

Progress Report Narrative

NMFS - Sea Grant Marine Resource Economics Graduate Fellowship

Fish or Flight: Modeling the Participation and Migration Decisions of Fish Harvesters in Rural Alaska

The goal of this project is to ascertain the impact of fishery regulations on migration patterns in rural fishing communities in Alaska and the accompanying effects on community well-being, vulnerability and adaptability. During this reporting period, progress towards this larger goal was made along several dimensions: revising a theoretical model linking fishery performance and debt to permit sale and migration decisions, finalizing both a household survey and a community leader survey, working with local NGOs and tribal associations to make plans to conduct surveys in April and May of 2016, and traveling to present the preliminary results of the research and solicit feedback.

First, we spent time revising an economic model that would link the migration decision of rural harvesters to the sale of their permit or quota and their performance within the fishery. The resulting model assumes that harvesters are optimizing their utility across regions by choosing to migrate from rural to urban settings either when the extra utility from increased wages minus the cost of moving is greater than the rural utility (mainly from commercial and subsistence fishing) or when their income dips below a threshold that forces them to sell their permit and permanently decreases their rural utility. We believe that this model makes a contribution to the literature on ecosystem-based fisheries management by incorporating the impact of uncertainty in the fishery upon human decisions and the vulnerability of small communities.

Another major focus during this reporting period was finalizing the community leader and household surveys that will be administered in April and May of 2016. Since this project deals with human subjects, it was necessary to obtain Exempt Status approval from the UW IRB (this was obtained in March of 2016). The final draft of the community leader survey includes questions on changes in the village over time along the dimensions of demographics, infrastructure, employment, community services, commitment to fishing, and access to credit and training. The individual household survey includes a household roster that indicates the migration history, education level, marital status, and fishing involvement of all household members and descendants. In addition, there are other modules about salmon permit ownership and transfer, benefits from BBEDC membership, social capital, household assets, and a timeline of residence and employment. We pre-tested this survey with focus groups in Dillingham and Aleknagik and made a series of revisions.

Related to the pretesting of the survey, we partnered with Bristol Bay Economic Development Corporation (BBEDC) in order to use their contacts in the rural communities to obtain permission for the survey and lodging while surveying in remote communities. BBEDC has been providing logistical support for the pre-testing and sampling stages of the project. Through our connections in Dillingham, we hired three research assistants to help administer the survey.

In addition to planning travel to remote villages for April and May of 2016, during the year we presented the preliminary regional results of the model and the plans for the household survey at three

research presentation venues including the Alaska Salmon Symposium and the North American Association of Fisheries Economists. We believe that the input of fisheries economists, other social scientists, and industry experts who are familiar with the region and the fishery were invaluable to our progress.

REPORT
E/I-22
03/01/2015 - 02/29/2016
Submitted On: 03/22/2016 06:44:34 PM

METRICS & MEASURES

Acres of coastal habitat

Metric/Measure	Value	Note
Acres of coastal habitat	0	

Fishermen and seafood industry personnel

Metric/Measure	Value	Note
Fishermen and seafood industry personnel	0	

Communities - economic and environmental development

Metric/Measure	Value	Note
Communities - economic and environmental development	0	

Stakeholders - sustainable approaches

Metric/Measure	Value	Note
Stakeholders - sustainable approaches	0	

Informal education programs

Metric/Measure	Value	Note
Informal education programs	0	

Stakeholders who receive information

Metric/Measure	Value	Note
Stakeholders who receive information	0	

Volunteer hours

Metric/Measure	Value	Note
Volunteer hours	0	

P-12 students reached

Metric/Measure	Value	Note
P-12 students reached	0	

P-12 educators

Metric/Measure	Value	Note
P-12 educators	0	

REQUESTED INFORMATION

Publications

No **Publications** information reported

Students Supported

Jennifer Meredith (Continuing Student)
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University of Washington, Economics

