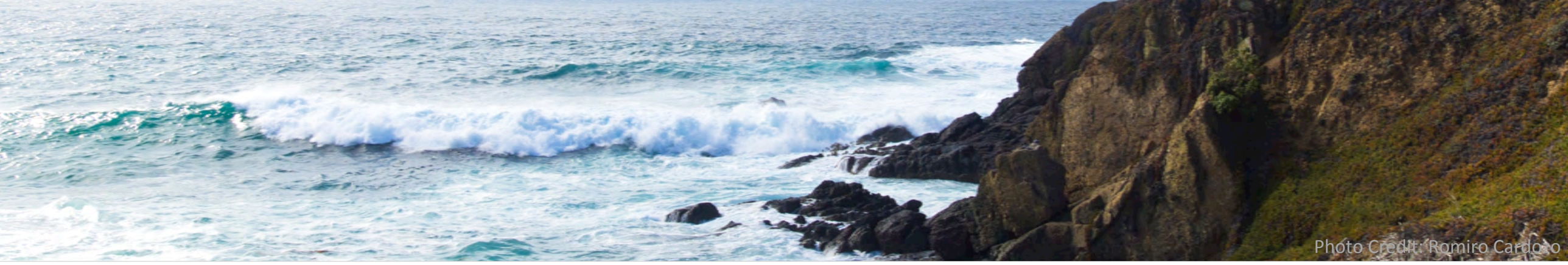


Marine Life Management Act Master Plan Amendment Discussion for Interested Stakeholders

Management Strategies for Achieving Sustainability of Marine Fisheries Under the MLMA

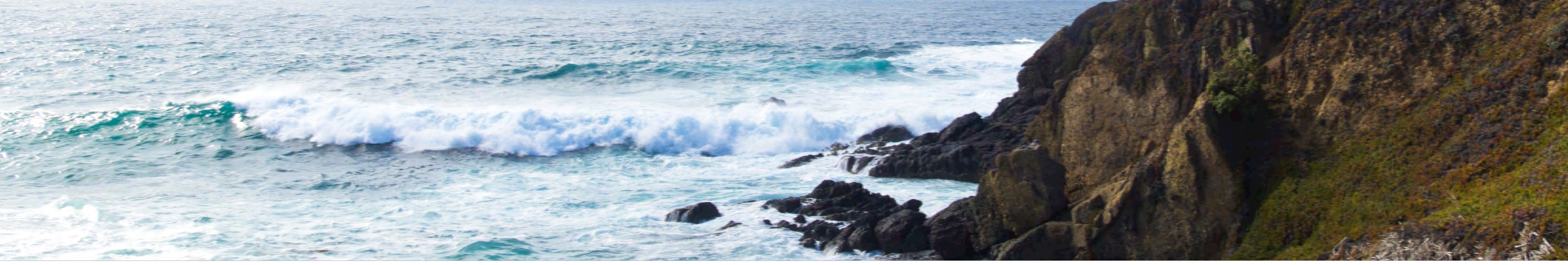
Dr. Craig Shuman, California Department of Fish and Wildlife

