

Innovation & Technology

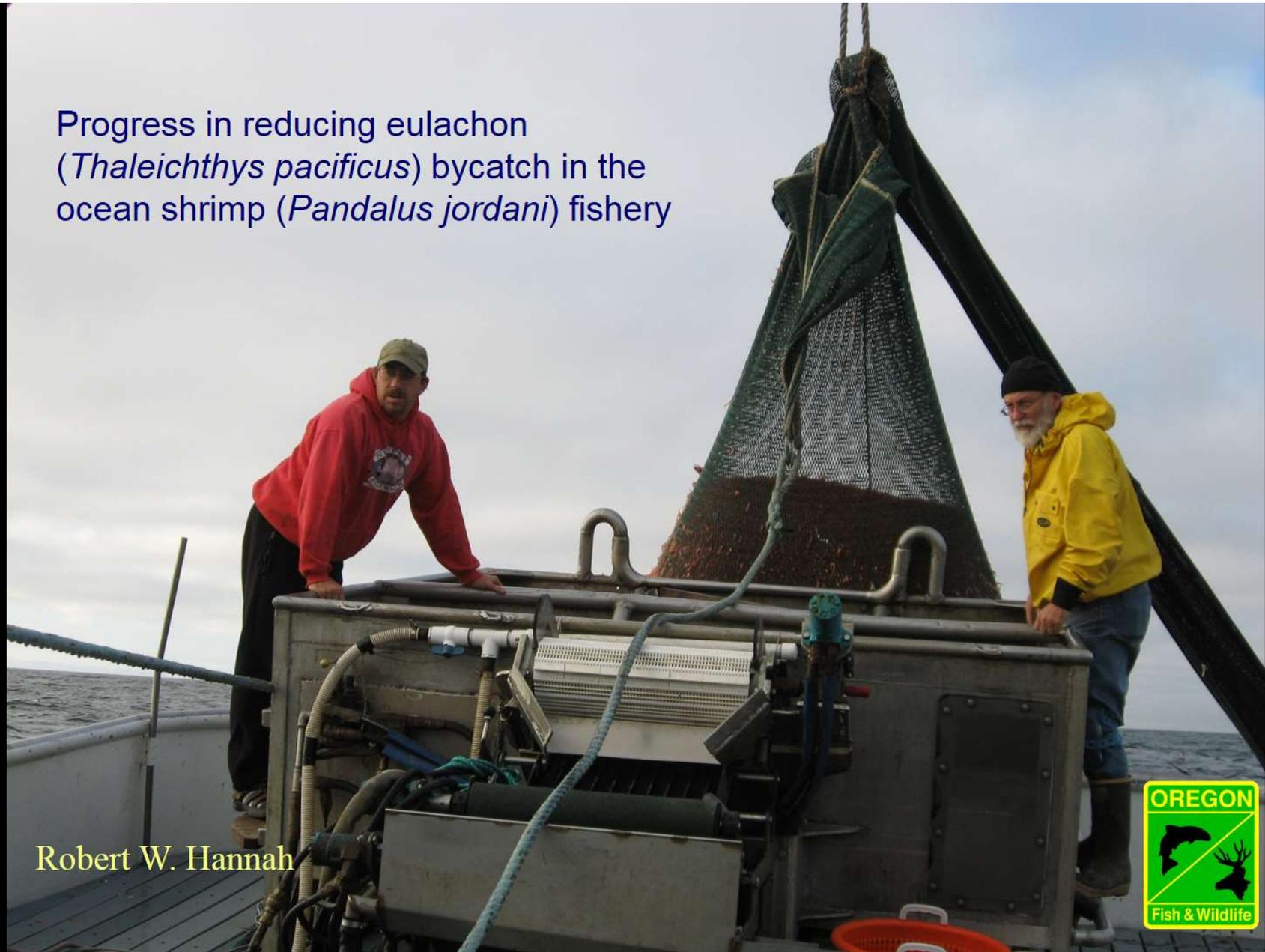
Fishing the Jordani

By Nick Edwards





Progress in reducing eulachon
(*Thaleichthys pacificus*) bycatch in the
ocean shrimp (*Pandalus jordani*) fishery



