Minutes of the
W2004 Annual Workshop, May 2012
Cedar Key, Florida

Monday, May 21

5:00pm   Registration

Participants:

                Chuck Adams, University of Florida
                Sergio Alvarez, University of Florida
                Jim Anderson, World Bank
                Chris Anderson, University of Washington
                Jingie Chu, World Bank
                Kelly Davidson, University of Tennessee
                Matt Freeman, Mississippi State University
                Richard Kazmierczak, Louisiana State University
                Gunnar Knapp, University of Alaska Anchorage
                Sherry Larkin, University of Florida
                Kwamena Quagrainie, Purdue University
                Lew Queirolo, NOAA Fisheries, Alaska Region
                Andrew Ropicki, University of Florida
                Michelle Savolainen, Louisiana State University
                Gil Sylvia, Oregon State University
                Hiro Uchida, University of Rhode Island
                Diego Valderrama, University of Florida
                Quinn Weninger, Iowa State

6:00-10:00pm   Opening reception and informal research discussions

Tuesday, May 22

9:00am   Meeting opened by University of Florida hosts, Drs. Diego Valdemarra,
                Sherry Larkin, and Chuck Adams

9:15am   Welcome by Lisa Sturmer to the host site, xxxx, including a brief
                overview of the laboratory's history and current work.

9:30am   Beginning of the formal presentation and discussion part of the program
                (a brief description of the presentation is given; more information may
                be found in the annual report)

                ***Quinn Weninger (Iowa State) -- Fishing Behavior Across Space,
                Depth and Time***

Discrete choice RUM models are limiting for management because of ecosystem complexities, curse of dimensionality, and the lack of linkages between fundamentals and management outcomes. An alternative approach is to explicitly model the linkages among ecosystems, prices, fisher behavior, management and outcomes. A preliminary test case was presented for the Gulf of Mexico reef fish fishery. Advantages of the approach include being able to allow for heterogeneous ecology and costly targeting, as well as its improvement over past policy tools for predicting harvests, discards, and profits from fundamentals (prices and regulations). Potential extensions of the approach may include alternate (simpler) functional forms, the linking of models to absolute stock abundance, evaluating costs of sea turtle regulations, and evaluating the costs of the Deepwater Horizon oil spill.

Chris Anderson (University of Washington) -- Do Stronger Property Rights Emerge from Flexible Catch Share Systems?

Experiments with catch shares in simulated fisheries led to self-selected groups pursuing the same stock under different management regimes when the participants were allowed, over time, to choose the management regime they preferred. These regime choices can be partially explained by risk attitudes, inequality aversion, and the degree of participant competitiveness (along with the standard economic variables). As a result, an individual's optimization of activities must account not only for the stock, but also for the types of management regimes under which other individuals might be operating. These results suggest that different kinds of management regimes may emerge over time and perhaps be dynamic in nature, and that there may be some form of an evolutionary selection process for regulatory institutions.

Andrew Ropicki (University of Florida) -- ITQs

In a preliminary report on work that is currently in progress, the question was posed whether possible quota gains in the Gulf of Mexico red snapper fishery were being lost due to the current structure of the trading system for quota, even though the management system appears to have reduced overcapacity (participation dropped nearly 21%), eliminated the derby fishing problems, reduced overfishing, and perhaps increased harvesting efficiency. There are, however, two types of efficiency; economies of scale/scope or, the main focus of this study, consolidation gains, where with a tradable quota you would expect to see quota concentrate in the most efficient hands. What if quota is limited by whom a fisher knows? This defines efficiency in terms of access to other participants for trading, where the most efficient system might be defined as one where every potential quota trader has access to everyone that might desire quota. But, if trading is done within a social network,

how might efficiency be affected and how might new systems be developed to recapture the potential losses? Initial logistic model estimations suggest that physical proximity greatly increases (by 29 times) the odds of making a trade.

12:00-1:00pm   Boxed lunch and informal discussions

1:00pm   Continuation of formal presentations and discussion

Diego Valderrama (University of Florida) -- Market Interactions Between Aquaculture and Fisheries and Implications for Fishery Management

The Bristol Bay fishery has seen extreme reductions in participation, probably due to the price decreases for salmon that came out of the increases in aquaculture salmon from Norway and Chile. Permit prices have decreased, albeit somewhat stochastically, at the same time, as profits margins have shrunk. This research used a 2-equation, regulated open-access fisheries model to examine the impacts of different regulatory, price, and cooperative type of management regimes. One general conclusion is that competition from aquaculture has seriously affected the economic viability of wild capture fisheries.

