

Sustainable Oyster Population and Fishery Act of 2016

Senate Bill 937
Statute §4-215



Overview

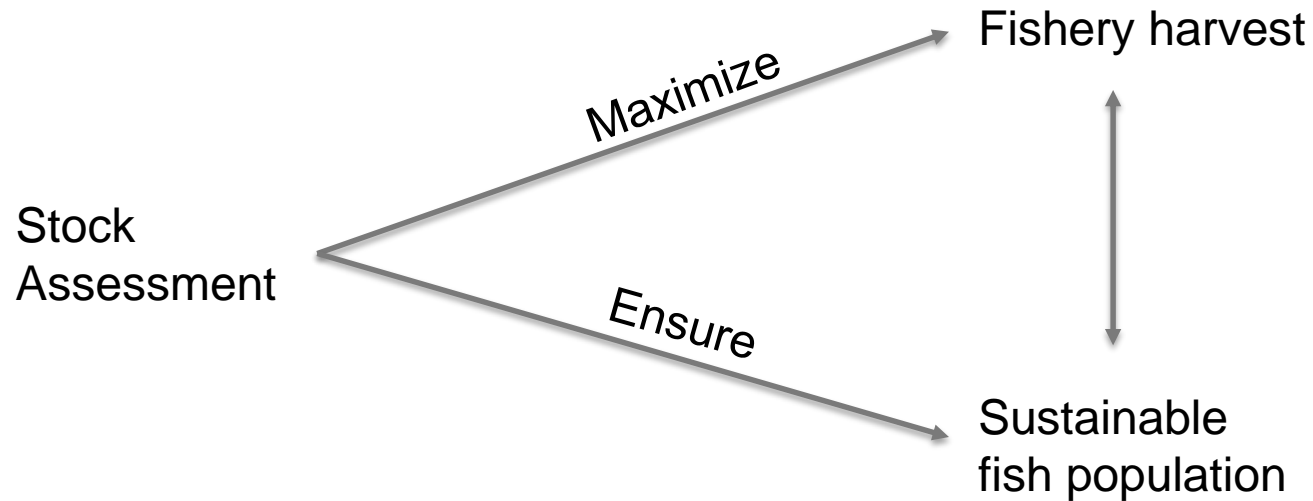
Requires DNR in consultation with University of Maryland Center for Environmental Science (UMCES) to:

- Conduct an oyster stock assessment
 - Reviewed by an independent panel of fisheries stock assessment experts
- Develop biological reference points to manage the public fishery
- Identify oyster management strategies to achieve a sustainable oyster population and fishery
- Provide opportunity for stakeholder engagement

Stock Assessment

What is a stock assessment?

Stock assessments tell us how fishing interacts with the population of fish.





Stock Assessment

Stock assessment can provide a range of information including **estimates** of :

- Number of oysters in the population
- Number of spawning oysters in the population
- Number of spat entering the population each year
- Number of oysters being removed by fishing and natural mortality
- Trends

Relationships among these outputs can be examined and inform us about **biological reference points** of the population.

Stock Assessment

Stock assessments **do not** provide specific management strategies

But, the model can be used to examine how different management strategies might work.

Potential management strategies can be identified by managers and public.

For example:

- Season, bushel limits, size limits, rotational harvest
- Other ideas

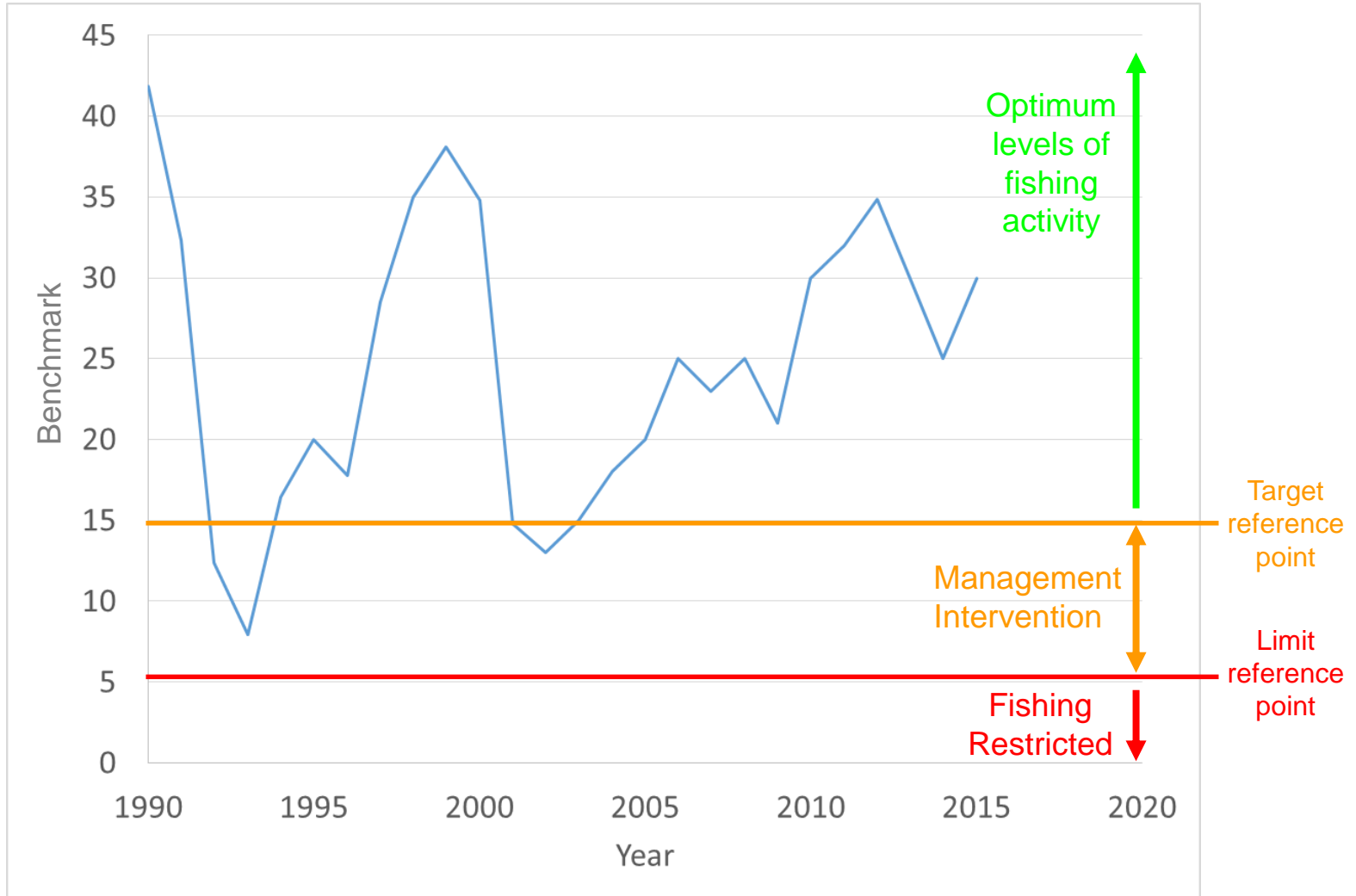
Biological Reference Points

What is a biological reference point?

- ❖ Metric of fish population status from a biological perspective
- ❖ A (biological) benchmark against which the abundance of the fish population or the fishing mortality rate can be measured in order to determine its status
- ❖ The benchmark could be :
 - Number of oysters
 - Level of fishing
 - Other
 - Combination of these things

Biological Reference Points

One type of example



Stock Assessment

Who is conducting the stock assessment?

Science Team = DNR, UMCES, post doctoral researcher



Review Team = ????

Center for Independent Experts (<http://ciereviews.org/>)





Timeline

Phase 1

Terms of Reference
and inventory data

Phase 2

Build and run
assessment

Phase 3

Present results and
identify management
strategies

Nov
2016

Jun
2017

Jun
2018

Dec
2018



Terms Of Reference

What are Terms of Reference?

- ❖ Details the items to be included in the assessment
 - Questions to be addressed
 - Approaches to explore
- ❖ Defines protocols and responsibilities when developing a stock assessment
- ❖ Reviewed by stakeholders (OAC)
- ❖ Ensures everyone has the same expectations

Example: the terms of reference can include a task to explore how sanctuaries interact with potential harvest rates and population trends.



Phase 1

Phase 1 Components

November 2016 to May 2017

- ✓ Develop a presentation about the assessment
- ✓ Develop a timeline for completing the assessment
- Develop an inventory of available data sources for the assessment
- Hire a post-doctoral researcher through UMCES to develop the stock assessment model
- Identify and engage a review panel of the stock assessment model
- Convene a science team to develop draft Terms of Reference

Phase 1

Future OAC Meeting Updates

- ❖ First Update:
 - Present draft Terms of Reference
 - Discuss stock assessments in general

- ❖ Second Update:
 - Review the final Terms of Reference

- ❖ Third Update:
 - Stock assessment update - presentation of available data sources to be used in the assessment and what sort of assessment approaches the data may support.

Phase 2

Phase 2 Components June 2017 to May 2018

- Process data so it can be used in the assessment model(s)
 - Calculate harvest on the relevant spatial resolution, develop indices of recruitment, abundance, etc...
- Develop the stock assessment model(s)
- Implement model(s), test model performance and choose a “base” model
- Submit the model and stock assessment to the review panel
- Update OAC on assessment



Phase 3

Phase 3 Components

June 2018 to December 2018

- OAC Meeting:
 - Present the outcomes of the stock assessment
 - Present the results of the peer review
 - Initiate discussion on possible management approaches
- Identify a suite of potential management approaches based on assessment outcomes with stakeholders
- OAC Meeting:
 - Present a list of possible management approaches
- Additional meetings with the county oyster committees, and the Tidal and Sport Fisheries Advisory Commissions

Questions

What are your questions to be answered during the next OAC update?

- More background information on what a stock assessment is
- General process of a stock assessment
- What is a stock assessment model?
- Examples of stock assessments for similar fisheries
- Others????