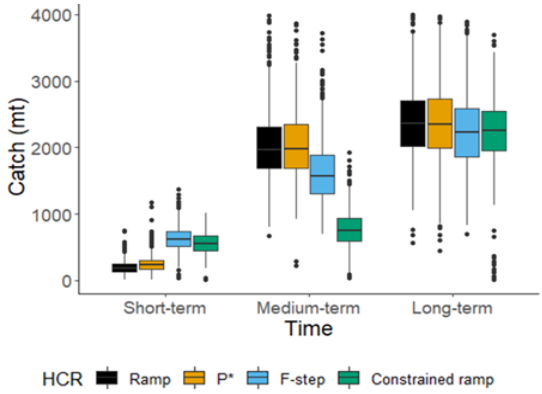
MSE Framework: Plotting

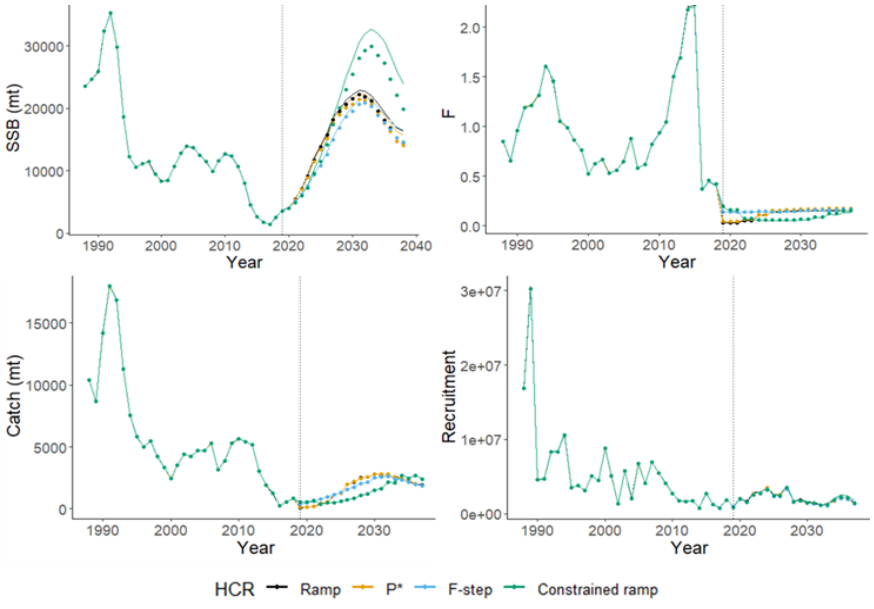
To plot, you will need a folder containing folders for each of the scenarios you wish to plot. Each folder should have the syntax: “Sim_1”, “Sim_2”, “Sim_3” and so forth. The output in these folders is the output that is produced in the results folder from the HPCC runs. These plots only work with multiple simulations per scenario since they show medians and/or variability.

postprocessing/Plots folder

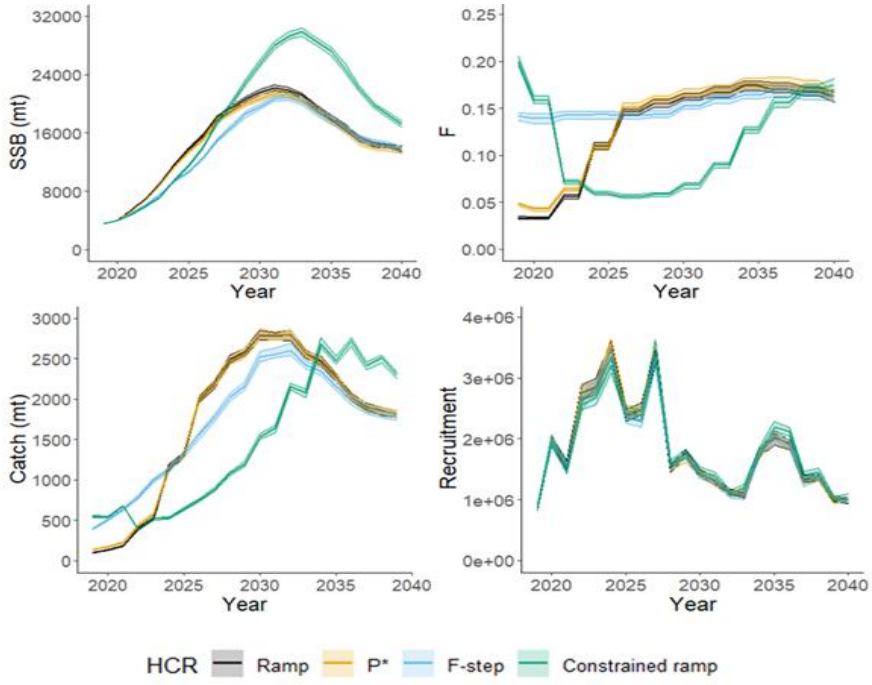
CatchBoxPlot.R: Produces true median catch in the short- (1-5 years), medium- (5-10 years), and long-term (10-20 years).



