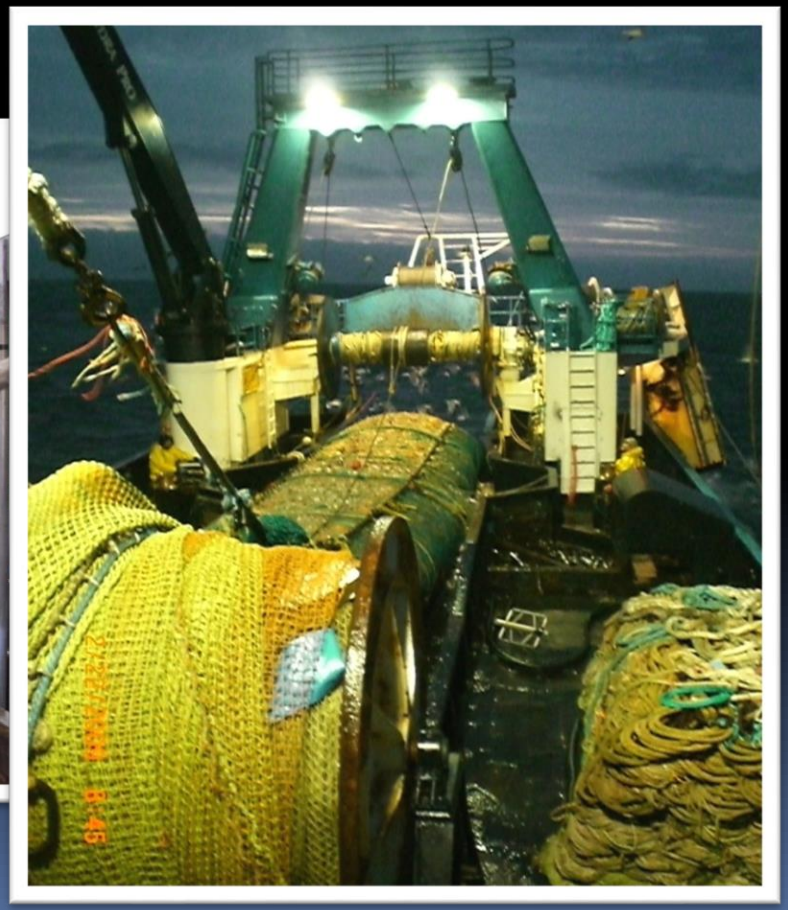
Broadening the notion of what "Support for Fisheries" means for Groundfish fisheries in Alaska (mostly trawl)

John Gauvin
Fisheries Research Director
Alaska Seafood Cooperative

Background: Trawl Fisheries in Alaska account for most of the Economic Value from groundfish fishing



Trawl Fisheries are often criticized by fishermen in smaller-scale fisheries, ENGOs, and in Media Campaigns

- Do trawls have higher bycatch rates?
- Most groundfish catch comes from trawling, is trawl bycatch disproportional ?
- Trawling has bigger seafloor spatial "footprint" than fixed gears, but is that the whole story for effects on fish habitat?

Significant regulations in place to reduce Trawl Bycatch and Seafloor Effects

- Halibut bycatch caps that close fisheries if attained
- Abundance-based halibut bycatch cap under development
- Bycatch caps for all major crab species (tanner, king, opilio); closing expansive areas)
- Significant habitat protection areas that protect a large fraction of BS shelf and >90% of Aleutian Islands management area overall.

One way to look at issues for Trawl Fisheries in Alaska

Salmon bycatch

Seafloor Effects

Halibut bycatch

Crab bycatch

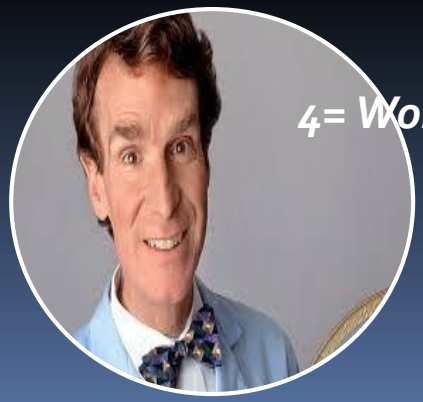
Different possible responses by Trawl sector (1) no way with observer coverage, (2) old days maybe

2= Hope it goes away

1= "Moi?"

