Overview of data that inform Annual Catch Limits (ACLs) in the U.S. Caribbean

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Adyan Rios
SEFSC, SFD, Caribbean Fisheries Branch

NOAA Fisheries Stock Assessment Process

The Science Behind Sustainable Fisheries Management

Healthy Fish Stocks
= Sustainable Jobs, Fisheries, and Food

DATA COLLECTION → MODELING → ADVICE → MANAGEMENT

U.S. laws require that the fisheries management process prevent overfishing and rebuild overfished fisheries.

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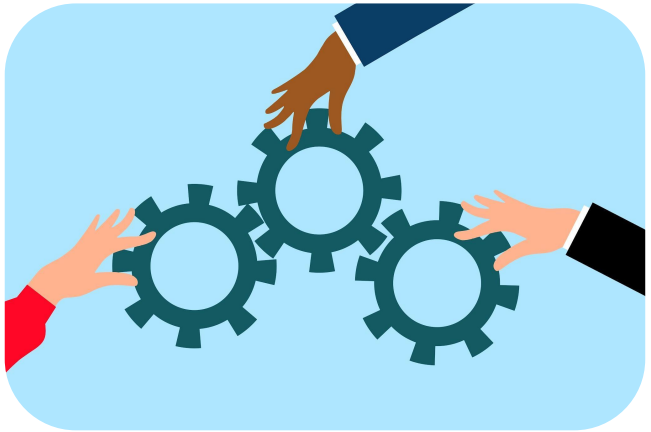
WHY

The resilience of our marine ecosystems and coastal communities depend on healthy marine populations.



HOW

Regional fishery management councils collaboratively develop fishery management plans and plan amendments for fisheries in federal waters.

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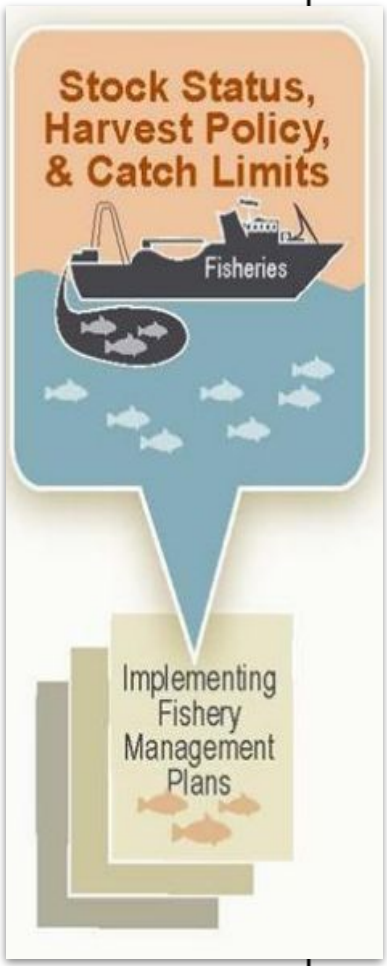

