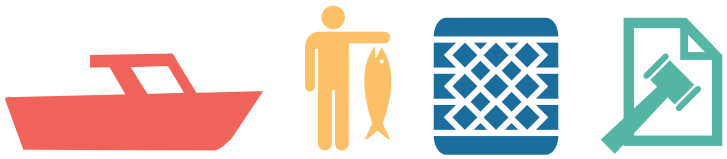
GROUNDFISH DATA MANAGEMENT INNOVATION PROJECT

EXECUTIVE SUMMARY

IDEO & Moore Foundation & NOAA, July 2013

OUR DESIGN CHALLENGE:



How can we improve the fisheries data system?

(with a focus on West Coast groundfish catch share program)

THE IFQ PROGRAM HAS MADE FISHERMEN ACCOUNTABLE FOR MANAGEMENT OF THE GROUNDFISH FISHERY.

With personal responsibility for catch share quotas and quick access to information, fishermen are changing behaviors. We're starting to see positive impacts in reduction of bycatch.

NOAA PACIFIC COAST GROUNDFISH INDIVIDUAL FISHING QUOTA
NATIONAL MARINE FISHERIES SERVICE

SHARING INFORMATION FURTHER OPENS UP NEW POSSIBILITIES FOR FISHERY MANAGEMENT AND PUBLIC AWARENESS.

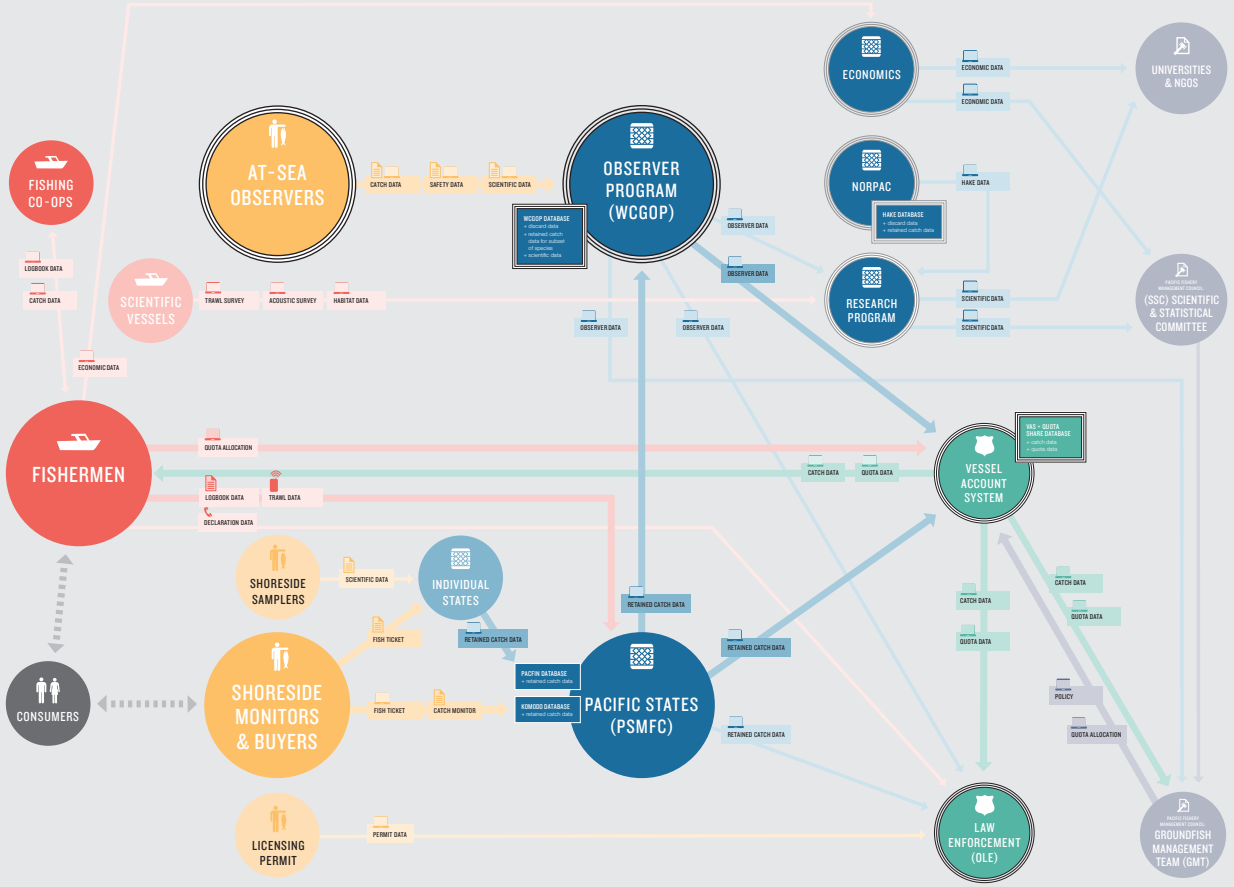
From tools that help fishermen improve their business, to information for surrounding ecosystem, there's an opportunity to amplify the impact of fisheries data.

