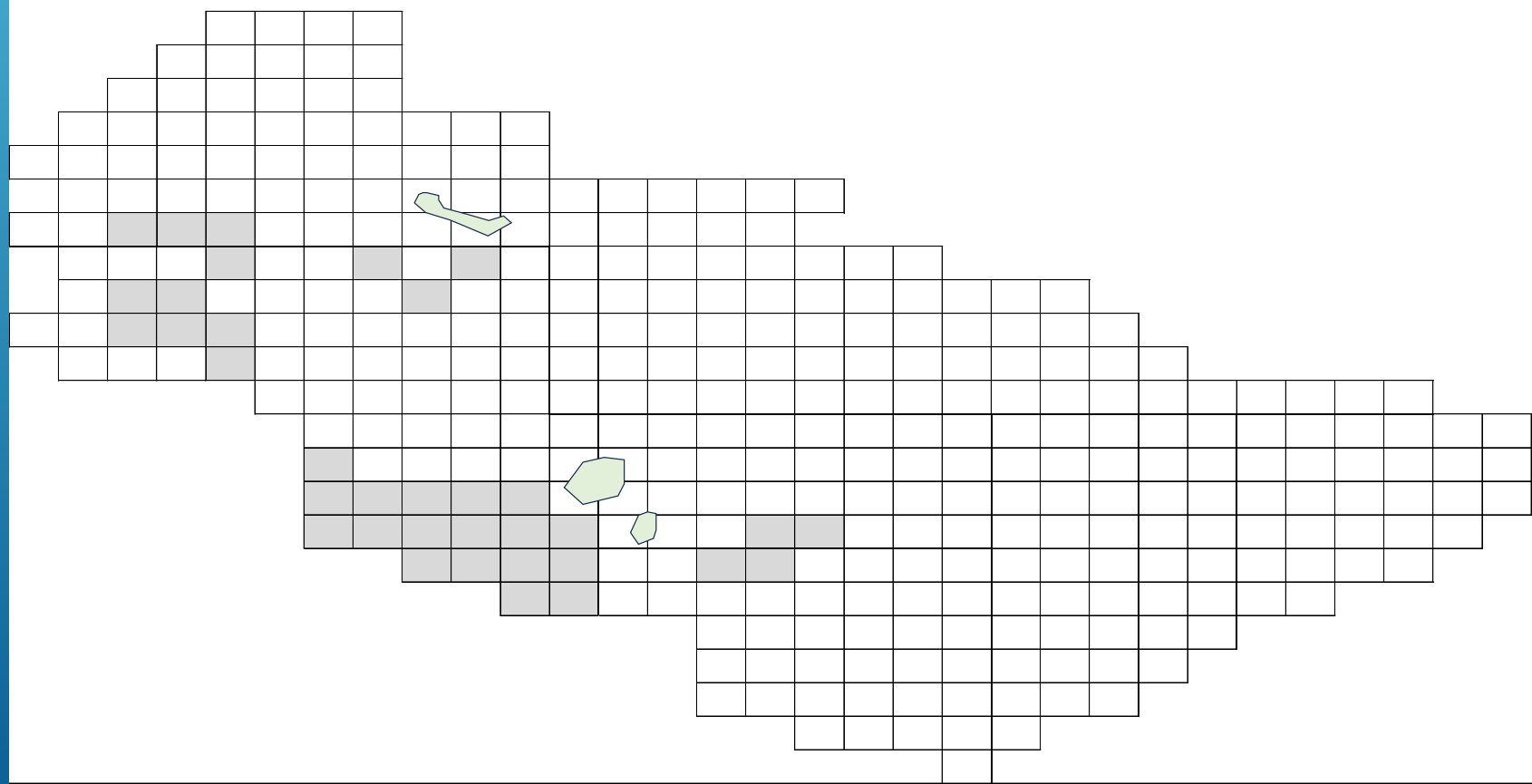
# COD STOMACH SAMPLING







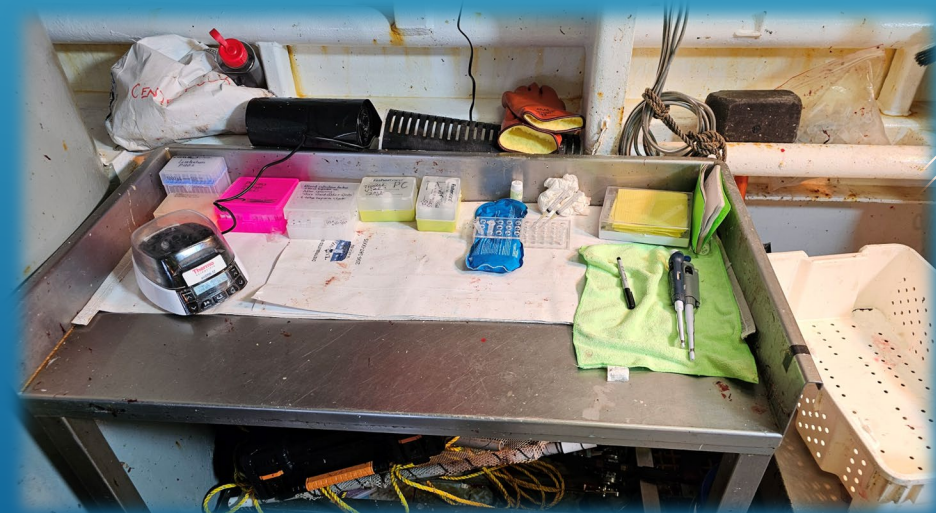
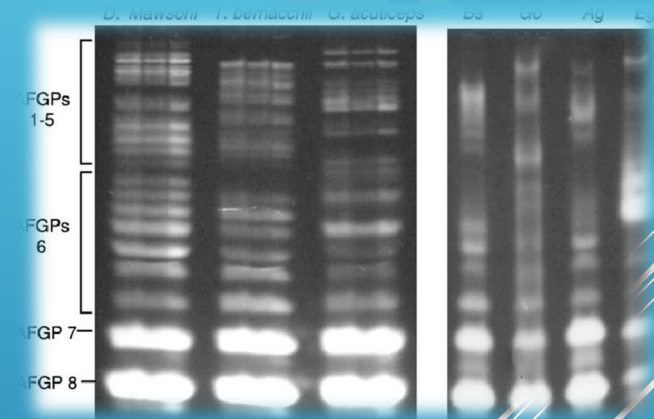
- Sampling not as widespread as expected
- Communication on getting samples to lab





# PACIFIC COD BLOOD PLASMA ANTIFREEZE

- ▶ Antifreeze glycoproteins present in many arctic, antarctic fishes
- ▶ Unknown whether this occurs in Pacific cod
- ▶ Chris Cheng – Univ. Illinois Urbana approached me
- ▶ Blood draws and plasma separation





