**Cocos MPA scenarios**

A graph with a red and blue rectangle

Description automatically generated

Figure . Cocos MPA and AMMB area (over DBEM grid cells)

***Question: How large of a region should we focus on?***

**Scenario 1 (Conservation included)**

* PNC, 100% MPA
* AMM, FMSY = 1/2MSY
* Everything else F = MSY
* Reallocate the fishing from PNC and AMM to the grid cells surrounding AMM
  + To reallocate fishing from protected, we take the area protected/total area of grid cells that contain a protected area and reallocate that protected area proportion to the surrounding cells. This is the most accurate and least conservative (i.e least amount of fishing) (area covered by mpa\*protection level/total area of grid cells that contain a protected area)/n surrounding grid cells + 1 (or 1.5 depending on scenario)

**A graph of a blue square

Description automatically generated with medium confidence**

Figure . Scenario 1. Prop = proportion of area that is open to fishing.

**Scenario 2 (Fishing inclined):**

* PNC, 100% MPA original
* AMM, FMSY
* Everything else F = 1.5MSY
  + Fishing from PNC gets reallocated to cells surrounding PNC (which are AMM cells)

A blue grid with red lines

Description automatically generated

Figure Scenario 2. Prop = proportion of area that is open to fishing

**Scenario 3 (IUU inclined)**

* PNC, 90% (10% allows fishing)
* AMM, FMSY1.5
* Everything else F = 1.5MSY
  + fishing from PNC gets reallocated to cells surrounding PNC (which are AMM cells)

A graph of a blue rectangle

Description automatically generated with medium confidence

Figure 4 Scenario 3. Prop = proportion of area that is open to fishing