Joined by: Tom Barnes, Peter Kalvass, and Chuck Valle

May 25, 2017 | 1:30pm–3:00pm PT

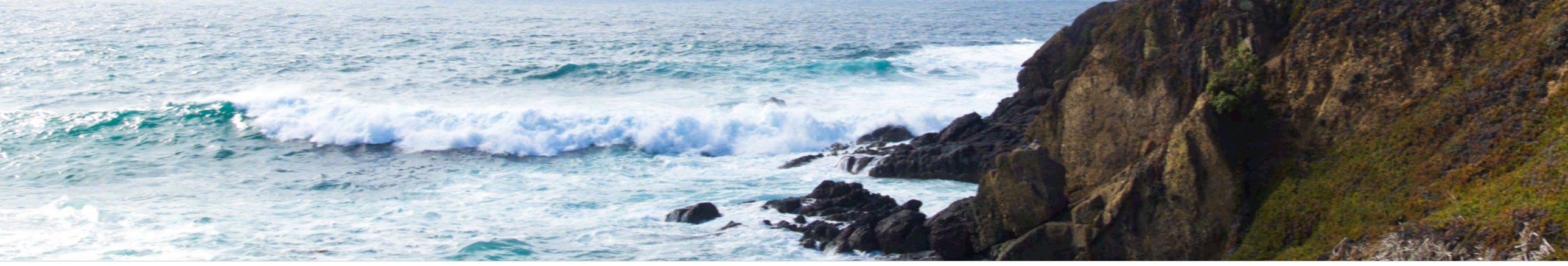
Today's Discussion

- Introductions
- Refresher on MLMA Master Plan Amendment goals and process
- Discuss draft approaches and tools to identify management strategies for meeting stock sustainability objectives of MLMA
- Solicit feedback, address questions



Marine Life Management Act (MLMA) Master Plan

- MLMA provides a framework for ecosystem-based fisheries management
  - Based on best-available science and involvement of tribes, fishing communities, and other interested stakeholders
- Master Plan adopted in 2001 and acts as a guide for the development of Fishery Management Plans
  - Amendment will reflect advancements in management tools, changing ocean conditions, and stakeholder priorities, and provide a wealth of new information that expands the scope of the current Master Plan



Goals: MLMA Master Plan Amendment Process