Robert W. Hannah

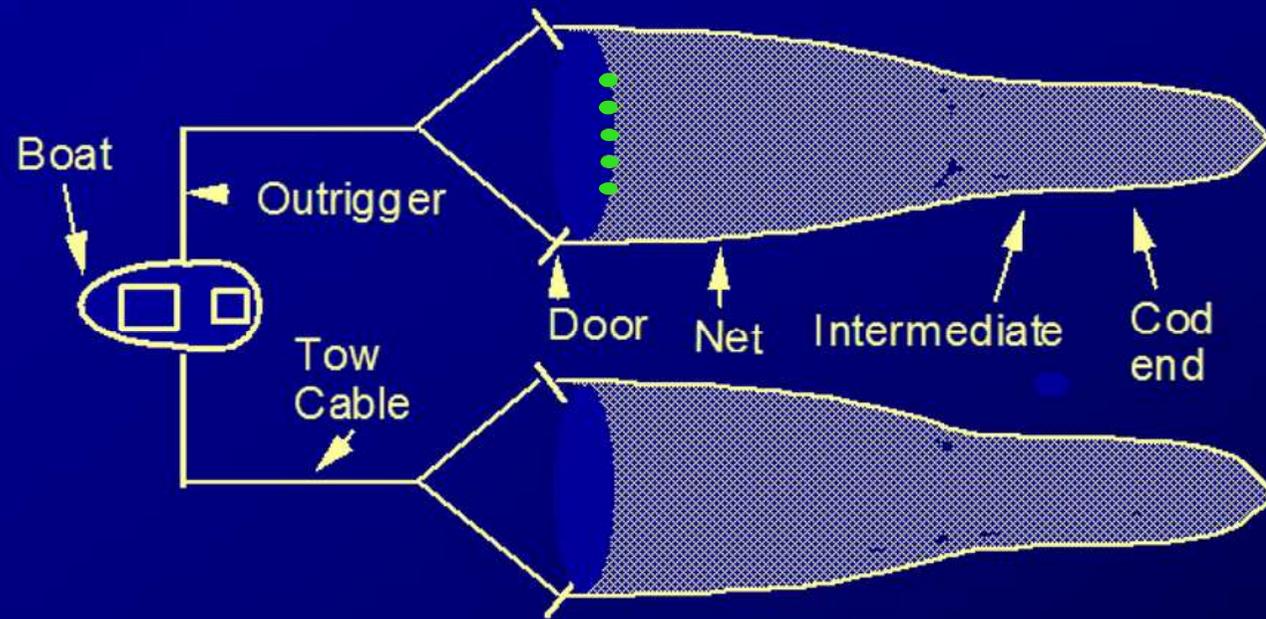




To generate artificial light we used green or blue Lindgren-Pitman lights (used for some types of longline fishing)

Shrimp trawl gear

Most shrimp trawlers are “double-rigged”



Note that with double-rigged shrimp trawls, controlled comparisons can be made very quickly.



▶ What We observed after 42 tows was very impressive

- ▶ Eulachon Smelt reduced by 90.4 %
- ▶ Juvenile rockfish reduced by 78.0 %
- ▶ Combined flat fish reduced by 68.8 %
- ▶ Shrimp loss was recorded at .07 %

Simply lighting up the footrope, providing enough ambient light allowed multiple species to avoid the net.

DATA SUMMARY



NOTUS ECHO

Problem: You just don't know where you are catching shrimp on a tow.

Solution: The ECHO will indicate when you are catching shrimp.

0:02 / 4:14



FX80 Deployment Package

- Easier to open than FS70 package
- Can change 3rd wire without opening
- Harder to pinch cables, still possible
- Drains faster and lays flat on deck
- No bolts around dome to snag
- Hand access through opening