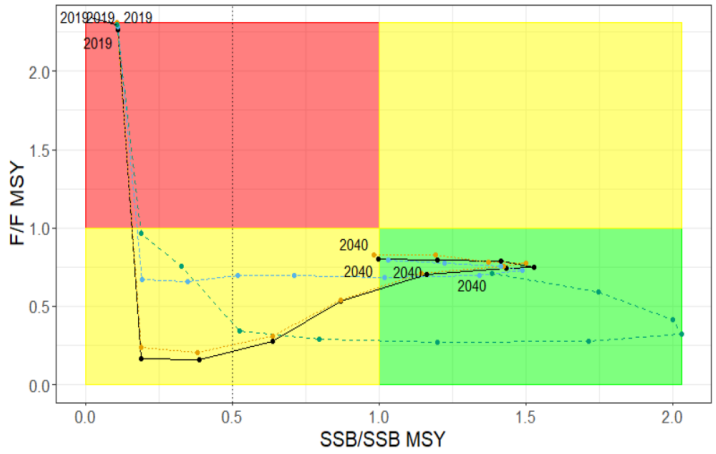
Catchplot.R, Fplot.R, Rplot.R, SSBplot.R: True operating model (closed circles) and estimated stock assessment values from the terminal assessment of SSB, fishing mortality, catch (mt), and recruitment from 1982 to 2038 for SSB and 2037 for other metrics. The dashed line represents the beginning of the management procedure period.



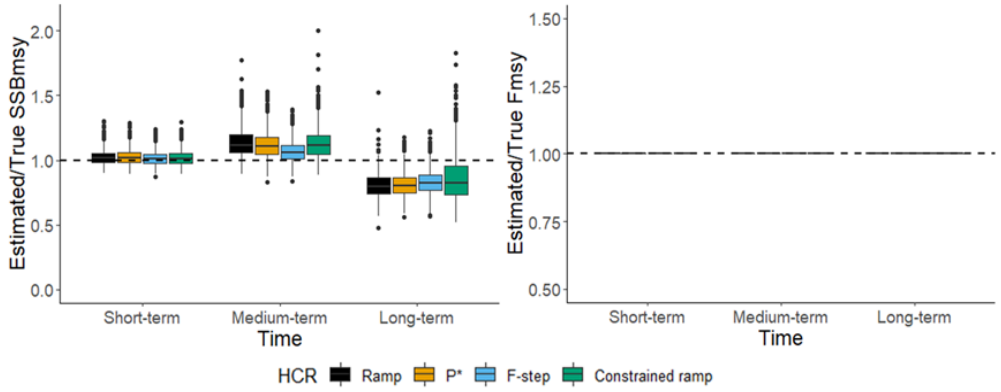
CatchplotwithCI.R, FplotwithCI.R, RplotwithCI.R, SSBplotwithCI.R: True operating model median SSB, fishing mortality, catch (mt), and recruitment with 95% confidence intervals from 2019 to the end of the management procedure period.



