The Development and Piloting of a Real-Time, Mobile Seafood Dealer Reporting Application for SAFIS

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Commercial Reporting

- Standard Atlantic Fisheries Information System (SAFIS) electronic dealer reporting application (eDR) launched in 2004
  - Expanded to more partners including MA and Northeast Federal dealers in 2005
  - Has since expanded to most mid-Atlantic and Northeastern states

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- Harvester trip reporting began in 2008
  - 1-ticket and 2-ticket systems now available

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Commercial Reporting

• Typical data elements collected by dealers:
  – Fisherman, vessel, and port of landing
  – Landing date and purchase date
  – Species, market, grade, unit
  – Disposition
  – Quantity
  – Price
  – Source (aquaculture, cars, research set aside)
  – Harvest Area (shellfish only)

• Harvesters also report harvest area, gear type, gear quantity, soak time

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Online version of eDR

- An example of a key-entered dealer report via eDR

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Massachusetts Fisheries Statistics Program

All MA Commercial Harvesters

Who Reports In MA?
2-Ticket Reporting System

All MA Commercial Dealers (Primary Buyers)

ACCSP = Atlantic Coastal Cooperative Statistics Program

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Persistent Issues

- Dealers not always accurate when identifying harvester and/or vessel
  - Permit numbers change
  - Vessel info often not easily accessible (name not MS # provided)

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  – Particularly for public health issues

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• 2-ticket reporting system somewhat duplicative for shellfishing activities

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Persistent Issues

- Shellfish Transaction “System” Antiquated
  - “Knuckledusters” hard to replace
  - Paper-based system
  - Confusion about disposition of triplicate slips
  - Duplicative reporting between SAFIS and Department of Public Health (DPH) requirements (paperwork, paperwork, paperwork!)

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Project Goals

- Move towards electronic reporting & implement swipe card to consummate electronic transaction
  - Eliminates paper
  - Improves accuracy particularly for fisherman/vessel entry
  - More timely; data available for multiple purposes

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• Build software to work with SAFIS
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  – Allows for transition over time

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• MA: Move towards a 1-ticket reporting system for shellfish and reduce duplication with DPH
  – 2-ticket system mostly duplicative and burdensome

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Project Details

Partners: Massachusetts Division of Marine Fisheries
Maine Department of Marine Resources
ACCSP
Harborlight Software

Principle Investigators: Thomas Hoopes (MA DMF)
Rob Watts (ME DMR)

Timeline: Development began February, 2015
Weekly conference calls began February, 2015
Beta versions released May, 2015
Partner testing, card management development and updated releases are ongoing
Dealer piloting in MA to begin October, 2015
Production releases expected for 2016 season

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Project Requirements

Massachusetts:

- Targeting state-only shellfish dealers for primary release (transactions relatively straightforward, most duplicative)
- Use of application will be optional
- Bar code on front available for use in addition to magnetic strip
- Manual entry of fisherman information allowed
- Harvester data can be collected (single ticket)

Maine:

- Targeting specific species (sea urchins, scallops & elvers)
- Use of application for specific species will be mandatory
- Bar code not an option – only magnetic strip
- Only dealer data to be collected (no harvester)

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Project Modules

• Card Management
  – Create and manage swipe cards from SAFIS

• Dealer Reporting
  – Includes negative (did not fish) reports
  – Card, permit, endorsement, vessel & species all manageable
  – Local database on device
  – Able to create tickets offline, syncs and submits tickets over wifi

• Compliance features

• Harvester Reporting & Capture of Dept of Public Health data for MA

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Card Management

- SAFIS Management System (SMS) expanded to allow management of cards and licenses
- Standardized text in magnetic stripe/barcode
  - Create and print swipe cards from SAFIS (ME method)
  - Cards can be printed locally and card information uploaded to SMS (MA method)
- Can turn on and off cards, licenses, endorsements, management groups where applicable

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Card Management

• Endorsement and license types are linked to species
  – Cross referenced with the dealer’s favorite species in the application to display only those species the harvester is allowed to sell.
  – Time intensive to set up in SMS, but once complete, management is relatively simple

• Example: a fisherman’s license only allows him to sell bivalve shellfish. His dealer purchases both shellfish and lobster and defaults those species in the app. Upon swiping, the app compares the dealer defaults with the harvester’s allowable species and only displays the shellfish.

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Swipe Cards

MA Shellfish Identification Card

Front: Embossed Identifiers
Bar Code

Back: Regulatory Language
Magnetic Strip

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Swipe Devices

- Come in many shapes and work with many devices
- Scanner software built into app
- Reporting application will be free to users, and built to run both in a PC and mobile environment
- Users will need a valid SAFIS account to use it

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- Refresher!
- Key-entry dealer report via eDR

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eDR Mobile Demo (MA)

SAFIS eDR/mobile Settings > Species Screen

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Piloting Plan: MA

• Pilot application with up to 10 dealers

• Met with 7 at the beginning of the project
  – Learned about best practices, what the dealers are looking for in an app, and introduced the project
  – These meetings highlighted the need to incorporate department of health fields

• Releasing to 3 dealers in October:
  – 2 small, 1 intermediate size dealers using different platforms with different technological capabilities
  – Expand to 2-7 more over the winter and incorporate user feedback

• Harborlight Software has an industry liaison who is the point of contact for all feedback on the application. She works jointly with all state partners as well.

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Project Summary

Currently versions released for iOS, Windows, and Android that are compatible with specific card readers. Barcode scanning works for iOS and Windows.

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  – Working through the details of the requirements, particularly with respect to multiple partners and card management
  – Getting app to run on multiple platforms (mobile, tablet and desktop), and programming card readers for each

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• **Upcoming Tasks**
  - Finalizing the Harvester & DPH reporting component
  - Pilot with dealers, update accordingly
  - Transition to and launch app in the production environment
  - Outreach to Industry

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• Benefits
  – Multiple partner requirements resulting in a more flexible application
  – More accurate timely data (real-time removes the week+ delay)
  – Potentially easier and more streamlined for both dealers and harvesters
  – Incorporates other data elements to accommodate public health requirements and reduce duplicative reporting
  – Continues current SAFIS-centric model, with data going to the same repository
  – Further develops the SAFIS API for more applicability to real time needs
  – Potentially eliminate the two-ticket reporting model for some fisheries, particularly shellfish where the dealer is already reporting areas

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• Future Directions

  – Depending on success, begin looking at expanding to the remainder of the industry
  – Collaborate with GARFO to bring in federal dealers
  – Bring in other ACCSP Partners (RI, NH, & CT already interested)

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