

NOAA Fisheries Enterprise Data Management (EDM)

NOAA EDMC Workshop

May 25, 2010

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National Marine Fisheries Service

Themes/ Intended Take Aways

- Adapting to Cyberculture is a challenge
- How NMFS is meeting the Cyberculture challenge with EDM
- Where we are going: EDM Strategic Plan
- What we've done so far: Some accomplishments
- What we hope to get out of this workshop

Cyberculture: The New Internet World

- **Cyberculture:** *the ‘culture that has emerged, or is emerging, from the use of computer networks for communication, entertainment and business.’* (Wikipedia)
- Social networking, Facebook, texting, tweeting, avatar meetings, etc., etc.,
- Expectations that virtually all information is available within a few clicks
- Driven Up from the bottom  and..



...Down From the Top

- Open Government Directive
 - Transparency, Participation, and collaboration
- Portals, Portals, Portals
 - Data.gov
 - A new culture of open government data
 - NOAA complying assertively
 - Requires good documentation
 - Geospatial Onestop
 - OBIS
 - Climate
 - IOOS
 - Ecowatch
- Environmental pressures
 - Gulf Oil spill



One NOAA Notable Said:

1983

“NOAA is like a library without any card catalog...or even bookshelves”

.....Dr. John Klaus, Former NOAA Administrator, 1983

2010

Better: We have inventories and are sharing data, but on a piecemeal, stove piped basis

Bottom Line: We at NMFS still have a lot of work to do

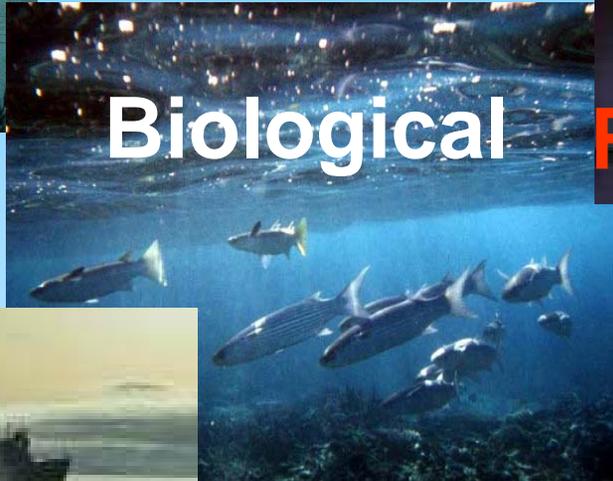
EDM is doing the job!

NMFS Enterprise Data Management (EDM)

