Coonamessett Farm Foundation

Fisheries Science
Agricultural Production
Aquaculture Research

CFF

Real-Time Electronic Bycatch Reporting Pilot Project – What's Next?

Ronald Smolowitz


"The RSA program has already funded this pilot project to a successful level and it seems ready for application"
- 2015 RSA non-selection memo

The Proposed Solution

Objective 1: reduce bycatch in sea scallop fishery

Initial intention: make use of observer data

Observer data was not the type of data fishermen needed to make operational decisions on a real-time basis

Coonamessett Farm Foundation (CFF) contracted OLRAC SPS in 2009 to provide it with a “near real-time” fleet bycatch monitoring software solution

The Proposed Solution

Objective 2: industry-based data collection system

Idea was to fund the system by using a portion of the1% of observer set-aside

Calculated annual cost for installation and operation

Identified legal hurdles

Identified how additional set-aside could be used to incentivize participation

The Proposed Solution

Components of an industry-based data collection system

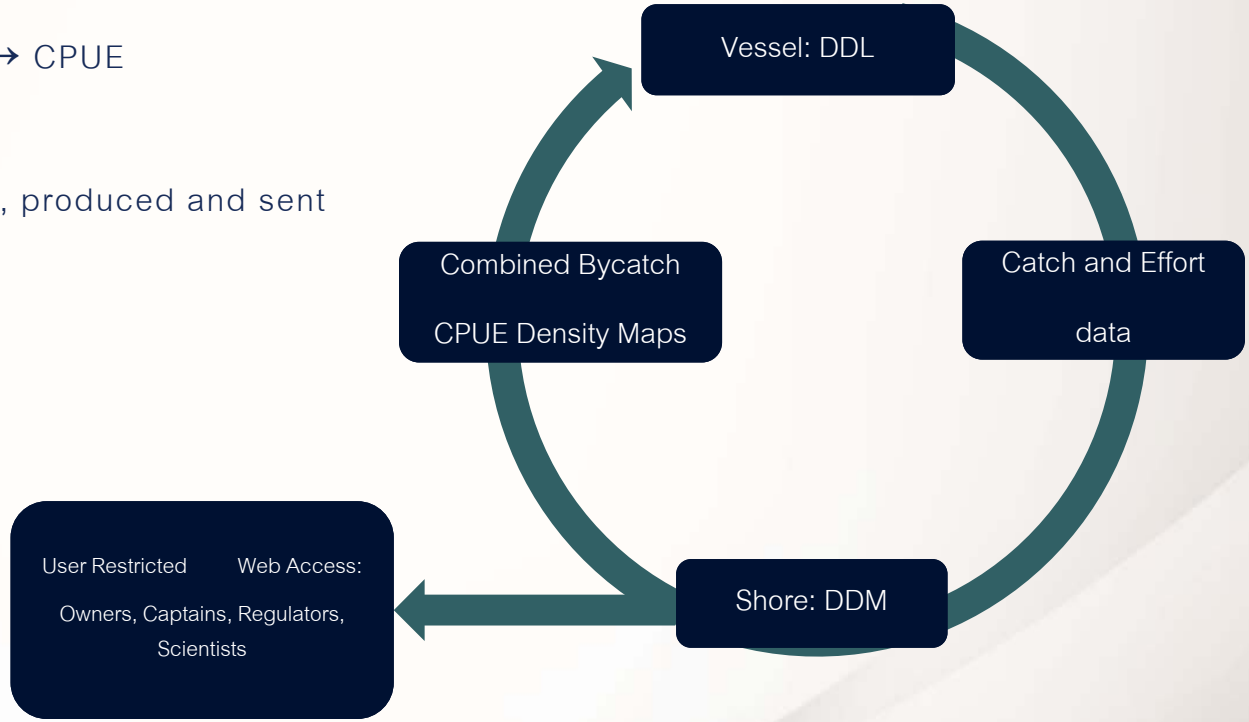
1. Vessel Unit: Dynamic Data Logger (DDL)
   - On-board electronic logbook
   - Data collection for industry and researchers
   - eVTR certified