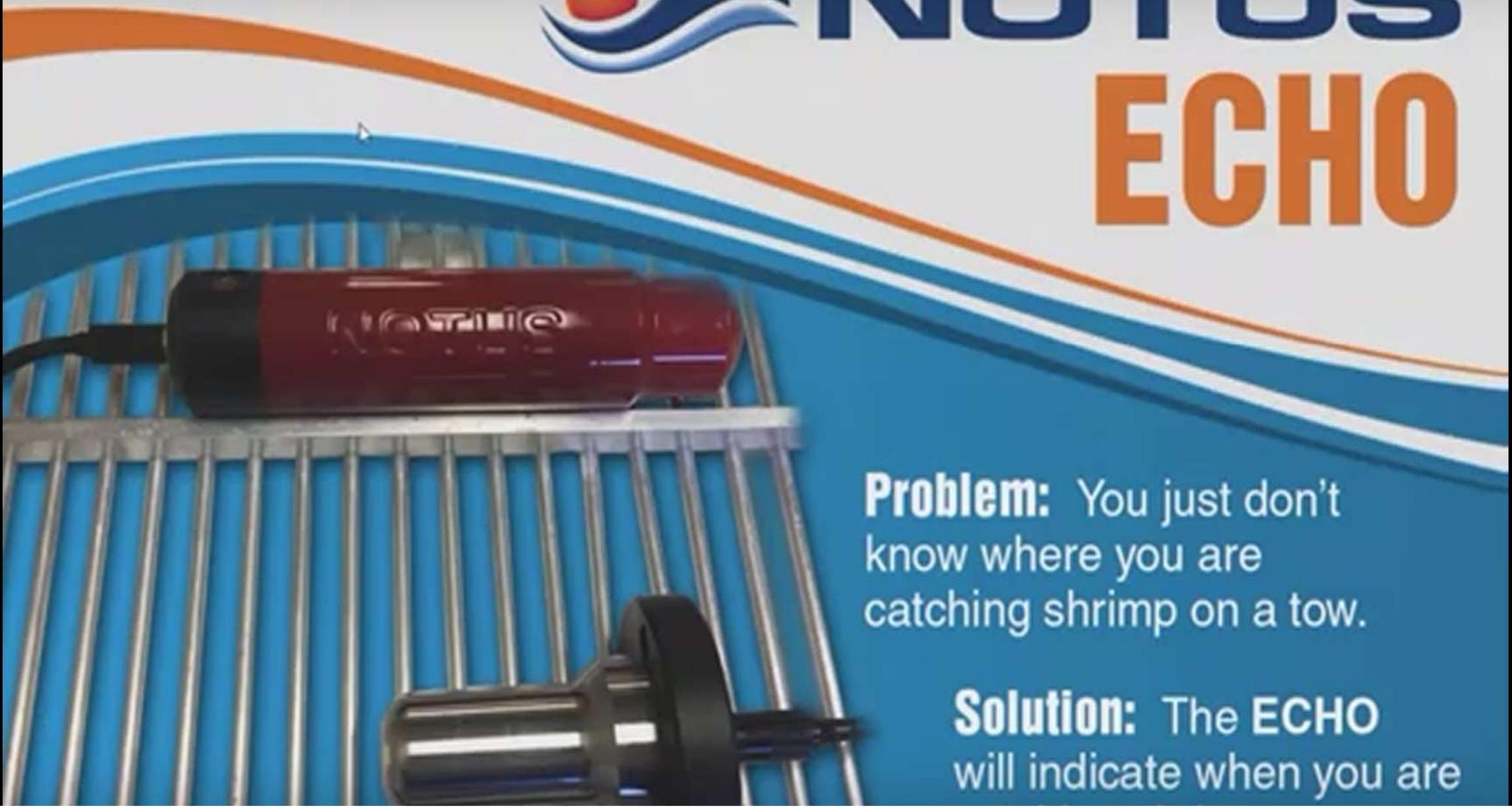
Upper SIMRAD FX DP	389941
Lower SIMRAD FX DP	389942
Sonar Dome SIMRAD FX DP	389943
Strain relief holder SIMRAD FX DP	389947
Mounting kit FX80 DP (bolts)	310976