3= Fight back

4= Work on a solution



When industry decides it needs to "work on a solution", they need to first:

- Fully embrace the issue as a problem/need
- Get accurate and credible information about the problem, e.g. good catch data and science, for an objective baseline,
- Engage fishermen, boat owners, scientists into a collaboration
- Collaborations need to take into account differences in expertise, knowledge, and include mutual respect
- And IMHO to get this going, they need to:

Find a "Science Person" to help them.
Who can: *project director/coordinator*

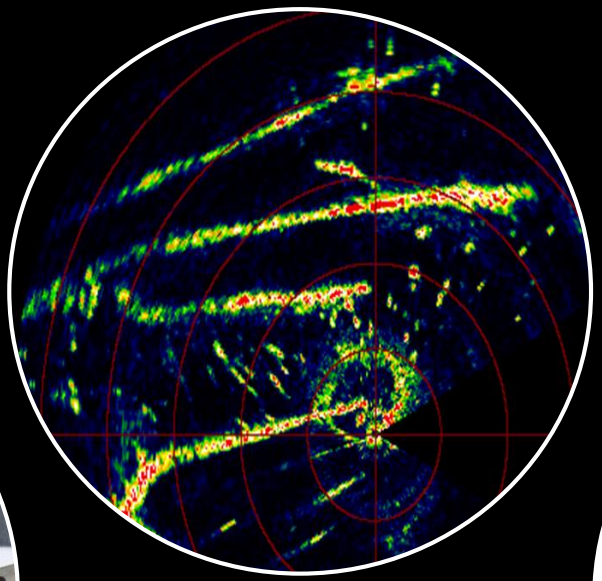
- Lead the effort
- Coordinate interactions between the different skill sets/perspectives
- To keep things focused on developing solutions
- Ensure the plan and adopted methods are followed

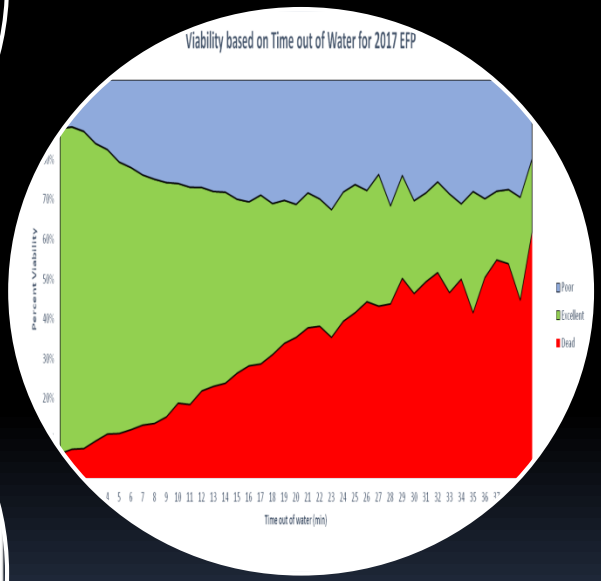
Contracting/hiring a science person…..
will cost a Lot?

Not relative to other investments needed for successfully developing innovations/solutions though collaborative research.

There are lots of steps to undertake with Cooperative Research (CR) in fisheries

And then more steps….

