

Social and Economic Impacts of Harbors in Alaska's Communities

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Introduction - A predominate number of communities in Alaska have coastal or river based economies. A result of this is that small port and boat harbor facilities are an important economic driver for our Alaska communities. Community benefits from harbors can include customary trade access, access to subsistence resources, facilitating marine transportation and economic benefits. The intent of this paper is to encourage thought as to the value of harbors for communities in Alaska and lend support to the concept that harbor facilities deserve proper care and maintenance to better fulfill their purpose within the community.

There are several ways to view the economic impacts of a harbor. This paper describes several methodologies and studies that I think would be useful for decision makers involved in rural development and community planning. The first is the Harbor Economic Impact Model sponsored by the State of Alaska Department of Transportation and Public Facilities. Secondly, the Canadian Small Craft Harbors program of their federal Department of Fisheries and Oceans conducted a study of community ties to the ocean, which attempted to measure both economic and intangible benefits generated by harbor facilities. Finally, I will share some discussions I have had with Ken Boire of Consulting Economists, Inc. on the practical methods of studying economics in rural Alaskan communities.

Harbor Economic Impact Model - I am currently working with the State of Alaska and Northern Economics, Inc. on the Harbor Economic Impact Modeling (HEIM) project. This program has been developed to allow the user to input basic community, rate and facility information into a computer program that will output the three different measures of value to the community. The model quantifies the benefits of harbors using IMPLAN

(Impact Analysis for PLANning), which is an input/output modeling program that estimates economic impact on a regional level. This will be an important tool set for community leaders to have available when considering development or support for harbors. Since the State of Alaska funded HEIM, it can be freely used by harbormasters, city planners and others interested in harbor economics.

The model uses survey data provided by harbors mainly located in South Central Alaska during the fall of 2003 and generates a report that is statistically relevant for harbors in this area. The model may be used in other parts of Alaska, but the results may not be as reliable. An example of the model's output is displayed in Appendix A. Valdez isn't the biggest harbor in the Prince William Sound region, but you can see that it generates substantial benefits to the surrounding region. Annual benefits include total sales of \$24 million, 269 jobs and \$7.8 million in wages paid. Another useful feature is an annual comparison of harbor revenues versus expenditures, which includes the cost of capitalization. Moorage charged in most harbors does not cover the real cost of maintenance or replacement of these facilities.

Mr. Patrick Burden of Northern Economics, Inc. presented a set of guidelines for estimating the economic impact made in a community by the operation of ports and harbors at the Alaska Association of Harbormasters and Port Administrators 2002 annual meeting in Seward, Alaska. Mr. Burden identified these three different measures of value to the community that are also measured by HEIM. They are **financial impact, fiscal impact and economic impact**. These values represent different monetary bottom lines that contribute to the local economy.

Financial impact is the total of harbor revenue, payroll and local purchases. This value can be found in the harbor annual budget document. Total estimated revenue for Valdez harbor for FY2002 is \$649,550. Harbor payroll budgeted for FY2002 is \$388,141. Estimated local purchases by the harbor total \$190,000. So of the \$649,550 in estimated revenue for the harbor in FY2002, approximately

\$578,141 is spent in the community and represents the financial impact of the harbor.

Fiscal impact is the total spending by non-local and local harbor users, as well as the taxes generated by harbor users and related businesses. Using survey data and research conducted by the U.S. Army Corps of Engineers (ACOE), we can estimate the expenses incurred by vessels operating out of a harbor.

Economic impact is the combination of total spending modified by a multiplier, new income and export-oriented commercial spending modified by the same multiplier, and additional employment caused by the harbor's presence in the community. It is an accepted economic principle that new and outside income brought into a community is spent a number of times. A larger community is better able to provide goods and services than a smaller one. A reasonable economic multiplier for a community with a population of 4,000 would be 1.5. Each million dollars of economic impact will generate eight to eleven jobs in a community the size of Valdez.

