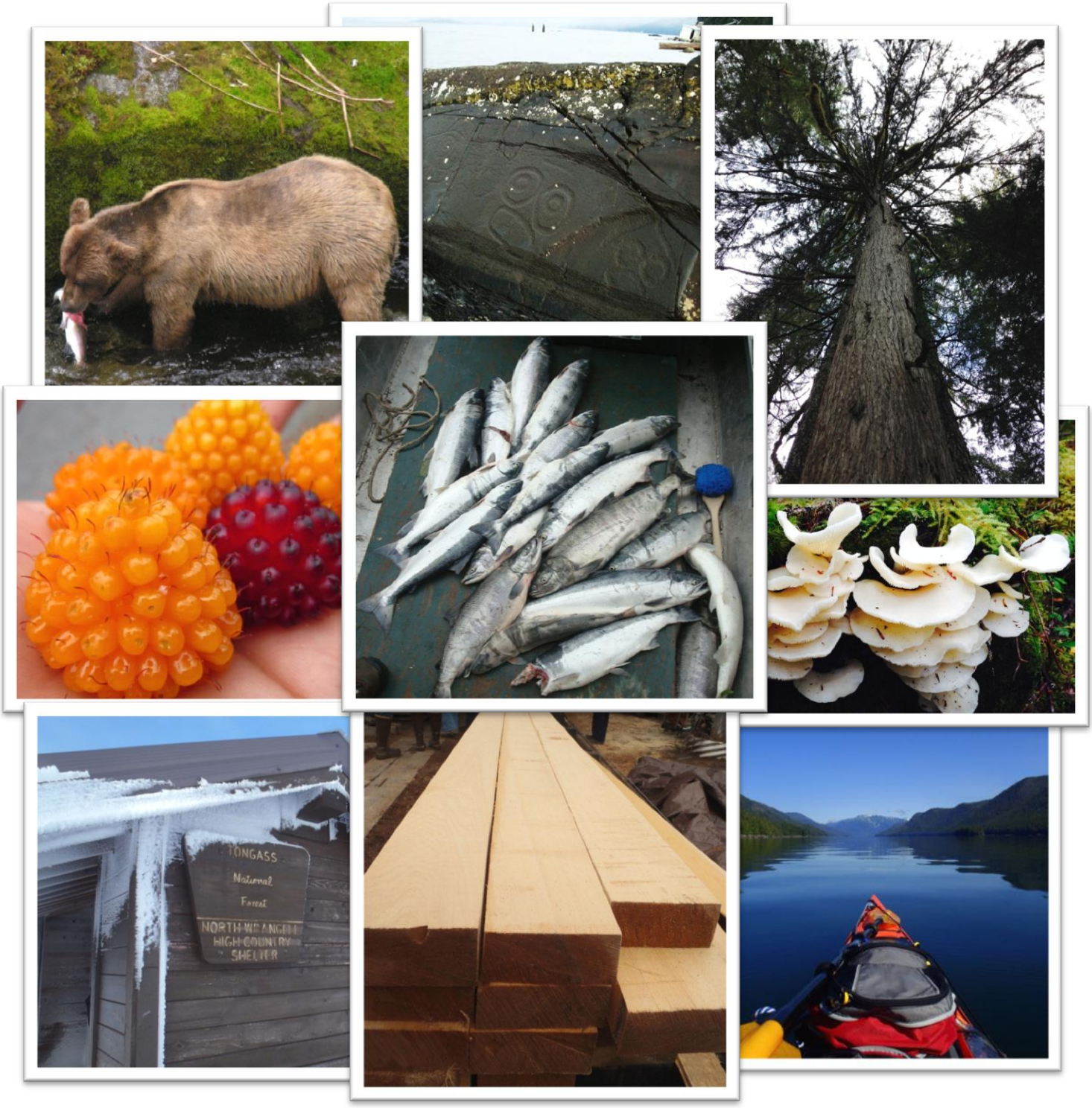
WRANGELL FOREST STEWARDSHIP CONTRACTING AND RESOURCE MAPPING PROJECT

INTEGRATED ASSESSMENT 2012-2013



SUMMARY

Changes in timber economics on the Tongass National Forest have altered the economies of many communities once dependent upon forest products. To maintain livelihoods based on natural resources within and around the forest, collaboration between multiple agencies and groups is the key to identifying the needs and desires of communities and local industries. This integrated assessment summarizes one such initiative to build local community capacity in Wrangell. The goal of the project was to increase the capacity of local businesses to take advantage of economic opportunities on the Wrangell Ranger District. To meet this goal, two workshops were held in conjunction with a survey and mapping project to 1) inform contractors and community members on how to "do business" with the US Forest Service, 2) prioritize objectives for future forest management based on community preferences and resource locations, and 3) increase the capacity of the US Forest Service to collaborate with local stakeholders. Outcomes of this project include maps (both online and paper) available to forest managers and community stakeholders so as to continue collaborative planning, as well as this integrated assessment to share with other communities in Southeast Alaska navigating the same transition.

For a digital version of this report, visit www.seacc.org. For more information, email bjschroeder@alaska.edu and for an interactive version of these maps, visit :

https://sites.google.com/a/alaska.edu/britta-schroeder/research/map

GLOSSARY

EIS – Environmental Impact Statement
EA – Environmental Assessment
LUD – Land Use Designation
MMBF – One (1) million board feet
NEPA - National Environmental Policy Act
Forest Plan - Tongass Land and Resource Management Plan
USFS – U.S. Forest Service