- Enhance **resource stewardship and sustainability** of fisheries
- Elevate **ecosystem health in decision-making**
- Help promote more **efficient, effective, and streamlined** fisheries management
- Establish a **clear pathway** for improving the management of individual fisheries
- Set **clear expectations** for managers and the public
- Foster **transparency and flexibility** in fisheries management with tribes and native communities, stakeholders, and interested members of the public

2015 | 2016 | 2017 | 2018

Engagement with California Tribal Governments

Stakeholder Engagement

Phase I: Build Knowledge

Gather Information

Tribal Engagement Initiated

Stakeholder Engagement Initiated

Draft Amended Framework for MLMA-Based Management

Phase II: Amend Master Plan

Stakeholder Discussions

Prepare Draft Master Plan Amendment

Late 2017

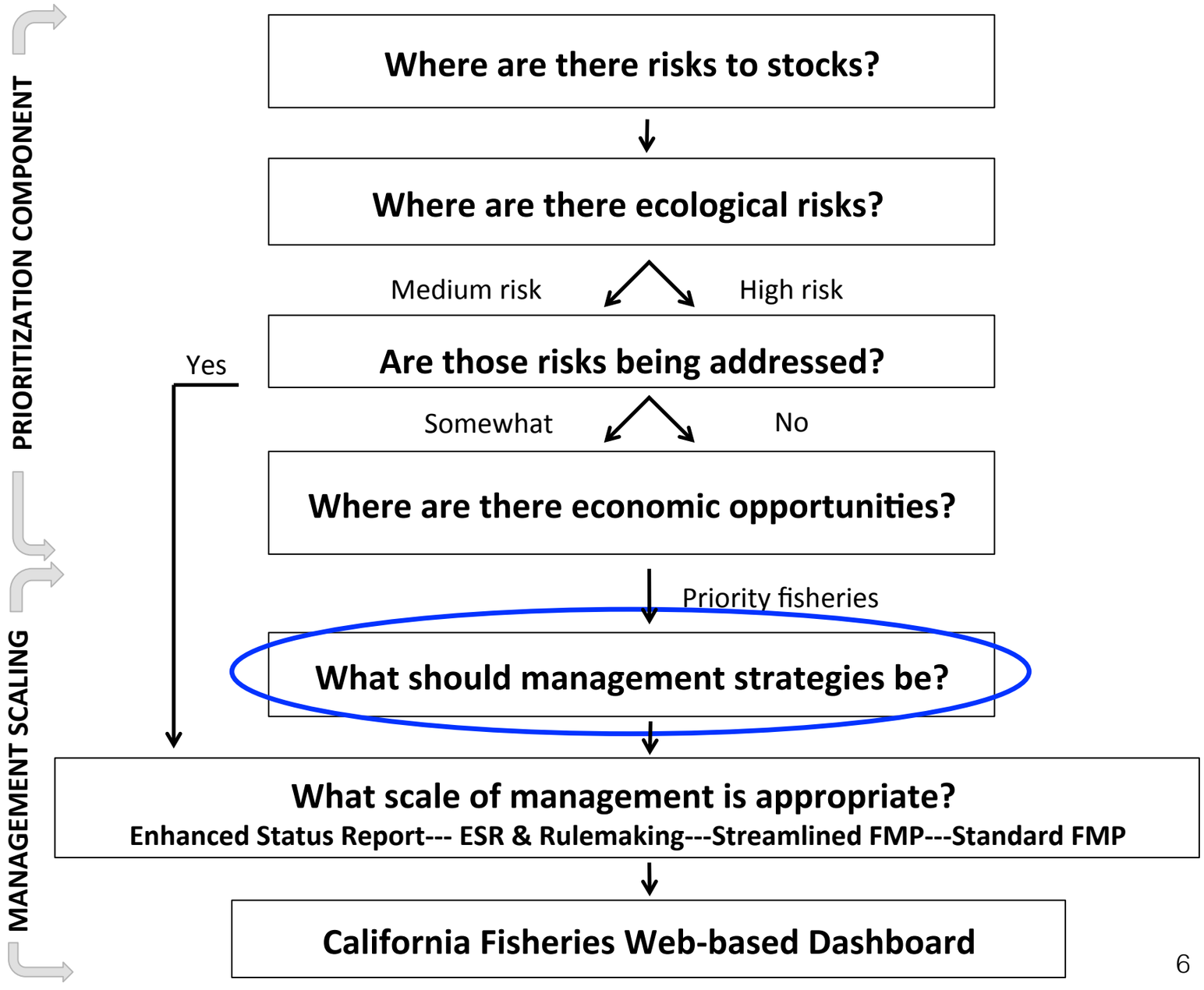
Submit Draft Master Plan to Fish and Game Commission