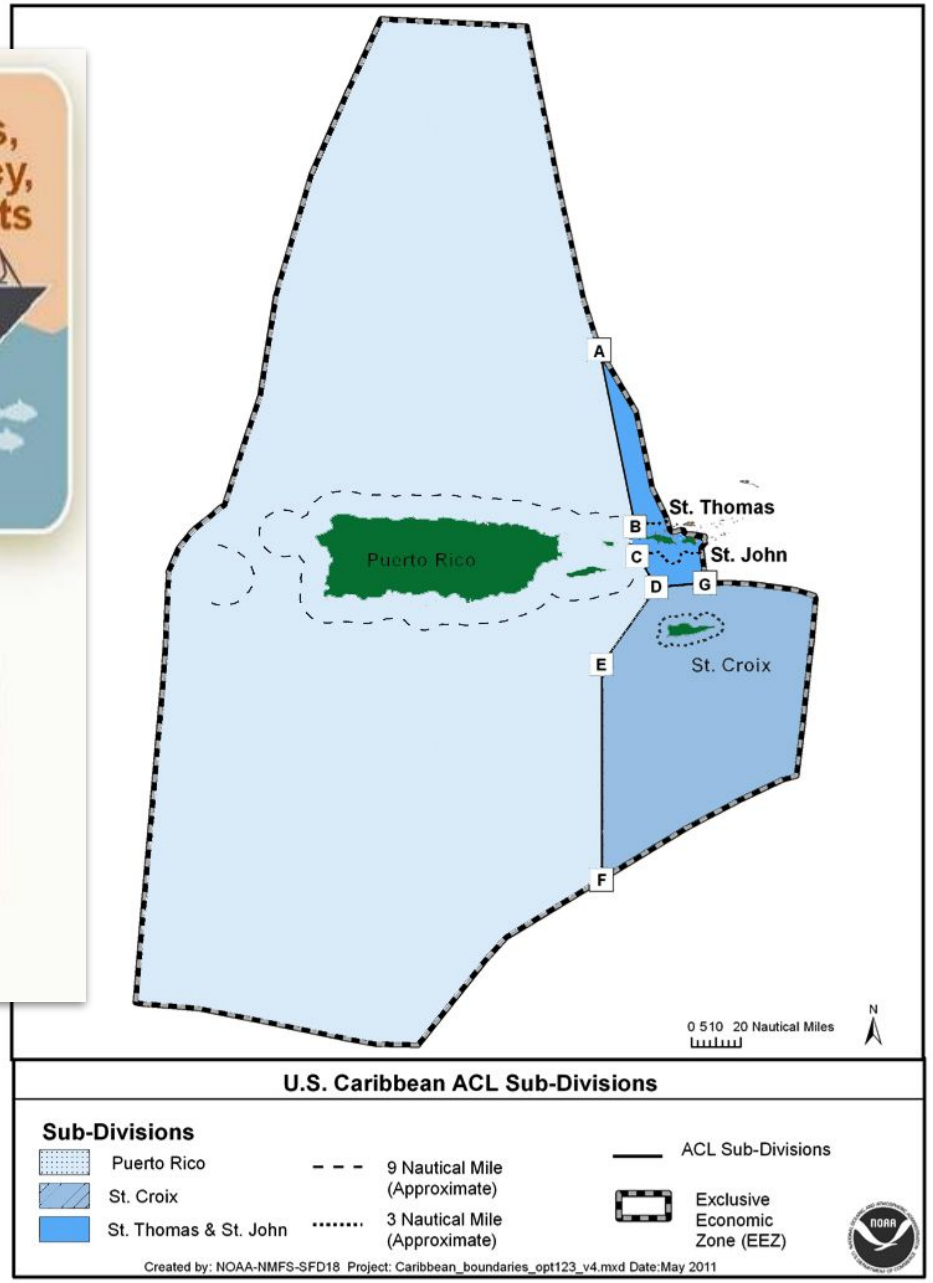

- In the U.S. Caribbean, harvest policies and catch limits are specified in the island-based fishery management plans.
- Fishery management plans and amendments are based on the best available science.

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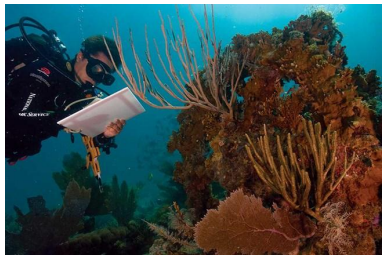
Stock assessment scientists, like me, work in partnership with constituents to provide reliable scientific advice that enhances the stewardship of our living marine resources.