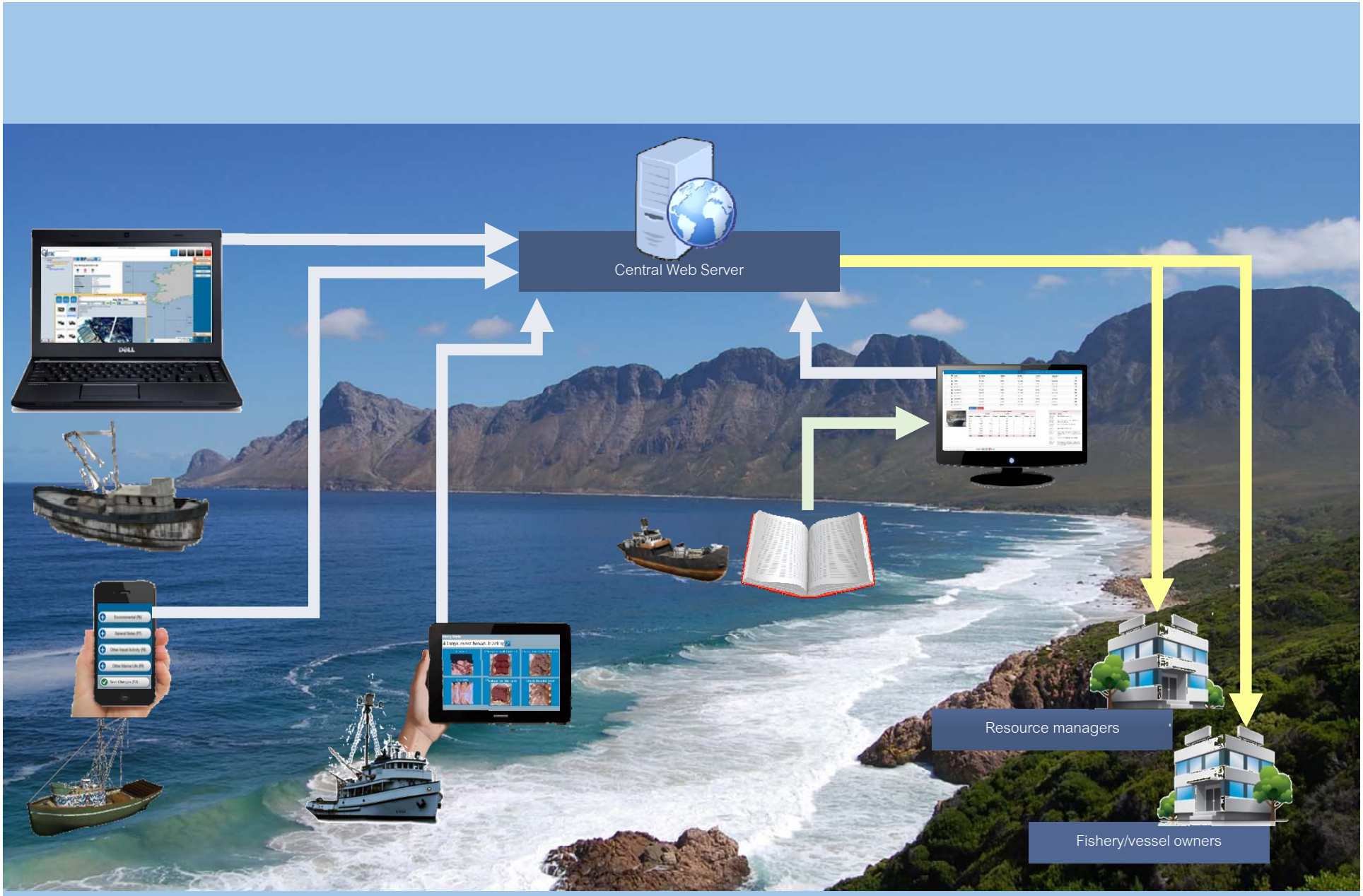
2. Shore Unit: Dynamic Data Manager (DDM)
   - Third party web server(s)
   - web-based interface
   - data processing and anonymizing

