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**PATHWAY TO SELF-FUNDING:**

**A CASE STUDY ON THE CALIFORNIA COMMERCIAL SPINY LOBSTER FISHERY**

ON THE WEB AT [HTTP://FIESTA.BREN.UCSB.EDU/~SOUTHCOAST](http://fiesta.bren.ucsb.edu/~southcoast)

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**Background**

The Lobster Stamp is a self-funding mechanism to collect money from California commercial spiny lobster fishermen to use for projects of interest and utility to the fishery.

In 2008, the California Lobster & Trap Fishermen’s Association (CLTFA) voted to explore the potential for self-funding California commercial spiny lobster fishery projects through the lobster stamp. CLTFA also discussed pursuing Marine Stewardship Council (MSC) Sustainability Certification.

MSC is the world’s leading certification and eco-labeling program for sustainable seafood. It is an independent non-governmental organization that rewards sustainable fishing practices and management. The certification provides market-based incentives for fisheries to fish sustainably. Presumably, a full MSC sustainability assessment would be a high priority for the use of Lobster Stamp funds.



[www.msc.org](http://www.msc.org)

Before taking steps to implement a self-funding mechanism, CLTFA needed to determine whether the entire fishery would be willing to participate in self-funding and whether fishery selected projects could be economically profitable. Our group project was tasked with providing the California commercial spiny lobster fishery the tools and knowledge necessary to establish a successful fishery self-funding mechanism.

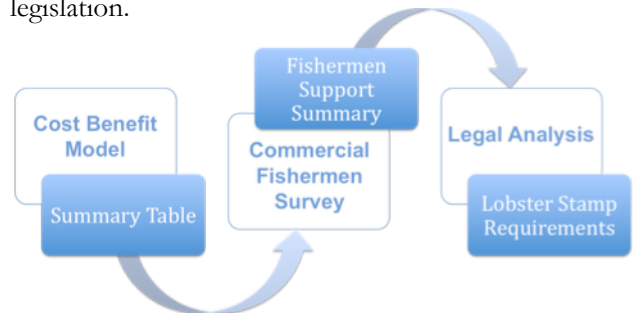
We sought to calculate the political and social feasibility of creating the Lobster Stamp and the economic value of using the initial funds to pursue MSC Sustainability Certification.

**Research Questions**

1. Can the California commercial spiny lobster fishery profitably self-fund Marine Stewardship Council Sustainability Certification?
2. Is self-funding supported by the California commercial spiny lobster fishery?
3. Can successful self-funding legislation be developed?

**Methodology**

To answer our three research questions, we developed a cost benefit model, sent a survey to every commercial lobster permit holder, and performed a legal analysis on the feasibility of lobster stamp legislation.



**Cost Benefit Model**

The first phase of our project was identifying the costs of undertaking the MSC Certification assessment. Since the costs of each certification are confidential between the fishery client and the certification company, certification costs are largely unpublished and can vary substantially between fisheries. For the purposes of this project, the full cost of MSC assessment is the sum of costs of initial missing data collection and organization, pre-assessment, full assessment, re-assessment five years after certification, and ten years of annual audits.

We collected the fishery’s existing data and found that the fishery does not currently have enough information to pass the full assessment and obtain



MSC Certification. Our analysis indicates that a stock assessment, a tool used to estimate the abundance and fishing effort of a fished species, is necessary to satisfy these requirements. Including the stock assessment, we estimate the costs of MSC Certification at \$320,000 over ten years.

To fishermen, the general economic benefits of MSC Certification are an enhanced ability to penetrate new markets, a more robust management system, and a price per pound premium, or increased market price. To begin our analysis of the benefits of an MSC Certification, we performed a literature review and interviews of experts in the area.

We found little empirical evidence for exact price premiums in MSC certified fisheries, due to a lack of quality fisheries data, the inherent volatility of prices in seafood markets, and the short history of the MSC. Of the 39 MSC certified fisheries, only five were discussed in peer-reviewed literature. Based upon the review of existing information of MSC fisheries, consumer surveys of eco-labeled seafood, and other certification schemes, we estimate a 5-10% price premium for this fishery after MSC Certification.

We also quantified the effects of a more robust management system. It is conceivable that more stringent recreational lobster fishery harvest regulations could be enacted as a result of the assessment process. We estimate these effects could increase yields by up to 3% for this fishery.

The cost benefit model was broken down into three main sections, based upon three different Lobster Stamp payment mechanisms: a \$300 flat fee, a \$0.095/lb fee on landings, and a combination of a \$50 flat fee and a \$0.08/lb fee on landings. The only difference between the plans is how the taxes are distributed between individuals fishing at varying intensities; all 3 plans collect \$64,800 per year, or \$648,000 over the ten year time-frame of the model.

