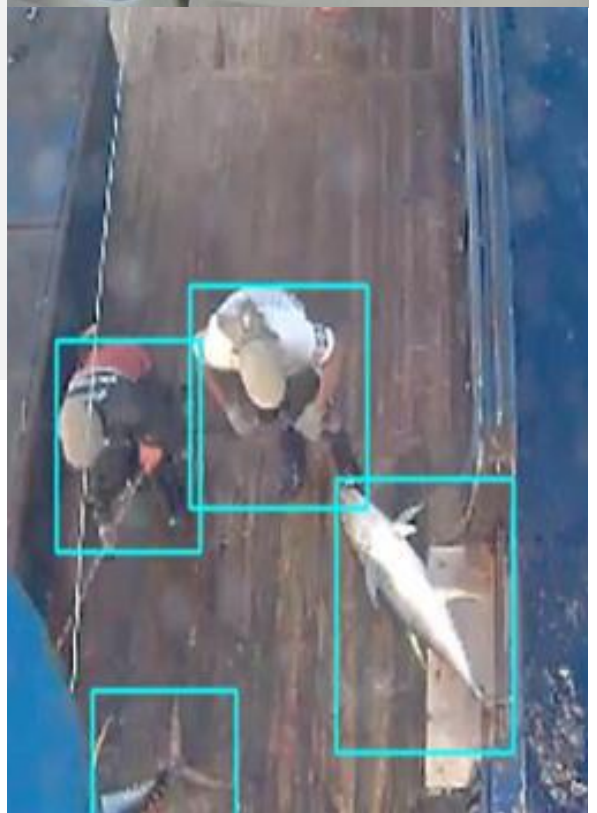
Electronic Monitoring: Program Design Considerations

IATTC
12 Dec 2022



The Nature Conservancy

Photos (Clockwise from top left): Jason Houston/TNC ; Kydd Pollock; TNC.

Electronic Monitoring:

Our work focuses on 4 areas:

Removing barriers to EM adoption

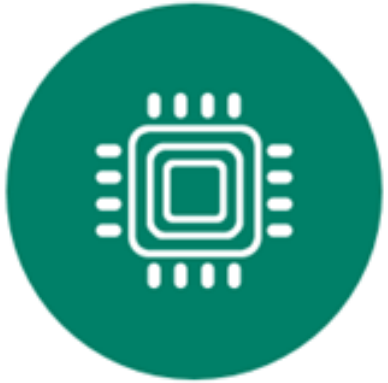
Setting up the landscape for long-term success

ON-THE-WATER
Achieve critical mass & test new EM applications

TECHNOLOGY
Innovate to mitigate pain points

MARKETS
Create private sector incentives for EM adoption

POLICY
Drive adoption of streamlined policies that catalyze EM uptake



Momentum for EM

Demand for EM has moved from small 2-3 vessel trials to major commitments from governments, supply chain actors, and retailers

- **EM has the momentum of market incentives:** Thai Union has committed to 100% on-the-water monitoring by 2025, and several retailers have committed to transparency goals that are supported by EM (e.g., Tesco).
- **Government EM commitments:** Federated States of Micronesia, Seychelles, New Zealand, and other governments are committing to EM.
- **Without EM, many FIPs will be unable to progress to MSC:** the cost and logistical challenge of deploying appropriate levels of human observers across FIPs is unattainable in many fisheries. EM offers a cost-effective alternative. EM will be a critical verification tool for retaining market access and capturing premiums in the future.

