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# Advancing Use of Data Collection Technologies

Electronic Fisheries Monitoring and Reporting



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## Key Learning Objectives:

- Status of EM and ER in your region
- Considerations when developing EM/ER programs
- Understanding of ongoing EM policy issues

# Tapping technology to improve data collection

## WHY

Because knowing what species comes out of the water, and how much of each, is key to managing fisheries sustainably, and being more efficient than in the past

## WHAT

NOAA Fisheries has invested **+\$20 million** in new digital data collecting technologies to count the fish that fishermen catch and discard.

**+\$7M** FY16 budget to support implementation of electronic technologies.

## HOW



**Electronic monitoring**  
equipment such as video cameras capture information on fishing location and catch.



**Electronic reporting**  
of fishing trip data by fishermen and catch, landings, and purchase data by dealers or processors.

**Vessel Monitoring System (VMS)**  
to track location and allow for electronic reporting of catch and other data.



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# Plans ensure we apply technology smartly

In 2015, we created seven **regional electronic technology implementation plans**.



The plans identify, evaluate, and prioritize implementation of promising technologies in specific fisheries around the country.

This strategy provides national oversight and coordination to support regional implementation through the Regional Fishery Management Council process.

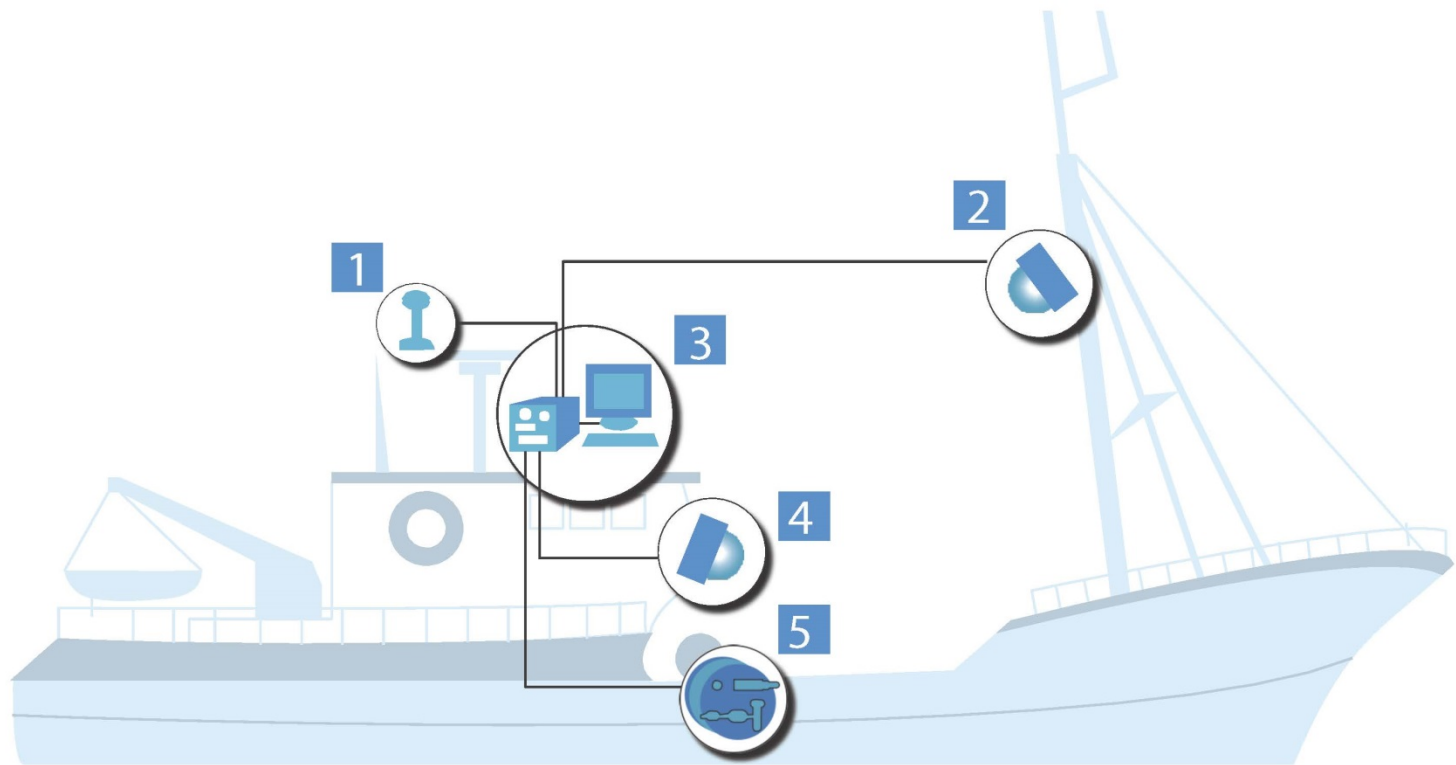
# Regional ET Implementation Plans

- Plans complete for all regions and Atlantic HMS
- Viewed together, the Regional Plans show a national picture of ET being implemented in regionally oriented way.

