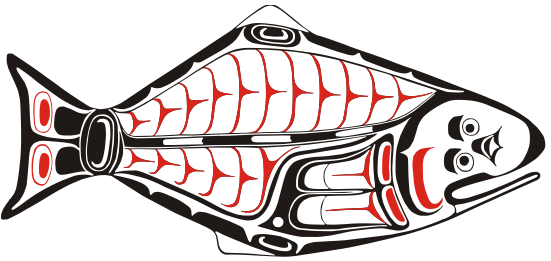
Goals, measureable objectives, and performance metrics

Allan Hicks

International Pacific Halibut Commission

MSAB Meeting

October 2016



INTERNATIONAL PACIFIC HALIBUT COMMISSION

Five overarching goals defined for the MSE

1. Biological sustainability
2. Fishery (all directed fisheries) sustainability and stability
3. Assurance of access – minimize probability of fishery closures
4. Minimize bycatch mortality
5. Serve consumer needs

Changing Goals to Measurable Objectives

Goal: Promote Healthy Halibut Stock

Measurable Objective:

1. *Outcome*: Spawning stock greater than $0.20B_0$
2. *Time-frame*: Evaluate over *X* years, long-term
3. *Probability*: At least 95% of the time

Changing Goals to Measurable Objectives

Goal: Promote Healthy Halibut Stock

Measurable Objective:

1. *Outcome*: Spawning stock greater than $0.20B_0$
2. *Time-frame*: Evaluate over *X* years, long-term
3. *Probability*: At least 95% of the time

Performance Metric

Probability that spawning stock is greater than $0.20B_0$ over the simulated *X* years 100 years in the future

Biological Sustainability

Measurable Outcome	Outcome	Time-frame	Probability	Performance Metrics
Maintain a minimum of number of mature female halibut coast-wide		Each year	0.99	Probability, Average number of mature females
Maintain a minimum spawning stock biomass	20% of unfished biomass	Each year	0.95	Probability
Maintain a minimum spawning stock biomass	30% of unfished biomass	Each year	0.75	Probability
When Limit < Estimated Biomass < Threshold, limit the probability of declines		10 years	0.05 – 0.5, depending on est. stock status	Conditional probability

Fishery Sustainability, Stability, and Access

Measurable Outcome	Outcome	Time-frame	Probability	Performance Metrics
Maintain directed fishing opportunity		Each year	0.95	Probability Average catch
Maximize yield in each regulatory area		Each year	0.5	Average catch
Maintain median catch	Within ±10% of 1993-2012 average	Within 5 yrs	?	Probability
Maintain average catch	> 70% of historical 1993-2012 average	Each year	0.9	Probability, Average catch
Limit annual changes in TAC, coast-wide and/or by Regulatory Area	< 15%	Each year		Average Annual Variability (AAV)

Minimize Bycatch Mortality

Measurable Outcome	Outcome	Time-frame	Probability	Performance Metrics
Wastage in the longline fishery	<10% of annual catch limit	Over a 5 year period	0.75	Probability Average wastage

Serve Consumer Needs

Measurable Outcome	Outcome	Time-frame	Probability	Performance Metrics

Intent of this goal is

Strive to avoid or minimize regulatory changes that result in large fluctuations in product availability

What is still needed

- Fill in missing items
- Are these short-term or long-term goals
  - More specific time-frame
- Continue to develop meaningful performance metrics