Hiro Uchida (University of Rhode Island) -- Research Update

Currently working on a number of projects. One primary effort focuses on the Stellwagen Bank groundfish fishery and the impact of marine sanctuary closures on the economies of coastal communities. The study employs both location choice analysis, social network analysis, and RUM modeling where the goal is to estimate the economic impact if more that a single area is closed simultaneously. In other work, social network analysis is being used to examine the sharing of fishing information before and after catch share (sector) system implementation. NodeXL software is used to visualize connections, centrality, etc. It looks like the volume of connections declined post-catch share, but the intensity of the connections increased. Also being looked at is sector modeling (two management regimes in one fishery); seafood demand and health risk/benefit information; demand for whale meat in Japan; BMP for oyster aquaculture with climate change risk; post-tsunami (fishery) recovery in Japan.

Chuck Adams (University of Florida) -- Sustainability Assurance Program

A summary handout of collaborative grant was distributed. The industry has been reluctant to get involved in the MSC certification process in the GOM due to cost and other reasons, and this reluctance carries all the way up through the major retailers. Pressure has come from industry to move aware from the labeling process and develop some other approach to express the notion of sustainability, using the data and management roll of federal management. Now at the stage of seeing if the buyers are willing to accept an alternative, as it is the buyers who are driving the process. Issues of ancillary factors and chain of custody are going to be big issues. Have also been working on the technology and alternative markets for the aquaculture produced Sun Ray clams as a rejuvenated industry. Market testing has gone well, but do not want these to enter the market as a substitute for hard clams.

Gil Sylvia (Oregon State) -- National Disinvestment in Training in Fishery Economics / Electronic Fishery Information Systems

Discussed the need, first proposed at the last W2004 meeting, to develop a letter of concern to be delivered to the major federal and state funders of socioeconomic research in the U.S. This letter would highlight the lack of information that is resulting from not having enough resources devoted to fisheries economics, and how that lack of information is leading to poor policy decisions and the inability to effectively manage the nations fisheries. Some discussion occurred concerning the nature of the letter and how it would be received, and plans were made for a sub-committee of W2004 to draft a letter and distribute it to W2004 participants.

Michelle Savolainen (Louisiana State University) -- The Recreational For-Hire Fishing Industry in the U.S. Gulf of Mexico: Economic and Policy Profiles for Head, Charter, and Guide Boat Operations

Socioeconomic and policy information is important to fisheries management in order to assess potential social and economic impacts of proposed fishing regulations. Previous surveys that collected this type of data for the recreational for-hire (RFH) fishing industry in the U.S. Gulf of Mexico were conducted in 1987 and 1997. The third Gulf-wide survey was conducted in 2010 to update the socioeconomic and policy data available on the RFH industry. More specifically, the survey collected captain, vessel, and trip characteristics, firm and trip financial data, targeted species, and opinions on policy issues and hurricane impacts.

State license information indicated that 3,315 captains were licensed to operate in the Gulf in 2009. Surveys were sent to 2,305 captains between March and June 2010. Overall, 689 responses were received with an

approximate response rate of 33 percent. Because survey administration paralleled events of the Deepwater Horizon blowout and oil spill, data was examined for evidence of recall bias through the use of Discriminant Analysis and logistic regression analysis. These assessments attempted to predict the time period in which surveys were completed by examining respondent, operating, and financial characteristics. Evidence of recall bias was not found, and no adjustments were made to financial data.

Respondents were categorized using effort and license information into head, charter, and guide boat operating classes. Results of the survey are presented through costs, earnings, and attitudinal profiles for operating classes on the Gulf and state/regional levels. Statistical differences of means between operating classes and states/regions were examined using Analysis of Variance (ANOVA) and Kruskal-Wallis tests. Data and results presented under this study constitute the most comprehensive socioeconomic and policy data currently available on the Gulf RFH fishing industry.