NMFS' Wealth of Data



Environmental



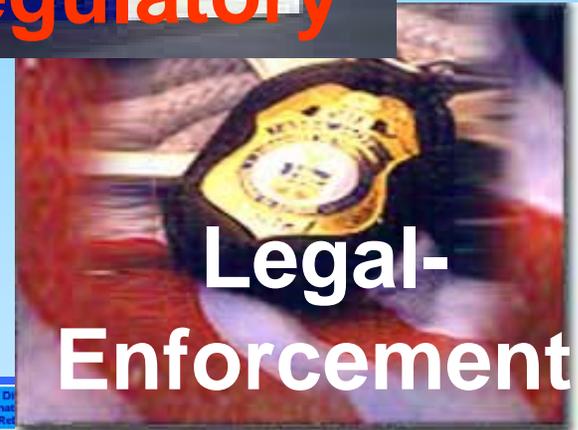
Biological



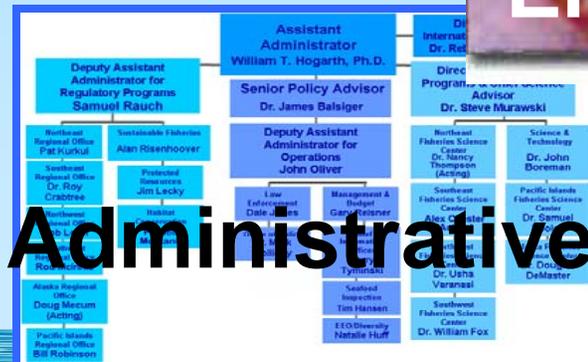
Regulatory



Human Interaction



Legal-Enforcement

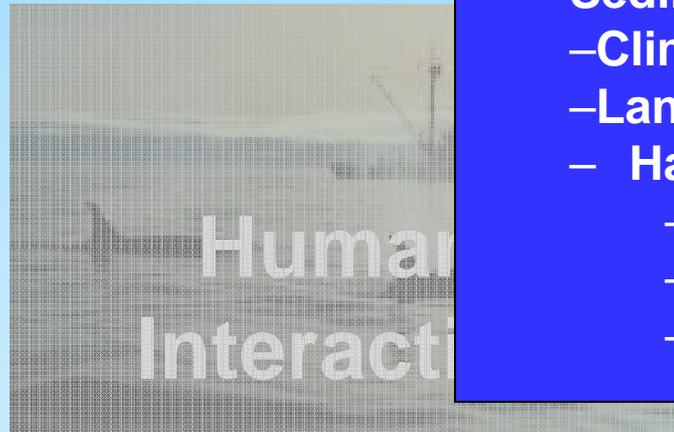


NMFS' Wealth of Data

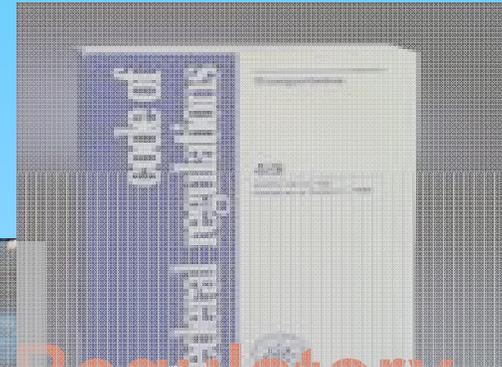


Environmental

- Ocean/Climate
- Physical Measures: Air; Water; Sediments
- Climate/Ocean exchanges
- Land/Ocean exchanges
- Habitat
 - Habitat characteristics
 - Habitat mapping
 - Habitat recovery data



Human Interactions



Regulatory



Legal-Placement



Administrative

NMFS Enterprise Data Management (EDM)

NMFS' Wealth of Data

Environmental

Biological

Regulatory

Human
Interaction

- Fishery-independent surveys
- Protected species and marine mammals
- Genotype
- Photo/video images
- Toxicology

Administrative

NMFS Enterprise Data Management (EDM)

NMFS' Wealth of Data

Environmental

- Commercial uses
- Recreational uses
- Cultural and economic data
- Security measures

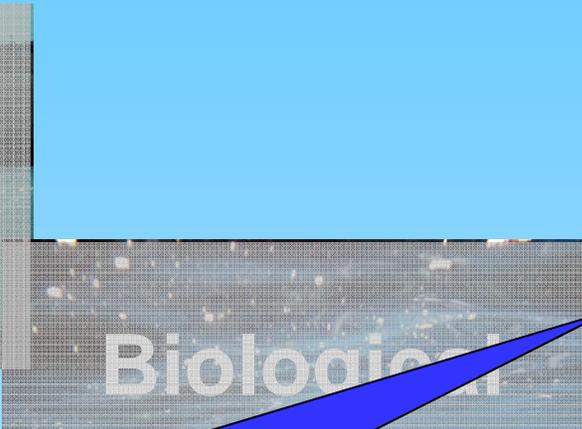
Human Interaction

Legal-Enforcement

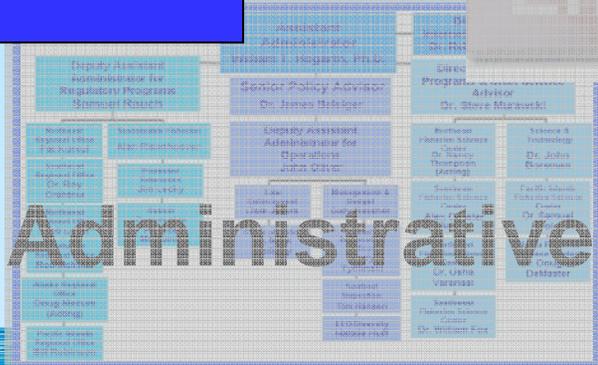
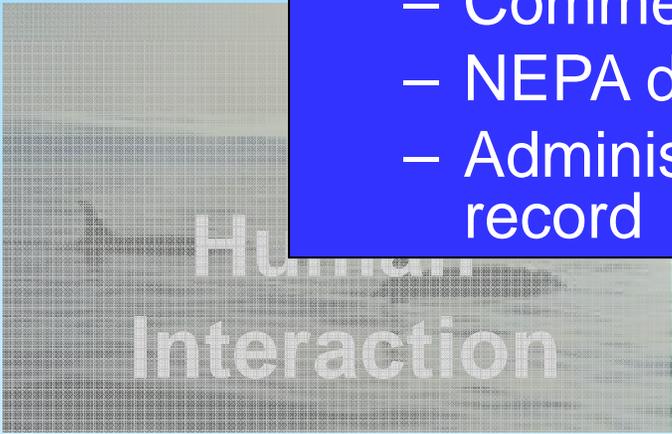
Administrative