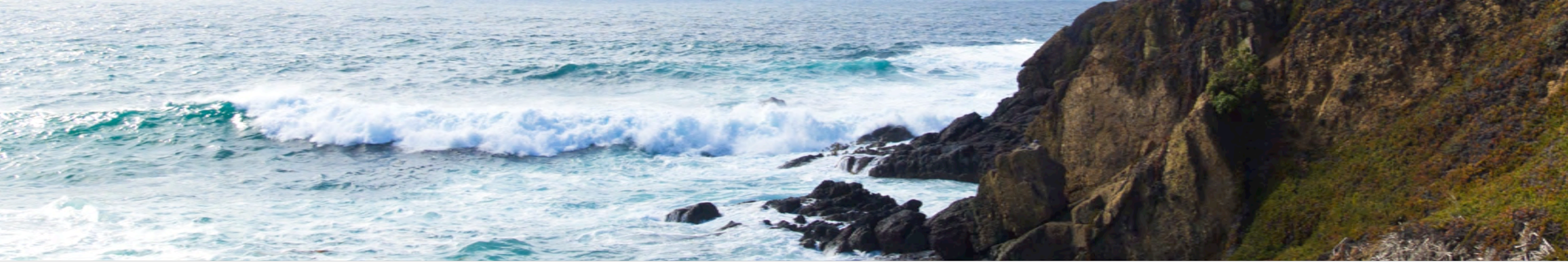
Phase III: Review and Possible Adoption

Timeline Updated: July 2016

Draft Framework Overview *(simplified)*

- Draft framework for **prioritizing** and **scaling the intensity of management** to the risks and potential benefits for each fishery
- MLMA objectives are translated into key questions
- For the full draft framework, visit: http://bit.ly/MLMAMasterPlanUpdate