There are several approaches that can be made to quantify the economic impact of a harbor user group to greater economy. The numbers will also vary directly on vessel length. A larger vessel will have a bigger crew, burn more fuel and require greater maintenance. Current use of the boat harbor and waitlist information must be studied to identify the fleet mix present. Fleet mix is an estimate of different user groups and vessel trades that moor in the harbor. It is important to estimate the user representation in a harbor since each group offers different economic benefits to the community.

Not all costs generated by a harbor will translate into direct local spending. There is a certain level of "leakage" to the greater national and international economy. Local communities will capture more of these funds as local services and resources are developed. The promotion of related marine businesses will further this goal and prevent funds from "escaping" the local economy.

The SCH Harbours of BC: A Major Economic & Community Asset – Canada’s Federal Department of Fisheries and Oceans (DFO) operates a Small Craft Harbors (SCH) program responsible for a small of facilities along the coast of British Columbia. Last year DFO sponsored a study of community impacts tied to local harbors. The Federal government recognized the importance of not only the economic benefits generated by harbors, but also the importance of these facilities as a focal point for residents providing less tangible social and community benefits. This study had two objectives; assess economic impacts and describe community benefits provided by BC’s network of small craft harbors.

BC harbors have according to this study, three main user groups. They are commercial fisheries, recreational boating and marine shipping/other uses. Yearly economic activity related to all of BC’s harbors totaled \$500 million CND for commercial fishing, \$200 million CND from recreational boating and \$100 million CND by other uses. The study estimates that for every dollar that flows through a harbor’s accounts, another \$50 accrues from expenditures by these three user groups. DFO estimates the total direct, indirect and induced economic impact to the province from this \$800 million CND of activity spins off into \$720 million CND in annual gross domestic product, \$360 million CND in payments to labor and 9,000 harbor related jobs.

The study notes that harbors are not the single cause of economic impact for the province, but rather represents a key component in local marine infrastructure that allows other activities to occur. This really fits into the concepts we have discussed many times in Larry Dickerson’s healthy community classes. Communities depend on interrelated webs or networks with linkages between various groups or facilities to operate successfully. DFO’s study also identified substantial social benefits like being the focal point for community events, leisure activities, opportunities for volunteerism, and access to hunting or fishing resources. Selected comments from those surveyed for the study said:

- *Just about every activity that is resource based has connections to the harbor*
- *It would be devastating to the community not to have the harbor*

- *The harbor is a vital part of our isolated community, socially and economically*
- *The harbor facilities transportation between Native communities to attend functions and events*
- *Problems in harbors are very similar and we learn a lot from the experiences of other harbors*

The DFO SCH study demonstrates the economic and social importance of these facilities to the surrounding communities. What was really exciting is that the approach and methodology used to generate this study could easily be adapted to a similar effort in Alaska if time and funding was available to conduct it. It was also one of the few references I found that attempted to identify benefits other than solely economic ones.

Ken Boire of Consulting Economist, Inc. retired from the U. S. Corps of Engineers with extensive experience in National Economic Development (NED) determinations that are used in funding calculations for approval of Federal projects. Ken consults for a large number of public agencies throughout the Pacific Northwest and Alaska in matters of economic impact studies. Mr. Boire shared a number of comments that are important in the discussion of harbor economics in rural Alaska.

Economic studies fall in to two broad categories; input-output (I-O) models or regional export base analysis. I-O models track accounting transactions between producing and consuming portions of a regional economy. I-O models ultimately attempt to describe a particular economy by the interaction between its supply and demand of goods and services. Once an I-O model has quantified the interrelationships between production, consumption and the outside world, a number of multipliers can be developed. The most common way to describe these interrelationships is to develop a transactions table that shows the flows of all of all goods and services produced or used in a region. Multipliers are the most commonly described feature of a I-O modeling project. Funds consumed in an economy are often respent repeatedly within a community increasing the value of any one aspect of the economy through this recycling of the initial expenditure made in the community. Once a transactions table is developed for a particular region, a number of

different multipliers can be calculated. The three main multipliers are output, income and employment. The accuracy of any I-O model is dependent of the development of extensive survey and support data used to describe the impact made by each of these multipliers. Data can either be provided as part of program package like IMPLAN or produced though conducting extensive surveys of sectors within the economy.