AND, IT ANSWERS THE CURRENT CALL FOR TRANSPARENCY OF INFORMATION WITHIN GOVERNMENT.

Obama's 'Transparency and Open Government' initiaitive has led to new attitudes, programs, and access at the federal, state, and municipal levels.

THE CURRENT FISHERIES DATA SYSTEM IS INCREDIBLY COMPLEX, AND RIPE FOR IMPROVEMENT.

It's owned and managed by diverse stakeholders. It has emerged organically over time.
There are many opportunities to improve efficiency, and better meet user needs for fisheries data.



OUR STRATEGY:

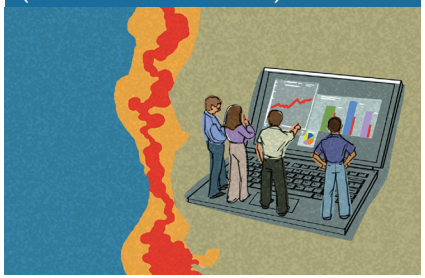
1. FIX THE INEFFICIENCIES OF THE CURRENT DATA SYSTEM

2. ENABLE NEW BEHAVIORS THROUGH ACCESS TO FISHERIES DATA

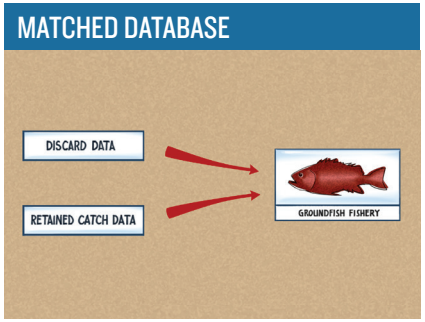
WE'VE IDENTIFIED 4 PRIORITY AREAS FOR DEVELOPMENT.

SUSTAINABLE FISHERIES PARTNERSHIPS

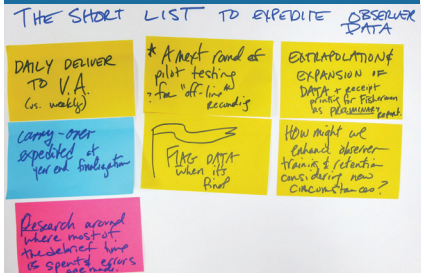
FISHERIES MANAGEMENT LIBRARY (AKA MOTHER DATABASE)



MATCHED DATABASE



EXPEDITE OBSERVER DATA



EXPEDITE OBSERVER DATA

Moving towards digitization, automatic checks, and a shorter, more efficient process.

THE PROBLEM

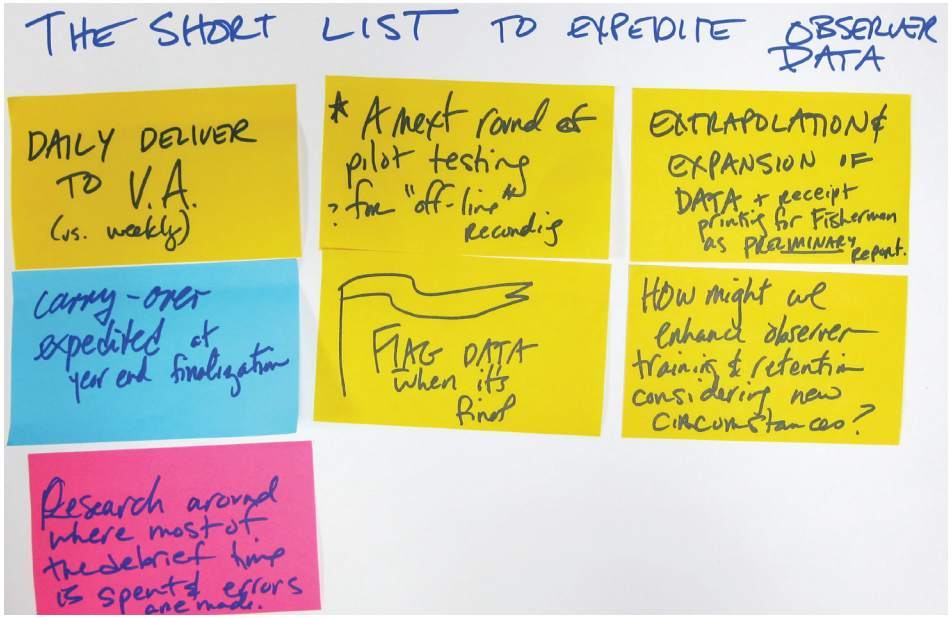
Observer data is subject to a high amount of scientific rigor, and current systems to do this are time-intensive. The debrief process itself requires mailed paper forms, and scheduling in-person meetings weeks after the observer trips. As a result, the observer dataset is not finalized until weeks or months after preliminary data is available. (While this is faster than most US fisheries, it affects fishermen's day-to-day accounting and can be improved.)