Echo





NOTUS ECHO



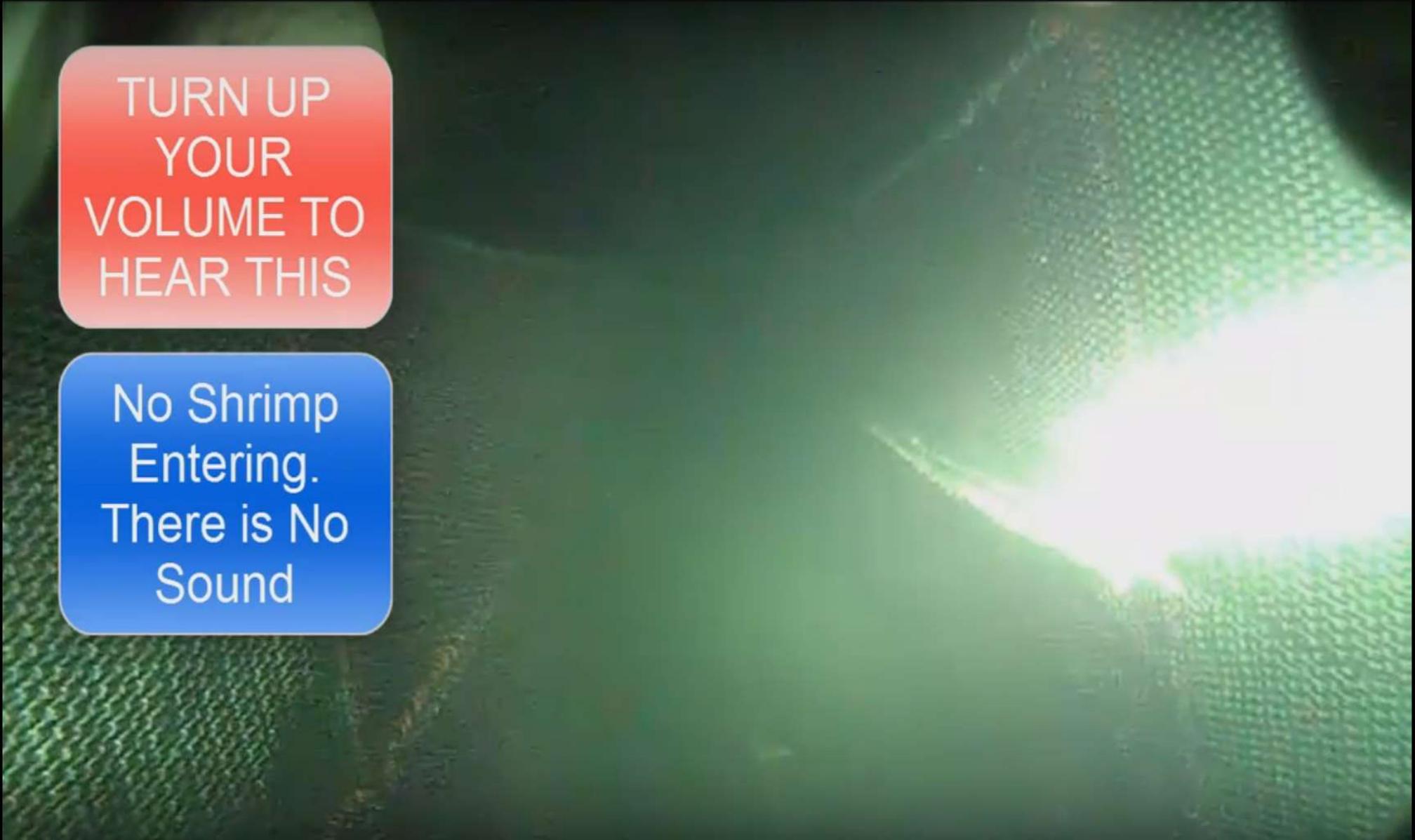
Problem: You just don't know where you are catching shrimp on a tow.