Ken Boire feels the use of an I-O model in rural Alaska has a number of limitations and a regional base export model is easier to adapt to the realities of life in rural villages. Ken describes his thoughts of the concept of economic base modeling as follows:

“ For isolated areas such as regions of rural Alaska where villages of less than 1,000 persons are separated from others by many miles of untracked wilderness, the traditional economic base model is usually more practical, although it too is far from perfect. In its simple form it recognizes that some industries supply markets which are outside of the region or otherwise attract dollars from outside, and that these industries are crucial to the local economy and are called the economic base of the region. Although not the only rason for economic growth, knowledge of the role of basic industries can explain a great deal about the economic well being, the prospects for growth in a region, and the impact of new expenditures or other impacts from outside such as ne boats coming to a newly expanded boat harbor.”

“The economy of any major political unit is generally composed of smaller regional economies and these regional economies have economic relationships (linkages) AMONG THE PARTS. The economic base model says that there is some employment in a region, which is serving the local market, and some employment, which is independent of the local market. This later employment is called basic employment. The other employment is called local market serving employment or support employment. An example of support employment in a typical economic region (rural Alaska is untypical) would include grocery stores, restaurants, movie theaters, laundry mats, automotive service, entertainment, etc.,

generally those businesses that serve the local population. Also are included at places other than rural Alaska would be government offices and schools supported by the region, however in rural Alaska these are generally considered to be part of the economic base because they are paid for by imported dollars (transfers).”

Economic analysis is all about estimates. Results should seem reasonable compared to our experience. The value of a harbor to a rural Alaska community is relatively easy to calculate once you have established the value of basic industries in a community. Restructure the basic economy of the village by removing all harbor related activities and then compare that result to the community as a whole. It would be readily apparent in coastal communities that the removal of a harbor would be catastrophic and restructuring a community economy to remove the benefits generated by a harbor would have severe fiscal consequences.

Conclusion - Harbors are important economic engines within their communities; they greatly enhance the local economy and provide many less tangible, but no less important social benefits. Coastal communities have strong ties through their harbors to the marine environment, recreation opportunities and transportation activities. As stated earlier in this paper, economic studies represent estimates that must seem reasonable. We can easily imagine the impact that would be caused in a coastal community if a harbor were suddenly removed from the picture. I contended that harbors represent a vital component of life in rural Alaska as the justification for my development of an operations and maintenance handbook for my research project in rural and community development. The proper care and maintenance of our Alaska harbors represents one of the best and most approachable economic/community development efforts available to rural communities.

**HARBOR ECONOMIC IMPACT MODEL
SUMMARY REPORT FOR VALDEZ SMALL BOAT HARBOR
FISCAL IMPACTS OF EXISTING HARBOR
February 23, 2004**

	State	Borough /Census Area	Local
Total Sales - Direct, Indirect, Induced	\$30,702,535	\$25,340,513	\$24,086,448
Employment - Direct, Indirect, Induced	385	303	269
Labor Payments -Direct, Indirect, Induced	\$9,050,300	\$8,025,80	\$7,842,200

Harbor Revenues (Direct)

Moorage	\$417,921
Storage gear and vessels	\$28,000
Utilities	\$95,000
Haulout and equipment rental	\$35,000
Business property leasing	\$5,000
Other	\$168,650
Total	\$749,571

Harbor Expenses

Personnel services	\$226,000
Utilities	\$15,000
Repairs and maintenance	\$1,000
Supplies	\$2,000
Debt service	\$0
Payments in lieu of taxes	\$0
Annualized float replacement costs	\$24,000
Annualized other capital replacement costs	\$1,748,000
Other operating expenses	\$27,000
Total	\$1,802,000

	Borough /Census Area	Local
Governmental Revenues		
Harbor Revenues	\$0	\$445,921
Other government revenues	\$34,252	\$337,902
Total operating revenues	\$34,252	\$783,823
Governmental Expenditures		
Harbor expenditures	\$0	\$716,780
Other government expenditures	\$0	\$67,043
Total operating expenditures	\$0	\$783,823

Resources

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