Process Summary

Real-time ⟶ combined bycatch ⟶ CPUE

CPUE density maps are calculated, produced and sent back to vessels automatically




Central Web Server
Resource managers
Fishery/vessel owners

Shore Unit (DDM)

BYCATCH REPORT

1. Vessels generate data
2. Data sent from vessel unit to shore unit
3. Shore unit returns density map of defined bycatch species:
   - Daily maps = updated bycatch movement
   - Fleet-wide average = anonymity

DATA ACCESS & ANALYSIS

1. Web-based = remote login
2. Restricted user access:
   - Owners can access fleet-wide reports
   - Owners cannot access other vessels' data
   - Raw, anonymous data can be sent to management databases
3. Fine spatial resolution
4. Efficient, cost-effective, high quality data management

PILOT

1. Proxy catch and GPS simulation test
2. Field test on 15 vessels
3. Resulted in modifications to:
   - Data-entry method
   - On-deck sampling procedures
   - Investigating a new method of Ship to Shore data transmission

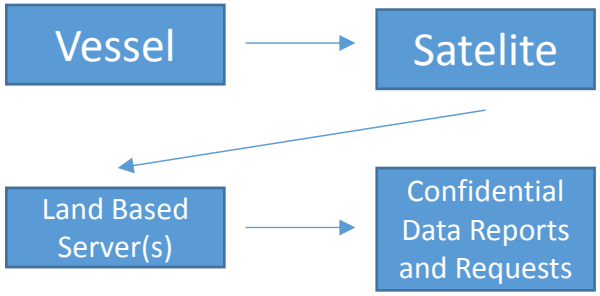
Costs

- Set-Up Cost (one time)
  - Computer: ~$1000/vessel
  - Installation and data cables: ~$550/vessel
- OLRAC Fees (Annual)
  - 12 month DDL license: $850/vessel
  - 12 month DDL-DDM connection fee: $140/vessel
  - 12 month server license: $14,000 (about $50/vessel/year)
- Transmission Cost (estimate)
  - Boatracs data charge: ~$300/month/vessel – If **REAL-TIME**
- **Total Estimated Cost –** can cut w/near real-time by $3,000/year
  - **First Year: ~$6,000/vessel or $3,000**
  - **Consecutive Years: ~$4,500/vessel or $1,500**

Industry Vs. Government

Industry

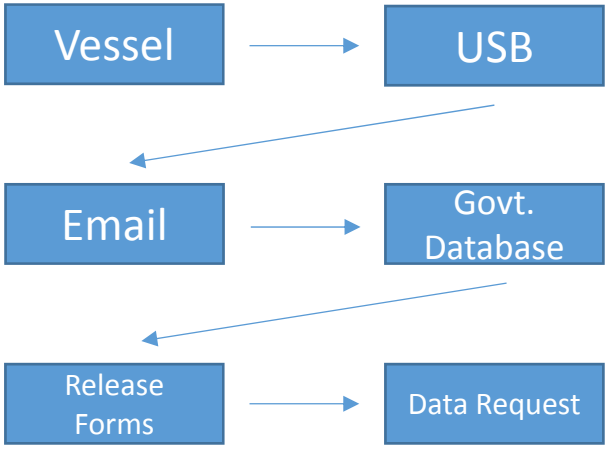
- Data Flow



- Industry supported data collection provides anonymity and trust in data collection and use

Government

- Data Flow



- How is the data used within management and enforcement?

Incentives

- Current observer set aside program
  - 1% set-aside used to defray costs of taking observers
  - Additional 150lbs/day for access areas or 0.08 days at sea (DAS)/day for open area trips
- Similar program can help support electronic reporting and help defray the costs associated with the program
  - Providers would have to be government certified (eVTR, Observer Providers)
  - Data management by certified third party providers

Moving Forward

- Developing an industry funded and supported electronic reporting program can help fill data gaps that currently exist in the observer program
- Data consolidated by the industry will ensure privacy of proprietary information as well as encourage the collection of higher quality data
- The technology has been developed and demonstrated, future work must focus on developing management actions to support implementation