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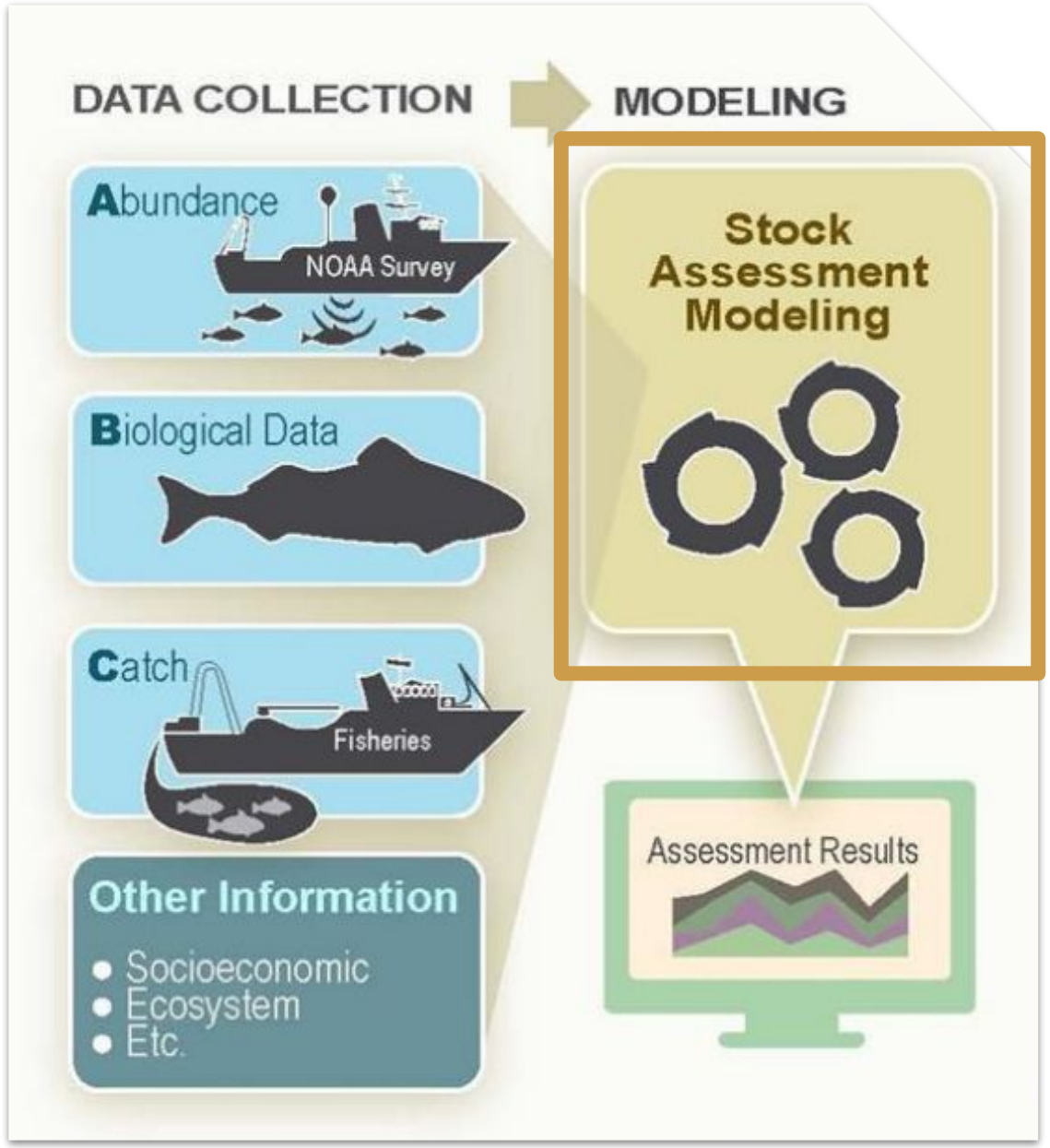

Stock assessment modeling

- determines if fishing yield is sustainable
- determines if stock size is above or below the level that can provide Maximum Sustainable Yield
- quantifies the uncertainty in the status of the stock
- provides management advice for optimizing resource utilization

