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Economic Impact Analysis

Southeast Alaska Transboundary Watersheds

EXECUTIVE SUMMARY

PREPARED FOR **SalmonState**



PREPARED BY

McDowell
GROUP

Executive Summary

Southeast Alaska's economy is highly dependent on the region's rich natural resources. Two of the region's key industries, commercial fishing and tourism/recreation, rely on healthy eco-systems to generate jobs, income, and other economic opportunities. Transboundary rivers, which originate in Canada and flow into the U.S., are important components of Southeast's economically-valuable eco-system. This economic connection between transboundary rivers and the entire Southeast Alaska economy is a critically important aspect of watershed management.

SalmonState contracted with McDowell Group, an Alaska-based research and consulting firm, to measure the economic impacts in Southeast Alaska of three transboundary watersheds: Taku, Stikine, and Unuk Rivers. The analysis also briefly considers economic contributions to Southeast Alaska from the Nass and Skeena Rivers, two river systems that also have cross-border economic impacts.

Recognizing that healthy watershed systems have value far beyond the jobs and income they support, this study of "river economics" focuses on the commercial value of the rich salmon runs supported by Southeast Alaska's three transboundary watersheds. It also considers economic impacts connected to the watersheds' scenic and recreational amenities that make all three areas popular destinations for the visitor industry and Southeast Alaska residents.

Communities closest to the watersheds benefit most directly from healthy transboundary watersheds, though the economic benefits, including business spending, labor income, and job creation, as well as a variety of tax benefits, flow through the entire region.

The perpetual nature of watershed economics is perhaps the most important benefit of Southeast Alaska's transboundary areas. Fish, wildlife, and scenic resources in the watersheds are fully renewable and have the potential to offer greater economic value as similar resources and experiences grow more scarce. With proper management, watersheds can continue to generate economic benefits for Alaskans and others far into the future.



Photo credit: James Den Uyl

Scope of Work

This analysis focuses on economic activity in Alaska associated with the Taku, Stikine, and Unuk River watersheds. The analysis measures direct, indirect, and induced economic effects. Indirect effects are associated with watershed-related business spending on goods and services. Induced effects stem from watershed-dependent household spending on goods and services. The renewable nature of watershed resources can provide on-going, perpetual economic benefits if managed appropriately. These benefits are calculated using the “present value” of future benefits. This study does not attempt to measure “existence” values or non-use values, which are sometimes used to capture intrinsic values of important natural assets, such as Southeast’s transboundary rivers.

Measuring transboundary watershed-related economic activity is complex and difficult to isolate from the larger eco-system and economy that spans Southeast Alaska and Canada. Data is limited for many aspects of watershed-related commercial and recreational activity. Such limitations are present in commercial fisheries data, as run sizes for many salmon species from the rivers are not well documented and participation in specific fisheries is difficult to gauge due to fishermen moving between districts during the season. Also, unless a species is tracked through a tagging program, it is not possible to identify exactly how many harvested fish are from a particular river in the region. As a result, estimates of salmon harvests attributable to each watershed are based on best available data. While commercial fisheries other than salmon depend on the clean water produced by the region’s transboundary rivers, no other seafood-related values can be directly linked with data to watersheds at this time.

It is important to note that the nature of the renewable resources produced in these watersheds varies from year-to-year. Commercial fishing resources, in particular, are cyclical or subject to variations due to weather patterns, management changes, and other factors.

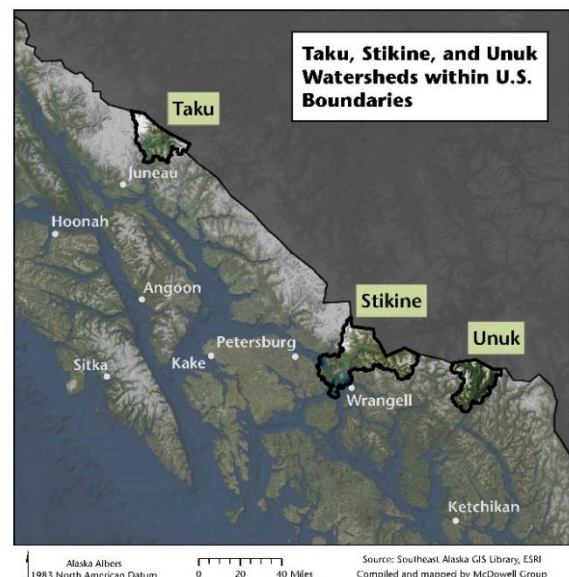
Transboundary Watersheds

The Taku, Stikine, and Unuk watersheds all originate in British Columbia and flow into Southeast Alaska.

