

Commentary on report: *The potential economic impacts of the proposed Central Coast National Marine Sanctuary*¹

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The Santa Lucia Chapter of the Sierra Club is promoting a September 2014 report asserting that a proposed National Marine Sanctuary would bring over \$23 million and nearly 600 jobs to San Luis Obispo County (SLO County), California. The Sierra Club press release does not mention the authors' repeated cautions that a precise estimate is not possible, and that any gains would be the result of "aggressive marketing." The words "could," "estimate" and "potential" appear over 30 times in the 17 page report.

This commentary was prompted by concerns that the figures being bandied about were not well understood, so the Sierra Club report, intended to encourage discussion, may instead confuse people. Neither funding nor payment was proposed or accepted for this commentary.

Natural resources *have* value, and we need to consider their value in public policy decisions. Credit is due to the research team who attempted to estimate economic effects of a Sanctuary; as the authors noted, some effects simply cannot be evaluated in economic or financial terms, and others are quite difficult to quantify², though the report does provide ideas about how some of the values might be estimated³. There is no dispute that National Marine Sanctuaries encompass important marine resources; indeed, they are typically formed by identifying national treasures and drawing lines around them. It is precisely *because* these resources are so valuable that we need to be careful with our assessments and how we apply them.

The Sierra Club study did not take any costs into account, so the theoretical \$23 million figure would not be a net benefit. Keeping in mind that "value" is not limited to the monetary realm, but may be cultural, environmental or social, there is certainly value in caring for natural resources; some of the associated benefits were cited in the Sierra Club paper. Among the more obvious costs to include in a thorough analysis would be reduced supply of inputs and increased cost of production for some local industries, the associated impact on jobs and infrastructure, and foregone economic opportunities^{4,5}.

Naturally, there are costs associated with increased regulation of resource use; these costs typically accrue initially to extractive users (for example, fishing businesses)⁶. Benefits from ecosystem services (for example, recreational opportunities), which a Sanctuary might support, are typically said to improve the wellbeing of the population as a whole, when in fact a person's socioeconomic standing affects his or her ability to access the benefits⁷. This means that protecting a resource may result in a net cost to one (less advantaged) sector of the population and a net benefit to another (more advantaged), so the benefits of those protected ecosystem services are not necessarily distributed equitably.

The \$23 million and "almost 600" jobs in the report were inflated in the press release headline: "Economic impact of designation projected to *exceed* \$23M annually, create *at least* 600 permanent new local jobs."⁸ According to the release, "the region could expect increased economic activity of more than \$23 million annually as well as the creation of at least 600 permanent local jobs." Neither of these claims is supported by the report itself. The report includes a "confidence level" in a table of expected revenue and jobs. Of 13 potential sources of revenue, the authors assign a *high* confidence level to exactly two of these sources: government spending of \$1.8 million and 18 associated jobs, a far cry from the lofty figures touted by the headlines.

As the report states, the potential effect of a Sanctuary on employment is highly dependent on employers' actions. A broader literature review about the economic *effects* (encompassing both benefits and costs) of a National Marine Sanctuary would have found a 2013 study of the Thunder Bay National Marine Sanctuary in Lake Huron. In that study, Lawrence Molnar and his University of Michigan research team surveyed local businesses about employment and found "more than 90% citing no impact from the Sanctuary on business

operation decisions, and more than 95% citing no impact on decisions to increase or decrease their workforces."⁹

Of the \$23 million promoted in the Sierra Club report, about half (\$11.8 million) would purportedly come from "increased coastal tourism." It would be interesting to establish the origin of that number. The base of this figure is due to work that the people of San Luis Obispo County have *already done* in promoting tourism. The paper takes the tourism revenue from the years 2009 through 2011, averaging \$235 million annually, and presumes a 5% increase to declare new revenue of \$11.8 million. Per the paper, "Much of this tourism would exist even without Sanctuary designation." If the analysis were to account for (i.e., subtract) tourism spending that *would* occur without Sanctuary designation, the \$11.8 million figure would be much lower. Much of the robust annual tourism revenue is logically credited to the area's natural beauty and the ongoing hard work of local Chambers of Commerce and groups such as the Central Coast Tourism Council and Visit San Luis Obispo County, rather than to proposed Sanctuary designation.

The paper maintains an additional \$6.5 million would arise from indirect revenue associated with the potential increase in tourism, attributing this to "multipliers derived from IMPLAN." Evidently, a multiplier of 1.55 was used; in the world of economic multipliers, this is a reasonable value (albeit applied to an uncertain number). While the explanation provided is sufficient for those few who are familiar with multipliers and the IMPLAN software, and can assess the validity of the multiplier for themselves, it is not sufficient for the vast majority of readers, who are left to accept this \$6.5 million dollar component – more than a quarter of the entire estimate – with no further explanation.