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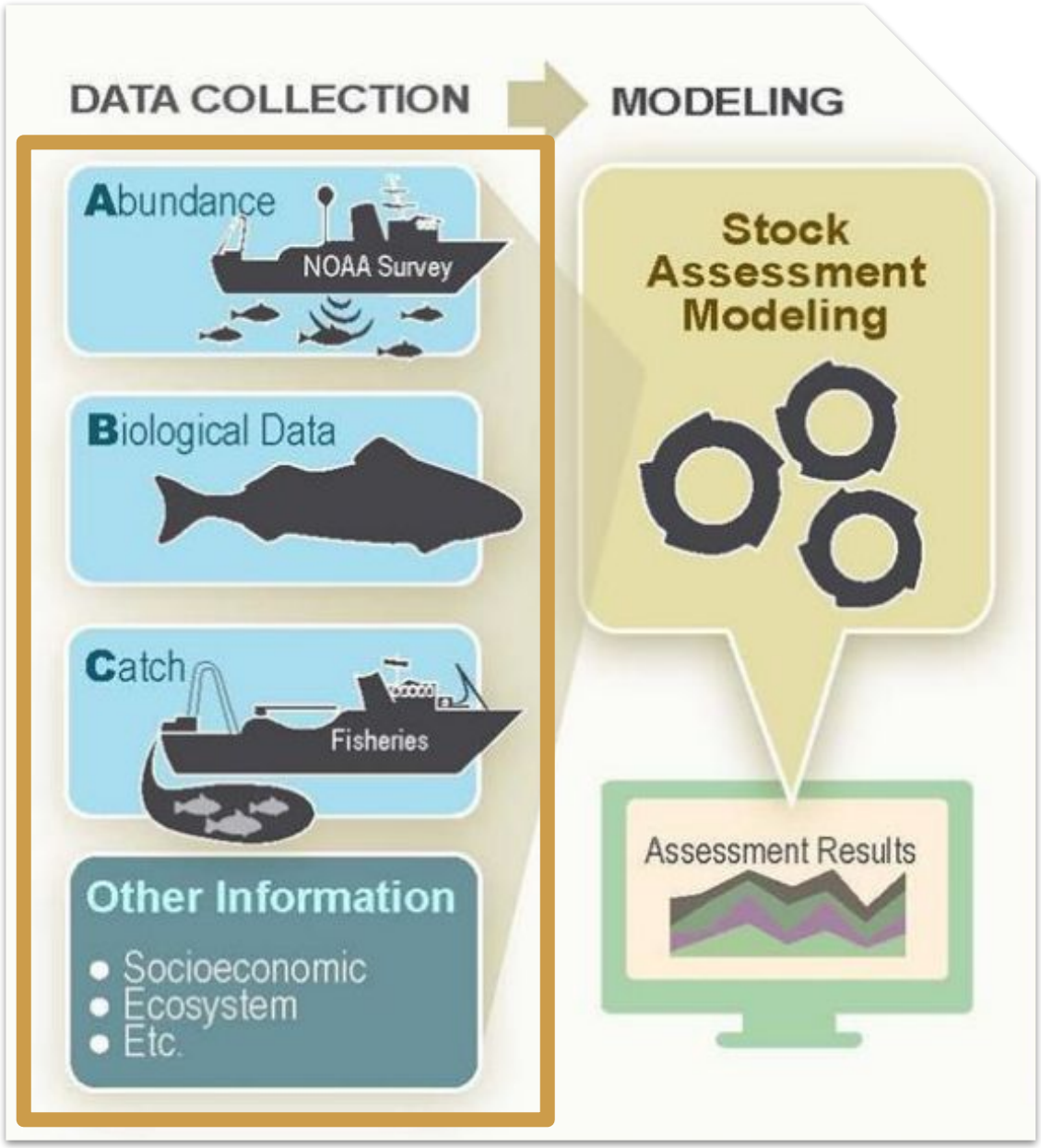
Data for Complete Stock Assessments



- **Abundance Data—**A measure, or relative index, of the number or weight of fish in the stock.
- **Biology Data—**Provides information on fish growth rates and natural mortality.
- **Catch Data—**The amount of fish removed from a stock by fishing.

To ensure the highest quality stock assessments, the data must be timely.

Data collection methods must be documented and reproducible.

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The Magnuson-Stevens Reauthorization Act calls for the best scientific information available to manage U.S. commercial and recreational fisheries.

- **For stocks that are assessed the stock assessment modeling specifies an Overfishing Limit (OFL).**
- **For stocks that are not assessed a SSC typically review historical landings to define OFLs.**

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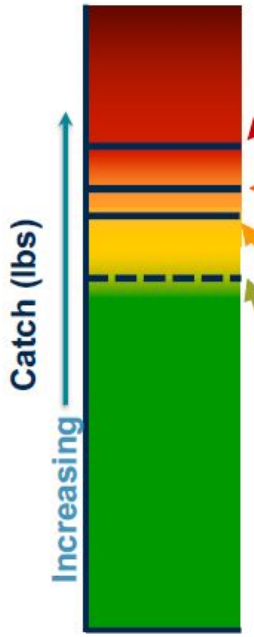
OFL ≥ ABC ≥ ABC ≥ ACT



Overfishing Limit (OFL): Overfishing is occurring when catches exceed this level. Should achieve MSY in the long term.

Acceptable Biological Catch (ABC): Catch reduced below OFL to account for scientific uncertainty

Annual Catch Limit (ACL): Catch level that invokes accountability measures

Annual Catch Target (ACT): Catch reduced below ACL to account for management uncertainty or achieve optimum yield

SSC ABC Control Rule

Council

The Caribbean SSC ABC Control Rule has 4 tiers. The 4th level is the most data limited.

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Future Outlook

- Continue to expand cooperative research projects to inform **a**bundance and **b**iology
- Continue to improve **c**atch and effort data collection
- Continue to manage with FMP amendments to avoid overfishing and stocks becoming overfished
- Make informed adjustments to ACLs based on stock assessments and best available scientific data

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THANK YOU!

Questions?

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What definitions should I know?

