

# **Knowledge, Attitudes, and Perceptions of Tourists and Coastal Users in Morro Bay**

## **How Environmental Quality Affects Recreational Behavior**

### **MESM 2008 Group Project Proposal**

#### **Proposed By:**

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#### **Problem Statement**

Public perceptions about environmental quality can be influenced by many factors, including socioeconomic status, cultural identity, past experiences, and familiarity with measures of environmental quality (Pendleton et al, 2000). While the public can seek out information about environmental quality, which would directly affect the decisions they make about where to recreate, people's perception of environmental quality can also indirectly affect their recreational behavior (Pendleton et al, 2000). This complex relationship between perception and behavior is evident in public decisions regarding coastal recreation.

Commercial fishing activity in Morro Bay has declined over the last decade, allowing tourism to grow into an increasingly important component of the Morro Bay waterfront economy. Morro Bay began as a tourism destination in the late 1800s (Gates and Bailey, 1982) with vacationers coming to the Bay to fish, swim, and enjoy the cool summers. Increasingly, tourists come to Morro Bay to kayak, bird watch, and visit the two state parks that border the estuary.

Despite the potential role of estuarine health in supporting a sustainable and economically viable tourism industry in Morro Bay, little is known about the degree to which ecosystem conditions influence visitation and visitor spending on the working waterfront. While ecological conditions in the Bay are relatively sound, pollution, sedimentation, and surface water run-off continue to influence bay ecosystems and water quality. To protect the bay and the local economy, non-profit organizations, the Morro Bay National Estuary Program, the Regional Water Board, and others are working to restore the Bay and ensure its ecological sustainability. Restoration and mitigation, however, are expensive and require community support. It is therefore important for policy makers and environmental organizations to understand how restoration and mitigation will influence local economic conditions. Policy makers need a better understanding of the way in which ecological conditions influence tourism and the local economy it supports.

The Economic Indicators Project is a collaborative effort between UCLA and the San Luis Obispo Science and Ecosystem Alliance (SLOSEA), based at Cal Poly San Luis Obispo. SLOSEA was established to develop knowledge of the Morro Bay ecosystem and the economy it supports through research and sustainable use of the bay and its resources (<http://www.slosea.org>). The SLOSEA includes six research initiatives that address aspects of the biological, chemical, human use, and economic issues surrounding the bay environment.

#### **Project Objectives**

The SLOSEA Economic Indicator Project, lead by Dr. Linwood Pendleton, already has begun to compile current and historical data on economic activities on the Morro Bay working waterfront. To supplement these data, we would like to conduct a survey of the knowledge, attitudes, perceptions, and spending patterns of visitors and coastal users in Morro Bay. These surveys should answer the following questions:

- 1) What environmental factors are most important in making the decision to come to Morro Bay?
- 2) What are people's perceptions of different types of water quality in Morro Bay? For returning visitors, what are their impressions of environmental change in the Bay?
- 3) How do visitors rank the ecological health of Morro Bay compared to other estuaries and coastal areas in Central California?
- 4) How much money are visitors spending in Morro Bay? Are these expenditures influenced by perceptions of environmental and ecological conditions? Do they differ across different types of visitors?
- 5) How do visitors access and/or interact with the estuarine environment?

### **Project Significance**

These surveys will be valuable to local resource agencies and the Morro Bay business community, as they will help to:

- 1) understand how management of the bay and its resources affect tourism,
- 2) identify the potential economic impacts (i.e. spending, but not economic valuation) that could result from restoration and improved management of the estuary, and
- 3) better understand whether improvements in tourism, due to improved estuarine management, may offset recent declines in the local commercial and recreation.

The target audiences for this project are primarily resource managers and businesses involved in the tourism industry. Other city managers, however, are also likely to benefit generally from increased knowledge of recreational behavior in Morro Bay.

### **Background Information**

This survey will be one component of the SLOSEA ecosystem-based management project located in Morro Bay. The Economic Indicators initiative is currently working to develop economic indicators of ecosystem health in the bay. We are collaborating with a variety of businesses on the working waterfront to collect historical and current data on business activity, especially activities that are directly tied to the environmental condition of the Bay. Once we establish a baseline of business activities, we will 1) compare our economic data with historical ecological indicator data, provided largely by the Morro Bay National Estuary Program. We hope to explain changes in economic activity by examining changes in environmental conditions, policy actions, and demographic changes. In addition to the historical analyses, we hope to use the surveys described here to gauge the current influence of environmental change on visitor activity and their impact on the local economy.