Sergio Alvarez (University of Florida) -- Recreational Fishing Models

Looked at the impact of the Deepwater Horizon oil spill and its impact on demand for recreational fishing and whether or not there was any substitution across time and space. Utilized a RUM model supported by travel cost, Marine Recreational Information Program, access-point creel survey, and other data. Unfortunately, no demographic or socioeconomic data is generally collected, so some of the important information needed was simulated using various techniques. Results suggest that people substituted from more popular sites to less popular sites, from more fish sites to less fish sites, and winter for summer fishing (shore fishing). A similar outcome was observed for the for-hire fishing sector. Estimated welfare impacts suggest that shore fisherman required approximately $100, for-hire participants $76, and private/rental fishermen $9 in order to be compensated for losses. On a fish basis, participants required anywhere from a fifth to almost a half fish more per trip in order to be compensated for losses.

Jim Anderson (World Bank) – Change in Fisheries and Aquaculture: Is There a Role of the World Bank

Need to change the pervasive opinions that fisheries and aquaculture are depleted and unrecovered resources as these opinions are not backed up by the facts. Bank is focusing on governance reform in fisheries. Need to stop overfishing, stop the race for fish, stop the waste, reorient to the market, and make capture fisheries profitable. "Sunken Billions" estimates that there is a $50 billion per year lost to fisheries

mismanagement. In developing countries, the potential payback from making relatively small fixes could be huge, especially if you create assets and attract private capital. Global Program on Fisheries is relative new at the World Bank and is doing a set of reports to help lead the reform efforts.

5:30pm   Meeting adjourned for the day

Wednesday, May 23

9:00am   Continuation of formal presentations and discussion

Kwamena Quagrainie (Purdue University) -- Aquaculture Market Research in the U.S. North Central Region

Continuing to work on fisheries in Africa, and will present finding of recent studies at the 2012 meeting of IIFET in Tanzania. The use of MarketMaker for distribution of fisheries products is a focus of activity, as is ongoing efforts to prevent Asian carp from moving up the Illinois River into the Great Lakes. There has been some attention given to the potential for creating a market for the species, but that might eliminate the stated intent of eradication and, in any case, may not be viable at likely market prices for the fish product. People are also looking at ways to increase the sustainability of indoor aquaculture, and one of the ways they are doing it is to attempt to develop the technology to link the fish production with vegetable production, where the vegetable subsystems utilize the fish subsystem effluent. Some of this is being done in Florida, but it is still early in the technology's development and there is some question as to whether you can do it given the cost structure. This is especially true in the Midwest. However, they are trying to make it similar to what is being done with hydroponics.

Sherry Larkin (University of Florida) -- Scanner Data Project

Have been exploring the retail scanner quantity and quality data, which involves various product codes on a weekly and monthly basis from 2005-2010 (depending). The study layers the scanner data on top of the Nielson home-scan panel data of purchase decisions. This is being done for seafood products at varying levels of granularity. The ultimate goal is to estimate hedonic models of seafood purchasing decisions. There is an opportunity for further use of the data, as there is much information not currently being utilized and not many people actively working with it. Some suggestions were made of potential use, including the possibility of using the data to see if purchasing decisions were affected by the Deepwater Horizon oil spill.

Matt Freeman (Mississippi State University) – Engagement in Fisheries Governance

Question of whether industry involvement is good or bad, as the potential for negative contributions in terms of lobbying may outweigh the potential for increased compliance that often comes with participation. Currently looking at 2 case studies – one in New Zealand (Rock Lobster) and one in the GOM – where the focus is on examining the commonalities that link participation. There were some differences in the kinds of surveys done, the target respondents, the species involved, and the kinds of organizations and their purposes. Analyzed the data with a Tobit model for each level of participation (officer, association, state, federal). Some of the things that were related to participation (particularly as you moved up in level) were tenure and commitment to the industry. They general felt that they had a unified voice, but mostly at the more local level, and that their participation was improving conditions. Still evolving with the other models.