- Fishery CPUE
- Crab discard mortality
- Climate workshop
- Science plan

Project category	Issues	Contacts	Next steps
EIS assessment	<ul style="list-style-type: none"> <li>Identify research, assessment problems, constraints, resources</li> <li>Minimize EIS time, working on changing from ABC, uninformative</li> <li>Comprehensive EIS/ABC, limits</li> <li>Wild phase, plant, absorption of the 7 and 8</li> <li>30000 rights, various</li> <li>Consent to at least 6000 CAAs?</li> <li>Stop up before open</li> <li>Stock boundaries</li> <li>Confounding abundance with immigration/emigration</li> <li>Big management implications</li> </ul>	<ul style="list-style-type: none"> <li>Steve Barbeau</li> <li>PT: Alvin Hicks, Jim Bennett, Lisa Hillier</li> <li>SSC: Curry Cunningham, Ian Stewart, Frank Mueller, Dana Hanselmann, Kat Meyer</li> </ul>	<ul style="list-style-type: none"> <li>Engagement - a workshop</li> <li>Meet during Feb Counting/stocking?</li> <li>Possible joint from Steve before then on work with Andre?</li> <li>List of to do from Dec</li> <li>Examine on writing down work for 2023</li> <li>Link catchability to environmental drivers</li> <li>As to prime area, direction of trawler F and biomass</li> <li>Prioritize fishery age data</li> <li>Research trawl, model that considers seas (e.g., 60 and 90)</li> <li>Empirical investigation</li> <li>Fishery specific selectivity possibly done shaped for HAI</li> </ul>
	<ul style="list-style-type: none"> <li>Review - ecosystem linked models w/ Andre Punt</li> <li>Advocacy of Plan Team, marine</li> <li>Advocacy of ABC Review</li> </ul>		<ul style="list-style-type: none"> <li>Connect with:               <ul style="list-style-type: none"> <li>Kat</li> <li>Alvin</li> <li>Jim</li> <li>Curry</li> <li>Ian</li> <li>Frank</li> <li>Lisa</li> <li>Dana</li> </ul> </li> </ul>
AI assessment	<ul style="list-style-type: none"> <li>Move from Tier 5 to Tier 3</li> <li>Positive retrospective, bias in fit to survey</li> <li>Big drop in AI survey catch</li> </ul>	Ingrid Spies	late Feb - Meeting with Team
GOA assessment	<ul style="list-style-type: none"> <li>70% drop in biomass from 2014 - 2017</li> <li>Assessment vs mortality</li> <li>Stock boundaries?</li> </ul>	Pete Hulson	late Feb - Meeting with Team
Data for assessments	Fishery CPUE time series	Cunningham	<ul style="list-style-type: none"> <li>Initial 2023 meeting</li> <li>Post-dec?</li> <li>Connect Curry with fishermen</li> <li>Richard Thorne</li> <li>Scott Hanson</li> </ul>
	AFSC Surveys	Britt, Rohan	<ul style="list-style-type: none"> <li>Connect, ask about plan for 2023</li> <li>Coordination on set traps, 800156</li> <li>Survey tracking</li> <li>Data from FLC vessels</li> <li>Evaluate need</li> <li>Consult with Kenny</li> <li>Advocate for survey funding (undertrack)</li> </ul>
Genetics	Stock identification	Ingrid Spies	<ul style="list-style-type: none"> <li>Connect, ask about plan for 2023</li> <li>Samples from FLC boat?</li> </ul>