OGR – Old-growth reserve

ABOUT THIS REPORT

This project was funded in part by the National Forest Foundation (NFF) Tongass National Forest Community Capacity & Land Stewardship Program, awarded through the Wrangell Resource Council and Southeast Alaska Conservation Council for 2012-2013. One objective of the grant was to identify areas surrounding Wrangell that would contribute to the economic growth and adaptive capacity of the community in light of the recent changes in forest management. To that end, the awardees of the grant commissioned Britta Schroeder, a graduate student in the School of Natural Resources and Agricultural Sciences at the University of Alaska Fairbanks to present the results of the project in this integrated assessment.

Cover photo credits: Salmonberries; H. Owens; all others, B. Schroeder

INTRODUCTION

Established in 1907, the Tongass National Forest (further referenced as the Tongass), contains 16.8 million acres of glaciers, forests, and estuaries in Southeast Alaska stretching from Yakutat Bay in the north to Dixon Entrance in the south. Throughout the management history of the Tongass, environmental and economic needs have often superseded one at the expense of the other. While small scale logging occurred in the early 20th century, starting in 1947 with entry into two long-term contracts with pulp mills in the region, timber production peaked at 600 MMBF in 1973. From 1954 to 1997, over 400,000 acres were logged on National Forest lands alone. Decades of emphasis on timber production combined with poor logging practices resulted in the degradation of the natural resources on a landscape scale, causing erosion, habitat fragmentation, decreased wildlife and fish populations, and changes in stand compositions.

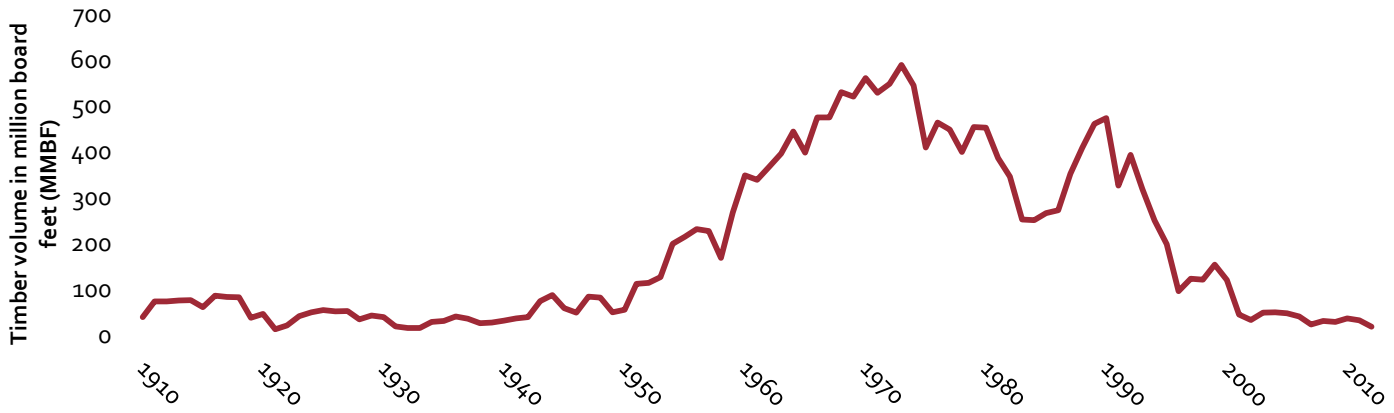


FIGURE 1. TIMBER HARVEST ON THE TONGASS FROM 1910 TO 2012. SOURCE: BRACKLEY, HAYNES, AND ALEXANDER (2009)

