

# Channel Islands National Marine Sanctuary

## Historical Ecology

### Management Issue

An understanding of historical baseline status of the ecosystem and resources is needed for successful management and restoration efforts.

### Description

Resource managers need to evaluate the status of resources to be able to make decisions about management actions. However, because the ecosystem has been affected by predators (including humans) and has experienced other alterations for many years, it is difficult to determine the baseline state to which to compare current conditions. An understanding of the historical status and trend of resources is needed for this purpose. At the Channel Islands, the ecosystem has experienced thousands of years of human exploitation.

### Questions and Information Needs

- 1) What sources of historical information are available?
- 2) What is the historic status of local marine resources such as fish, lobster, and abalone?
- 3) What is the historic level of extraction ranging from early native Americans to the 20<sup>th</sup> century?
- 4) What methods were used for fishing?
- 5) What species were targeted?
- 6) What were the key characteristics that made an ecosystem healthy and resilient to human activities?
- 7) When compared to current conditions, can we have a more accurate understanding of the extent of environmental changes?
- 8) What are the drivers that have led to these changes; and are these changes reversible when all current socio-economic and environmental factors are taken into account?



*The rocky intertidal provided a rich hunting ground for early island inhabitants. Photo: NOAA*

### Scientific Approach and Actions

- Search for available historic primary source documents and records
- Develop a database for historic records
- Determine historic abundance and exploitation
- Use different academic approaches such as zooarchaeology, and oral interviews to extend timelines in the past or in places where no written historical records are available.

### Key Partners and Information Sources

Channel Islands National Park, UC Santa Barbara, Santa Barbara Maritime Museum, Smithsonian Institution

### Management Support Products

- Source survey of historical documents relevant to Channel Islands
- Estimates of historical abundance, biomass, and diversity
- Report on the human history of the Channel Islands and how changes in human populations and activities affected the ecosystem

*Current as of 11/28/2012*

*For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>*

## Planned Use of Products and Actions

- Inform management targets and goals
- Use in evaluating current status and trends
- Integrate knowledge in the condition reports
- Outreach and education to public

## Program References

### CINMS Condition Report

- What is the condition of biologically-structured habitats and how is it changing?
- What is the status of key species and how is it changing?
- What is the condition or health of key species and how is it changing?

### ONMS Performance Measures

- Number of sites in which living marine resources, based on long-term monitoring data, are being maintained or improved
- Number of sites in which habitat, based on long-term monitoring data, is being maintained or improved



*Remains of shellfish, like these live mussels, are found in middens on the islands. Photo: NOAA*

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