The third largest component provided in the report, \$3.3 million dollars in government expenditure, is based on expenditures for the four National Marine Sanctuaries that exist off the coast of California. As noted in the report, these four sanctuaries vary greatly in size, accessibility, staff and budget. In an apparent shortcut, the figure used is the average of recent annual expenditures for the four existing sanctuaries. It might be more appropriate to base estimates on a Sanctuary with similar area, demographics and transportation infrastructure (which may result in an estimate higher or lower than \$3.3 million). For a couple reasons, past years' budgets may not constitute a reliable guideline for future spending. As the National Marine Sanctuary Program works to leverage existing resources and capabilities, National Oceanic and Atmospheric Administration (NOAA) budget requests for Sanctuaries have been decreasing year on year¹⁰. Further, as the proposed Sanctuary would link the Channel Islands and Monterey Bay Sanctuaries, it may be logical to oversee the whole as a single entity to reduce costs, consolidating rather than expanding administrative costs and management functions¹¹.

Lastly, \$2 million dollars is attributed to "money raised by outside NGOs [Non-Governmental Organizations] and academics." As the authors observe, "there is almost no data collected on this outside funding." Regarding external research grants that have been received in the Monterey Bay region, they fittingly state, "it is impossible to determine what percentage of these grants was awarded because [i.e., due to the fact that] this research was conducted within a National Marine Sanctuary." Given these unknowns, they press on to estimate that SLO County can expect 5% of the \$53 million raised in 2014 for Monterey Bay. Evidently, they recognize the vast differences between the Monterey Bay region and the proposed central coast Sanctuary, taking half of 10% of the Monterey Bay figure; the paper provides no other reason for using a figure of 5%. Given the uncertainty about the 2016 election, we might expect that federal allocations for scientific research and marine conservation are more likely to decrease than to increase in the coming years.

As a back of the envelope attempt, the Sierra Club report is a useful starting point for discussion. It is unreasonable to make decisions, much less any involving taxpayer money and people's livelihoods, without substantial additional research and analysis.

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Endnotes

- ¹ Scorse J, Kildow J. 2014. The potential economic impacts of the proposed Central Coast National Marine Sanctuary, prepared for the Sierra Club of California. Available from: <https://california2.sierraclub.org/docs/final-report-economic-study-central-coast-national-marine-sanctuary#.VMGqJC5N-io>. Accessed March 2015.
- ² Scorse and Kildow (2014), p.5 ¶2; p.11 ¶2; p.12 ¶2; p.12 ¶3; p.15 ¶2.
- ³ Scorse and Kildow (2014), p. 11 footnote 7; p. 12 footnote 9; p.15 ¶1.
- ⁴ Rees SE, Attrill MJ, Austen MC, Mangi SC, Rodwell LD. 2013. A thematic cost-benefit analysis of a marine protected area. *Journal of Environmental Management* 114:476-485.
- ⁵ Sumaila UR, Zeller D, Watson R, Alder J, Pauly D. 2007. Potential costs and benefits of marine reserves in the high seas. *Marine Ecology Progress Series* 345:305-310.
- ⁶ Sanchirico JN, Cochran KA, Emerson PM. 2002. Marine protected areas: Economic and social implications. Discussion paper 02-26. Washington DC: Resources for the Future.
- ⁷ Daw T, Brown K, Rosendo S, Pomeroy R. 2011. Applying the ecosystem services concept to poverty alleviation: The need to disaggregate human well-being. University of East Anglia School of International Development. Working paper series ISSN 1756-7904.
- ⁸ Sierra Club press release available from: <https://california2.sierraclub.org/sites/california.sierraclub.org/files/documents/2014/10/SLO%20NMS%20Report%20Press%20Release%20Final%20100214.pdf>. Accessed March 2015.
- ⁹ Molnar LA, Quigg CW, Perorazio T, Majewski K, Downes I, Fluharty R, Gentry A, Hawryluk K, Myers M, Rouleau H, Shea E, Schmitz B, Schmitz HG, Sundin E. 2013. Economic impact analysis for the National Oceanic and Atmospheric Administration Thunder Bay National Marine Sanctuary. Available from: http://irlee.umich.edu/Publications/Docs/ThunderBayNMS_FinalReport.pdf. Accessed March 2015.
- ¹⁰ Budget requests at NOAA Budget Office available from: <http://www.corporateservices.noaa.gov/~nbo/>. Accessed March 2015.
- ¹¹ Agardy T, Bridgewater P, Crosby MP, Day J, Dayton PK, Kenchington R, Laffoley D, McConney P, Murray PA, Parks JE, Peau L. 2003. Dangerous targets? Unresolved issues and ideological clashes around marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems* 13:353-367.