Solution: The ECHO will indicate when you are



TURN UP
YOUR
VOLUME TO
HEAR THIS

No Shrimp
Entering.
There is No
Sound



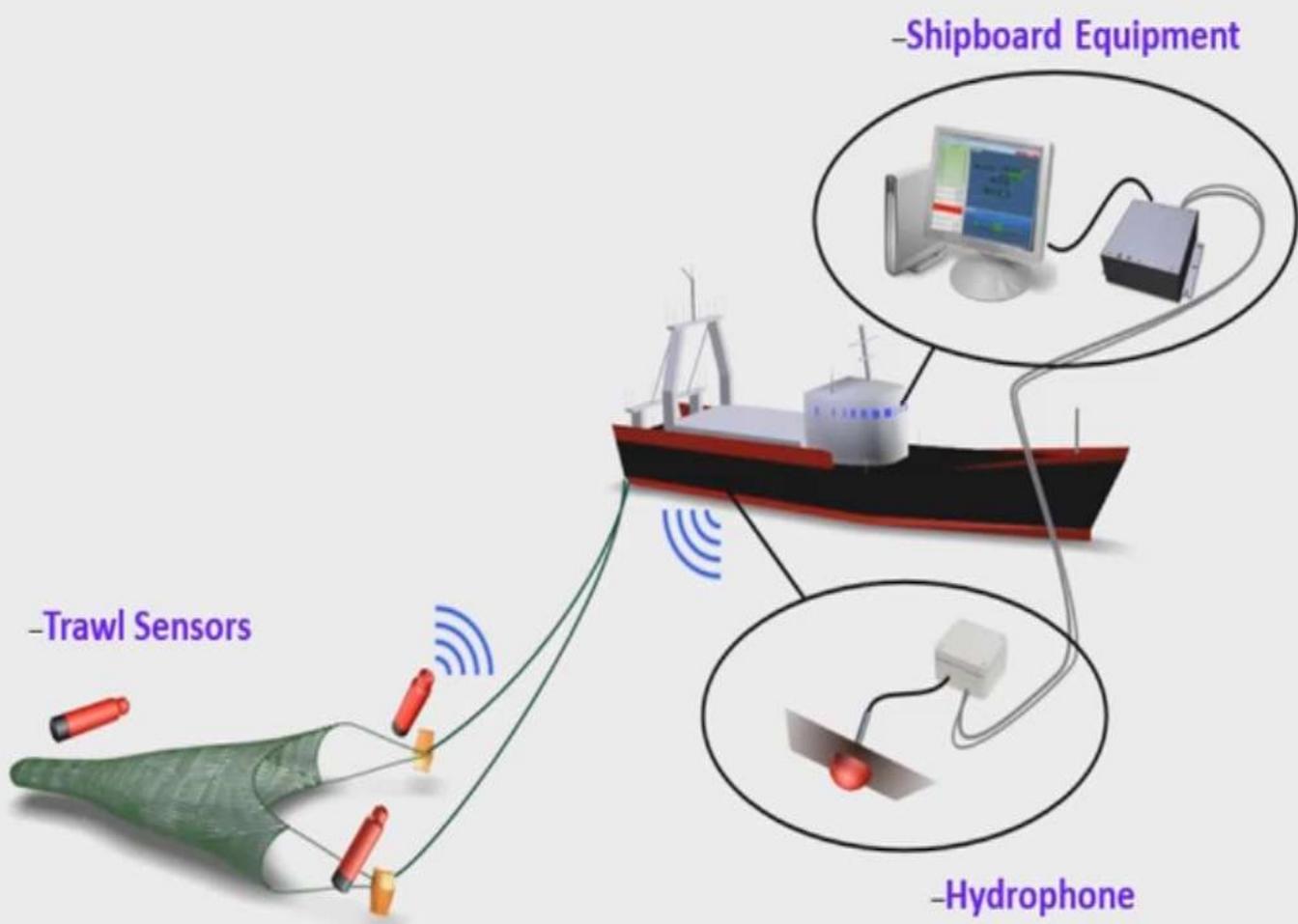


Sound
Increases
With Even
More Shrimp