NMFS Enterprise Data Management (EDM)

NMFS' Wealth of Data



- Regulatory text
- Comments
- NEPA docs
- Administrative record



NMFS' Wealth of Data

Environmental

- Fishing Vessel tracking and monitoring
- Boardings/Cases

★ Legal-
Enforcement

Human
Interaction

Administrative

NMFS Enterprise Data Management (EDM)

NMFS' Wealth of Data



Environmental

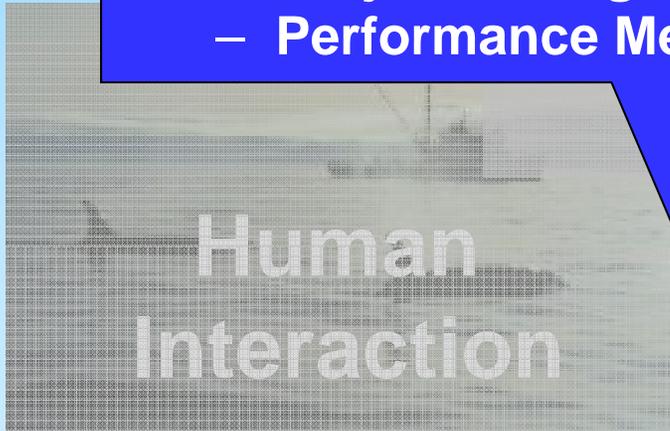


Regulatory



Legal-
Enforcement

- Budget, planning and administrative
- Human Resources
- Project Management
- Performance Metrics



Human
Interaction



Salient Data Characteristics

- Data collected at scale of interest - management occurs at regional-scale
- Limited historical need for data sharing between regions
- Require extensive quality control
- Require extensive metadata
- Stored in complex data structures
- Constantly changing as technology/methods improve
- Some fisheries statistics confidential and sensitive
 - Statutory “rule of three”
 - Difficult to roll up to non-confidential cells

EDM Program



Recommendations for National Marine Fisheries Service (NMFS) Enterprise Data Management (EDM)

Version 1.7
November 2008

James W. Sargent, Information Architect,
Dr. John Boreman, Director, Office of Science and Technology
and
The Fisheries Information Management Committee
National Marine Fisheries Service (NMFS)
National Oceanic and Atmospheric Administration (NOAA)

- **Established Nov 2008 by NMFS Leadership Council**
 - Based on *Recommendations for an EDM Program*
 - Managed by the NMFS Information Architect in the Office of Science and Technology
 - Conducted by Fisheries Information Management Advisory Committee (FIMAC)
 - Coordinated by Information Management Coordinators identified in SCs, ROs, and HQOs
- **Responding to Defined Management Priorities**

VISION: NMFS Customers can confidently find, access, and use our data.

MISSION: To effect a cultural change in which all NMFS data are recognized and managed as a core agency resource, on par with financial and human resources.

EDM Program (cont.)

Driven by NMFS EDM Strategic Plan

- Goal 1:** Ensure trust and confidence in the known quality of NMFS Data and Information resources
- Goal 2.** Make NMFS data and information resources discoverable for all interested parties
- Goal 3.** Make NMFS data and information resources appropriately and readily accessible to all interested parties
- Goal 4.** Ensure that NMFS data and information resources support science, decision making, and public interest - now and in the future

EDM Goal 1. Ensure trust and confidence in the known quality of NMFS Data and Information resources

- **Governance Structure:**
 - Information Architecture
 - Fisheries Information Management Advisory Committee (FIMAC)
 - Information Management Coordinators (IMCs)
 - Educated, Trained Workforce
- **Communication and Technology Sharing**
- **Cultural Shift in Data Management**
- **Security and Confidentiality**

EDM Goal 2. Make NMFS data and information resources discoverable for all interested parties

- **NMFS Authoritative Data Catalog**
 - *InPort* metadata repository
- **Data inventory**
- **Data documentation (metadata)**

