Group Project Proposal 2007:

DAP-Based Fisheries Reform of the Commercial and Recreational Sectors

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STATEMENT

Many of the world's fisheries are in serious decline, and there is growing pressure to reform fisheries management by incorporating market-based incentives and ecosystem-based approaches into management plans. In response, Dedicated Access Privilege (DAP) programs are increasingly being implemented in commercial fisheries. DAP programs are market-oriented fishery management programs that provide an individual fisherman, cooperative, or community the exclusive privilege of harvesting a quantity of fish at any time within the fishing season[1] or exclusive privileges to harvest within a specified area. DAP programs are tailored to the specific economic, political, and biological conditions of a given commercial fishery, and in some DAP programs, such as IFQs, access privileges can be traded among vessels in the commercial fishery. Since their implementation in 1990 in the United States, DAP management programs have led to increased profits, decreased costs of gear and labor, and a safer and more stable industry [2].

Despite these successes, DAPs have been limited to just a few commercial fisheries, and are virtually nonexistent for recreational fisheries. While the operations and value-creating mechanisms of the recreational fishing industry are completely different than those of the commercial industry, in reality, the two compete for the same resources. In fisheries where there is both a commercial and recreational sector, this poses 3 problems: 1) poor management of the recreational fishery may have adverse environmental impacts, 2) the benefits accrued by DAP management in the commercial fishery may be dissipated by the effort in the recreational sector, 3) recreational fisheries are not gaining from potential economic and social benefits of DAP management.

These institutional barriers create a mismatch in the harvest incentives and value across sectors, and have been shown to lead to economic inefficiency and social unrest. This group project will address a pervasive question in the design of DAPs:

> **How can DAPs be designed to include both commercial and recreational fishing sectors, thus ensuring optimal conservation, economic and social benefits for the fishery writ large?**

This question will be addressed both theoretically and empirically within the context of a specific fishery in which these three problems are manifest.

OBJECTIVES

We will examine the impacts of using access privileges to manage commercial and recreational sectors of a fishery. We will focus on one fishery, the Southern region of the California Nearshore Fishery, and examine several alternative institutional designs/management systems, focusing on finding the best structure for managing the interaction between the sectors.

This study will examine the economic, ecological, social and political impacts of different DAP co-management institutions that incorporate both the commercial and recreational fisheries.

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[1] "Reauthorization of the Magnuson-Stevens Act," *Fact Sheet*. NOAA Fisheries (2005). 10 Jan. 2007. <http://www.nmfs.noaa.gov/docs/msa2005/daps_fs.pdf>

[2] Dunnigan, John H. "Testimony on reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act." (16 Nov. 2005). National Oceanic and Atmospheric Administration. 11 Jan. 2007. <http://www.legislative.noaa.gov/Testimony/dunnigantestimony111605.pdf>

The overall goal is to develop a recommended management system for the nearshore fishery that:

1. Improves management of the recreational sector;
2. Prevents the dissipation of the benefits associated with the reduction of commercial fishing capacity and other management improvements through increased recreational fishing
3. Generates increased social and economic benefits in both commercial and recreational sectors

SIGNIFICANCE

Both the project concept and application are particularly timely and significant on local, state, regional, and national scales. Locally, the commercial sector of the California Nearshore Fishery in Southern California is expected to implement a co-management institution in the near future. A critical question is how to integrate the recreational and commercial sectors in the DAP design for that fishery. More broadly, as DAPs are increasingly implemented in California and along the west coast of the US, policymakers have limited analyses to guide the design – especially with respect to the commercial/recreational mismatch. As recreational fisheries continue to grow and as this area of cutting edge management reform becomes more commonplace, the question of how to integrate recreational fisheries will be a significant one with broad environmental, social, economic and political implications. This study will therefore contribute both to the solution of a general problem and to developing options and analyses to guide the specific design of a DAP in a relevant fishery. The timing is also relevant because of the impending MLPA implementation in Southern California, which has cross-sectoral implications, yet lacks a framework for thinking cross-sectorally about design.

BACKGROUND

Nationally, the current management institutions have frequently failed to address the problem of overfishing at the expense of marine ecosystems and fishing communities. Where management has attempted to address the problem of overfishing, it is usually by control of fishing effort through regulations, which can have severe adverse social and economic impacts. The need to reform fisheries management is evident, and is reflected in the recent reauthorization of the Magnuson-Stevens Fisheries Conservation and Management Act, which places greater emphasis on using market-based tools and ecosystem approaches to sustainably managing fisheries. DAPs are specifically mentioned as successful market-based fisheries management tools.