THE VISION

Execute a series of simple improvements to the process, to increase the speed of observer data while maintaining high scientific quality.

BENEFITS

For fishermen	Provide more accurate catch accounting, more quickly. This helps fishermen optimize their business.
For all data users	Provide data updates more quickly. This will lead to more expedient reporting for end-of-the year totals, quota carryover, and other data products.



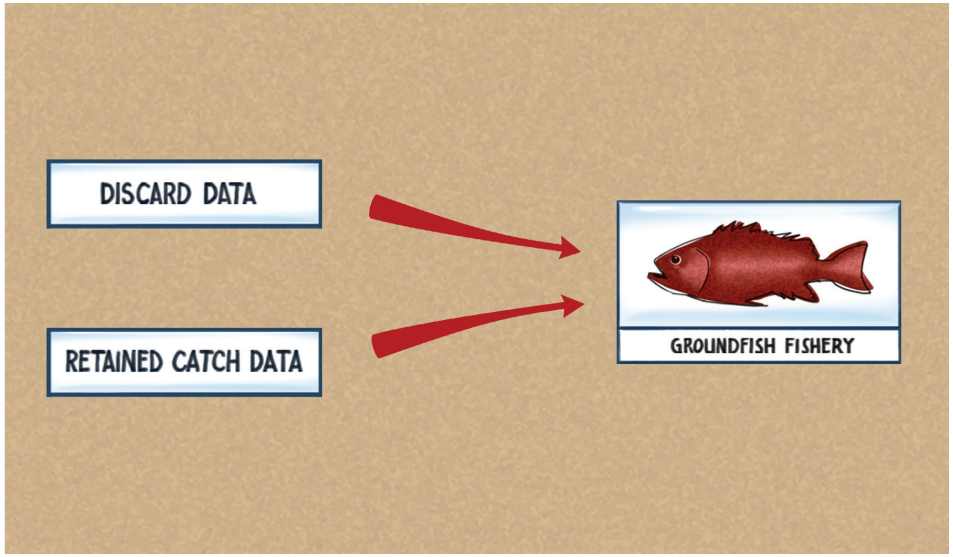
MATCHED DATABASE

Automated data matching for the 2 primary components of the groundfish observer database.

THE PROBLEM

In the groundfish observer database (WCGOP), the two primary datasets come from the Pacific States and the observer program in different formats. With two separate datasets, there are risks of errors and disparities between sources.

The process of matching the data into a unified dataset is inefficient and time consuming. With several different stakeholders matching data in different ways (analysts, Office of Law Enforcement, and more) there's an opportunity to streamline.



THE VISION

Create simple scripts and tools to automate the matching of groundfish data. Make the resulting matched database available to all key data users.

BENEFITS

For NOAA	Increase efficiency and remove redundancy in data management.
	Improve the speed of data availability, in the key dataset that NOAA needs to improve fisheries management.

