

The Need for Standards

- Fisheries are evolving toward greater collaboration and self-governance in response to mandates for sustainability, catch shares, cost recovery, and environmentally responsible fishing operations.
- These drivers increase the demand for fast, reliable, and innovative eFIS systems for collecting, storing, communicating, analyzing, and sharing fisheries information.
- However, successful eFIS requires that incentives are aligned, costs and benefits shared, and **rational standards developed and communicated.**
- **Comprehensive standards** can provide the framework, guidelines, rules, and signals to unleash entrepreneurial behavior and support the profitable development of eFIS systems.

Example: Setting Standards for a Fishing Trip

Vessel Activity Flow Chart



Issues to Consider



Recommendations

- Determine eFIS objectives
- Analyze how alternative standards will impact system design and user behavior in meeting objectives
- Select the institutions, incentives and standards which best achieve objectives
- Monitor, measure, and evaluate the effect of 1) incentives for achieving the standards and 2) standards in achieving information and management objectives
- Revise and adapt if necessary
- Include all key stakeholders in an innovative standards design and evaluation process -- including technology companies -- minimize bureaucratic process, and design standards for key eFIS monitoring and reporting systems

What are eFIS Standards?

Standards are input, process, or performance rules that guide system design and user behavior. In the case of eFIS they include rules on 1) interoperability (API), 2) data definitions, management, and quality, 3) system documentation, validation, and transparency, and 4) privacy and security.

Vision for eFIS Systems

- In the 21st century, U.S. fishing and seafood industries are global leaders in developing and employing innovative and efficient eFIS Systems.
- eFIS are created by designers and entrepreneurs representing a rich marketplace of ideas, missions, and organizations.
- eFIS systems are based on **comprehensive standards that catalyze development** and support seamless storage, sharing, and analysis of data within and across fleets, private and public organizations, and government agencies.
- U.S. fishery management plans incorporate standards-based eFIS in order to achieve management objectives.
- eFIS supports fisheries that are knowledge-based, collaborative, profitable, and sustainable.

1. Based on a concept proposal by Barkai, Amos, Erika Feller, John Lavrakas, and Gil Sylvia. 2013. eFIS: Concept Paper -- Standards for Electronic Fishery Information Systems (available from the authors).