



## Fall 2018 Research Highlights

### Resource management

*Economist analyzes effects of resource policies and develops economic models*

The village of Savoonga owns a herd of more than 3,000 reindeer, and a decreasing supply of walrus and other marine mammals has the St. Lawrence Island community thinking more about its reindeer as a source of food and employment.

Joshua Greenberg, a University of Alaska Fairbanks natural resource economist, teamed up with the university's Reindeer Research Program to develop a series of business plans that will allow Savoonga and possibly other villages to evaluate different production strategies for a reindeer meat industry.

Greenberg analyzed different scenarios, including field and government-inspected slaughters, and sales of whole carcasses or cuts of meat. In each case, Greenberg figured what price the meat needed to sell for so that the business would break even. He considered the amounts and cost of fuel needed by workers on snowmachines to locate the herd, and to slaughter and process the animals. He also estimated labor costs.

A lack of government inspectors means that producers can't sell reindeer as "inspected meat," which would bring the highest price. Herders may slaughter in the field under certain strict conditions.

This past spring, four Savoonga residents who call their business "White Out Reindeer" slaughtered reindeer three times in the field. They used the university's USDA mobile processing unit to cut up the

Found online at: [www.uaf.edu/snre/agroborealis](http://www.uaf.edu/snre/agroborealis)



Top photo: Greenberg has studied how changes in regulations affect the king crab fishery. iStock photo

Bottom photo: Richmond Toolie prepares to butcher a reindeer carcass in Savoonga. Photo by Erin Carr



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meat, which sold out almost immediately in Western and Interior Alaska. The tribal council wants to continue the operation.

The feasibility of reindeer operations is just one of many economic studies conducted by Greenberg over the past 30 years. Recent projects have evaluated the feasibility of raising musk ox for qiviut under different scenarios, the effect an industrial road to the Ambler Mining District might have on subsistence communities and the impact of individual fishing quotas on the Alaska sablefish industry. Alaska is the world's largest producer of the buttery white fish, which is prized by Japanese.



Qiviut is the soft underwool of musk ox and is prized for its softness.

Greenberg earned his master's degree in resource economics at UAF and a doctorate in agricultural economics at Washington State University. The National Marine Fisheries Service supported his doctoral research, a bioeconomic model that looked at the effect of management decisions on the king crab fishery.

Greenberg has specialized in fisheries. He has studied the demand and allocation of Alaska and Canada snow crab; extending the federal crop insurance program to commercial fisheries; changes in fishery regulations affecting the red king crab; walleye pollock, halibut, tanner and snow crabs and salmon fisheries; and the economics of subsistence bowhead whaling.

He has also studied many other Alaska resource issues, including the economic value of reindeer range, the peony industry, sustainable livestock production and carbon sequestration.

Greenberg studies various management and allocation issues and the effect of policy changes on various user groups.



Greenberg and a UAF graduate student studied the feasibility of raising musk ox for qiviut under different scenarios.

"We're a resource-based state and how we manage our resources is critical," he said.

"You're basically providing information to policy makers that they can look at in addition to public testimony."

As far as the Savoonga reindeer operation is concerned, Greenberg said it is up to the community to decide how it wishes to develop it. He notes that a lot of things make the reindeer industry look promising, including a demand that is not currently filled and an animal that is well-suited to our environment. "If you have high-quality, inspected reindeer meat, there is a lot of pent-up demand," he said.

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