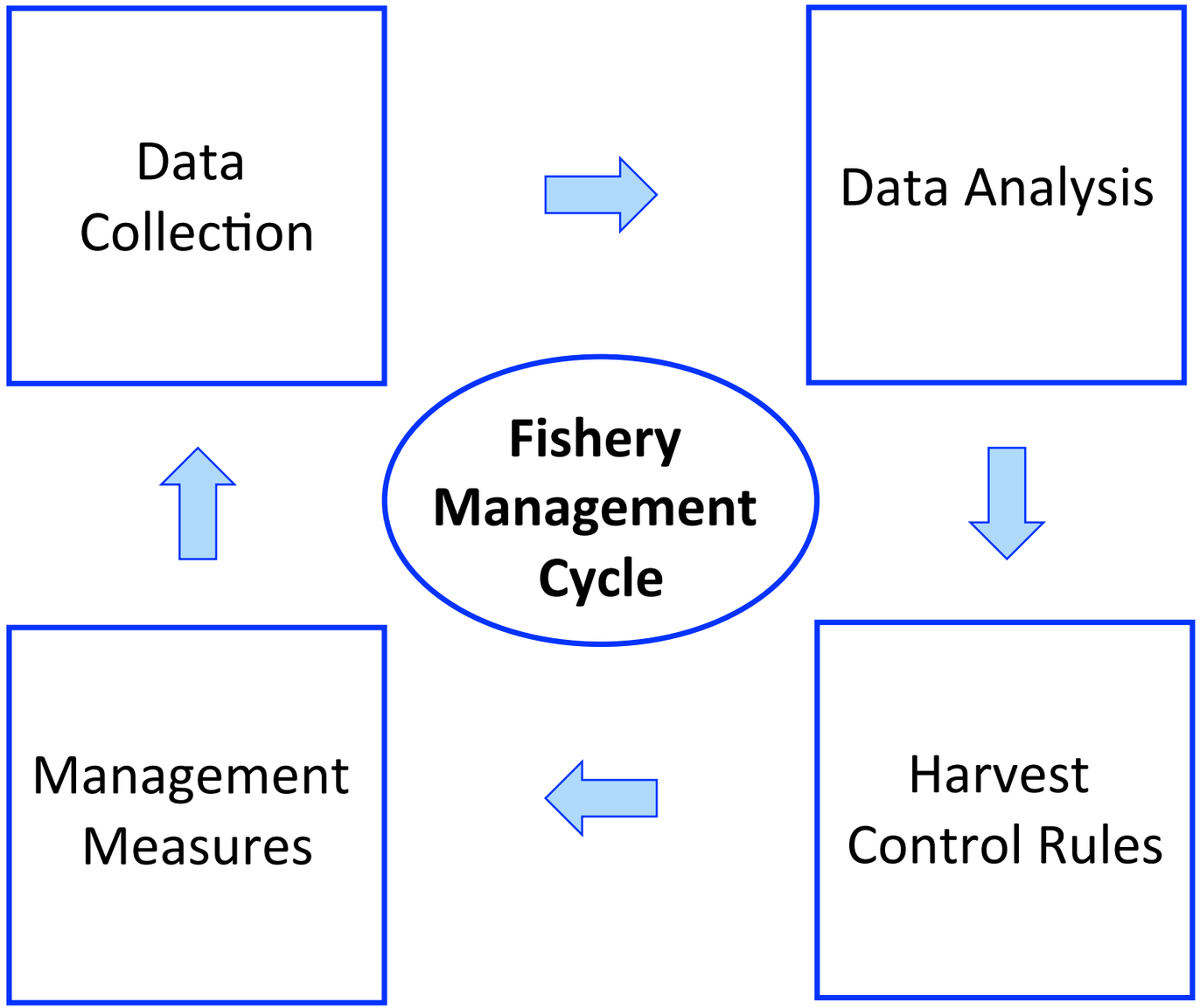




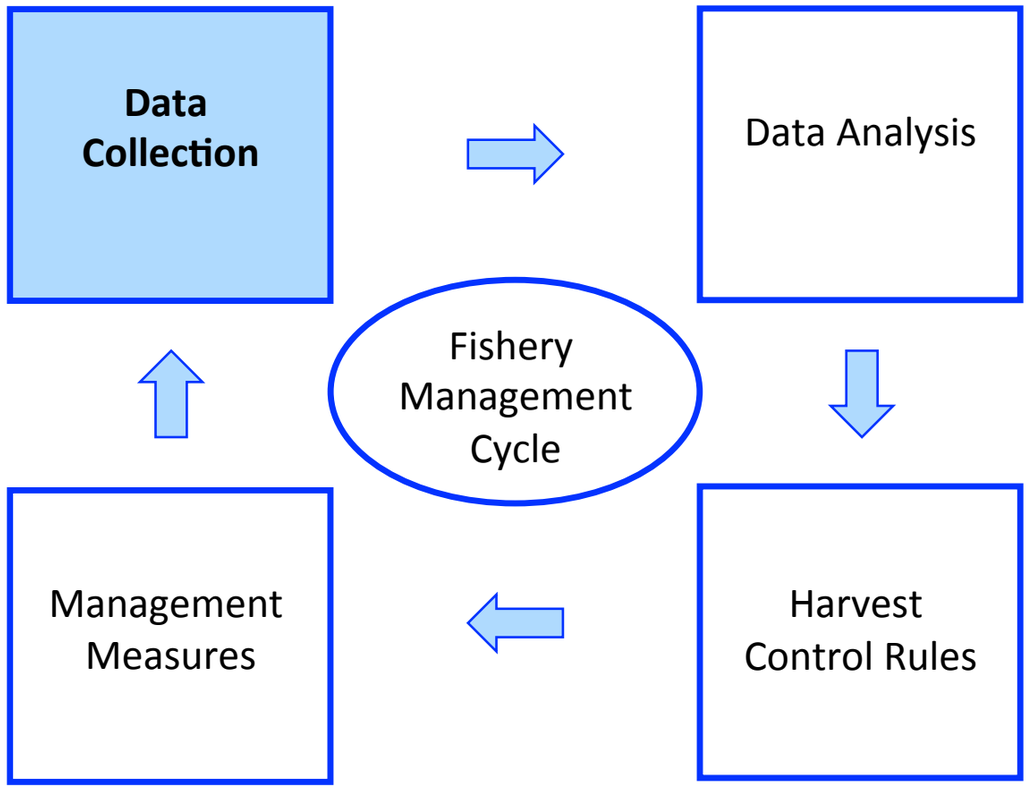
Managing for Sustainability

- Defining ‘sustainability’ FGC §99.5
  - Resources are continually replenished, taking into account fluctuations in abundance and environmental variability
  - Long-term economic, social, and ecological benefits while maintaining biological diversity
- MLMA requires fisheries to be managed sustainably

