What to watch out for with Status Determination Criteria (SDC)

The Council sets the status determination criteria for stocks. It’s important to understand the effects of any changes made because they could have serious consequences.

**Spawning Potential Ratio (SPR)**
A measure of how productive a stock is compared to its unfished state.

**Range:** Typically set between 30-50% of unfished levels. The Council sets the SPR.

**Significance:** Lowering SPR is risky. While it can increase catch in the short term, it inherently manages the stock at lower population levels. In the long-term, that may mean greater reductions in catch and lower recruitment if the stock becomes overfished.

**Minimum Stock Size Threshold (MSST)**
*Think emergency fund*
The biomass below which the stock is overfished.

**Range:** Scientists recommend setting at 0.75 or 75% of the biomass at MSY. The Council sets MSST.

**Significance:** If MSST is set too low, a stock is at a greater risk of serious decline and actions to rebuild must be more severe.

**Maximum Sustainable Yield (MSY)**
The maximum yield that can be taken on an annual basis based on the biology of the stock.

In the MSA, fisheries are managed to Optimum Yield (OY), which is MSY reduced by social, economic and ecological considerations. ACLs are the annual expression of OY.

**Maximum Fishing Mortality Threshold (MFMT)**
*Think spending budget*
The fraction of the stock that can be sustainably removed, above which overfishing is occurring.

**Range:** Based on a fishing mortality rate as a function of MSY or SPR. The Council sets SPR, which changes MFMT.

**Significance:** If MFMT is set too high, the risk of undetected overfishing is higher.

**ANALOGY**

It’s like a bank account:

- **The MFMT** is similar to setting a spending budget.
  - Raising MFMT is like setting your spending budget high; it’s easier to overspend.

- **The MSST** is similar to how much you keep in an emergency fund.
  - Lowering MSST is like deciding to keep a smaller emergency fund.
Setting SDC at risky values means there is less room for uncertainty or unexpected events in management because the stock would be in worse shape before management action is triggered.

Amendment 44 modified the MSST for several stocks (including red grouper) to 0.5BMSY, the lowest and riskiest threshold allowable. With the old MSST, red grouper would currently be considered overfished—under the new level, it’s not.

Management at riskier SDC values can lead to less stable catch levels for the fleet and is comparable to having a high spending budget and low savings.

**Case Study: MSST Reduction in Red Grouper**

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SEFSC scientist’s simulations suggest that MSST should not be set below 0.75.