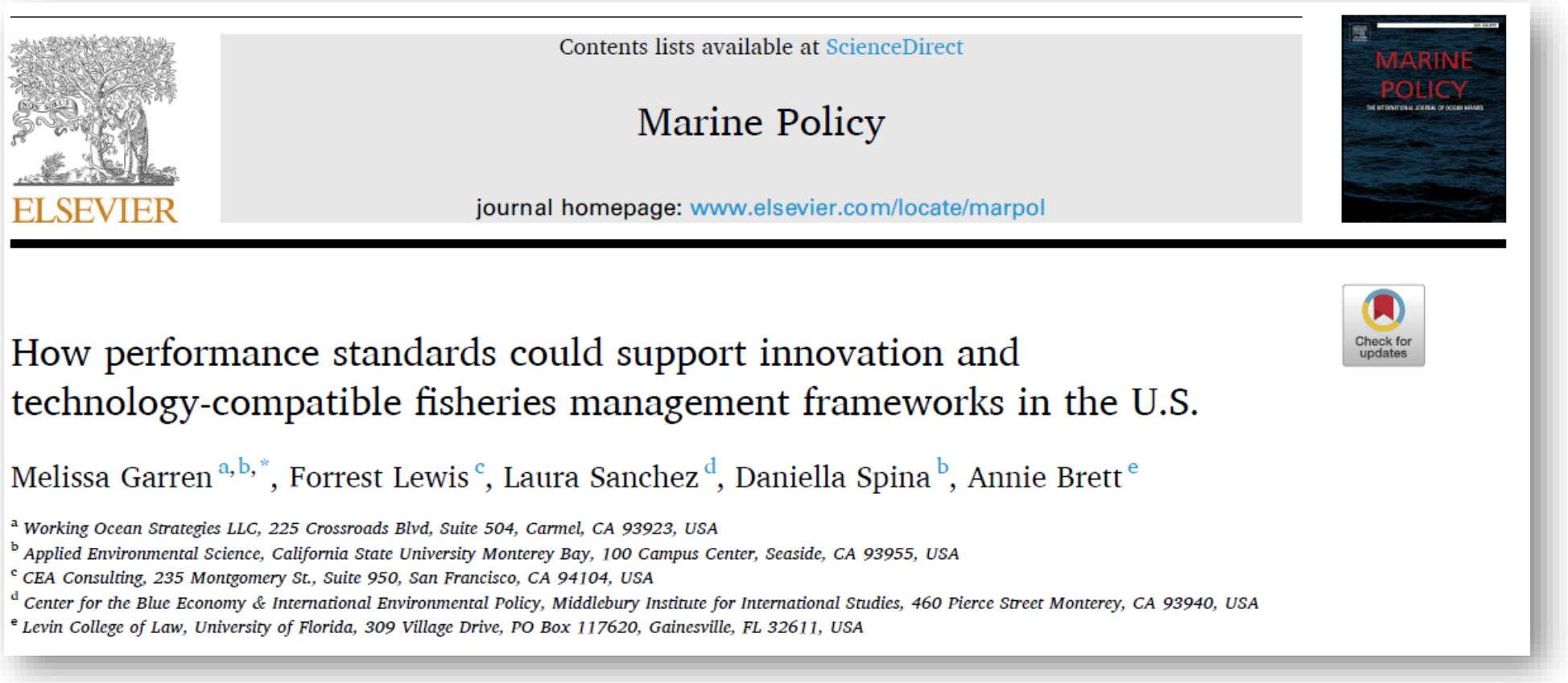
FISHERY AUTHORITY ROLE IN EM PROGRAM DESIGN

- Defining the program's purpose
- Setting information requirements
- Setting regulatory and policy requirements

FISHERY AUTHORITY ROLE IN EM PROGRAM ADMINISTRATION

Performance standard = specifies the outcomes a fisheries authority must achieve without prescribing the specific means of achieving them

Technical standard = explicitly describes the details and design of how an entity will achieve an outcome



Contents lists available at ScienceDirect

Marine Policy

journal homepage: www.elsevier.com/locate/marpol

How performance standards could support innovation and technology-compatible fisheries management frameworks in the U.S.