We are developing relationships in the Morro Bay community that will assist the surveying efforts this summer. We have made contact with the Morro Bay Chamber of Commerce, who has agreed to advertise the survey in their newsletter and insert a version of the survey into their newsletter. We also hope to administer a preliminary survey during the Spring of 2007.

### **Stakeholders**

Businesses in Morro Bay will benefit from this survey through an increased understanding of how the local environment affects tourism. Not only is the local tourism industry an important constituent and potential driving force for estuarine management, the tourism industry also is a potential stressor of the ecosystem.

Local and regional government will also benefit from the survey data, as it provides a better profile of how resources are being used and how much money is being contributed by visitors to the bay, Agencies will gain an understanding of how current regulations regarding tourism and resource use are affecting the economy, and can therefore adjust accordingly.

### **Possible Approaches For Data Collection**

Brief post-card surveys, to be administered passively and also in-person, must be developed to gather information about peoples' perceptions of environmental quality and how it affects the choices they make regarding recreational activities in Morro Bay. Surveys must be brief enough to be completed in a few minutes and should be developed in close collaboration with the SLOSEA Economic Indicator team. The student group must find ways of keeping questions brief, but comprehensive. Sampling design will also be needed for survey administration. Accounting for spatial variation in survey responses will be important.

Environmental factors that should be addressed in the survey include water quality, sedimentation, threatened or endangered species, and water temperature. The surveys should collect basic demographic and expenditure data. Students need to analyze the survey data to determine:

- 1) the importance of ecological and environmental factors in the visitors' choice to come to Morro Bay,
- 2) a profile of visitor expenditure patterns (by recreation type)
- 3) the influence that perceptions of environmental conditions have on expenditures by visitors,
- 4) the relationship between perceptions of environmental conditions and recreational activity choice, and
- 5) the accuracy of visitor perceptions of environmental conditions and environmental change and the personal characteristics (including local experiences) that influence the accuracy of perceptions.

We can fund one full-time student intern who should live in Morro Bay during the summer to administer the surveys and supervise volunteer and hired interviewers.

### **Deliverables**

In terms of the hard data, deliverables should include:

- 1) a dataset of raw survey data and "cleaned data" in which obvious respondent errors have been corrected, and
- 2) all hard copy survey responses.

In addition, a final report detailing survey methods and the analyzed results from the surveys will be presented in the Spring of 2008 to the Morro Bay Community via the SLOSEA stakeholder advisory committee. The analysis should include:

- 1) a report of quality assurance and control for data entry,
- 2) a report of response rates,
- 3) a summary of survey results,
- 4) an analysis of the accuracy of environmental perceptions (using current and historical environmental indicator data to be provided, we prefer that STATA be used to analyze the data, but other software may be used),
- 5) an analysis (preferably a basic cross-tab analysis, an analysis of variance, and regression analysis) of the influence of personal characteristics on the character and accuracy of environmental perceptions, and
- 6) a limited economic impact analysis similar to that used by Wiley and Leeworthy (2001) to assess the economic impacts of marine protected areas in the Channel Islands.

## References

Gates, Dorothy L. and Jane H. Bailey. 1982. Morro Bay's Yesterdays, Vignettes of Morro Bay's Lives and Times. Central Coast Press, San Luis Obispo.

Pendleton, L., Martin, N. and D.G. Webster. 2000. "Public Perceptions of Environmental Quality: A Survey Study of Beach Use and Perceptions in Los Angeles County." *Marine Pollution Bulletin* 42: 1155-1160.

Wiley, P. and V.L. Leeworthy. 2001. *Expenditure Analysis of Coastal Spending in the Channel Islands*. National Oceanic and Atmospheric Administration, Washington, D.C.

<http://www.slosea.org>

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## Anticipated Financial Needs and Sources of Support

Our available funding includes:

- \$7,200 to fund one student full-time or two students part-time to administer the survey in Morro Bay over the summer of 2007 (late June – late September). The student(s) will work closely with Allison Chan as well as Cal Poly San Luis Obispo student interns.
- \$1,000-\$1,500 for survey expenses, which should cover the cost of survey printing and materials.
- STATA or other necessary statistical software.

Allison Chan, the project manager, will be available for supervision and project support year round. Project support from Dr. Pendleton will be available on an as-needed basis. Support from local agencies and community organizations in Morro Bay will also be available on a consultative basis.