Yet, with the last significant peak in the mid-90's, changes in social attitudes, global markets, timber economics, and political directives contributed to a decrease in timber production. In the wake of these events, human and social capital within some of the affected communities declined in the form of unemployment and out-migration during the first decade of the 21st century, as management decisions were hindered by uncertainty stemming from the institutional climate. In the past decade (2000 to 2009), Southeast Alaska saw an increase of 27% in unemployment, a decrease of 8.7% in population and a decrease in school enrollment by 17% (Juneau Economic Development Council, 2011).

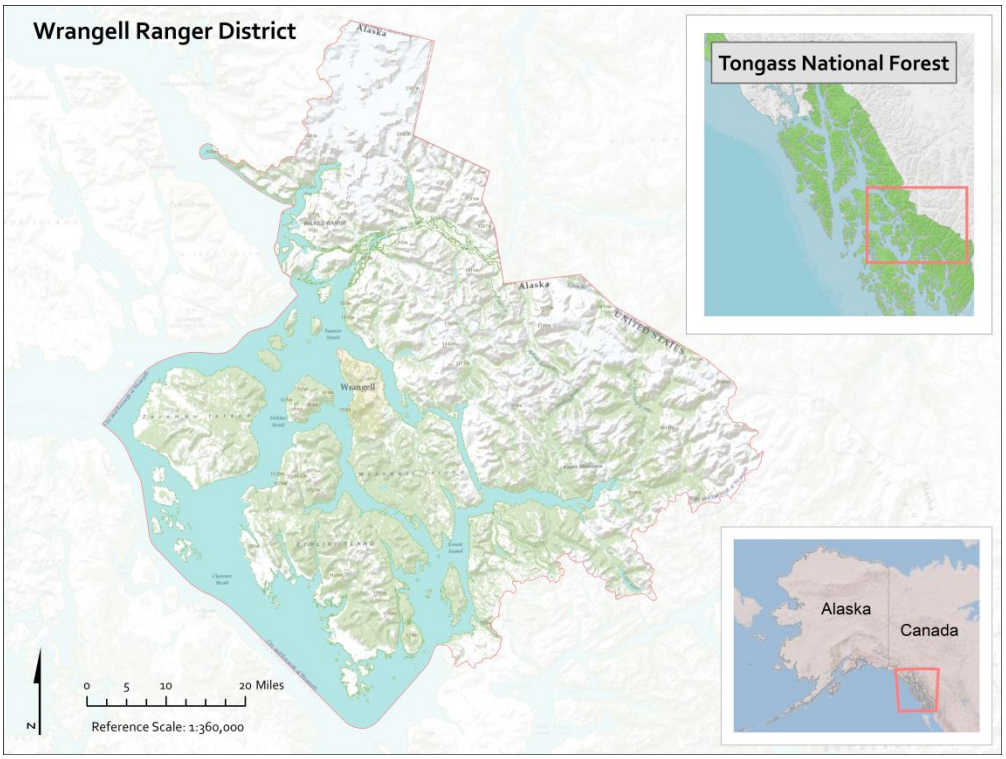
In 2010, the U.S. Department of Agriculture recognized the limiting economic, social, and ecological conditions of the current situation and crafted the USDA Investment Strategy for Southeast Alaska (2011). Coined the "Transition Framework", the strategy seeks to adjust the current socio-ecological system through shifts in forest policies and cooperation with other federal agencies and partners. The framework identifies four priority issues: renewable energy, ocean products, visitor services, and forest products.

Along with the Transition Framework, agency-wide initiatives exist to support both restoration efforts and stewardship contracts. Restoration is the practice of using silvicultural tools and stream restoration to improve the complexity, diversity and functionality of previously degraded ecosystems. Stewardship contracting can be used to keep revenue from timber harvests on a more local level and allows managers to exchange the timber harvested for services performed, such as road maintenance work or precommercial thinnings. Combined with the Forest Service's restoration directive and stewardship contracts initiatives, the Transition Framework strives to maintain the ecological capabilities of the forest as well as provide sustainable livelihoods for the communities of Southeast Alaska.