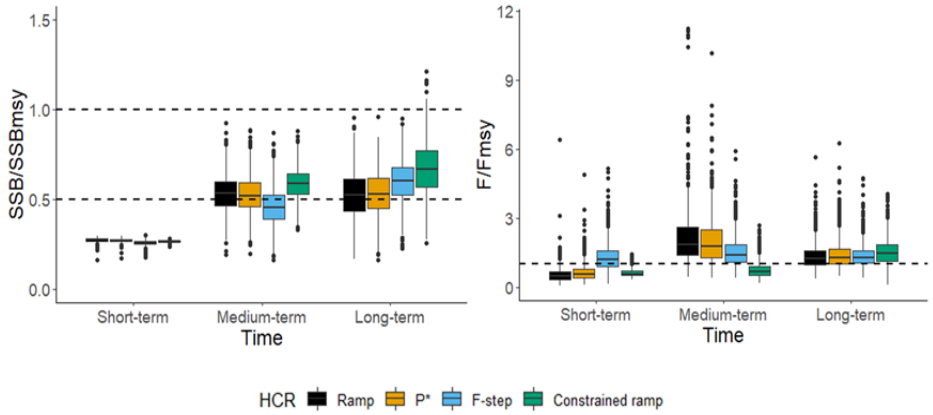
Estimated_Kobe_Plot.R: Estimated terminal stock status of each year's stock assessment.



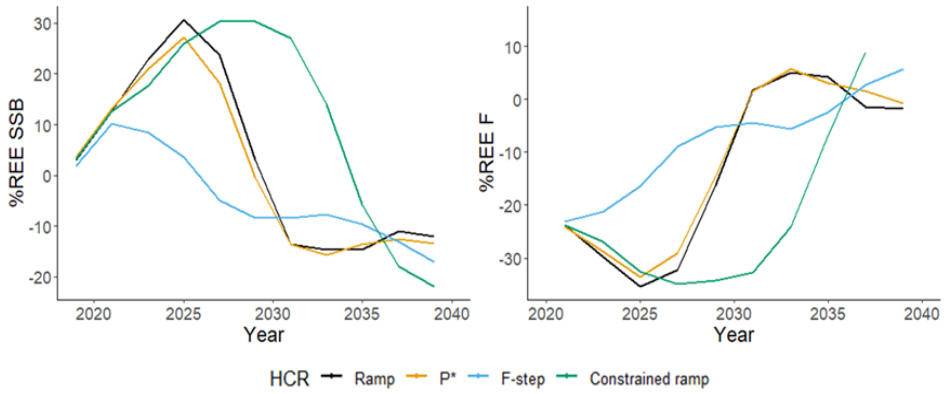
FMSYErrorPlot.R, SSBMSYErrorPlot.R: Median ratios of estimated to true stock biomass reference point (SSB_{MSY}) and fishing mortality biomass reference point (F_{MSY}) in the short- (1-5 years), medium- (6-10 years), and long-term (11-till the end of the management procedure period years).



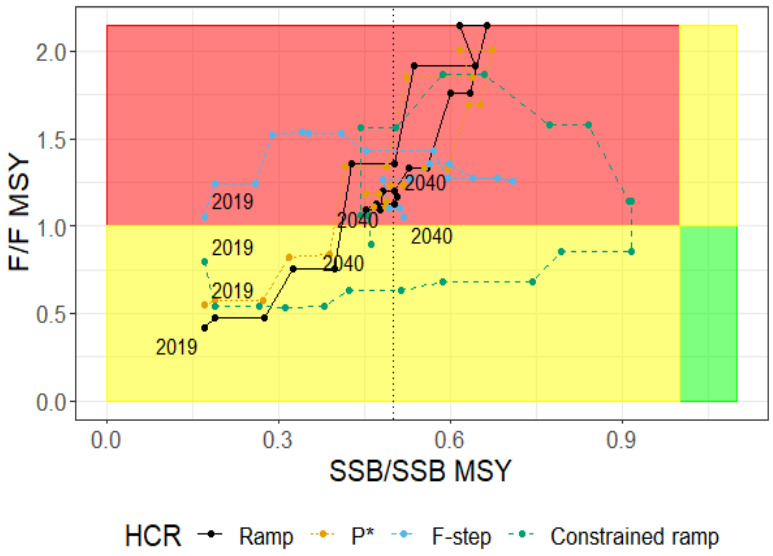
FRatioPlot.R, SSBRatioPlot.R: True median ratios of spawning stock biomass to the spawning stock biomass reference point (SSB/SSB_{MSY}) and fishing mortality to the fishing mortality biomass reference point (F/F_{MSY}) in the short- (1-5 years), medium- (6-10 years), and long-term (11-21 years).



