

# Oregon Marine Reserve Ecological Monitoring Plan

Name: \_\_\_\_\_ P: \_\_\_\_\_ Date: \_\_\_\_\_

**Objective:** *Students will be able to obtain, evaluate and communicate information by reading academic text.*

**Instructions:**

1. Use the "Ecological Monitoring Plan" (2015) to complete the tables and questions below.
2. You may complete each of the sections on your own, or you may "jigsaw" the sections among your group.

**1. Goals... (page 5)**

*What are the three goals of the Oregon Marine Reserves?*

<b>1.</b>	<b>2.</b>	<b>3.</b>
subtext:	subtext:	subtext:

**2. Marine Reserves Objectives... (page 5)**

*Complete the table below by reading the objectives on the left and completing the two columns on the right.*

	Objective:	Key Words:	End Goal:
<b>Example:</b>	1. Protect areas within Oregon's territorial sea that are important to the natural diversity and abundance of marine organisms, including areas of high biodiversity and special natural features.	<ul style="list-style-type: none"> <li>• Protect</li> <li>• Natural Diversity</li> <li>• Abundance</li> <li>• Biodiversity</li> <li>• Natural Features</li> </ul>	Protect marine areas to maintain biodiversity and improve abundance of marine organisms.
	2. Protect key types of marine habitat in multiple locations along the coast to enhance resilience of nearshore ecosystems to natural and human-caused effects	<ul style="list-style-type: none"> <li>• Pr _____</li> <li>• R _____</li> <li>• _____</li> <li>• _____</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
	3. Site fewer than ten marine reserves and design the system in ways that are compatible with the needs of ocean users and coastal communities. These marine reserves, individually or collectively, are to be large enough to allow scientific evaluation of ecological effects, but small enough to avoid significant adverse social and economic impacts on ocean users and coastal communities.	<ul style="list-style-type: none"> <li>• O _____ U _____</li> <li>• C _____</li> <li>• C _____</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
	4. Use the marine reserves as reference areas for conducting ongoing research	<ul style="list-style-type: none"> <li>• On _____</li> <li>• Re _____</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

<p>and monitoring of reserve condition, effectiveness, and the effects of natural and human-induced stressors. Use the research and monitoring information in support of nearshore resource management and adaptive management of marine reserves.</p>	<ul style="list-style-type: none"> <li>• Re_____</li> <li>  C_____</li> <li>• Eff_____</li> <li>• Human-_____</li> </ul>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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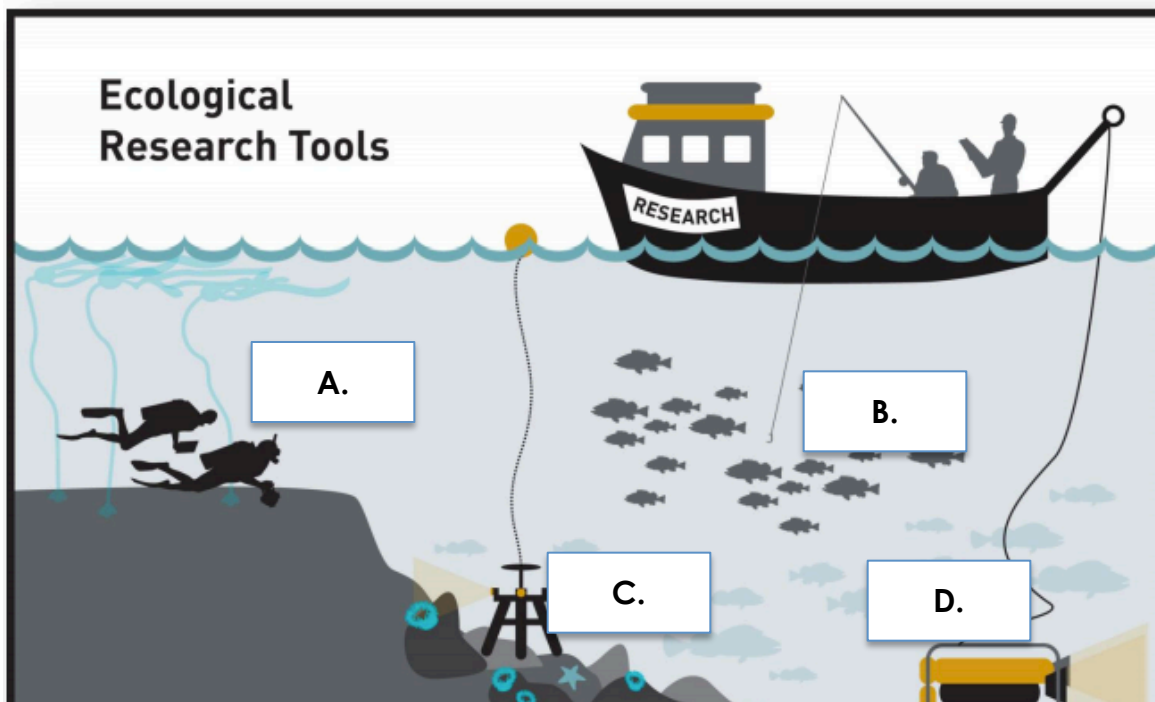
**3. ODFW's Approach...(page 6)** Use evidence from the reading in your answers below...

<p>1. How (according to the plan) are each of the five sites unique? How do they differ?</p>	<p>2. Is there one common monitoring plan for all five sites? Explain why there is or isn't according to the document.</p>

**4. Changes Over Time...(page 10 and 11)**

<p>1. What is the main difference between comparison areas and marine reserves?</p>	<p>2. A) Both comparison areas and marine reserves will be monitored the same way for the same amount of time in order to identify what?          B) What do these areas represent in this science experiment? (think about the scientific method)...</p>
  	<p>A)</p> <p>B)</p>

**5. Ecological Monitoring Tools...(page 12)** Use the graphic on page 12 to identify the methods on your own graphic below...



A.

B.

C.

D.

**6. Monitoring Surveys Jigsaw...(pages 13-16)** You can work with a group of 2-4 students and split each survey type among yourselves to complete the information below...

Survey Type Described	Data Collected	Tool Usage	
1. Hook and Line:		Depth Range:	
		Habitats:	
		Sampling Limitations:	
2. Scuba Visual:		Depth Range:	
		Habitats:	
		Sampling Limitations:	
3. Video Lander:		Depth Range:	
		Habitats:	
		Sampling Limitations:	
4. Remotely Operated Vehicle:		Depth Range:	
		Habitats:	
		Sampling Limitations:	

**7. Collaborative Monitoring Efforts...(page 17)** Read the sections on pages 17 and 18. Read the notes below and fill in the groups who are involved...

Oceanographic Surveys	SMURF Sampling	Intertidal Surveys
Collaborative research between ODFW, OSU and PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans)	Standard Monitoring Units for the Recruitment of Fishes (SMURFS) are devices that attach to moorings to sample juvenile fishes	Use longitudinal data sets from PISCO and Multi-Agency Rocky Intertidal Network (MARINe) to identify key species and monitor biodiversity hotpots
<b>Groups Involved:</b>	<b>Groups Involved:</b>	<b>Groups Involved</b>