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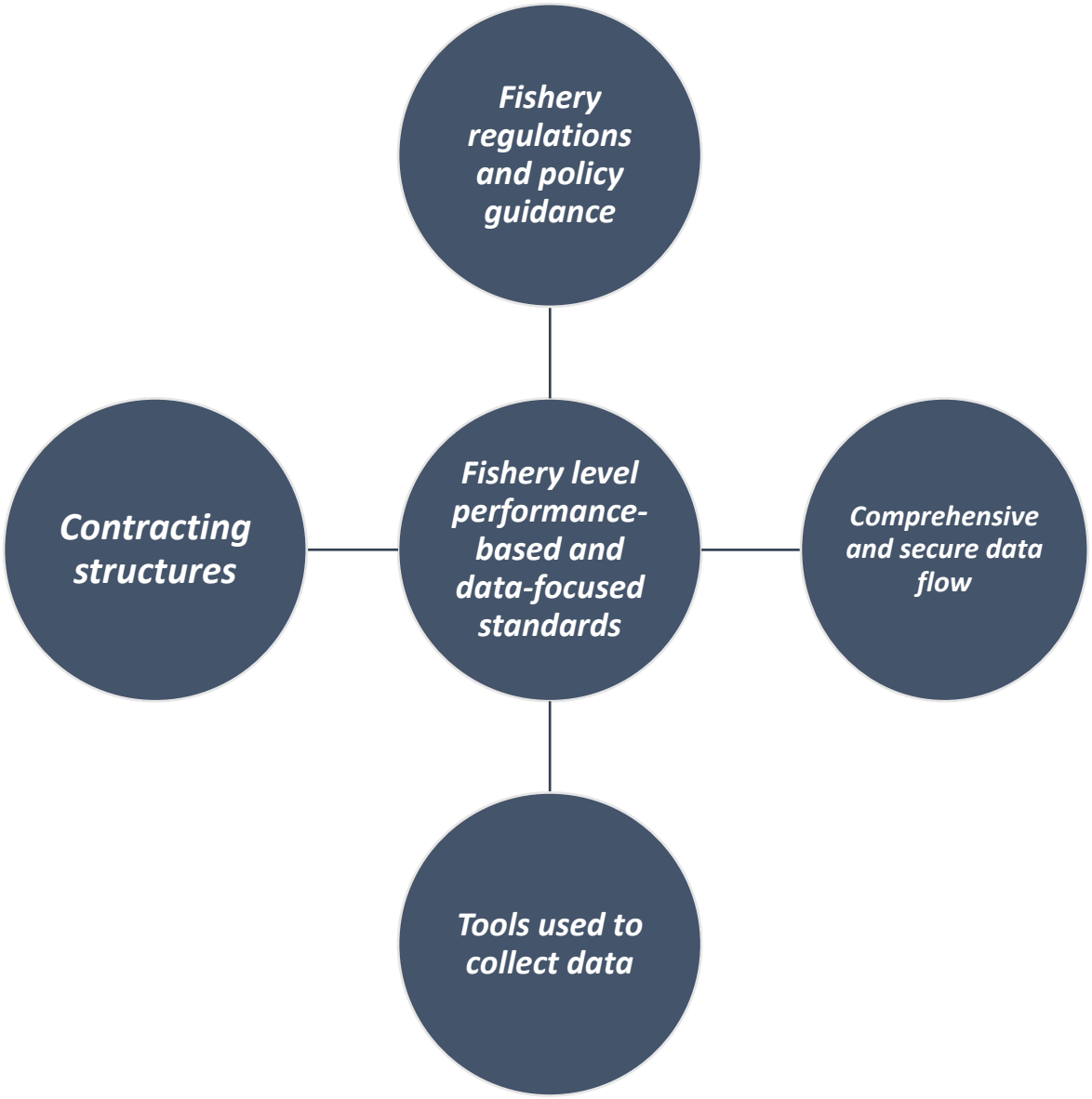
FISHERY AUTHORITY ROLE IN EM PROGRAM ADMINISTRATION

Performance standard framework (Garren et al. 2021)



Comparison of Program Administration Approaches

Model	Advantages	Challenges
Fishery-Authority Administered	Maximum control over program and data Adaptively management the EM program; learn by doing	Capacity constraints Aligning incentives Business model and technology lock-in
Performance-Based EM program	Maximizes alignment of incentives between public and private sector Fishery authority can focus on verifying accuracy of the information and using the information to improve fishery management	System interoperability Meeting fishers where they are / transaction costs

Example Performance Standard in Action
Industry-Led EM Project

Project Outputs

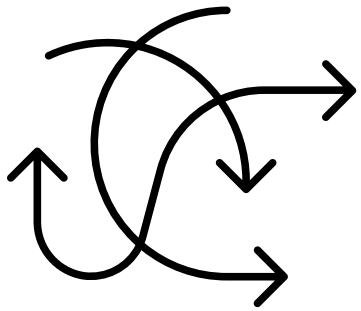
- EM program and shared infrastructure
- Harmonized EM performance standard
- Bulk procurement (hardware and data review)