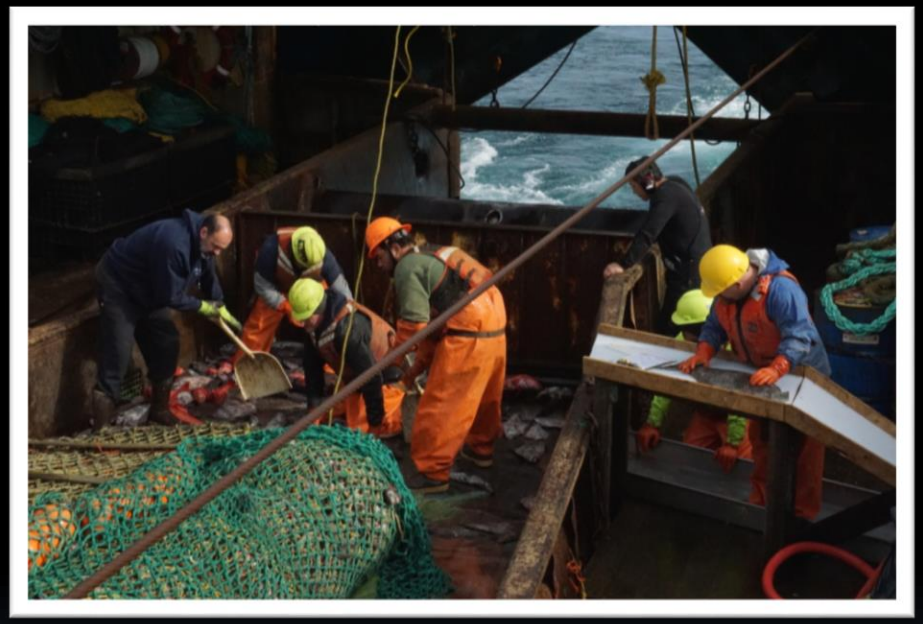


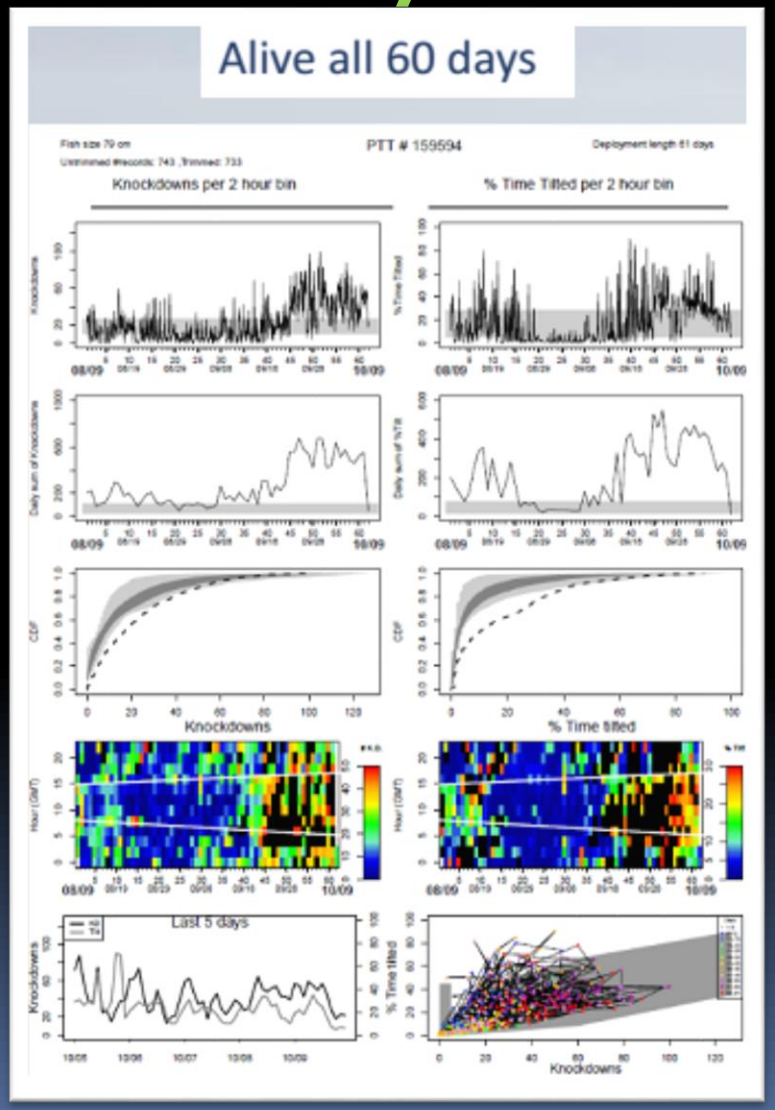


The real industry investment beyond getting a "Science Person" is huge. Consider:

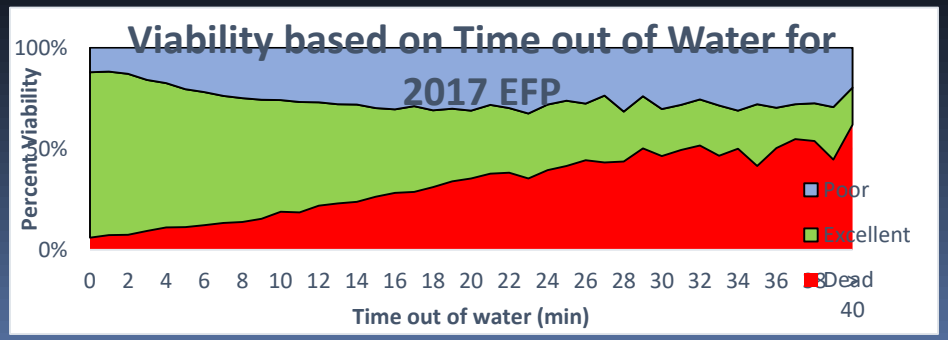
- Field testing that slows down normal fishing and processing rates
- High-tech equipment purchases (underwater video systems, recording sonar, excluder devices)
- Flume tank net design work
- Sea samplers to collect data under EFPs
- Data analysis and statistical work for experimental designs

Example: Deck sorting EFP to develop ways to reduce Halibut Mortality rates





Summary of the actual "Investment" A 80 flatfish sector has made in reducing Halibut Mortality rates with Deck Sorting EFP research



- Time needed to sort and account for halibut catch
- Sea samplers (2) observers (2) (2015)
- Investment in NMFS tagging research
- Investment in project management, electronic length boards, sampling design, data analysis

Putting investment in CR into perspective

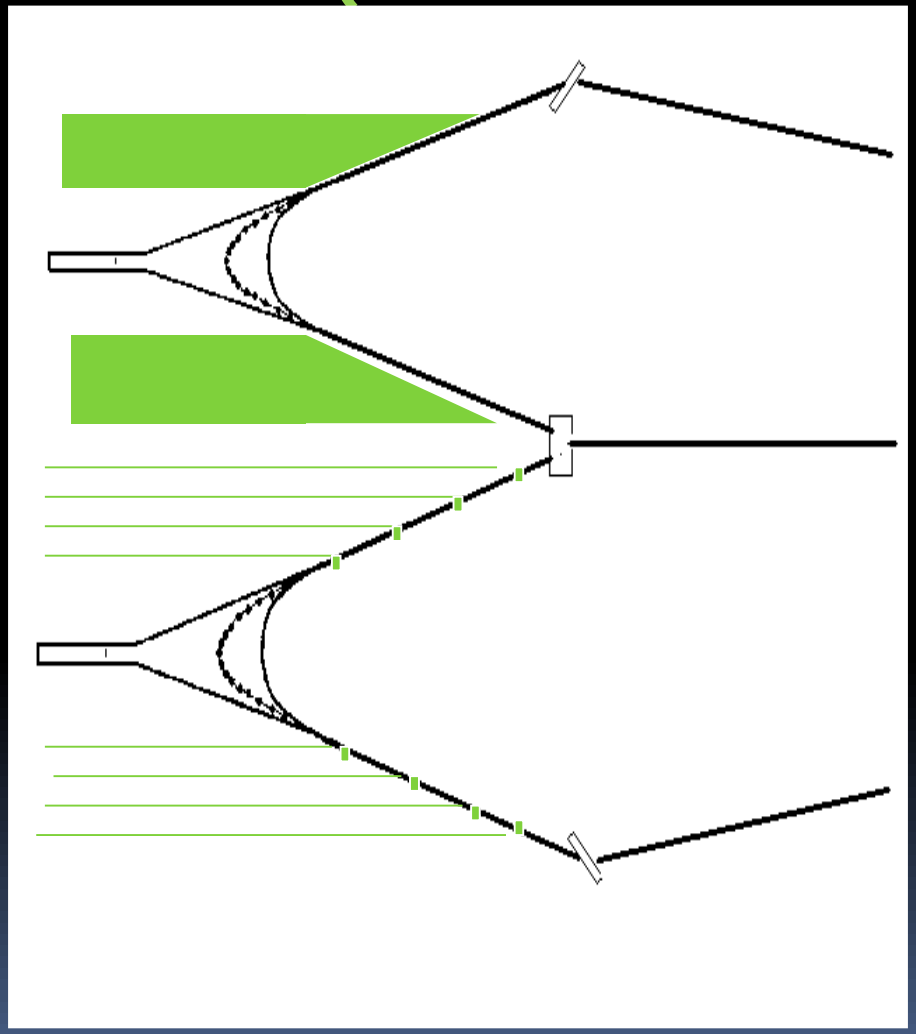
Putting investment in CR into perspective: Funding