Field of Study:

Advisor: Chris Anderson

Degree Type: PhD

Degree Year:

Degree awarded this reporting period?: No

Student Project Title: Fish or Flight: Modeling the Participation and Migration Decisions of Rural Alaskan Harvesters

Involvement With Sea Grant This Period (capstone, fellow, intern, etc.): Fellow

Post-Graduation Plans (employer, grad school, etc.): Academic Job Market

Narratives

Year 2 Narrative

Uploaded File: [Progress_Report_Narrative_2016.pdf](#)

Partners This Period

NOAA Alaska Fisheries Science Center

Types: Government

Scale: REGIONAL

Notes:

Bristol Bay Economic Development Corporation

Types: Other

Scale: REGIONAL

Notes:

STANDARD QUESTIONS

Economic Impacts

No **Economic Impacts** information reported

Tools, Technologies, Information Services / Sea Grant Products

(1)

Description	Community Leader and Individual Harvester Survey
Developed (in the reporting period)?	Yes
Used (in the reporting period)?	No
Used for EBM?	No
ELWD product?	No
Number of managers	0
Description/Names of managers	

Community Hazard Resilience

No **Community Hazard Resilience** information reported

Meetings, Workshops, Presentations

(1)

Type of Event	Public or professional presentation
Description	Jennifer Meredith Presented Fish or Flight: Modeling the Participation and Migration Decisions of Rural Alaskan Salmon Harvesters at the North American Association of Fisheries Economists in Ketchikan, Alaska.
Event Date	05-20-2015
Number of Attendees	50

(2)

Type of Event	Public or professional presentation
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Description	Jennifer Meredith Presented Fish or Flight: Modeling the Participation and Migration Decisions of Rural Alaskan Salmon Harvesters at the Alaska Salmon Symposium at University of Washington.
Event Date	11-18-2015
Number of Attendees	60

(3)

Type of Event	Public or professional presentation
Description	Jennifer Meredith Presented Fish or Flight: Modeling the Participation and Migration Decisions of Rural Alaskan Salmon Harvesters at Labor/Development Brownbag at University of Washington Department of Economics.
Event Date	05-28-2015
Number of Attendees	20

Leveraged Funds

No **Leveraged Funds** information reported

Impacts and Accomplishments

(1)

Type	accomplishment
Title	Field Work
Relevance	Declining local permit ownership in the Bristol Bay salmon fishery is of increasing concern to policy makers. Little is known about whether these permit sales correspond with rural residents leaving the village, whether they sell their permits under duress, or what policies would enhance the sustainability of rural harvesting operations.
Response	The Seagrant Fellow designed and pre-tested a community leader and individual harvester survey in order to test for the drivers of rural permit loss and the consequences for local communities. Research assistants were hired and trained to administer the survey. Working with tribal and local authorities, the Fellow randomly selected villages and targeted individuals for participation in the study. The Fellow has made contact with local tribal authorities in each of the selected villages and is in the process of making logistical arrangements to begin the surveys.
	Although the field work is not yet completed, in the future, the results of the upcoming survey will test for a causal link between volatility in the fishery and rural

Results	residents leaving their villages. In addition, it will provide insight into whether permit subsidies, improved access to credit, or educational training might make rural harvesting operations more sustainable.
Recap	WSG plans to reduce the vulnerability of rural Alaskan communities by identifying policy interventions that promote the viability of local harvesting operations and reduce the probability that rural residents will be forced to exit the fishery.
Comments	
Primary Focus Area	Resilient Communities and Economies
Secondary Focus Areas	Sustainable Fisheries and Aquaculture
Goals	Coastal communities and economies are vibrant and resilient.,Coastal communities engage in comprehensive planning and sustainable development.,Communities prepare, respond and adapt to coastal hazards and climate change.,The future workforce is skilled in disciplines critical to coastal and ocean economies and ecosystem health.
Partners	