Kelly Davidson (University of Tennessee Martin) – Seafood Preference Research

Intercept and online surveys of seafood preferences were conducted in Hawaii and Kentucky, and in particular preferences were elicited for wild caught versus aquaculture products. Qualitatively, seafood was primarily consumed in restaurants. Reasons for consumption focused on taste and health issues, and there were only minor differences between Kentucky and Hawaii with regard to these aspects of the consumption decision. The most popular seafood products consumed were shrimp, canned tuna, salmon and fresh tuna. There were some big differences between the states in terms of fresh fish, with much more consumed in Hawaii. General preferences for wild versus aquaculture leaned toward wild caught, but in Kentucky there was a large percentage of the respondents that were unsure of their preference. There was a lot of uncertainty about the Country of Origin Labeling (COOL) issue, but the label had much more recognition and influence on purchasing behavior in Hawaii versus Kentucky. Using conjoint analysis, the WTP results suggest there is a greater WTP in Hawaii for wild caught, but a higher WTP for farm raised in Kentucky. Other results include a lower WTP for imports and previously frozen in Hawaii. There was a small positive WTP for previously frozen in Kentucky, but a large negative WTP in Hawaii. Both states had a positive WTP for the hypothetical "turtle safe" label. Locally grown seafood was also a consistently positive influence on WTP. The study also looked at WTP for different product forms of tilapia and moi (Pacific threadfin). Currently research is extending the above analyses. One preliminary finding is that those who

grew up within 50 miles of the coast were willing to pay over $5 per pound more for wild caught salmon.

Gunnar Knapp (University of Alaska) – Current Activities

Looking at salmon market trends, economic impacts of aquaculture, and the North Pacific Research Board's development of a social science focus for 2013. This latter effort is going to be an important funding source for research in the area (a couple of million perhaps).

Working with Ray Hilborn at University of Washington to develop a project that looks at the effects of piecemeal regulation as opposed to a more comprehensive regulatory approach. Let Gunnar know if you are interested in this kind of project.

Also interested in the teaching of fisheries and fish economics. Challenges and goals include reaching the non-economist who has little to no previous economic training. The question is how to do this in a limited time (one semester or less) and focus on the most important concepts and things that need to be done. A book is currently being written to support this effort and an online course is being taught to begin address this issue. The course is called The Economics of Fish, and Gunnar would appreciate suggestions on good readings for non-economists that could be used in this course. In conjunction with this topic, Gunnar is broadly interested in national and international collaboration in teaching through distance education courses, joint courses, study tours, collaborative student research projects, and a collaborative "fishing games" website.

Chris Anderson (University of Washington) / Jim Anderson and Jingjie Chu (The World Bank) – Update on Fishery Performance Indicators

W2004 has been involved for a couple of years in this project. Want to move this to a W2004 multistate product that will be a rapid assessment measure of wealth accruing from fisheries. Current instrument has 11 dimensions where wealth accumulates, 15 dimensions of factors that enable wealth (inputs). Each dimension is captured by several measures and classified by different types of sustainability. Data exists in principle for each measure, but often does not for specific cases. A scoring rubric is used by experts to create a quantitative evaluation of the measure in cases where hard data does not exist. A primary use of this tool will be to support specific project development efforts as a pre- and post-assessment instrument, especially since most project implementers are not economists. Also might be useful for researchers interested in drawing broad conclusions across case studies.

Currently in version 1.1 of the assessment tool, with 23 completed case studies. Expect by end of month to have 30 case studies from around the world. Short-run goal is to get a multistate article published out of this project. One potential approach is to look at the different dimension for developing versus industrialized countries. For wealth outputs, industrialized outperform developing across the board, which is not surprising. Is important to focus some research (not directly related) of the relationship of supply to the value chain and who gains from the resource. In terms of inputs, the developing countries are behind in terms of governance, national economy, data availability and infrastructure. They are on par, however, with respect to harvester organizations, participation, community, resource management, etc.

There was talk focused on how to put together the initial paper that will describe the process and give some examples of how they can be used. One of the things that could be done is to demonstrate how weightings might affect the outcome of the assessments.

12:00pm	Lunch and NAAFE 2013 Brainstorming Session
1:00-3:00pm	Offshore trip to visit clam lease sites and discuss operations with a clam farmer/harvester
3:00pm	Officer elections:

Incoming Chair: Hiro Uchida
Incoming Vice-Chair: Diego Valderramma
Incoming Secretary: Richard Kazmierczak

6:00-9:00pm	Closing Reception and Meeting Adjournment