- Research grants (e.g. NPRB, BREP)
- Industry funding shared through trade assoc./cooperatives
- EFPs (sometimes extra catch)
- NOAA contributions (personnel)
- University research partnerships (e.g. APU through AETC)

Benefits of engagement with CR

- Solution will be more practical outcome
- Captains more likely to "buy in" and actually adopt new devices/fishing practices
- Should be "most efficient" solution because one of the rules of engagement in CR is effective and efficient solutions
- In rare cases, solution is actually better fishing gear than before (really?)

Win/Win: Flatfish Sweep Mod Innovations (A. 80 sector and later GOA)



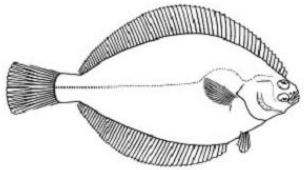
Science Behind Modified Sweeps to Reduce Seafloor Effects

For agenda item C-5(a)
NPFMC October 2009

DRAFT FOR PUBLIC REVIEW

Proposed Amendment 94 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Area to

Require Trawl Sweep Modification in the Bering Sea Flatfish Fishery, Establish a Modified Gear Trawl Zone, and Revise Boundaries of the Northern Bering Sea Research Area and Saint Matthew Island Habitat Conservation Area



Environmental Assessment/
Regulatory Impact Review/
Initial Regulatory Flexibility Analysis

August 2009

Lead Agency: National Marine Fisheries Service
National Oceanic and Atmospheric Administration
Alaska Region

Figure 3-12 **Percentage of normal sea whips (upright and undamaged) after passage under modified an unmodified trawl sweeps (compared to control area), evaluated after day and week interval** Statistical significance test results are listed between bars (*** = p < 0.001). Bare rods are not included in counts.