Video courtesy of Effective Fishing Solutions



Sample Grid Video1



-Shipboard Equipment

-Trawl Sensors

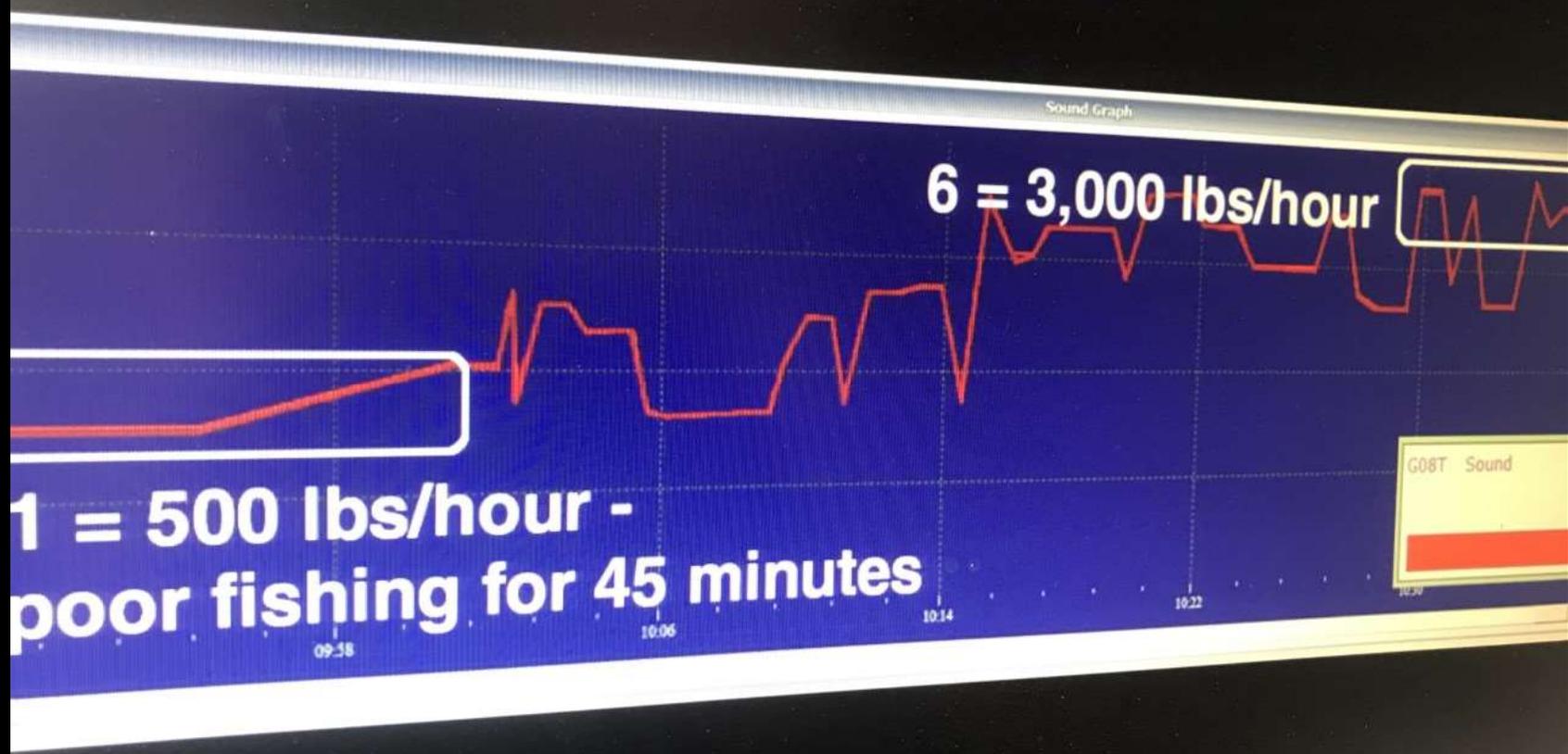
-Hydrophone

Sound Graph

6 = 3,000 lbs/hour

1 = 500 lbs/hour -
poor fishing for 45 minutes