Fishery Management Cycle

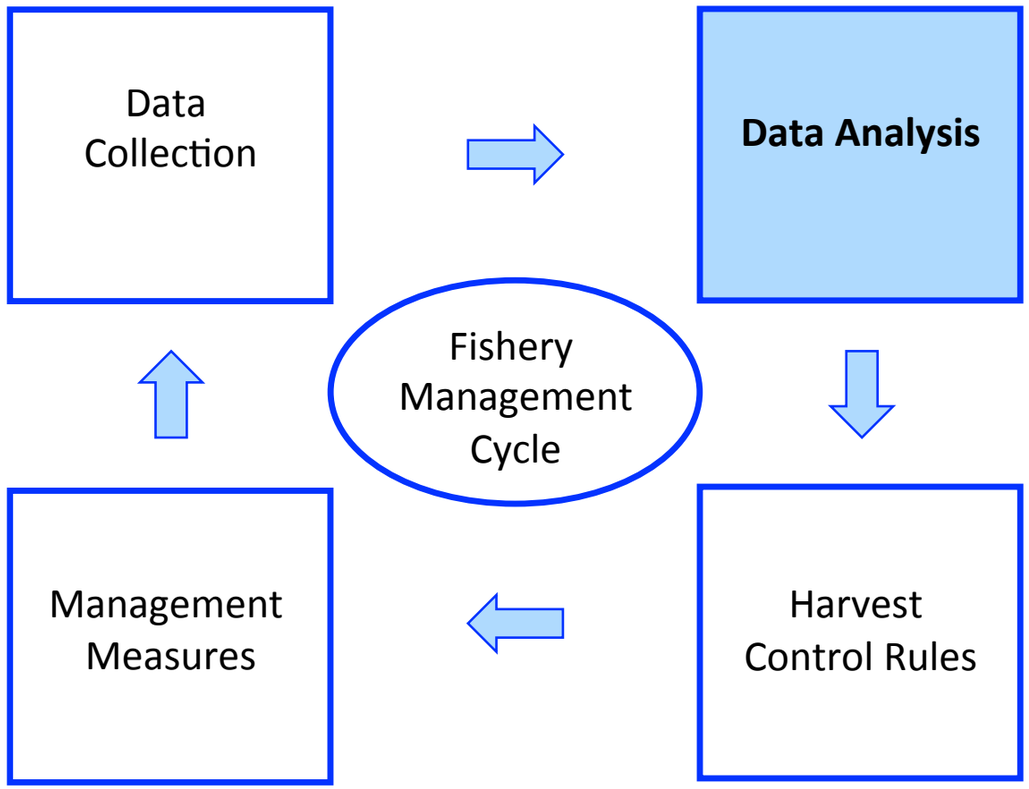


Fishery Management Cycle: Data Collection



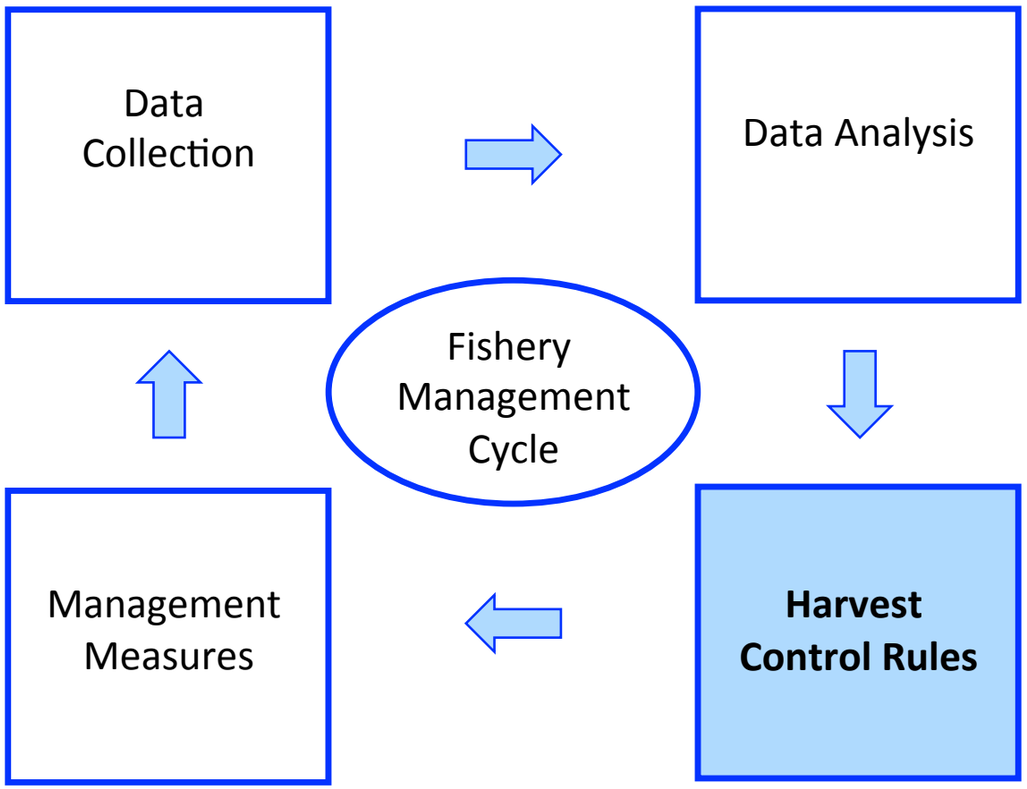
- Two types of data
  - **Fishery-dependent**: Collected directly from fishing activities, and lower sampling costs
  - **Fishery-independent**: Collected during surveys conducted by scientists, and more costly
- Information from fishery participants is valuable in this data collection process led by CDFW and other researchers
- Moving forward, MPAs may provide an opportunity to assess data-poor fisheries