PURPOSE AND GOALS

The community of Wrangell, within the Wrangell Ranger District of the Tongass, has historically been reliant upon a healthy timber industry. With the closure of the Silver Bay sawmill in 2010, Wrangell citizens began actively seeking ways to redefine and sustain their economy. These issues have been addressed by the JEDC (2011) as well as by the City and Borough of Wrangell Economic Development Committee (2010) and the Wrangell Sustainable Outdoor Recreation Action Plan (2012). Yet, these previous plans did not focus solely on opportunities available on the forest for community capacity building, nor did the corresponding surveys conducted question the community on the broad range of forest management categories laid forth by the Transition Framework.

Additionally, to help bridge the gap between the previous logging regime and the transition to young-growth harvest, the USFS is currently drafting an environmental impact statement (EIS) for possible timber harvest on Wrangell Island. This proposed project has the potential to incorporate stewardship projects and restoration work on the district that would not only increase community capacity but could also address serious ecological concerns on USFS lands. As USFS managers draft alternatives to the EIS, community collaboration during the scoping periods is essential to prioritizing management objectives.



The primary goal of this project is to increase the capacity of local businesses to take advantage of economic opportunities on the Wrangell Ranger District. Focusing on the issues identified in the Wrangell Island EIS and the Tongass Transition Framework, the objectives to meet this goal include:

- Strengthening the Forest Service's capacity for collaboration with local stakeholders, including small businesses, the local tribe, the City and Borough, conservation groups, and small mills;
- Improving local business's capacity to do business with the Forest Service through contract bidding;
- Using an integrated assessment process and geospatial tools to identify natural forest resources in the Wrangell area and determine in what quantity and duration these resources will be available for business investment planning capacity purposes.

Alternatively, to meet these objectives, responses are necessary for the following questions:

- What is the current capacity of contractors in the community?
- What tools are available to contractors to obtain work?
- Where do opportunities exist on the district for stewardship/restoration work and how do these opportunities align with community preferences?

PROCESS

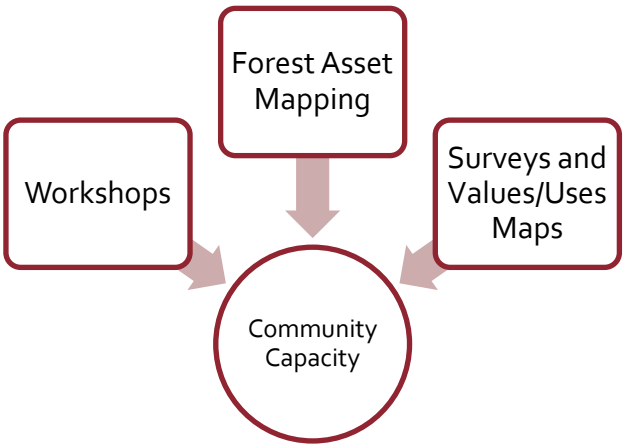


FIGURE 2. STEPS IN THE INTEGRATED ASSESSMENT PROCESS

To address the above questions, the integrated assessment process consisted of three separate components: community workshops, individual surveys, and forest asset mapping.

First, workshops were held where members of the community voiced current and future economic concerns. Contractors also provided input on their current and future capacity. Along with managers listening to the needs of the community, attendees at the workshops also learned about the tools available through stewardship contracting.

Secondly, surveys were sent out to members in the community to measure attitudes towards forest management objectives. These surveys also asked respondents to spatially locate places they value and places they deem as acceptable or as unacceptable for certain forest uses. Because the current public planning process already incorporates public values and attitudes, this step takes the NEPA scoping process one step further by placing these values and uses in a spatial realm.

Finally, to locate the opportunities available on the district for stewardship work, forest assets encompassed by the Wrangell Ranger District were mapped. These assets included areas of ecological importance, such as stands previously harvested or streams containing salmon runs. Similarly, social and political areas were mapped, such as recreation facilities, LUD's as laid out in the Forest Plan (2008), and 2001 Roadless Rule lands, since these areas also guide the decisions for land management.