The Taku River watershed encompasses approximately 5,000 square miles. The 100-mile long river terminates in Taku Inlet, with the lower 25 miles of the river located in the U.S.

The Stikine River drains a 20,000 square-mile area, flowing through the Stikine-LeConte Wilderness and ending in a river delta north of Wrangell. The lower 27 miles of the almost 400-mile river are located in Alaska.

The Unuk River drains approximately 1,500 square miles, flowing 80 miles to its terminus in Burroughs Bay, approximately 50 miles northeast of Ketchikan. The lower 24 miles of the river, which flow through a portion of Misty Fjords National Monument, are in Alaska.



Taku River Watershed Economic Impacts

Taku River watershed-related economic activity includes \$23.2 million in annual direct spending and \$32.9 million in total spending in Southeast Alaska. An average \$12.8 million in annual labor income and the equivalent of 260 year-round jobs in the region are generated by activity associated with the watershed.

Economic impacts tied to the Taku River watershed include the following:



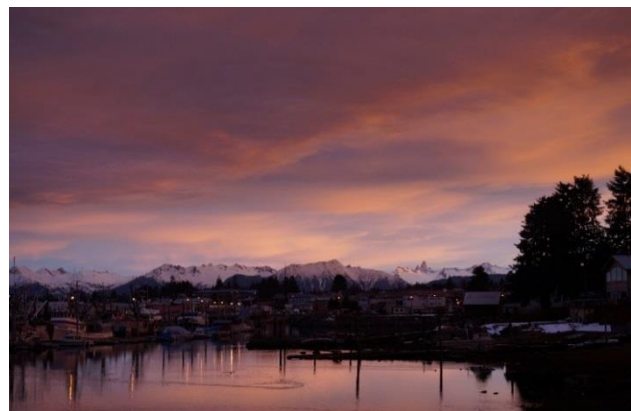
- Fishermen receive an annual average **\$1.9 million in ex-vessel value** for harvests of Taku River salmon.
- An average **\$4.2 million in first wholesale value** of Taku River salmon is processed in Southeast annually.
- Taku River Chinook and coho salmon are responsible for an average **\$2.7 million in sport fishing-related expenditures**.
- Approximately **\$80,000 worth of Taku River salmon** is harvested annually in the personal use fishery.
- **Hunting expenditures total \$65,000** on average in annual spending for hunting in the watershed.
- Visitor industry activity tied to the Taku River watershed generates an estimated **\$16 million in visitor expenditures** annually.
- The City and Borough of Juneau receives an annual average of **\$55,000 in tax revenue** from private property in the watershed.

The Taku River watershed's annual economic impact of \$32.9 million has a 30-year present value of just under \$650 million, based on 3 percent discount rate.

Stikine River Watershed Economic Impacts

Commercial and recreational activity associated with the Stikine River watershed generates an estimated \$12.7 million in annual spending in Southeast Alaska, including \$9.3 million in direct spending. The watershed accounts for \$5.7 million in annual labor income in the region and creates 117 full and part-time jobs.

These economic impacts include the following specific benefits:



- Commercial fishermen are paid an annual average of **\$2.1 million in ex-vessel value** for Stikine River salmon.
- Seafood processors generate an average **\$3.5 million in first wholesale value** annually processing and packaging Stikine River salmon.