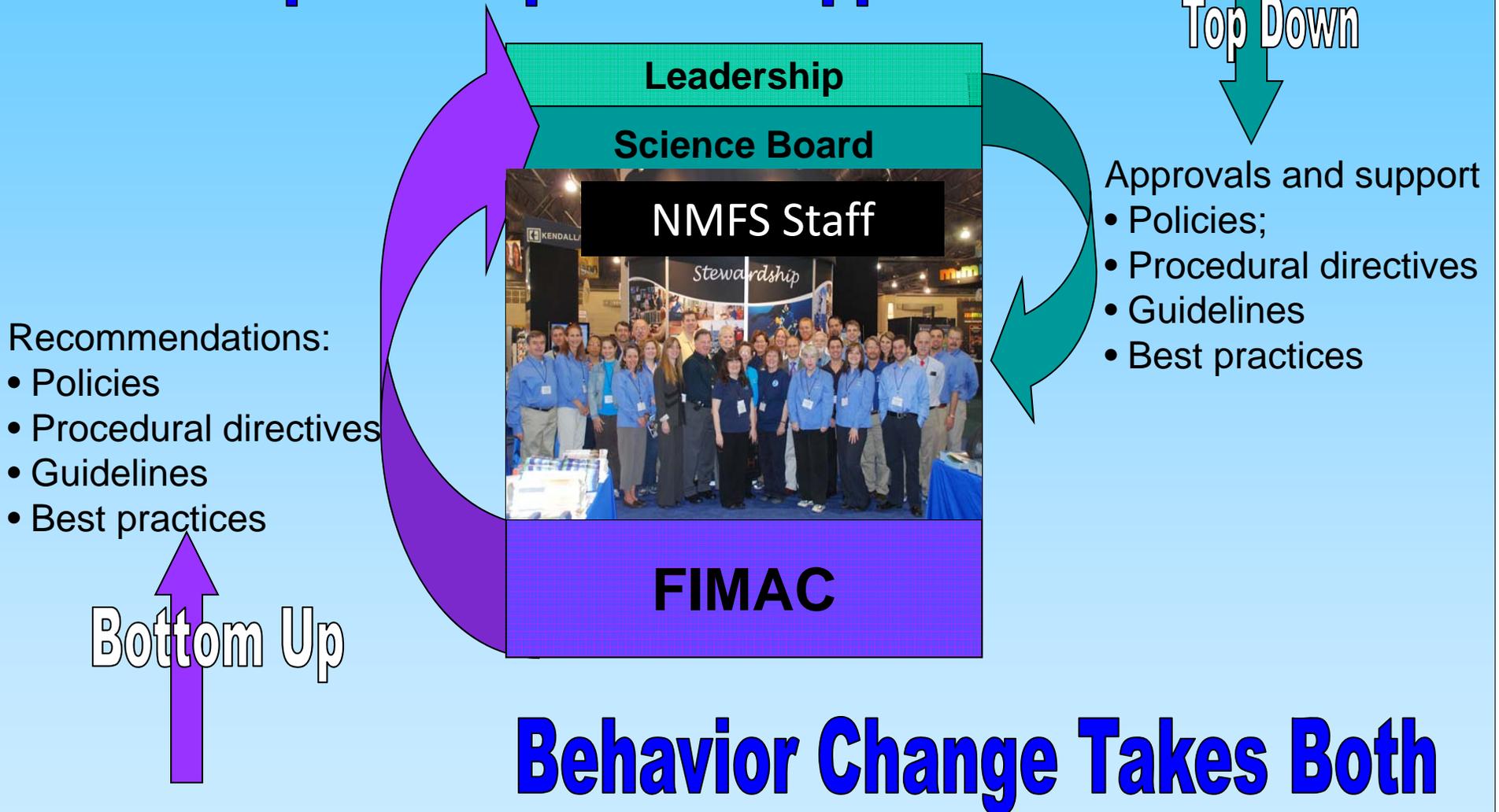
EDM Goal 3. Make NMFS data and information resources appropriately and readily accessible to all interested parties

- **Data Sharing Architecture**
- **Discovery Engineering**
- **Roadblocks Resolution**

EDM Goal 4. Ensure that NMFS data and information resources support science, decision making, and public interest - now and in the future

- **Promotion of the understanding of the uses and constraints of data and information**
- **Analysis of Data Sufficiency and Necessity**
- **Information Integration**

Bottom up and Top Down Support...



Accomplishments/Projects

- NMFS *Data and Information Management Policy* about to be signed
- Established *InPort* as NMFS standard metadata repository
- Established the wiki as a collaboration tool
- Developed a target architecture for information sharing
- Planning the Data Documentation Workshop this summer

Join us at Booth 9!!

- **EDM Accomplishments, Plans, and Architecture**
- **NMFS Data Management Policy**
- **Emerging Procedural Directives**
 - **Data Documentation**
 - **Data Sharing**
- **Fisheries One Stop Shop (FOSS)**
- **Fisheries Independent Survey System (FINSS)**
- **Northeast Fisheries Information System**
- **Meet FIMAC members:**
 - **Karen Sender**
 - **Jihong Dai**
 - **John Witzig**
 - **Tina Chang**



Thank You!