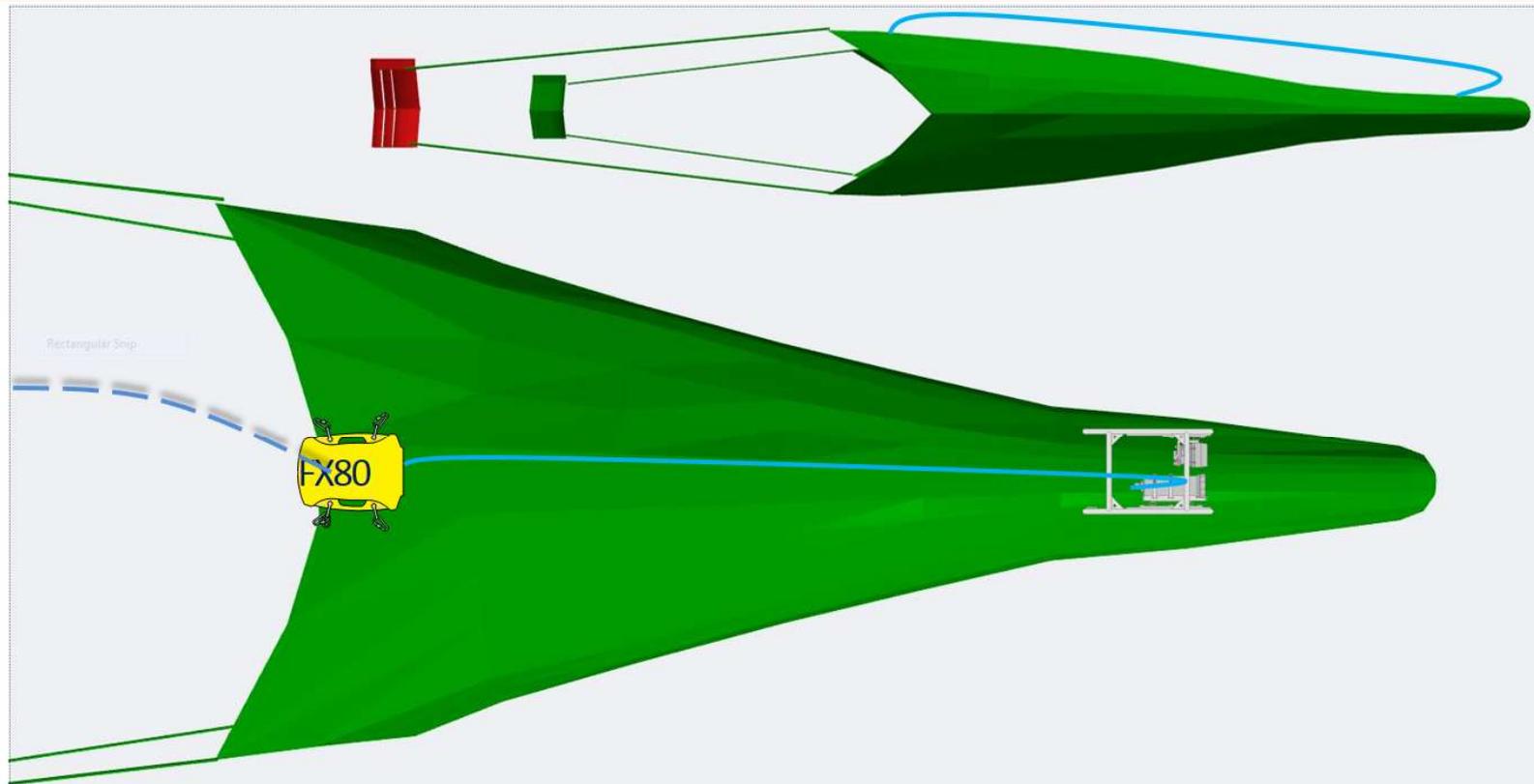
G08T Sound





F/V Miss Emily

FX80 Bottom/Shrimp net



- Camera at cod end w/ sonar at headrope
 - For short nets, i.e. coastal shrimpers; needs long 4th wire