- **Overfishing**: The annual rate of catch is too high.
- **Maximum sustainable yield**: The largest, long-term average catch that can be taken under existing conditions.
- **Scientific uncertainty**: Uncertainty in the information about a stock and its maximum sustainable yield reference points. Sources of scientific uncertainty could include stock assessment results, time lags in assessment updates, projections, potential ecosystem and environmental effects, or other factors.
- **Management uncertainty:** Uncertainty in the ability of managers to constrain catch so that the annual catch limit is not exceeded, as well as uncertainty in quantifying the true catch amounts (i.e., estimation errors). Sources could include late catch reporting, misreporting, underreporting, or other factors.

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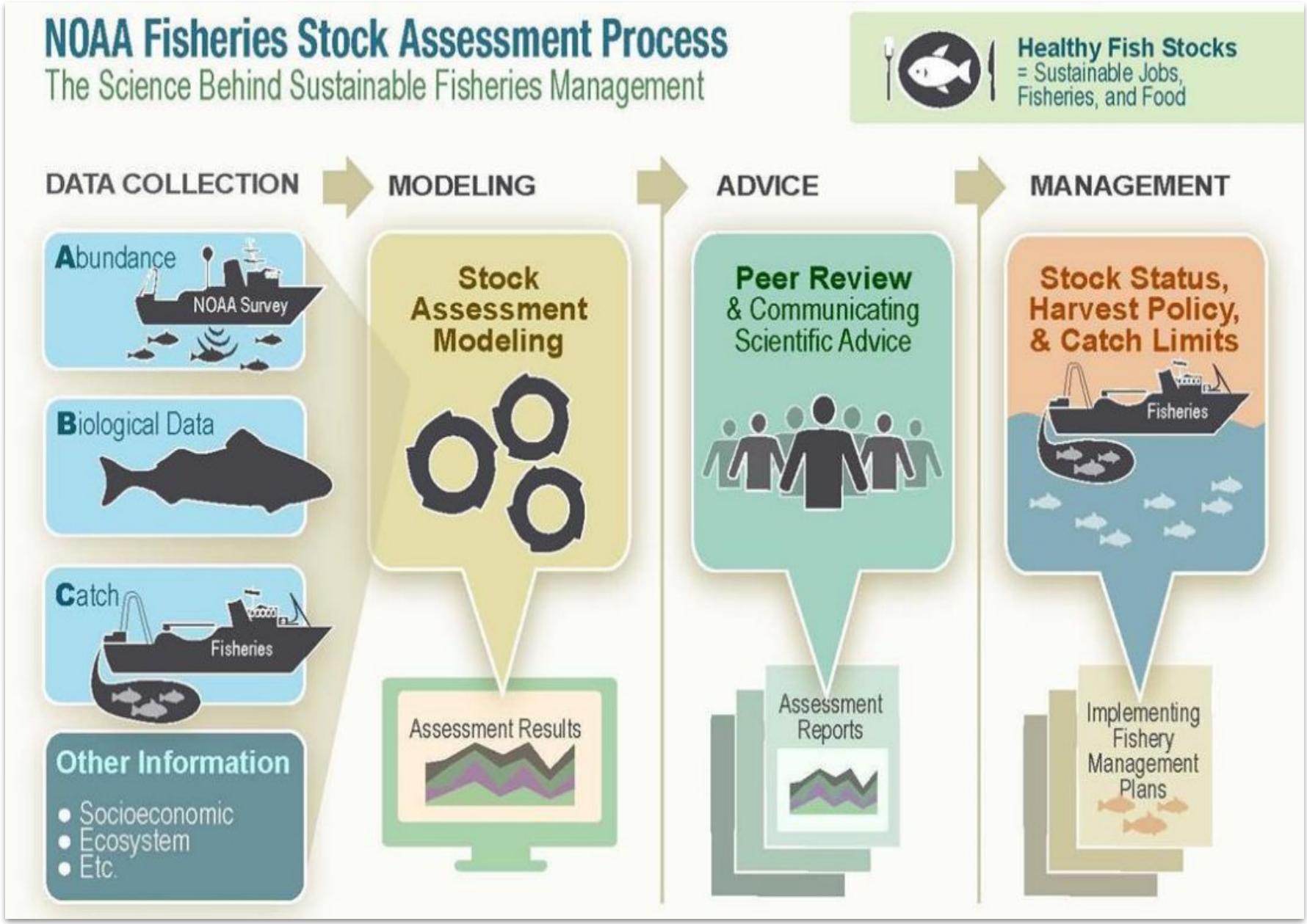

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