Participants

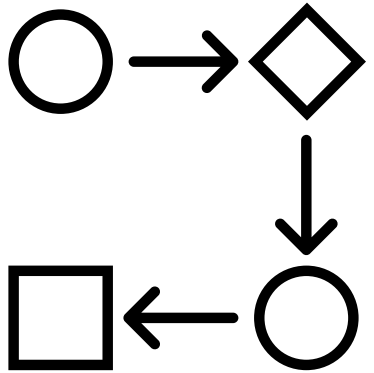
- Thai Union, StarKist, Martec, and other tuna brands/processors
- The Nature Conservancy, ISSF, Key Traceability
- Governments, Regional Support Organizations
- Over 220+ participating vessels across the Pacific, Atlantic, and Indian Oceans

Goals

- **Demonstrate the value of EM** through an **adoptable and multi-jurisdictional EM model**
- Provide an easy on-ramp to an **efficient and secure EM program**
- Align public and private incentives to **improve EM functionality and reduce costs**
- **Centralize and coordinate EM data management** to make it easier for seafood processors and fisheries authorities to **receive and process EM data and generate insights**



How does the program work?



EM Performance and Program Standard

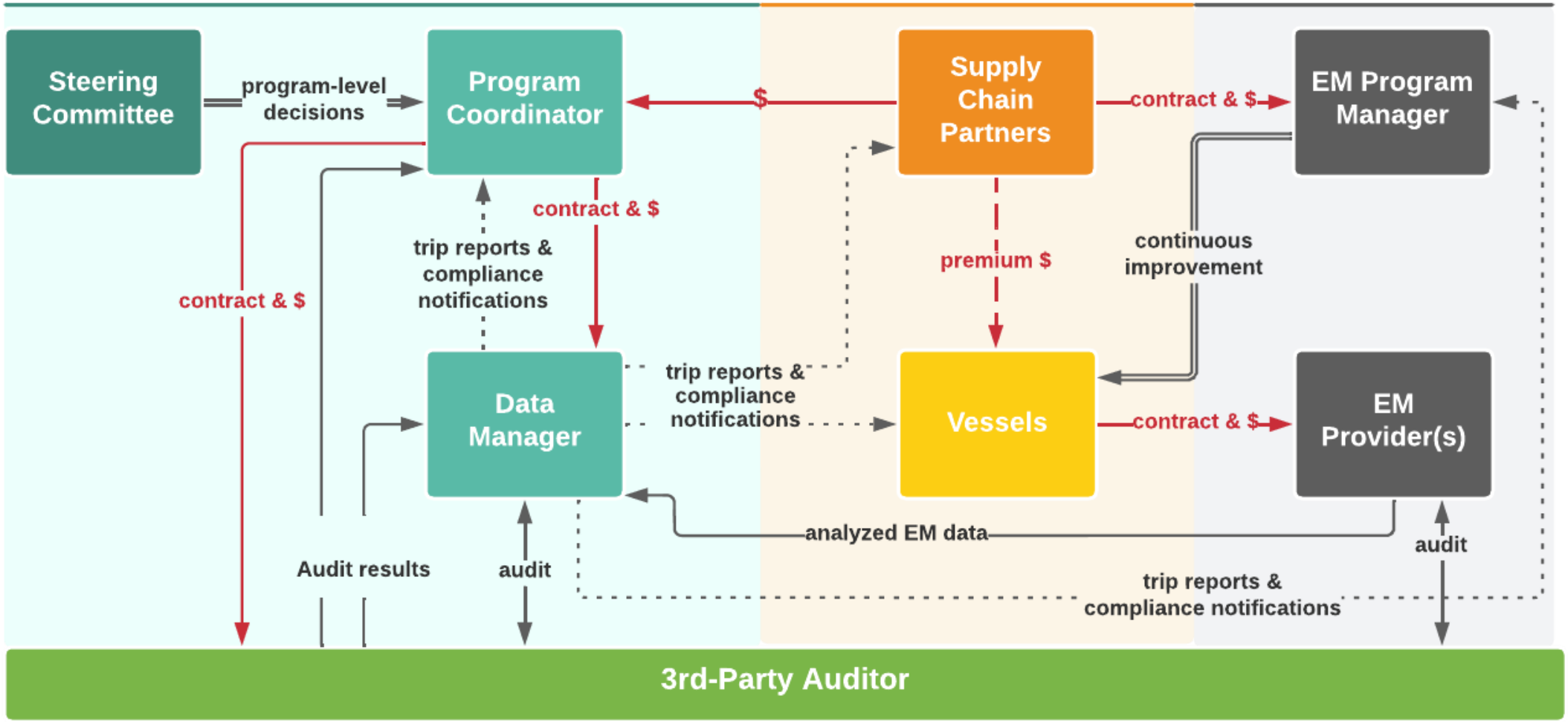
Objective

- Specifies requirements for data, quality, maintenance, security, access, and reporting
- Sets clear rules of the game, but doesn't over-specify "how you get there"
- Drives innovation and ensures interoperability across service providers, jurisdictions, and companies
- Ensure harmonization across RFMOs and national authorities

Performance Standard Outline

- EM Program Goals
- Roles and Responsibilities
- Data Requirements
- Hardware Standards
- Video Review, Data Analysis and Accuracy, and Management
- Ongoing Finances and Billing