The net benefits of certification range from \$1,829 to \$45,676 per fisherman after ten years. The exact monetary benefits depend upon the increase in price, or price premium, gained through certification, whether and by how much this price premium decreases over time, and the amount of increased yields achieved through improved management. For example, a price premium of 5%, decreasing by 5% of itself each year, combined with a yield increase of 1%, would provide the fishery with a net benefit of

\$3,515,623 and a net benefit of \$16,276 per license over 10 years.

### Cost Benefit Model Highlights

- For this fishery, MSC Certification costs approximately 320,000 over ten years
- Net benefits for the fishery are positive even in the most conservative scenarios
- Modeled fee collection mechanisms:
  - \$300 flat fee per fisherman
  - \$0.095/lb lobster landed
  - \$50 flat fee per fisherman and \$0.08/lb lobster landed

## Commercial Fishery Survey

To broaden the scope of our project beyond the members of the CLTFA, we sent a survey to all commercial lobster permit holders. The survey was designed to elucidate the fishermen’s support for self-funding through a Lobster Stamp as well as priorities for fishery directed projects, including MSC Certification.

A total of 67 fishermen responded to the survey. This represents a 31% response rate of all California commercial spiny lobster permit holders of the 2008-2009 season. When compared to information provided by DFG from the 2007–08 season, a chi-square test confirmed that our responding population is significantly different than the actual fishery’s population with regards to permit transferability ( $p < 0.001$ ; Figure 1) and landings ( $p < 0.0001$ ; Figure 2) distributions.

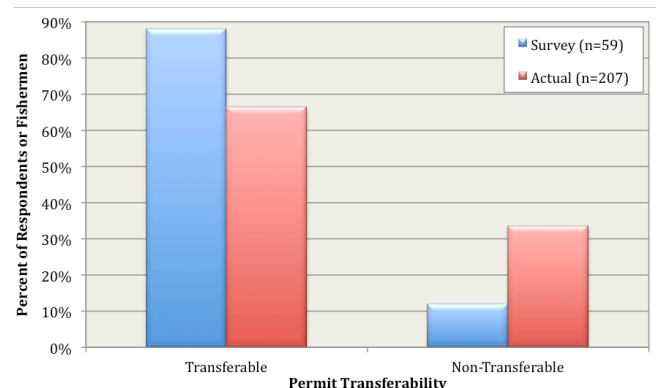


Figure 1. Comparison of active survey respondents’ permit transferability to DFG data from the 2007-2008 season.

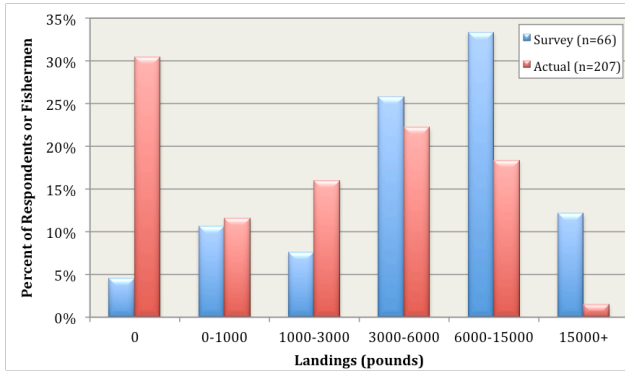


Figure 2. Comparison of survey respondents' annual landings to DFG data from the 2007-2008 season.

In this fishery, a large proportion of permit holders (30%) do not land lobster, but only 5% of our survey responses belonged to this group. Since it is not prudent to extrapolate so few survey responses to represent such a large portion of the actual population, we analyzed the survey based only on active fishermen's responses.

Support for the Lobster Stamp (65%) and MSC Certification (78%) were high. The majority of respondents (58%) were willing to pay \$300 for the Lobster Stamp.

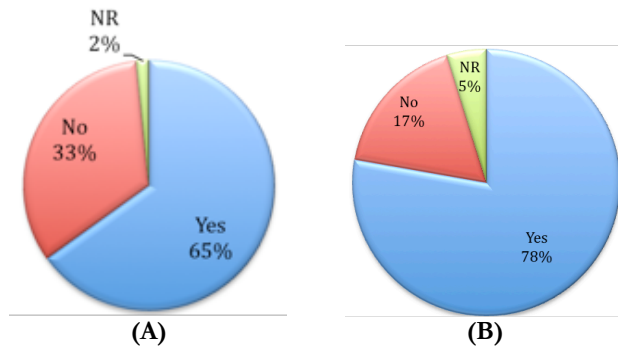


Figure 3. Respondents' lobster stamp support (A, n=63) and MSC Certification support (B, n=63)

When asked to select a payment collection mechanism for the Lobster Stamp, 52% of respondents preferred a flat fee payment system versus the per pound landings fee (13%) or a combination of the two (11%) (Figure 4). Further analysis showed that the higher a respondents' reported annual landings were, the more likely they were to select the flat fee. The 52% reported preference for a flat fee is likely due to overrepresentation of fishermen with high reported landings responding to our survey.

