

Management strategy evaluation for the Indian Ocean tuna fishery : ideas and discussion on HCRs/MPs

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Introduction

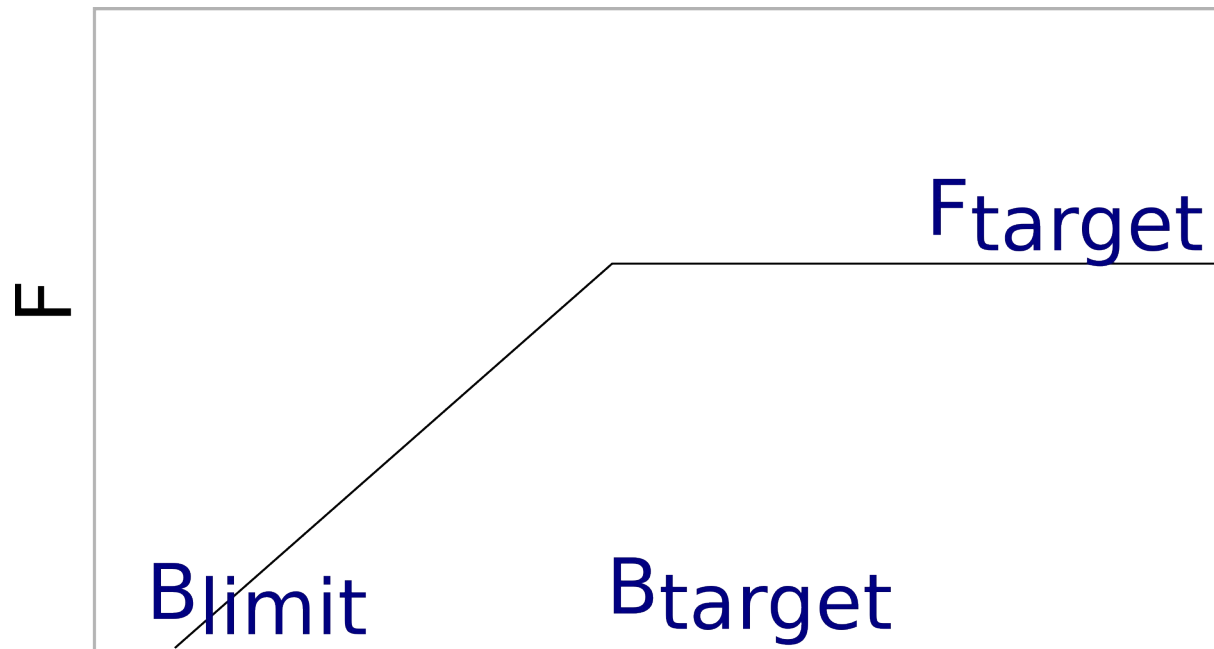
- This is simple presentation outlining some ideas and discussion points with regard to SKJ for the “Future work on Skipjack and Albacore MPs” agenda item.
- Current plan for SKJ evaluations:
 - Start with simple, illustrative MP which is “based on” reference points
 - Compare more realistic model-free MPs e.g.
 - CPUE based
 - Mean-size based
 - Tagging based
 - Given the time available not planning to evaluate model-based MPs

MP based on reference points

- Purpose of MP based on reference points:
 - Explicitly address item 3 of resolution 13/10:
 - “shall **assess**, as soon as possible and more particularly through the management strategy evaluation process (MSE) process, **the robustness and the performance of the interim reference points**”
 - Ease stakeholders into the ideas of MPs, their control parameters and their evaluation

MP based on reference points

- Approach:
 - $F = f(B, B_{\text{limit}}, B_{\text{target}}, F_{\text{target}})$
 - B estimated with 0, 10, 20, 30, 40% c.v. (imprecision, no bias)
 - Note F_{limit} not incorporated



$$B = \text{LN}(B, \text{Precision})$$

MP based on reference points

- Considerations:
 - Concept of “evaluating” reference points is very confusing – we usually think of MPs being evaluated against reference points (as part of a suite of performance statistics) not the other way around
 - The form of the MP does not matter – what matters is the robustness of the MP. MP does not need to explicitly incorporate reference points to perform well against them
 - Do we want to promulgate confusing concepts?
 - Should we instead try to educate?
 - Or, do we just make it clear this is hypothetical/illustrative

Model free MPs

- Primarily to illustrate alternative options for how MPs can be driven e.g.
 - CPUE as index of biomass
 - Tagging Z as index of exploitation rate

