

Oceans In Protection: Marine Protected Areas

Part 1) Interpret and summarize scientific charts and graphs.

Question: (Quick Write) Provide an answer in 3-4 sentences to the following:

Given what you have just read about Marine Reserves and learned in previous units in this module, why do you think anyone would seek to create Marine Reserves?

Table 1. Summary of figures and scientific data related to Marine Reserves.

Figure or Graph	Summarize Scientific Finding	Describe why Marine Reserves are beneficial to a species or ecosystem
Group 1 - Biomass		
Figure 4	Relative Change in Kelp; 13x increase inside reserve, 4x increase outside reserve	Kelp provides habitat for thousands of species, marine reserves provide for more kelp.
Figure 5	<i>Biomass of piscivores (2.6x), carnivores (1.3x) and planktivores (1.02x) were higher inside the reserves, while herbivores (1.1x) were higher outside reserves.</i>	<i>Reserves allowed for the growth of larger and more fish; increased biomass.</i>
Group 2 - Fish Length and Number of Young		
Figure 6	<i>Lobsters inside marine reserves show an age structure of larger, more reproductive individuals.</i>	<i>Reserves allow lobsters to grow larger, and thus produce more young, increasing population sizes.</i>
Figure 7	<i>Older, larger individual fish are capable of producing greater numbers of offspring.</i>	<i>Fish under protection grow older and larger, producing more young.</i>
Group 3 - Density and Abundance		
Figure 8	<i>Fish density (# fish/100km²) inside reserves is higher for all</i>	<i>Commercially fished species show more increase from</i>

	<i>types of species except non-fishery species.</i>	<i>protected areas.</i>
Figure 9	<i>Lobster traps inside a reserve yielded an average of 9 lobsters per trap, more than near or far locations of lobsters – with less than 2 and 2 lobsters per trap.</i>	<i>Lobsters in and near reserves benefit from protection, with more individuals found.</i>
Figure 10	<i>Abundance increased both inside reserves (by 61%), and outside reserves (by 39%).</i>	<i>Abundance increases happen in and out of the reserve.</i>
Group 4 - Home Range and Distance Traveled		
Figure 11	<i>Different fish species traveled between 1 and 800 km away from marine reserves, indicating different sizes of home ranges.</i>	<i>Protected areas for extensive home ranges of fishes.</i>
Figure 12	<i>The dispersal distance for seaweeds (.01 – 5km), invertebrates (.05 – 100+km) and fishes (1 – 700km) differs, with ranges reported as noted in parenthesis.</i>	<i>Protected areas for larval dispersal.</i>

Grading Rubric = 1 point for each correct summary = 10 points total