FX80 Camera System Only

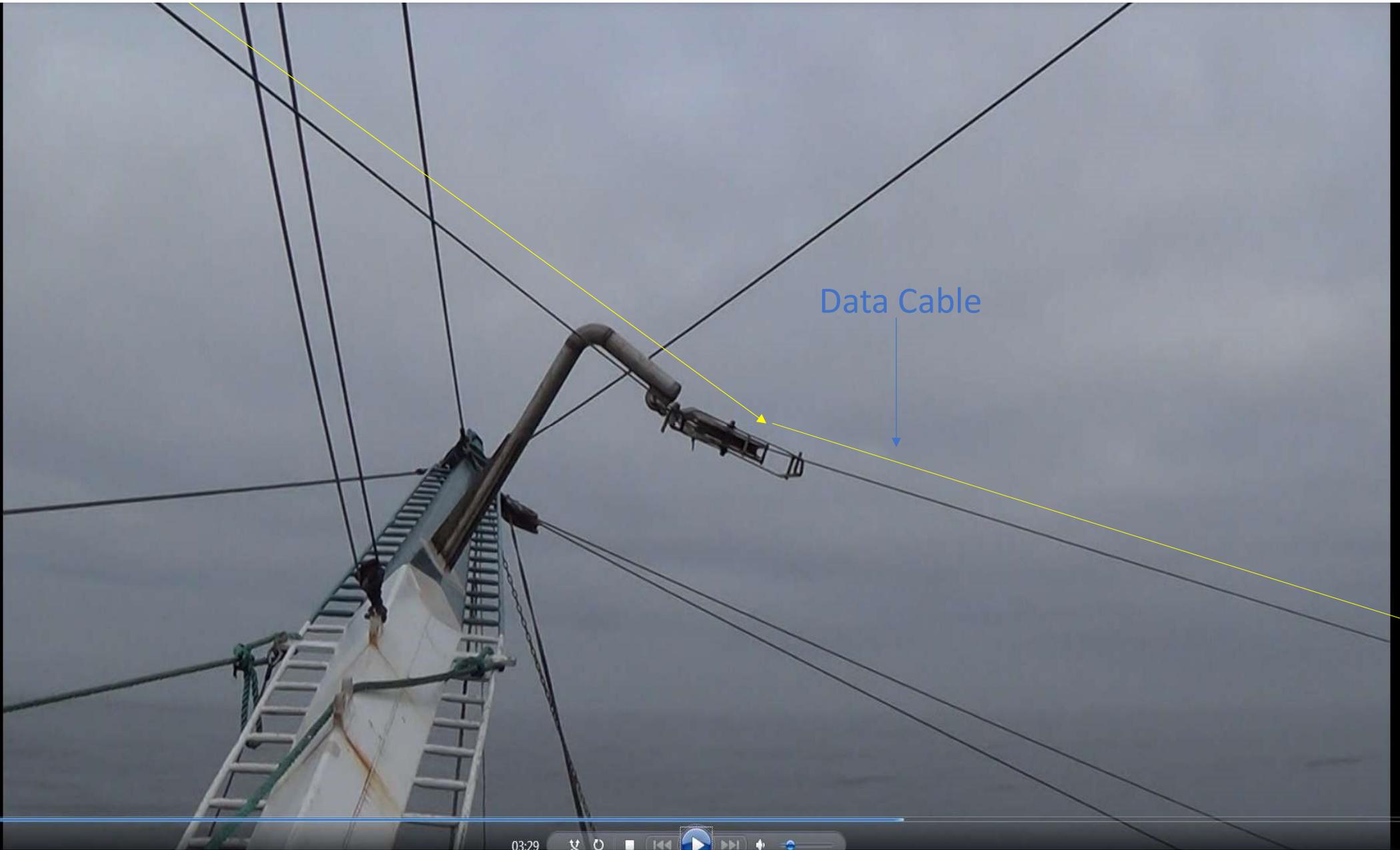


- FX Hub only in FS70 Deployment package
- Second “3rd wire” cable and winch
- Independent FS70 at headrope
- Attached near cod end
- Y-Cable attaches to hub
- 2 ft sacrificial cable to protect Hub bulkhead connector
- Stainless frame made in USA, Lamp and camera can be independently aimed
- Only about 2 minutes to attach
- Used with large/long nets



Data Cable





Data Cable

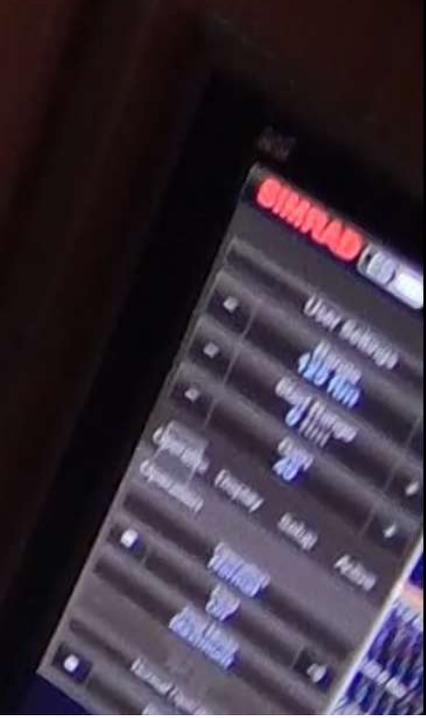


Data Cable

FX/80 Hub

Camera Body

00034









F/V Winona J Using Notus Systems



F/V Eddie & Rod Using FX-80



12 Vessels using Notus Systems Echo
4 Vessels using Simrad FX-80

- 105 vessels fishing the Jordani on the West Coast
 - 16% of the fleet is using real time data technology
 - These 16 vessels have reduced there bottom time by as much as 30%
 - Imagine the combined impact if half the fleet was reducing there bottom time by 30%. It's a possibility.
 - Visualize the positive effects of lowering the carbon footprint in your fishery, it looks great from a biodiversity standpoint.

















A special thanks to the participants

Josh Whaley and crew of the F/V Miss Emily.

Kyle Rock for his Newport “Drone” footage.

Dave Wamplar and crew of the F/V Carter Jon

Glynn Mcready photography

Ben Downs and Francis Parrot with Notus Systems Echo

Jess Woodruff with Simrads FX-80

Oregon Department of Fish & Wildlife

Shrimp Producers Marketing Cooperative and BSCC

\$ 500 reward for Sofia the Sea Lion



CARTER JON