EM Program Roles and Responsibilities



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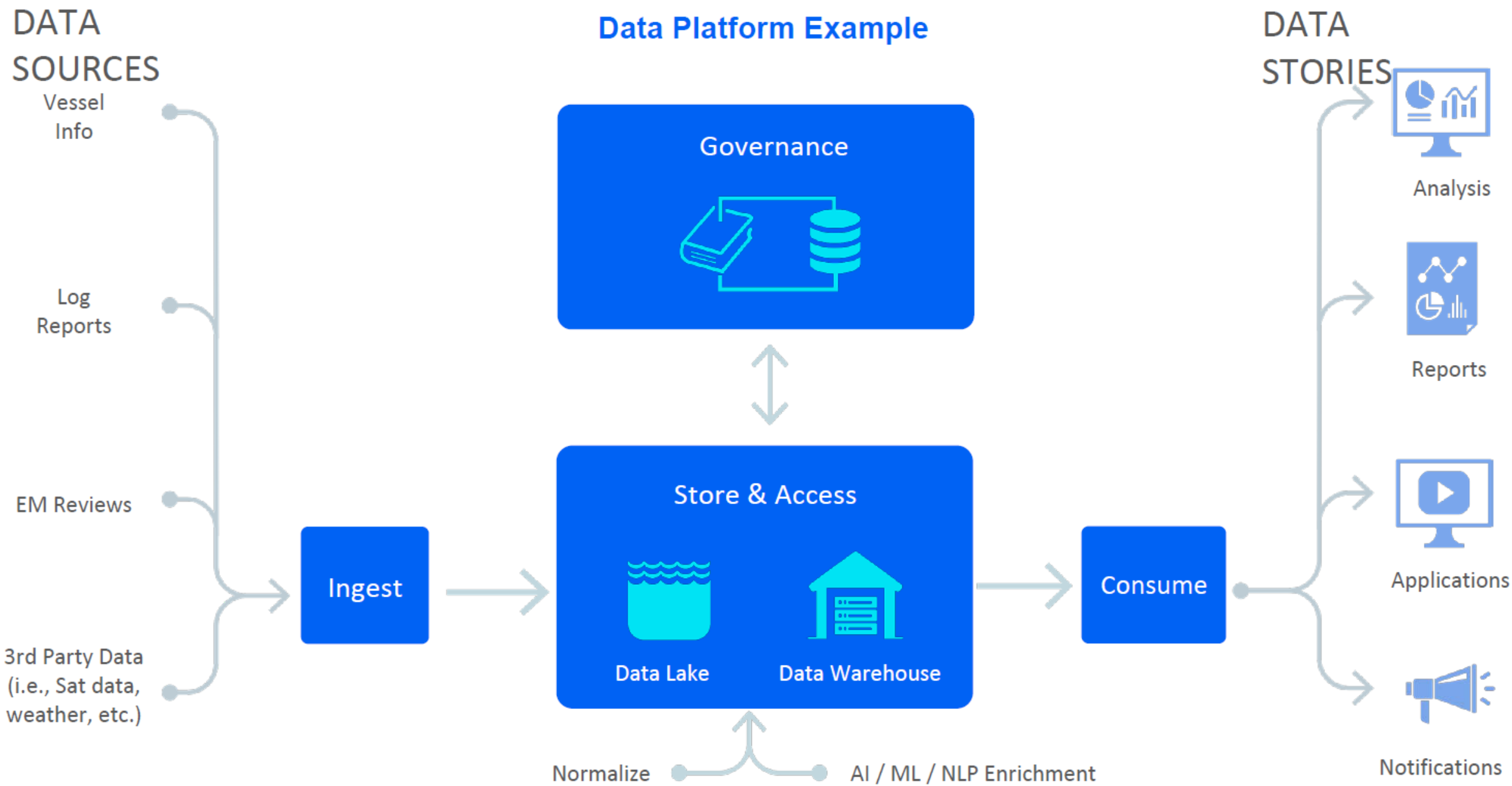
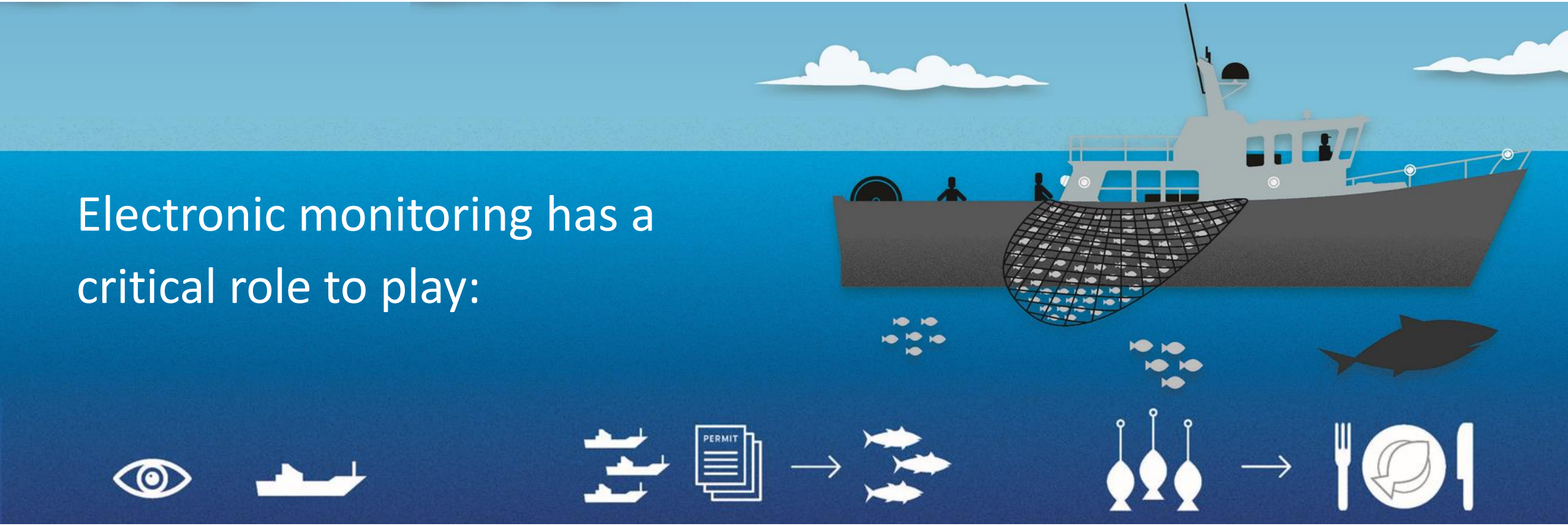
Appendix


DATA SOURCES
Vessel Info
Log Reports
EM Reviews
3rd Party Data (i.e., Sat data, weather, etc.)
Ingest
Data Platform Example
Governance
Store & Access
Data Lake
Data Warehouse
Normalize
AI / ML / NLP Enrichment
Consume
DATA STORIES
Analysis
Reports
Applications
Notifications

Electronic monitoring has a critical role to play:



1 While satellites, drones, vessels and planes can show who's on the water, EM takes our awareness a whole step further

2 EM provides detailed data on fishing effort, catch composition, and bycatch of non-target species and adherence to environmental and social commitments

3 EM drives confidence that seafood products have been harvested legally, sustainably and without labor abuses