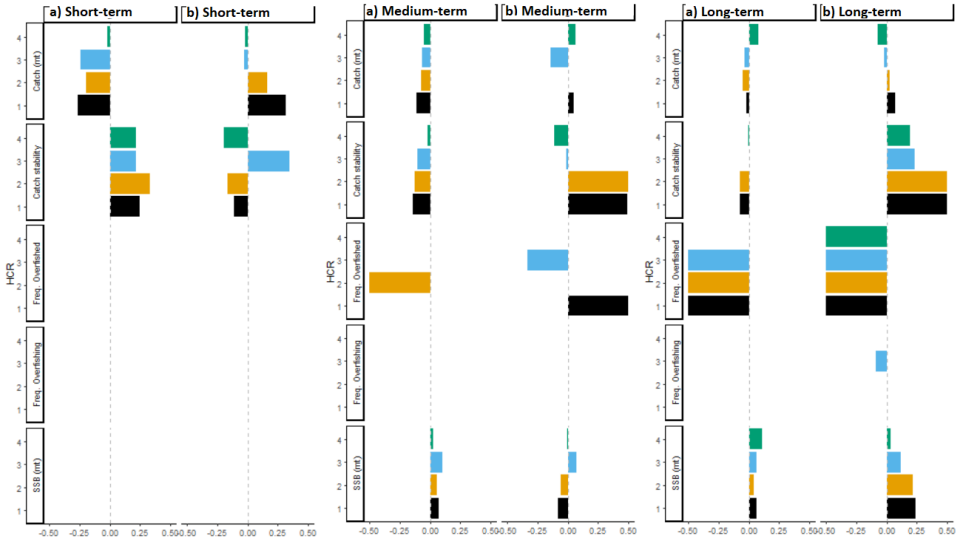
FREEPlot.R, SSBREEPlot.R: Percent relative error (REE) in terminal estimated spawning stock biomass (SSB) and fishing mortality (F).



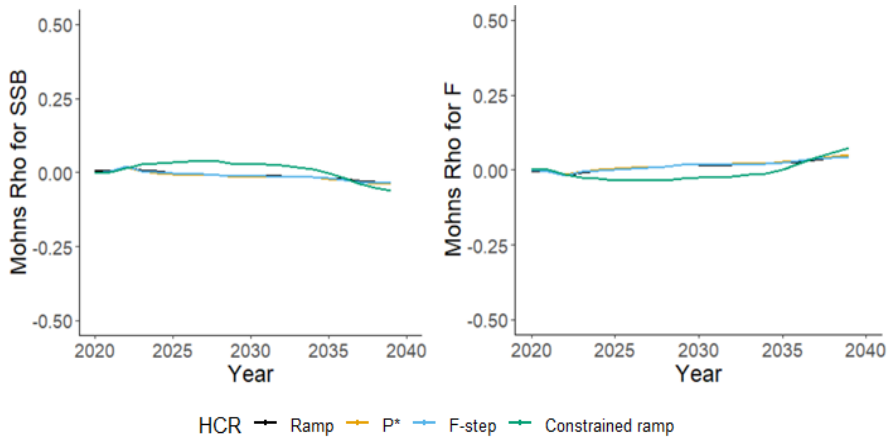
Kobe_Plot.R: True stock status. The dashed line represents the overfished threshold.



LongtermDecisionTable.R, MediumTermDecisionTable.R, ShortTermDecisionTable.R: Short- (1-5 years), medium- (6-10 years), and long-term (11-21 years) relative difference in harvest control rule performance.



MohnsRhoFplot.R, MohnsRhoSSBplot.R: Mohn's Rho values for spawning stock biomass (SSB) and fishing mortality (F).



Radarchart_Longterm.R, Radarchart_Mediumterm.R, Radarchart_Shortterm.R: Harvest control rule (HCR) performance in the short- (1-5 years), medium- (6-10 years), and long-term (11-20 years). Metrics are standardized to the maximum value for each metric attained by the different HCRs and equally weighted. Spawning stock biomass (SSB) and catch are median SSB and catch for the time period.