



Understanding Ocean Acidification Impacts to California's Living Marine Resources

Project Goal: Help California define ocean acidification hotspots and understand the potential impacts to marine resources to inform relevant and impactful management and policy actions.

Ocean acidification (OA) is a complex issue that has the potential to alter marine food webs and ecosystems in California, with direct and indirect impacts to valuable marine fisheries and the aquaculture industry. Mounting evidence of long-term threats to ecosystems and economies is placing pressure on resource managers to act. But the complexity of the issue, and still limited scientific understanding, means deciding where to act, and for which species, is a significant challenge. Due to its complex nature, OA continues to challenge marine resource managers with developing appropriate responses to the long-term threat it poses to ecosystems and economies.

Resource managers are grappling with the following questions:

- Which California marine species are most at risk with OA?
- Where geographically are these impacts most likely to manifest?
- Which ocean-dependent industries will be affected based on species that are most vulnerable?

California policy-makers are keen to answer these questions to target and pursue the most impactful management interventions. Ocean Science Trust, working closely with the Ocean Protection Council and scientists, is leading a synthesis of current scientific understanding. Our team is drawing together published and grey literature and soliciting input from expert researchers in this field to summarize what we know, and the data gaps, for a range of ecologically and economically important fishery species. This assessment will inform a workshop in the fall of 2018 that brings together managers, policy-makers, and scientists to:

- Support resource managers and other decision-makers in answering the above questions -- where and on which issues to act first.
- Discuss opportunities to incorporate this information into living marine resource management and spatial management decisions, and
- Determine where additional resources may advance our understanding of impacts to communities and industries.

These discussions will then be combined in communications products that will help decision-makers incorporate OA in current resource management decision frameworks. Armed with maps and infographic visualizations of where and which species are expected to be impacted, we can translate current scientific understanding - dominated by variability and uncertainty - into useful decision support. These products will support action today and guide research most useful to improve management strategies into the future.

Timeline

- **October 2018** - OA impacts on California species infographic available
- **November 2018** - OST workshop on OA hotspots
- **February 2019** - Final communications products available

Moving Forward

Findings from this work could help identify research and data gaps in understanding OA impacts to California's fisheries, inform species selection for a modeling exercise to identify species vulnerability thresholds, and provide the groundwork for a quantitative OA or climate vulnerability assessment for California or the West Coast.

Contact Us

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Additional Resources

- [California's OA Action Plan](#)
- [California OAH Science Task Force](#)



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