Sat Tagging	<ul style="list-style-type: none"> <li>Comprehensive plan needed</li> <li>Objectives</li> <li>Funding</li> <li>Benefits to FSC</li> <li>Benefits to FSC</li> </ul>	<ul style="list-style-type: none"> <li>Susanne McDermott</li> <li>Kim Rand</li> <li>Julie Nielsen</li> </ul>	<ul style="list-style-type: none"> <li>Connect with Susanne, ask about plan for 2023</li> <li>Ongoing engagement with tagging group</li> <li>Diagnose what funding?</li> <li>James, Jeff</li> <li>Acoustic, other tags?</li> <li>Acoustic array</li> </ul>
	<ul style="list-style-type: none"> <li>NSERC issues affecting Arctic, Chukchi sea research</li> <li>AFSC General concerns about funding and priorities</li> <li>STRAIT Science Range of topical presentations</li> </ul>	<ul style="list-style-type: none"> <li>Wes Jones</li> <li>Foy</li> <li>Gay Sheffield</li> </ul>	<ul style="list-style-type: none"> <li>Continue to include this?</li> <li>Discuss with Chad</li> <li>Connect, discuss opportunities for 2023</li> <li>Useful come on questions w/ Feb workshop</li> <li>Ongoing participation</li> </ul>
University, Agency partnerships	ARU	Brad Harris, Nathan Wolf	Connect, discuss opportunities for 2023
	<ul style="list-style-type: none"> <li>UW Assessment methods, bycatch, loss of potential</li> <li>Conflicts in Federal/State Pcod management</li> <li>IPHC Fixed gear issues - bycatch, whale depredation</li> <li>Potential LL survey additions</li> </ul>	<ul style="list-style-type: none"> <li>Roy Hillborn</li> <li>Chris Anderson</li> <li>Claude Dykstra</li> <li>Ian Stewart</li> </ul>	<ul style="list-style-type: none"> <li>UW/industry meetings</li> <li>Discuss with Chad</li> <li>Check if IPHC lecture series is ongoing in 2023</li> </ul>
Council	<ul style="list-style-type: none"> <li>Research Priorities</li> <li>SSC Workshops</li> <li>NBS/Arctic workshop Feb 2023</li> <li>Ecosystem Committee</li> <li>Research priorities, EFH, marine mammals, seabirds</li> <li>Council members</li> </ul>	<ul style="list-style-type: none"> <li>Diana Evans, SSC members</li> <li>Bill Tweitt, Diana Evans</li> <li>Kenny Down, Bill Tweitt, Angel Drobnica, Others</li> </ul>	<ul style="list-style-type: none"> <li>Research priorities SSC Subcommittee formed at June 2022 mtg</li> <li>Formal review of research priorities in 2024</li> <li>Check about schedule for 2023</li> <li>Make plan for engagement</li> <li>Public comments due by 2/28/23</li> <li>Monitor agendas, discussions</li> <li>Periodic check-ins on projects</li> </ul>
	<ul style="list-style-type: none"> <li>Bering Sea FEP: Climate Change Taskforce</li> <li>Research Funding</li> <li>IPSC other avenues for end research funding</li> </ul>	<ul style="list-style-type: none"> <li>Stram</li> <li>Matt Baker</li> </ul>	<ul style="list-style-type: none"> <li>Monitor agendas, discussions</li> <li>Follow up Matt after meeting with Bob Foy, discussion with Chad</li> </ul>





*Freezer Longline*  
COALITION





Questions?