The California Nearshore Fishery:

The California Nearshore Fishery Management Plan (NFMP) was passed in 2002 and covers 19 species targeted by the commercial nearshore fishery and recreational fishermen. The primary commercial gear is hook-and-line and traps, while recreational fishermen/divers use hook-and-line or spear guns. As of May 2006, six of the species have been formally assessed with four of those assessments (cabezon, black rockfish, gopher rockfish and California scorpionfish) indicating relatively healthy stocks; however the status of the other 13 species is unknown.

The commercial nearshore fishery is restricted access by two permit types: transferable Nearshore Fishing Permit (NFP) and nontransferable Deeper Nearshore Fishing Permit (DNFP). The current number of active permits issued is well over the capacity goal of 61. The recreational nearshore fishery is open access, with some effort limitations by season and through bag limits and gear restrictions. The recreational fishery has been implicated in the decline of some nearshore species, while the commercial fishery has been implicated in the decline of others, and still other species may have been depleted by both. In recent years, the pace of recreational fishing has exceeded that of commercial fishing and overages by the recreational sector have resulted in the early closure of the fishery.

The nearshore fishery in California is considered to be unsustainable by many scientists and environmentalists; there is significant overcapacity of fishing effort for species that are long-lived and slow-growing.

<u>Recent Developments:</u> Recently, members of the southern California commercial nearshore fishery and the Southern California lobster fishery have shown interest in developing a co-management institution comprised of fishermen, conservation NGOs, community members and managers. The goal of a new co-management entity is to devolve decision-making power to the local level where more detailed, fact-based and relevant

decision-making can occur. However, recreational fishermen are notably absent from the current discussions. The recreational fishery is much larger in Southern California than the commercial sector, and it has considerable political presence. For a co-management institution and DAP system to be most effective, the recreational sector will have to be involved in some way.

STAKEHOLDERS

Stakeholders include commercial and recreational fishermen in the California Nearshore Fishery in Southern California; ports and harbors; boatyards, tackle shops, service firms and yacht brokers that service this industry; seafood distributors and end-users; public; Environmental Defense and other NGOs

APPROACH & AVAILABLE DATA

This project will be comprised of 3 phases:

1. Collection and analysis of existing data. This phase will focus on the knowledge that already exists regarding the nearshore fishery and approaches for integrating DAPs across commercial and recreational sectors. The data collection should focus on 4 areas: environmental, economic, social and political. This phase should include a gap analysis to determine what information is still missing to answer the research question. Data sources include:
    - Department of Fish and Game data on the commercial nearshore fishery
    - Limited information on the recreational sector through DFG, Pacific States Marine Fisheries Commission, and recreational fishing organizations
    - Academic articles on theories for DAP management of recreational fisheries
    - Limited national and international examples of DAP management for recreational fisheries

2. Expert knowledge data collection. Based on phase 1, specifically the gap analysis, students will collect additional information through targeting structured interviews with select individuals. Interviewees may include DFG staff, fishermen, NGO staff, academics, etc.

3. Analysis of options and recommendation. The final stage of the project will be analytical and require significant effort. Using the collected data as inputs, the students will develop and implement a framework for evaluating various management options. The framework will address environmental, economic, social, and political outcomes and ramifications of each solution. Empirical results will be displayed graphically to the extent possible. Based on the outcomes, the students will develop a recommendation for how to integrate the recreational fishing sector into the co-management institution.

DELIVERABLES

The proposed project would produce an analysis of different DAP management institutions that incorporate both commercial and recreational sectors of the Southern California Nearshore Fishery, including management alternatives. The comparative analyses would examine the economic, ecological, political, and social consequences of each management alternative. The analysis would specifically address the following topics:

- The ecological implications of different management institutions, and how these align with conservation goals.
- The effect of alternative management institutions on economic gains, and the resultant distribution of both economic gains and access privileges.
- The capacity and willingness for current social and political institutions to implement alternative management institutions

CLIENT FUNDING COMMITMENTS

The project client, the Pacific Project of Environmental Defense's Oceans Program is a non-governmental organization that works to make fisheries management more economically and ecologically sustainable. The client commits to funding this project at a minimum of $5,000 for supplies, travel, etc. during the regular group project quarters. In addition, they commit to a minimum of 2 paid summer internships at $5,000 each, for a total of $15,000.

REFERENCES

Nearshore Fishery Management Plan: Nearshore Fishery Management Plan Implementation Report. May 2006. California Department of Fish and Game, Marine Region. <http://www.dfg.ca.gov/mrd/nfmp/index.html>

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