

Performance Metrics and Uncertainties

Jon Deroba - NEFSC NMFS
Atlantic Herring MSE Workshop
May 16-17, 2016



Performance Metrics

How do you know if you are achieving your objectives?

How do you measure tradeoffs among competing objectives?

Performance metrics - a quantitative measure of an objective

Performance Metrics

Some Examples

Fundamental objective: “I want to be healthy”

Means objective: “Eat more salad”

Performance metric:

My Weight

How often my weight is $< 200\text{lbs}$ and $>160\text{lbs}$.

Performance Metrics

Some Examples

Fundamental objective: “Maintain forage base”

Means objective: “Apply a control rule”

Performance metrics:

Herring abundance, but what’s enough?

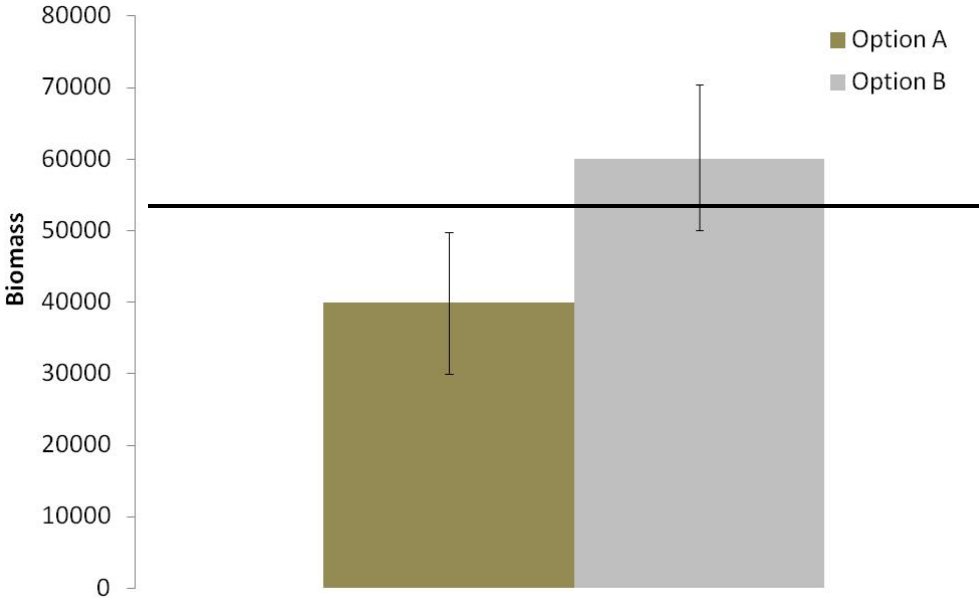
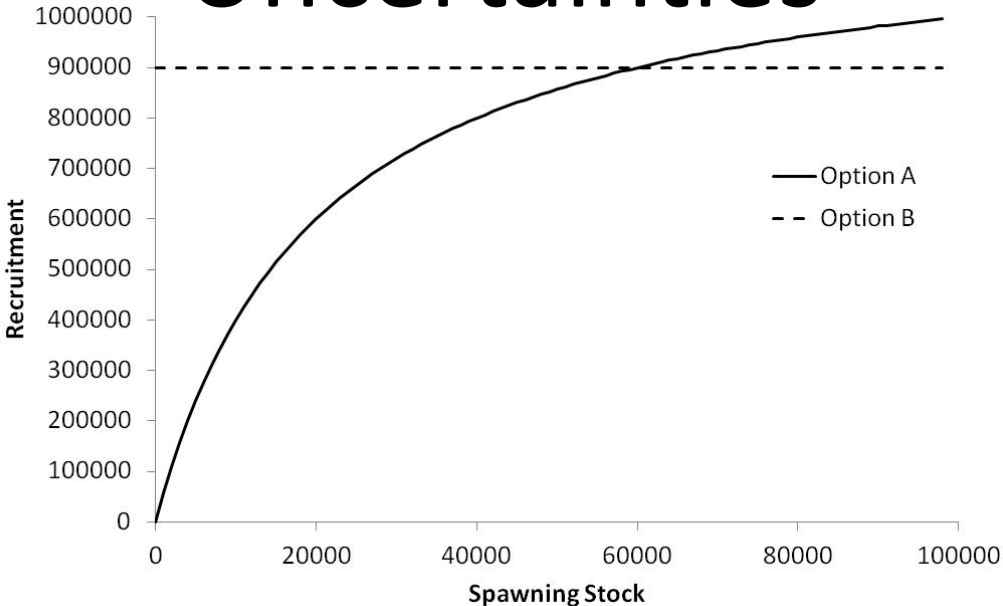
Predator characteristic, but relationship uncertain

Uncertainties

We do not know exactly how things work

Our ability to achieve objectives will be affected
by these uncertainties

Uncertainties



Uncertainties

Some uncertainties to consider:

herring (e.g., stock-recruit, natural mortality...)

herring abundance

relationship of herring to predators

others?

Discussion Points: Performance Metrics and Uncertainties

What performance metrics align with our objectives

How/if we can simulate the performance metrics

If data for the metric is currently collected

Relevant uncertainties