From these three separate steps, it was possible to identify the needs of the contractors, the values of the community, and the opportunities available on the district for capacity building. Maps where compatible values and acceptable uses overlapped with appropriate forest assets show potential places available for restoration and stewardship work. Through this process, maps indicating areas with conflicting values or unacceptable uses were also identified, fostering dialogue between managers, contractors, and community members as to the appropriateness of management objectives. Following these steps, capacity of the community can be increased through improved collaboration.

Values	Acceptable and Unacceptable Uses
•Aesthetic	•Helicopter logging
•Biological	•Ground-based logging
•Cultural	•Roads
•Economic	•Subsistence lifeways
•Future	•Recreational facilities
•Historic	•Motorized use
•Intrinsic	•Non-motorized use
•Learning	•Old-growth reserves
•Life-sustaining	•Commercial tourism
•Recreation	•Scenic viewshed
•Spiritual	•Energy development
•Subsistence	•Wilderness or wild/scenic river
•Therapeutic	•Other development

FIGURE 3. TYPES OF VALUES AND USES MAPPED IN STEP TWO OF THE INTEGRATED ASSESSMENT PROCESS

USING SOCIAL MAPS TO ASSIST IN COLLABORATIVE PLANNING

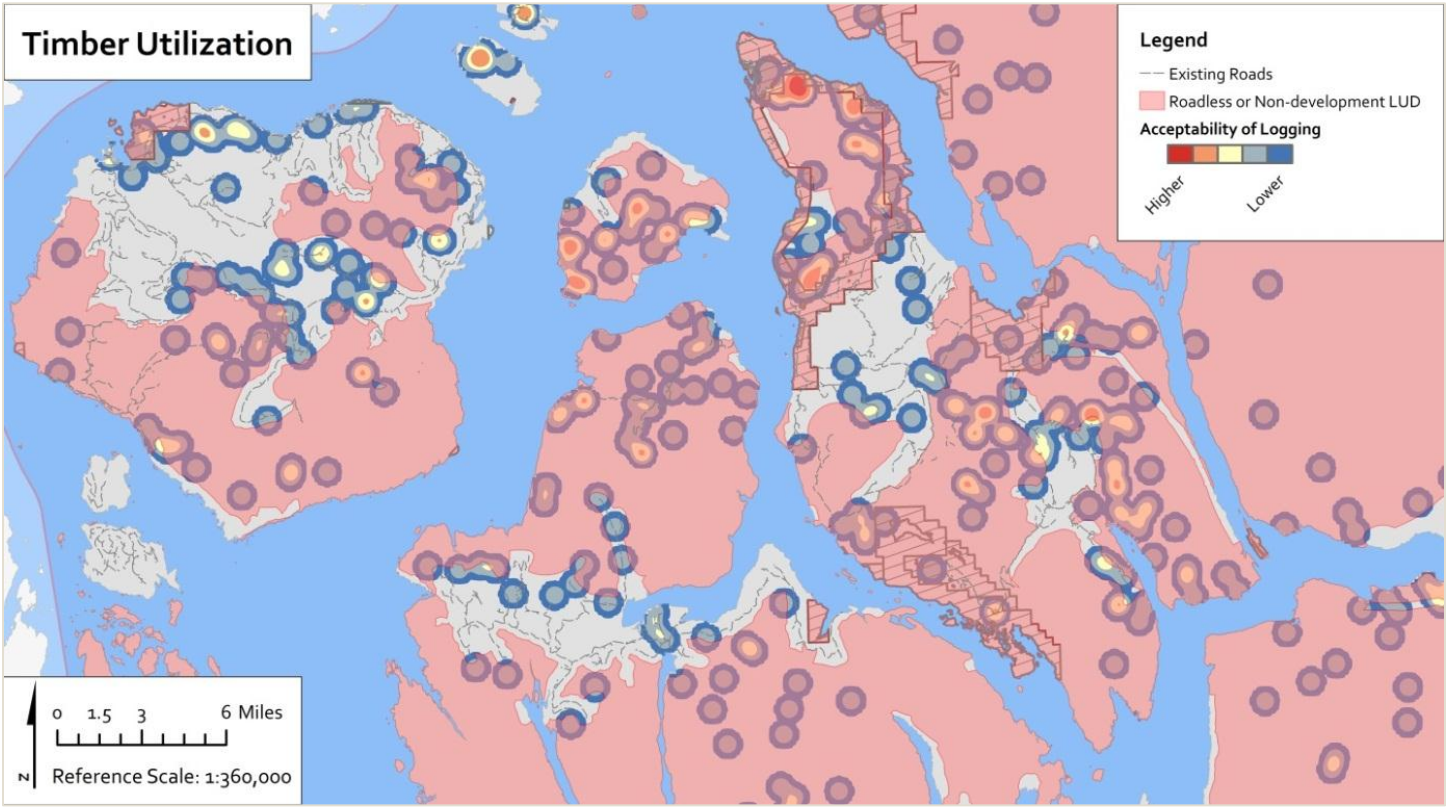
During the first workshop, when asked what was necessary for collaboration and management prioritization, both managers and stakeholders asked a question in return: what does the community want? With this question in mind, invitations were sent to 700 randomly selected Wrangell registered voters with the option of completing their surveys online or by paper. The response rate of the survey was 28%, with over 200 people mapping values and uses, although only 122 completed surveys also had completed maps. Of those 122, seventy of the surveys were done online while fifty-two were paper surveys.