FISHERIES MANAGEMENT LIBRARY

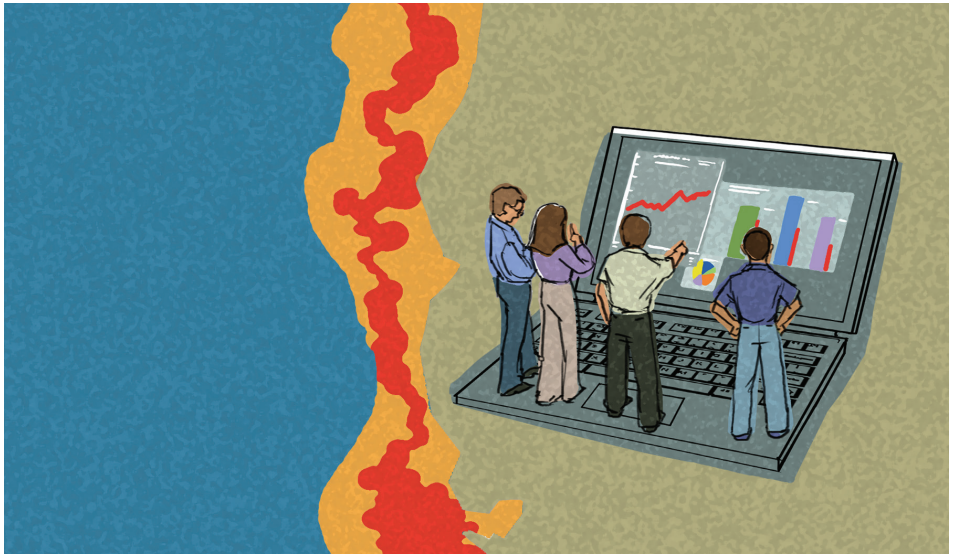
The ‘mother data system’ which connects fishery and fishery-independent datasets, linking data spatially.

THE PROBLEM

Today, FRAM’s major datasets are kept separately. NOAA’s scientific and analytic talent is tied up with inefficient and repetitive data management activities. Outside of NOAA, data users have limited and fragmented access to the data.

THE VISION

Connect all these datasets, linking by location data. Allow people to access the combined dataset from one simple interface.



BENEFITS

For NOAA	Increase efficiency and remove redundancy in data management.
For fishermen	See fisheries data at a consolidated scale.
For all data users	Provide better understanding of fish stocks and human behaviors at a holistic level, through connected datasets.
For the larger ecosystem	Create the underlying platform that will enable new tools, behaviors, and communications for sustainable fisheries partnerships.

SUSTAINABLE FISHERIES PARTNERSHIPS

Using NOAA's fishery data to enable new tools and behaviors for sustainable fisheries.

THE PROBLEM

Within the fishing ecosystem, there are many unmet needs—from improving the everyday business of fishing, to connecting fishermen to consumers and markets. In many cases, there are opportunities to meet these needs through improved access to information, such as business insight and scientific knowhow for fishermen, or transparency and traceability in the food supply chain.

THE VISION

Create tools and interfaces that enable sustainable behaviors in the fisheries ecosystem, through access to data from the Fisheries Management Library.

This might include building new tools and interfaces—and connecting to existing third-party applications (such as FishHub, eCatch, and SeaState).

Tools/interfaces might include:
– Business tools for fishermen
– Social hubs for fishermen and their co-ops
– Datasets that enable traceability of fish history in the marketplace
– NOAA certification of sustainably managed fisheries

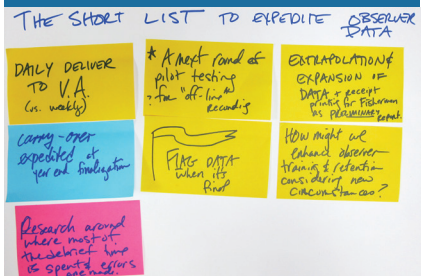
BENEFITS

For NOAA	Spread the value of NOAA data across the fishing ecosystem. Create visibility for NOAA, and a positive view of government's role in fisheries management.
For fishermen	Help fishermen successfully balance business and environmental stewardship, increasing the viability of small fishing communities.
For the larger ecosystem	Create public awareness and demand for high-quality fish and sustainable practices.

THE SOLUTIONS MAP TO OUR 2-PART STRATEGY

1 FIX THE INEFFICIENCIES OF THE CURRENT DATA SYSTEM

EXPEDITE OBSERVER DATA



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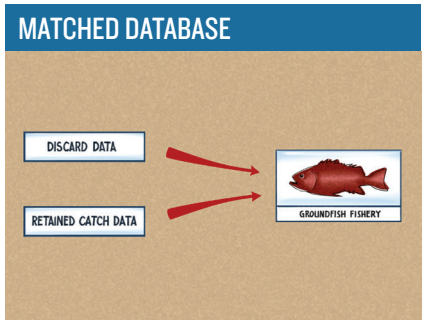