<http://www.st.nmfs.noaa.gov/advanced-technology/electronic-monitoring/index>

# Considerations in developing & implementing ET

- What is the objective?
- Stakeholder engagement, need all interests at the table
- Scientific/Data Needs
- Cost-effectiveness
- Ramp-up to implementation
- “Beware of shiny baubles” – Don’t use more technology than is needed



1



**GPS Receiver**  
Tracks vessel  
locations

2



**Video Camera**  
Records  
and monitors  
fishing activity

3



**Control Center**  
The electronic  
monitoring control  
center

4



**Video Camera**  
Records  
and monitors  
fishing activity

5



**Hydraulic and  
drum-rotation  
sensors**  
Tracks fishing activity



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# Electronic technologies are in use today



## Electronic monitoring

Fully-implemented electronic monitoring programs in 5 U.S. fisheries.

- Four programs are in Alaska and one in the Atlantic.
- The most recent, in 2015, is in the Atlantic Highly Migratory Species pelagic longline fishery.



Up to **6 more** electronic monitoring programs are expected to come online during the next three years in New England, West Coast, and Alaska.



# Electronic technologies are in use today



## Electronic reporting

Fully-implemented **electronic reporting** programs in many U.S. fisheries.

- ER programs have been used in Federal fisheries since the 1990s
- All federal commercial fisheries in Greater Atlantic (voluntary)
- Recreational fisheries are more limited but the programs now include headboats in the Southeast Region.
- Alaska region moving toward electronic reporting in all Federal commercial fisheries

Implementation of additional electronic reporting programs expected during the next 5 years **in all regions**.

- Party/Charter electronic reporting in Mid-Atlantic (2017), South Atlantic (2017), and Gulf of Mexico (2018)

# Technology use (by region)



## *Electronic Monitoring*

- Bering Sea and Aleutian Islands non-walleye pollock trawl (2008)
- American Fisheries Act walleye pollock trawl (2011)
- Central Gulf of Alaska rockfish (2012)
- Bering Sea and Aleutian Islands Pacific Cod longline catcher/processor (2013)
- Alaska small boat/fixed gear (2018)

## *Electronic Reporting*

- Dealer reporting
- Observer reports



## *Electronic Reporting*

- eVTRs (2011)
- Observer reports
- Dealer reports
- Mid-Atlantic party/charter (2017)

## *Electronic Monitoring*

- New England groundfish (2016)
- New England herring and mackerel (2017)

## *Cross-regional*

- Atlantic HMS pelagic longline (2015)

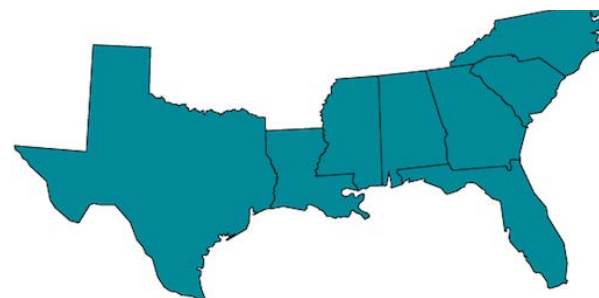


## *Electronic Monitoring*

- West Coast fixed gear whiting (2017)
- West Coast bottom trawl (2018)

## *Electronic Reporting*

- Dealer reporting



## *Electronic Reporting*

- Select commercial fisheries in Gulf of Mexico and South Atlantic (2015)
- Headboats in Gulf of Mexico and South Atlantic (2014)
- Party/Charter in South Atlantic (2017) and Gulf of Mexico (2018)



# Ongoing EM issues

- Data storage and retention
- Cost allocation
- Confidentiality
- Minimum participation levels
- Emerging technologies for computer vision & processing, data storage and transmission



# Summary:

- Status of EM and ER in your region
  - Regional Implementation Plans as guide
- Considerations when developing EM/ER programs
  - Objectives, Engagement, Data needs, etc. (slide 6)
- Understanding of ongoing EM policy issues





**KEEP  
CALM  
AND  
ASK  
QUESTIONS**



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