A total of 5,112 values and uses were mapped by survey respondents. The median number of values and uses mapped per person was thirty-two, with recreation being the value mapped most often, followed by aesthetic, economic, biological, and subsistence values. The acceptable uses most often mapped were subsistence, motorized, ground-based logging, recreation facilities, and road use. The most frequently mapped unacceptable uses were ground logging, roads, helicopter logging, other development, and wilderness.

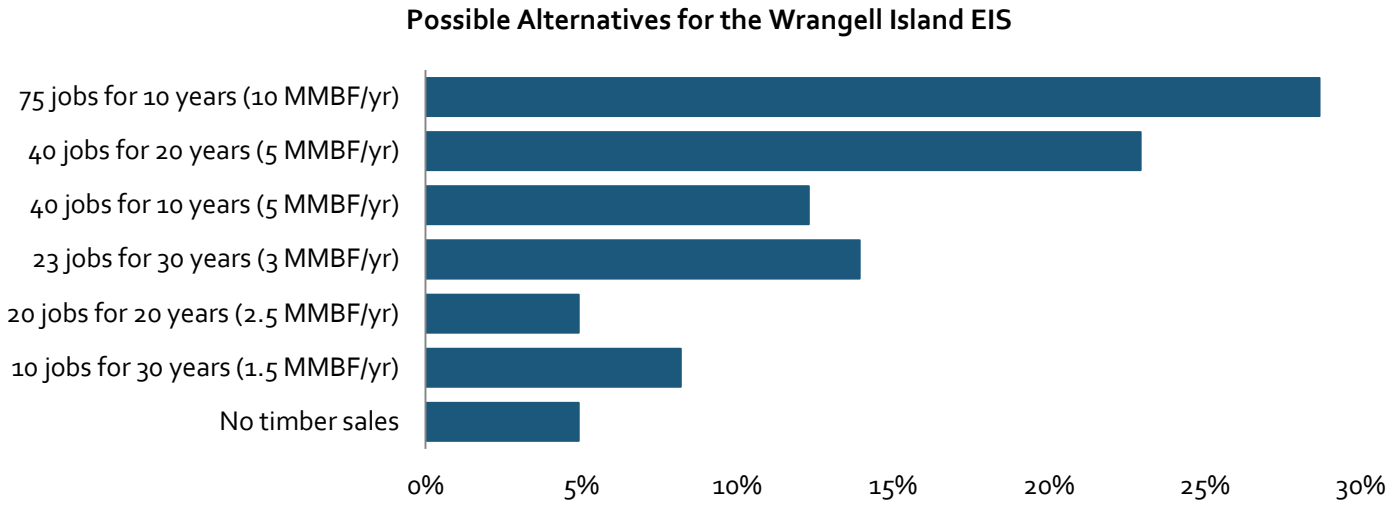
UTILIZATION

Type of Logging	Favor	Oppose
Clearcuts	64%	36%
Partial harvests	84%	16%
Individual tree removal	83%	17%
Helicopter logging	84%	16%
Ground-based logging requiring roads	82%	18%

