

Developing Alternative Harvest Policies

Determine the Objectives

The majority of our discussion to date has indicated that conservation is the primary objective and that economic objectives are largely, though not entirely, twinned with yield objectives. This suggests that initial investigations can have a relatively simple framework:

- Identify stock conservation objective
- Identify harvest minimum
- Identify acceptable harvest variance

Starting from where we are:

- Existing objectives, reference points, harvest rate, control rules, and performance metrics
- Modify objectives to reflect alternative targets
- Modify harvest rate, control rules, and reference points to achieve modified objectives (Procedures)
- Evaluate alternative performance metrics and refine harvest rate, control rules, or reference points.
Repeat...
- Explore alternative assumptions about system characteristics and behaviour (Scenarios). Repeat...

Existing Harvest Policy

- **Stock Management objective:** maintain $SB_i > SB_{30}$ at $p = 0.8$ over simulated period
- **Reference points:** $SB_{\text{unfished}}(SB_{100})$, $SB_{\text{thresh}}(SB_{30})$, $SB_{\text{limit}}(SB_{20})$
- **Control Rules:** 30:20 control rule. Target Constant Harvest Rate (HR) with linear decrease from SB_{30} to $HR = 0$ at SB_{20}
- **Performance metrics:** Ratio of SB_i/SB_{100} ; Percent of time $SB < SB_{30}$; Realized average harvest rate; average catch; variance of average catch; fraction of max. yield achieved