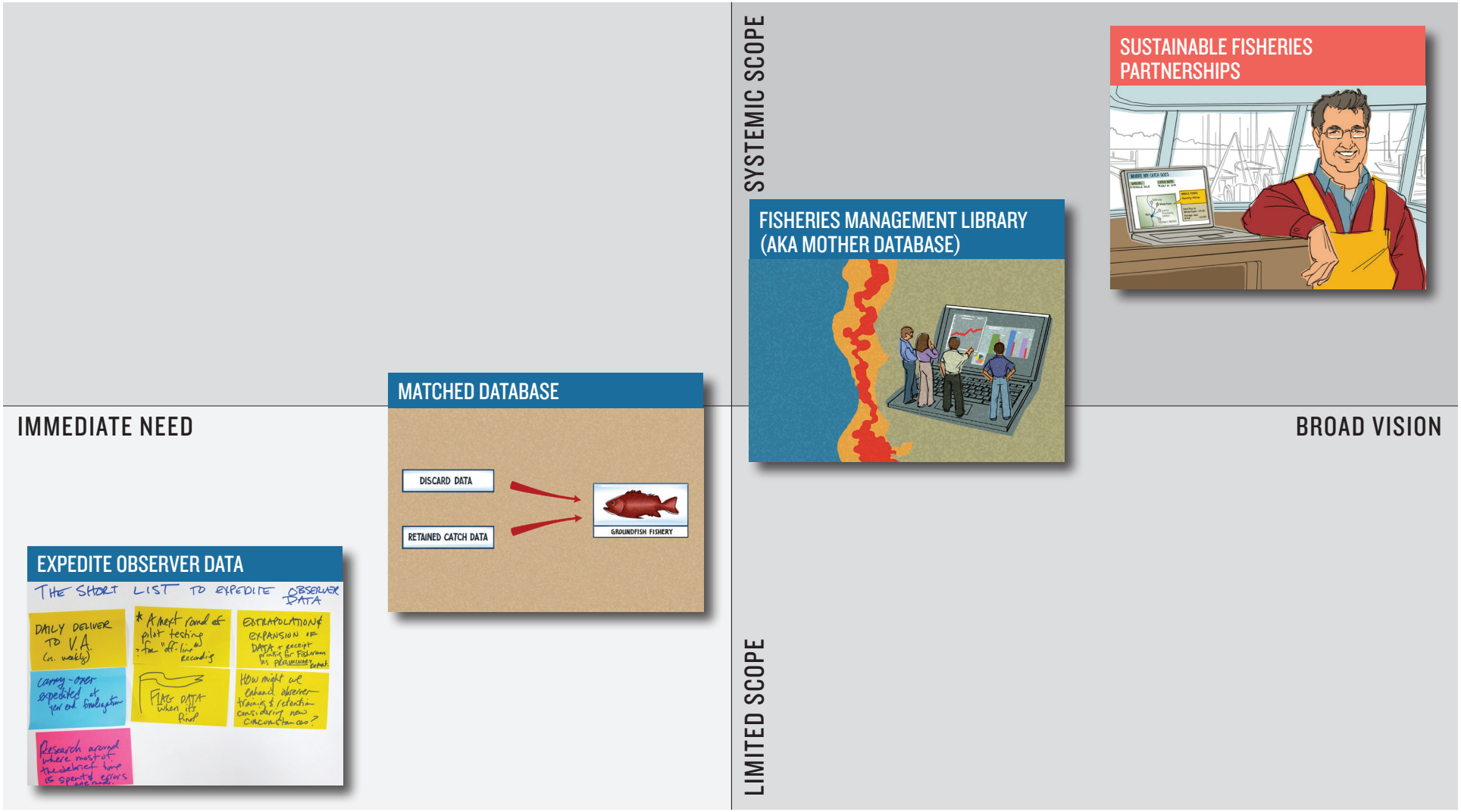
FISHERIES MANAGEMENT LIBRARY (AKA MOTHER DATABASE)

SUSTAINABLE FISHERIES PARTNERSHIPS

2 ENABLE NEW BEHAVIORS THROUGH ACCESS TO FISHERIES DATA

The Fisheries Management Library straddles the two objectives—both making the current system more efficient and forming the underlying platform for new behaviors and innovations.

... AND PROGRESS FROM SIMPLE TO COMPLEX.



Solutions are plotted from immediate need to broad vision,
from limited scope (few stakeholders involved) to systemic scope (collaborating across many departments)