- An average **\$4.2 million per year** is expended on sport fishing for Stikine River Chinook and coho salmon.
- An average **\$100,000 worth of Stikine River salmon** is harvested annually in the personal use fishery.
- Hunters spend an annual average of **\$200,000 hunting** in the watershed.
- Tours in the watershed and watershed-associated visitor industry activity in Wrangell generate an average **\$1.2 million in expenditures by visitors** to the Stikine River.
- Private property in the watershed accounts for approximately **\$15,000 in tax revenue** each year to the City and Borough of Wrangell.

The present value of the Stikine River's annual economic footprint of \$12.7 million, measured over 30 years, is \$250 million.

Unuk River Watershed Economic Impacts

The Unuk River watershed accounts for an annual average \$2.5 million in total spending in Southeast Alaska, including \$1.8 million in direct spending in the region. Annual average labor income attributable to the watershed totals \$1.2 million and the watershed accounts for an estimated 24 full and part-time jobs.

Estimated annual economic impacts from the watershed include the following:



Photo credit: Travis Rummel

- Fishermen are paid an annual average **\$460,000 in ex-vessel value** for Unuk River salmon harvests.
- An annual average **\$890,000 in first wholesale value** is attributable to Unuk River salmon.
- Sport fishing for Unuk River Chinook and coho salmon generates **\$880,000 in sport fishing-related expenditures** annually.
- Hunters spend an annual average of **\$13,000 on hunting activity** in the watershed.
- The visitor industry generates an average annual **\$6,300 in visitor expenditures** associated with the watershed.
- The Ketchikan Gateway Borough benefits annually from an average **\$11,000 in property tax revenue** from Unuk River watershed private properties.

These Unuk River watershed economic benefits have a net present value of approximately \$50 million, based on \$2.5 million in economic activity over a 30-year period.

Nass and Skeena Rivers

The Nass and Skeena Rivers do not flow into Alaska, though they do contribute to salmon harvests in Southeast Alaska fisheries, primarily on the outer coast. The Skeena River is the second largest river in British Columbia and the second largest Chinook and sockeye salmon producer on the B.C. coast. Skeena River Chinook are harvested in southern Alaska troll and net fisheries, and sockeye are harvested in a number of Southeast gillnet

and purse seine districts. Nass River sockeye are harvested in Southeast net fisheries. The economic impact of these rivers was not thoroughly examined in this analysis though examples of contributions to the region follow:

- The District 104 purse seine fishery 10-year average Nass and Skeena River sockeye harvest totals 28,500 fish with an estimated annual \$242,000 ex-vessel value and \$513,000 first wholesale value.
- The District 101 Tree Point gillnet fishery 10-year average harvest of Nass sockeye totals 44,400 with an estimated annual ex-vessel value of \$378,000 and first wholesale value of \$800,000.

Summary of Transboundary Watershed Economic Impacts

Each watershed examined in this study is an important component of the Southeast Alaska economy, especially for the communities nearest the watershed. Combined, the Stikine, Taku, and Unuk River Watersheds account for \$48 million in economic activity annually, including multiplier effects. This includes \$34 million in direct spending, 400 jobs for the Southeast region, and almost \$20 million in labor income.

Summary of Economic Impacts – Stikine, Taku, and Unuk River Watersheds

Economic Sector	Total Average Annual Employment	Total Labor Income	Total Economic Impact
Seafood Industry	156	\$7.7 million	\$12.3 million
Sportfish	62	\$3.1 million	\$10.1 million
Visitor Industry	174	\$8.6 million	\$24.7 million
All Other	7	\$0.3 million	\$0.9 million
Total	400	\$19.6 million	\$48.0 million

Note: Columns may not sum due to rounding.
Source: McDowell Group estimates.

The impact of the transboundary watersheds in Southeast Alaska also includes investments in land and resource management by State and federal agencies, and fisheries taxes, which generate revenue for communities and the state. An estimated \$280,000 in annual fish taxes are attributable to the region's transboundary watersheds.

Finally, with appropriate management, Southeast Alaska's transboundary watersheds can generate economic benefits in perpetuity. One measure of that perpetual benefit, the present value of the three watersheds combined, when considering a 30-year horizon, totals just under \$1 billion. The present value of benefits over the next 50 years is over \$1.2 billion, for the three watersheds combined.