Fishery Management Cycle: Data Analysis



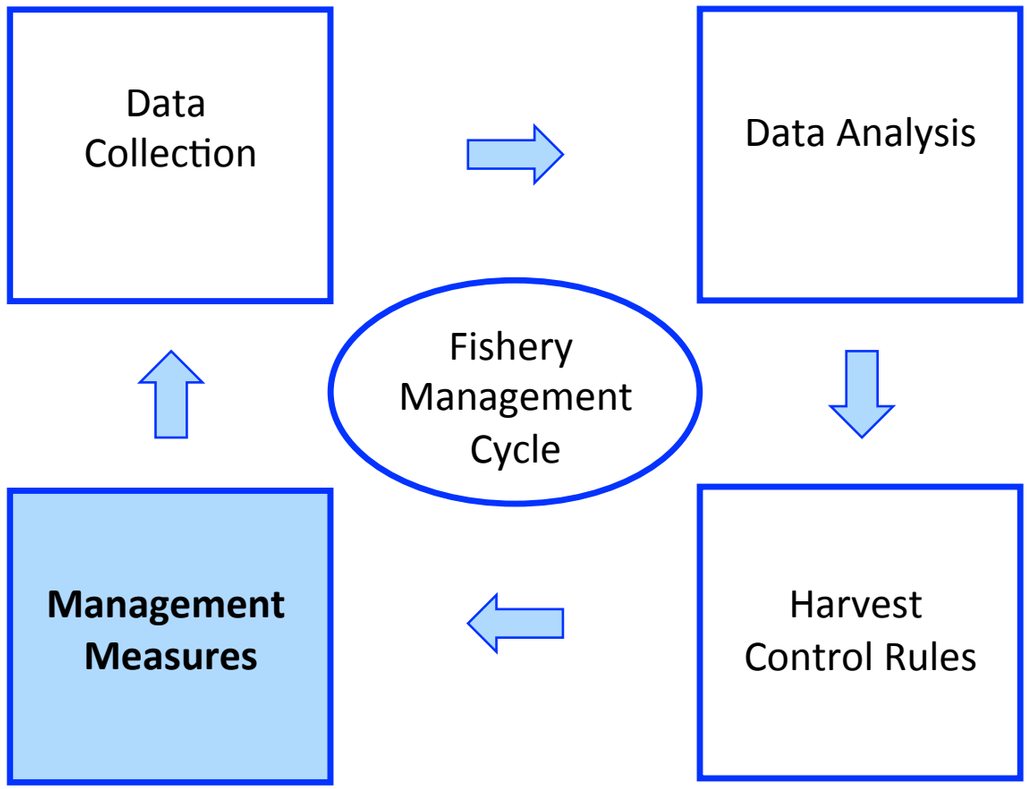
- A stock assessment is any type of data analysis that provides an estimate of health or "status" of a fish stock
- **Traditional stock assessments**
  - Integrated assessments using fishery dependent and independent data, but not possible for all fisheries
  - Expensive, requires ample data
- **Data-limited assessments**
  - Driven by available resources and data
  - Potential to help advance the goals of the MLMA in California's data-limited fisheries

Fishery Management Cycle: Harvest Control Rules



- **Harvest Control Rules (HCRs)** are used to determine which management actions should be applied to achieve a desired outcome for the fishery
- Provides transparency and predictability
- Reference points in HCRs can help to inform criteria for determining when a fishery is overfished under the MLMA
- Stakeholder input can help inform management objectives and determine how to best evaluate possible HCRs

