OREGON MARINE SCIENTIST AND EDUCATOR ALLIANCE

Oregon Marine Reserves

FINDING AREA OF MARINE RESERVES AND MPAS

Name _____

Objectives:

- Students will use the given scale to determine the dimensions of the Marine Reserve, the MPA and the total area of both combined.
- Students will compare and analyze the size of areas dedicated to Marine Reserves/MPAs.

Student instructions:

1. Locate the map scale.
2. Use your ruler to determine how many centimeters or inches are equal to 1 mile, 3 miles, or other distance indicated by the map scale.
3. Determine the dimension of the Marine Reserve (Red) and MPA (Blue).
    a. You may estimate the distance of the shoreline using the given scale.
    b. Record all dimensions on the map.
    c. For Otter Rock and Cape Perpetua, use only the map with the scale. (Ignore the inset maps for this activity).
4. Develop a plan for finding the areas of each Marine Reserve and MPA.
    - Area of a rectangle is length x width.
    - Area of a parallelogram is length x width where dimensions are at right angles.
    - Area of a triangle is (length x width)/2, where dimensions are at right angles.
5. How can you use these relationships to calculate the area of each:
    a. Marine Reserve?
    b. MPA?
    c. Both Marine Reserve and MPA combined?
    d. Show how you determine each area by drawing diagrams and "dissecting" if needed to show parts of the area.

6. Record your data in the table:

Location	Area of Marine Reserve	Area of MPA	Total area (Reserve + MPA)
Cape Falcon			
Cascade Head			
Otter Rock			
Cape Perpetua			
Redfish Rocks			
Total			

What do you notice? (what specific observations can you make from your data?)

What do you wonder? (What questions do you have about the size of areas designated for Marine Reserves and Marine Protected Areas?)