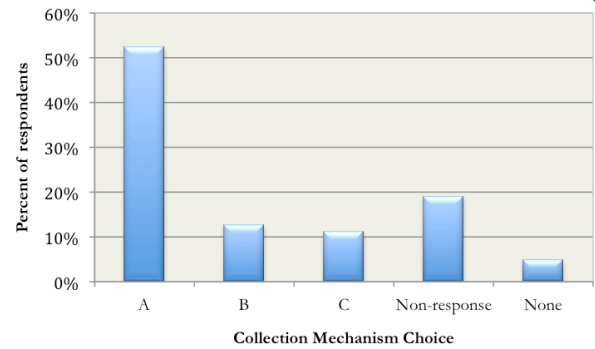


Figure 4. Respondents' preferred payment collection mechanism. A is flat fee of \$300, B is \$0.095 per pound fee, C is a \$50 flat fee paired with an \$0.08 per pound fee, NR is non-response, None represents respondents who wrote in "None" (n=63).

Overall, MSC Certification was the highest ranked fishery project priority (Table 1). When broken down by harbor, ranking of priorities slightly varied, with permit buyback becoming the highest priority for San Diego harbor, but MSC Certification remaining the highest for Santa Barbara and Los Angeles harbors.

Rank	Fishery Priorities
1	MSC Certification
2	Permit Buyback
3	Legal Advocate/Lobbyist
4	Impacts of Recreational Lobster Fishing
5	Marine Protected Area Monitoring

Table 1. Self-funded fishery project priorities

*Fishery Survey Highlights*

- Low response rate from non-active fishermen and non-transferable permit holders
- Majority support for Lobster Stamp and MSC Certification
- Majority of respondents willing to pay \$300 for Lobster Stamp

## Legal Analysis

In order to develop the objectives and legal language for the commercial Lobster Stamp, our group first communicated with representatives of CLTFA to ensure that we fully understood their priorities and concerns. To further ensure the success of the commercial Lobster Stamp, we researched other fisheries with self-funding programs and identified the relevant legal language in each case.

Our group synthesized the fishery's concerns and objectives with the results of our research into self-

funding, cost-benefit analysis, and survey analysis to make final recommendations to the fishery (Figure 5).



Figure 5. Lobster Stamp recommendations

California Assembly Member Saldana introduced Assembly Bill (AB) 571, which will implement the Lobster Stamp. As of March 2009, AB571 has been referred to the Committee on Water, Parks and Wildlife for legislative review.

### Legal Analysis Highlights

- There is existing legislation on which to model the Lobster Stamp
- It is legally and politically possible to create successful Lobster Stamp legislation
- Our recommendations are being used to help the fishery analyze AB571 – legislation currently being drafted to create the Lobster Stamp law

The final deliverable for our client is a “pathway” that synthesizes the Lobster Stamp requirements and recommendations with the practical knowledge to pass legislation through the California legislature (Figure 6).

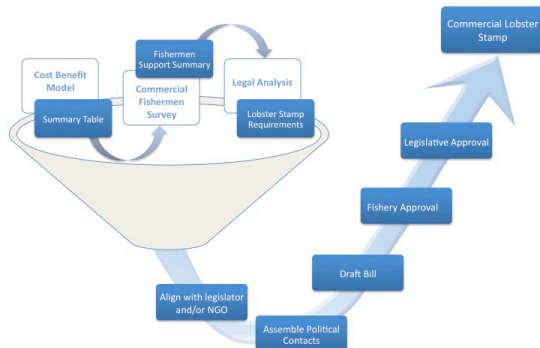


Figure 6. Lobster Stamp Pathway

Because the timeline and scope of this project preclude enacting actual Lobster Stamp legislation, this

pathway is intended to instruct the fishery on the most effective means to achieve this goal. The pathway elevates our project beyond an academic exercise to one that provides a tangible and useful result to our client.

## Conclusions

Implementing a self-funding mechanism in the California commercial spiny lobster fishery is economically, socially, legally, and politically feasible.

- The *Cost Benefit Model* demonstrates not only that the fishery could self-fund MSC Certification, but that this project could lead to net profits for the fishery.
- The *Commercial Fishery Survey* results suggest that the majority of active fishermen support the Lobster Stamp and use of the collected funds for MSC Certification.
- The *Legal Analysis* presents existing legislation on which to model the stamp language and establishes the legal and political feasibility of Lobster Stamp legislation.

While the pathway to the Lobster Stamp includes details specific to the California commercial spiny lobster fishery, the general procedure we present here is applicable to similar fisheries wishing to develop self-funding.

## Acknowledgements

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