

# **Electronic Reporting Pilot Project Update**

**CA Dungeness Crab Fishing Gear Working Group  
May 16-17, 2017 | Santa Rosa, CA**

# Tested Four Tools

- Logbook
- Solar Logger
- Plotter/GPS Waypoints
- E-Catch (The Nature Conservancy)

# Evaluation Criteria

	Logbook	GPS	Solar Logger	eCatch
<b>STEP 1 - Can geospatial information be recorded?</b>				
Can this tool provide timestamp/spatial information to identify fishing activities?	Yes	Yes	Yes	Yes
Can it determine WHERE traps are deployed or moved?	Yes	Yes for deployed, no to moved	Maybe, based on boat movement	Yes
Can it determine WHEN traps are deployed or moved?	Yes	Yes for deployed, no to moved	Maybe, based on boat movement	Yes
Can this tool indicate the start and end of a trap string?	Yes	Yes	No	Yes
Can this tool identify the number of traps within a string?	Yes	No	No	Yes

# Existing Technologies

- **Logbook**
  - Paper
  - Scan, take picture, or upload spreadsheet and emailed to CDFW
- **Solar Logger**
  - Pelagic Systems distributes passive unit (~\$50/ea)
  - Data transmitted to PSMFC interface
- **Plotter/GPS Waypoints**
  - Using technology that fishing vessels/fishermen are already equipped with
  - Data downloaded from unit and mailed/emailed to CDFW

# Methodology

- Contacted all fishing WG participants to ask for help identifying testers
- Testing Period: April 11 – May 8
- 4 Fishermen able to test tools
  - 4 Central Mgmt Area CA
  - 3 Commercial Fishermen
  - 1 CPFV Operator
- 4 Testing Logbook and Solar Logger
- 1 Testing Handheld GPS

# On-The-Water Experiences

## **Cost/feasibility of data collection itself**

Learning time to operate tool (includes installation of the hardware/software)

Time to use/operate tool (e.g., number of times data is inputted per use)

Changes in fishermen's TIME when using tool (e.g., servicing traps, driving boat, using data logger)

Changes in fishermen's BEHAVIOR when using tool (e.g., safety concerns)

Data transmission by fisherman (e.g., to CDFW/PSMFC)

What are the known biases of the tool?

## **Timeliness of data input/output (all stages of data collection)**

*Potential frequency of data collection*

Do weather conditions impact the ability to collect data?

# Sample Logbook

SAMPLE CA LOGBOOK (SIMPLIFIED)								
Vessel Name:			Fishermen:			Month/Year:		
CA Vessel ID:								
Either Date (S)et or	String Date (R)emoved	Number of Traps Set	Compass Heading	Depth (fathoms)		Latitude	Longitude	Comments
11/14/2016 (S)		150		35	Begin	38 10'	123 10'	observation of whales
					End	38 10.5'	123 10.5'	lost two pots in string
					Begin			
					End			
					Begin			
					End			
					Begin			
					End			

# Evaluation Criteria – Logbook

<b>Cost/feasibility of data collection itself</b>	<b>Logbook</b>
Learning time to operate tool (includes installation of the hardware/software)	Easy/Straight forward
Time to use/operate tool (e.g., number of times data is inputted per use)	Time Consuming
Changes in fishermen's TIME when using tool (e.g., servicing traps, driving boat, using data logger)	Time Consuming
Changes in fishermen's BEHAVIOR when using tool (e.g., safety concerns)	Difficult to use in difficult weather and foggy conditions
Data transmission by fisherman (e.g., to CDFW/PSMFC)	Easy to take picture/scan and email to CDFW
What are the known biases of the tool?	Concerns with honest reporting
<b>Timeliness of data input/output (all stages of data collection)</b>	
Do weather conditions impact the ability to collect data?	Yes



# Evaluation Criteria – Solar Logger

<b>Cost/feasibility of data collection itself</b>	<b>Logbook</b>
Learning time to operate tool (includes installation of the hardware/software)	Easy/Straight forward
Time to use/operate tool (e.g., number of times data is inputted per use)	Minimal
Changes in fishermen's TIME when using tool (e.g., servicing traps, driving boat, using data logger)	None
Changes in fishermen's BEHAVIOR when using tool (e.g., safety concerns)	None
Data transmission by fisherman (e.g., to CDFW/PSMFC)	Easy- Uploads to server in cell range
What are the known biases of the tool?	Uses speed of vessel and algorithms to interpret activity
<b>Timeliness of data input/output (all stages of data collection)</b>	
Do weather conditions impact the ability to collect data?	No

# Evaluation Criteria – Plotter/GPS

<b>Cost/feasibility of data collection itself</b>	<b>Logbook</b>
Learning time to operate tool (includes installation of the hardware/software)	Easy/Straight forward
Time to use/operate tool (e.g., number of times data is inputted per use)	Minimal
Changes in fishermen's TIME when using tool (e.g., servicing traps, driving boat, using data logger)	None
Changes in fishermen's BEHAVIOR when using tool (e.g., safety concerns)	None
Data transmission by fisherman (e.g., to CDFW/PSMFC)	Easy if have the tool. Many don't have one.
What are the known biases of the tool?	None
<b>Timeliness of data input/output (all stages of data collection)</b>	
Do weather conditions impact the ability to collect data?	No

# Evaluation Criteria – Data Analysis

Post data collection:

Cost/workload of required data analysis/interpretation

Potential frequency of data transmission:

Hourly, Daily, Weekly, Monthly?

Timeliness of data input/output (all stages of data collection)

Mail components email or “snail mail”

Automatic upload via WIFI/Cellular Satellite

Potential frequency of data collection:

Every fishing trip, Monthly, Seasonally

# Evaluation Criteria - Looking Ahead

Looking ahead (qualitative feedback)

Data ownership/confidentiality

Who owns data?

What are their limitations with sharing data?

Concurrent collection of whale data

Can whale data be collected concurrently?

Scaleability\*

Cost prohibitive to scale up to the broader fleet

Support from industry to use the tool

Can it answer other priority questions? (e.g., depth of traps)

Should the tool continue to be tested beyond May 17?

# Next Steps & Recommendations

- How specific information do we need?
  - Option: Scale up- Something between fine-scale coordinates, and coarse-scale 10x10 degree min block codes (i.e. landing receipts)
- Solar logger & GPS shows fishing activity tracks in general location
  - Could supplement this with other logbook-type info. (i.e. within an area there are approximately X number of traps on date if you move outside area then mark this)
- Scale up next season, focusing on 1-2 tools
  - Include more participants

# Guiding Questions

- What information are tools capturing?
  - Higher resolution of fishing activity?
  - Determining trap distribution? Density?
- Which tools are easiest for fishermen to use?
- How can this type of project be scaled?
  - Incentives needed for broader participation?