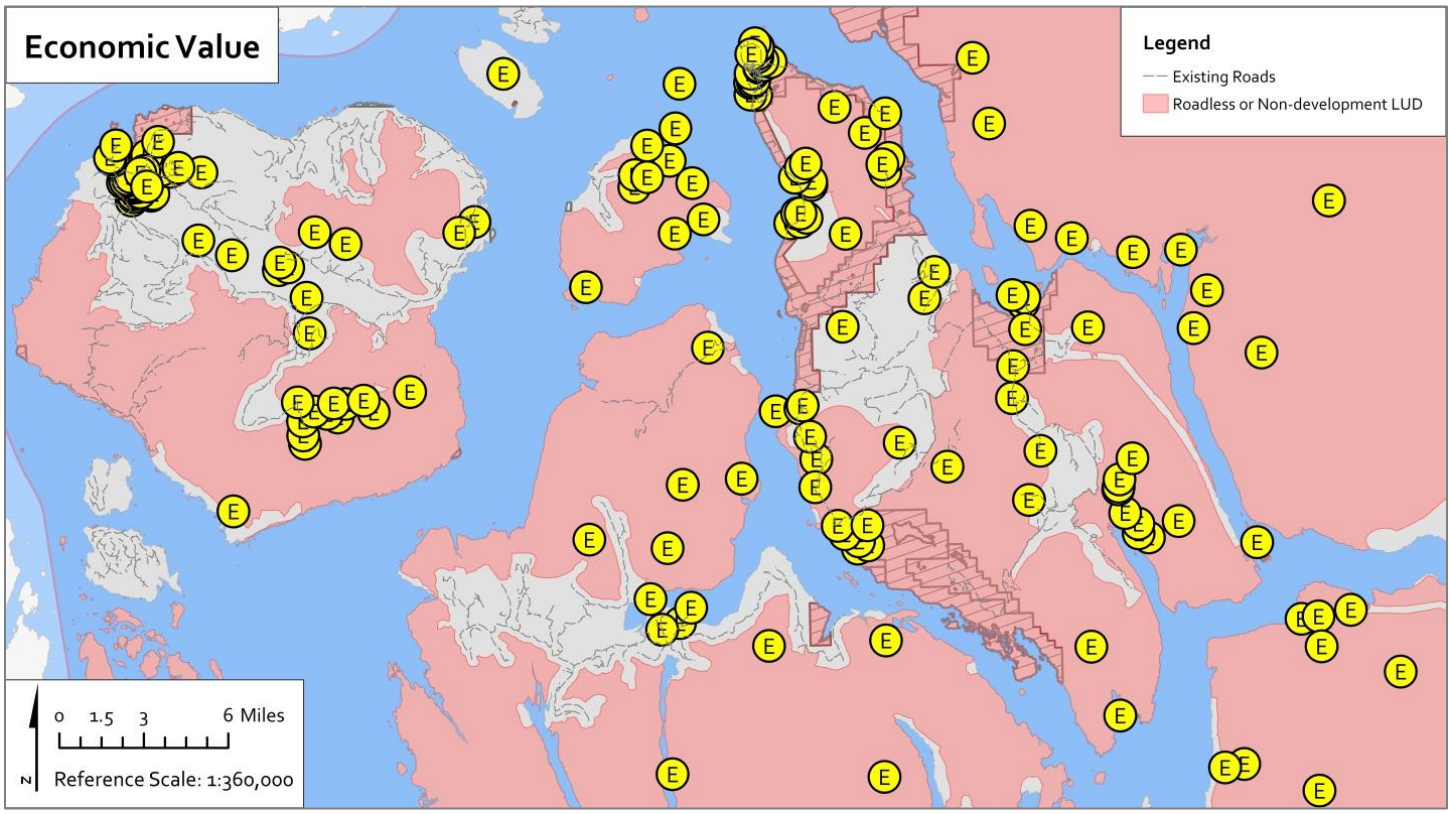
When mapping areas deemed as acceptable and unacceptable for logging, it is important to take into account the type of logging proposed. Asked about attitudes towards different forms of logging, a large majority of respondents were in favor of ground-based logging, though many respondents preferred partial harvest over clearcuts. In the Timber Utilization map, respondents mapped areas acceptable for ground-based or helicopter logging. Many of these areas overlap with non-developmental LUD's or Roadless areas, as shown in red. Those areas not overlapped by red may be the foundation for discussion on timber utilization.



For every one MMBF of sawtimber harvested, on average 5.7 jobs are created in the logging or sawmilling sector (Alexander, Henderson, & Coleman, 2010). Based on high and low timber volumes in the Wrangell Island EIS potential alternatives, respondents were asked their preference given a hypothetical amount of volume cut per year. When translated into jobs per year, the majority of respondents chose Wrangell Island EIS alternatives with the highest number of board feet cut per year.