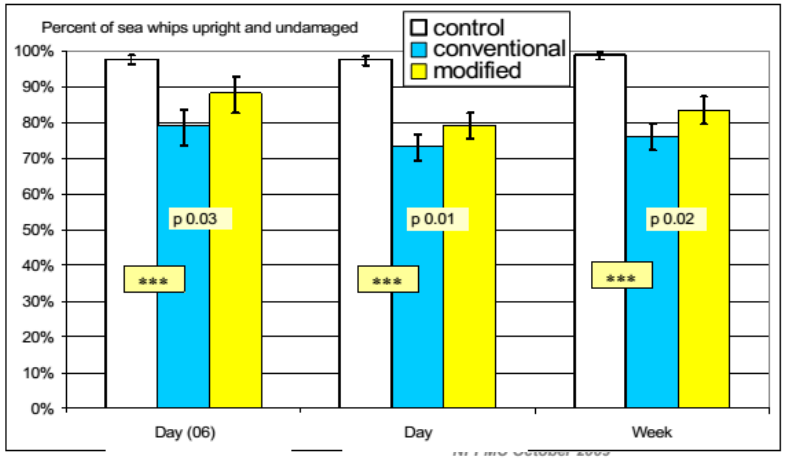
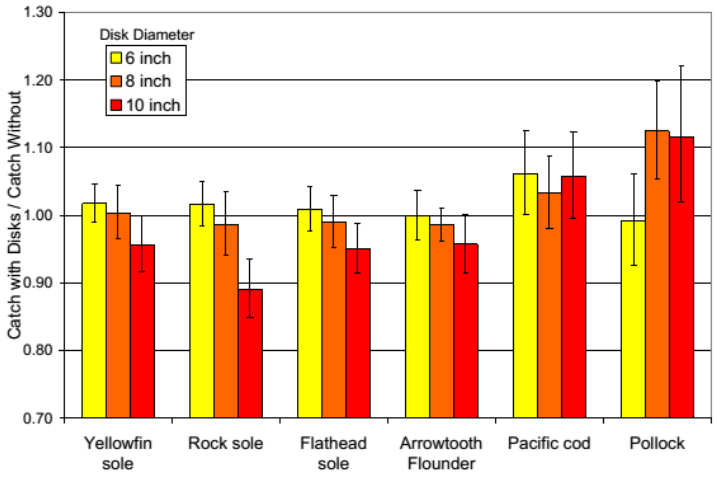
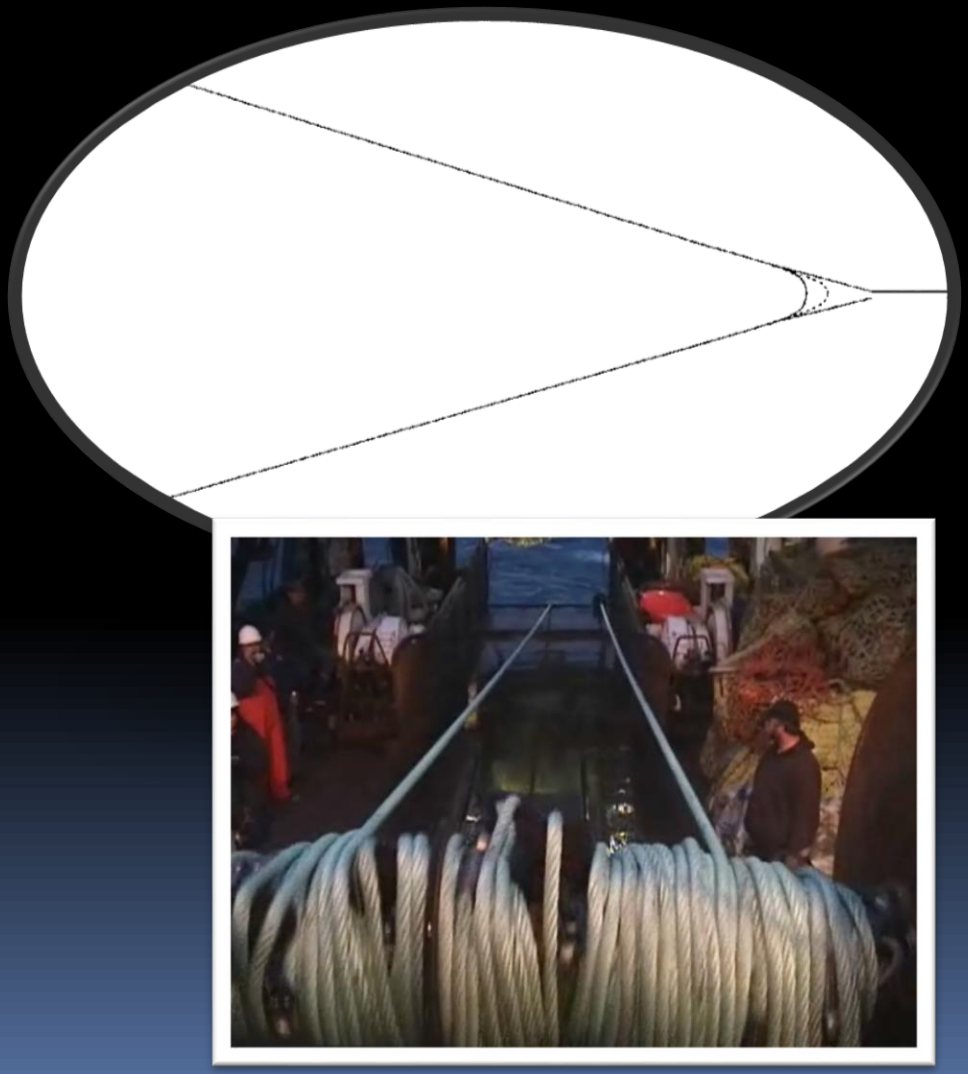


Figure 3-8 **Ratios of catch rates with and without 6- to 10-inch-diameter disk clusters placed at 30-foot spacing.**