Fishery Management Cycle: Management Measures



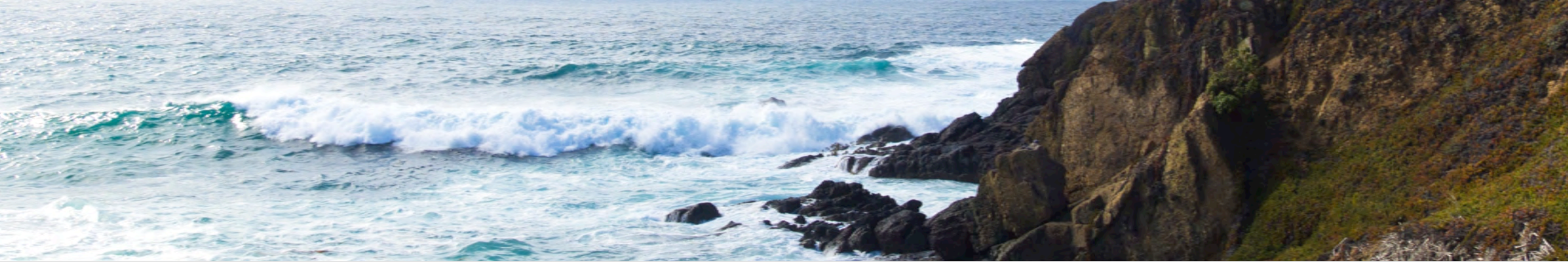
- Managing fisheries sustainably requires the use of regulatory mechanisms or "controls"
- Two types of controls
  - Input: Modifies fishing effort (i.e., size limit, time-area closure, effort control)
  - Output: Modifies catch limit (i.e., overfishing level, total allowable catch, quota)
- Working closely with stakeholders is essential to developing effective management measures

Considering New Approaches and Tools

- Currently, no standardized approach to identify management strategies
  - Still based on the Fishery Management Cycle, but not systematic
  - Varies due to the characteristics of the fishery, availability of data and resources
- Looking ahead, goal is to identify and use more structured, transparent, better informed, and improved approaches and tools

Management Strategy Evaluation (MSE)

- Tool to evaluate the expected performance of different management strategies and assess the probability of meeting management goals
- Varied success with CDFW's efforts to apply MSE to date:
  - Spiny Lobster FMP
  - Herring FMP

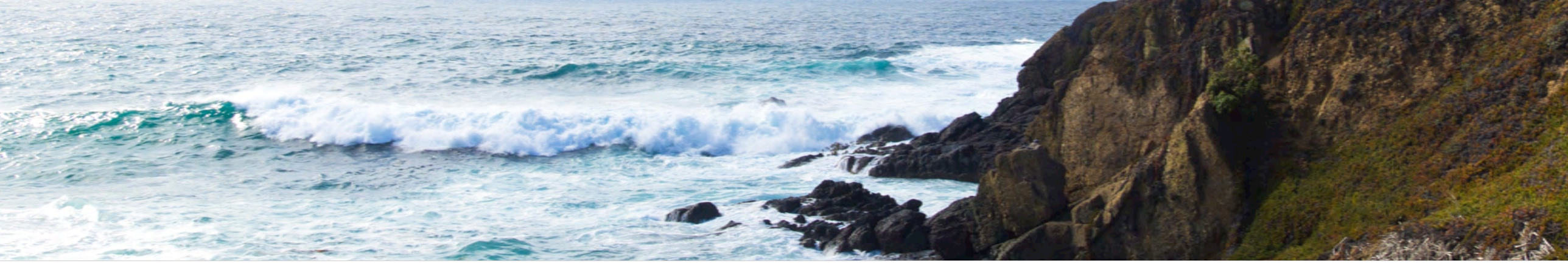


Data-Limited Methods (DLM) Toolkit

- Publically available tool that includes 80 different management procedures that can evaluate a broad range of potential approaches
- Preliminary pilot on four state-managed fisheries shows the tool has utility
  - Customizable, streamlined, cost-effective
  - Uses MSE and can be applied to data-limited fisheries

Discussion and Q&A

- Do the draft approaches/tools outlined today offer an improvement to CDFW's current approach to identifying management strategies to achieve sustainability?
- Are there additional ideas or tools that CDFW should consider?



Thank you!

For more information, please visit:

https://www.wildlife.ca.gov/Conservation/Marine/MLMA

or contact **MLMA@wildlife.ca.gov**