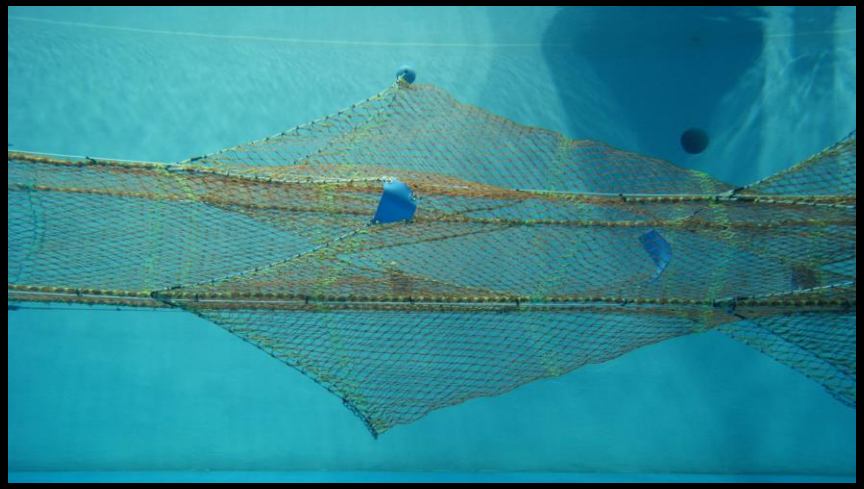
*SCOPE: 3 year collaboration with NOAA, then 1 year with gear manufacturers/OLE to make practical

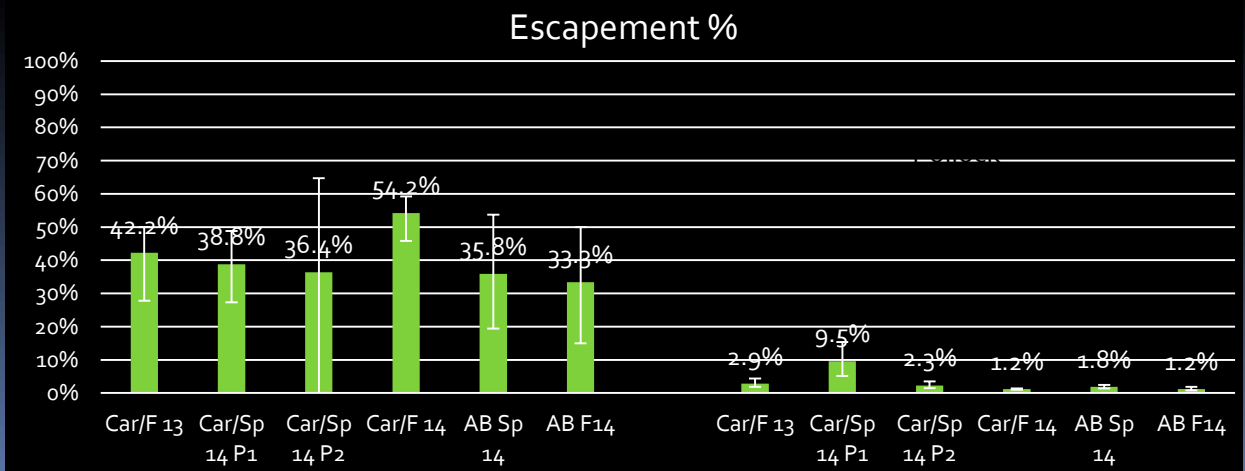
Benefits of Modified Trawl Sweeps for flatfish fishing (a win/win?)



- Reduced seafloor effects (without new closed areas)
- Better herding of target fish
- Reduced fuel usage
- Reduced need to replace trawl sweeps (lower wear rates)

Another example I am involved with: Salmon Excluders (pollock fishery)





Other examples of CR collaborations outside my work (trawl and fixed gear)

- AGDB (Gulf of Alaska)= observer sampling design improvements, electronic monitoring, automated halibut bycatch measurement
- Pollock FTs (Bering Sea) = flapper salmon excluder testing with Ed Richardson
- Bering Sea Crab (BSRF)= survey validation, tagging crab for movement
- Longline cod and sablefish= Seabird bycatch avoidance, killer whale predation avoidance

Take Homes:

- Conservation mandates placed on Alaska groundfish industry are strict and UNIQUE . Require innovative solutions developed through real CR collaborations
- Alaska groundfish industry's investment in CR & "Conservation Engineering" not well understood (magnitude , areas, forms, roles, science process used in collaborations)
- IMHO, Alaska groundfish industry investment and involvement is huge and nothing comparable in US and abroad (compare to CR programs in New England with federal funding and government-managed institutional structure)