Only 14% of respondents or others in their household earned income from forest products or commercial services on the forest, yet forty-two percent of the respondents mapped areas valued for economic reasons in the Economic Value map. The ambiguity of mapping an economic value requires further dialogue about desired uses, but those uses physically closest to economic values were ground logging and recreational facilities.

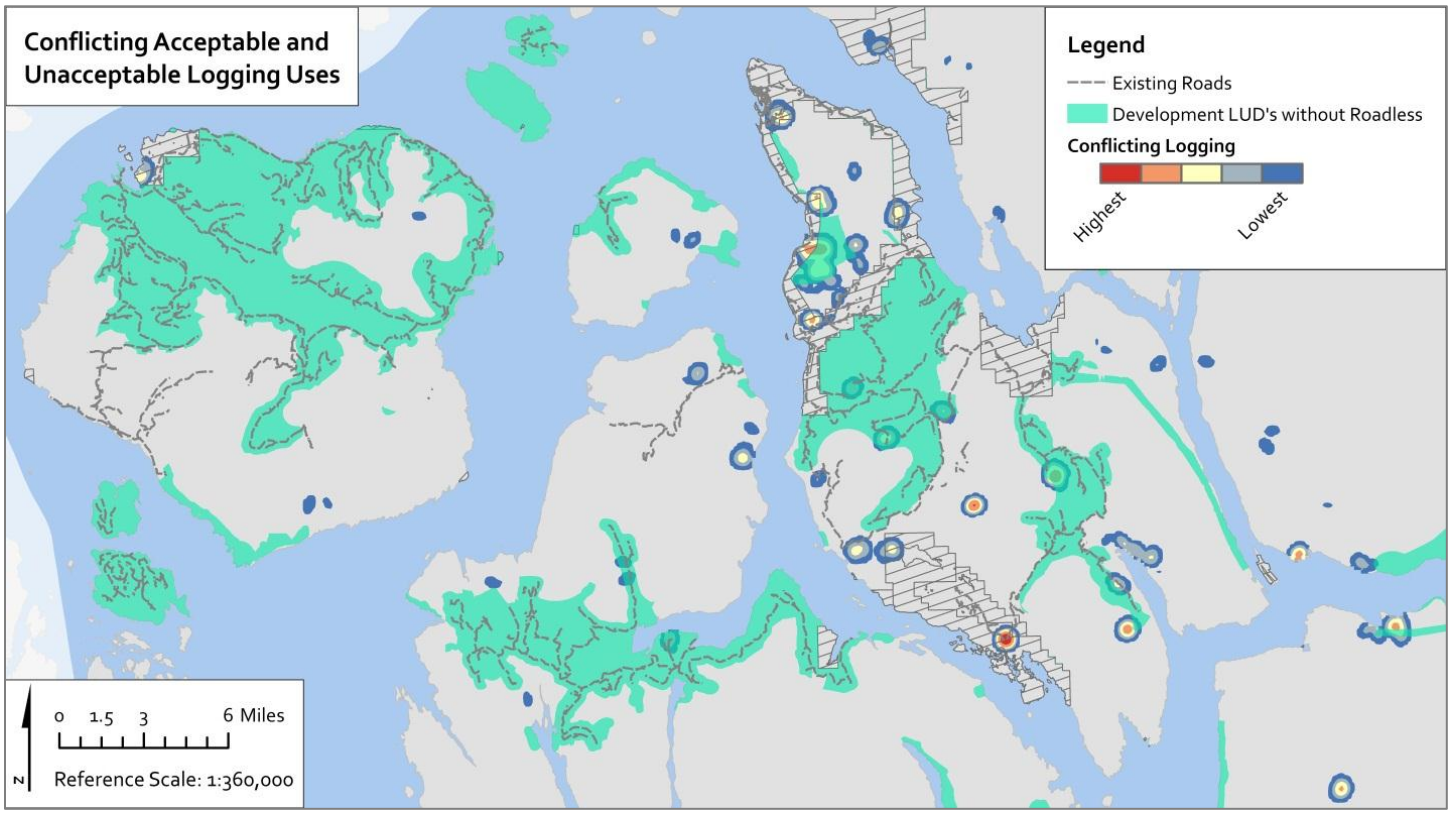


One point raised at the workshops when discussing contractor capacity was the uncertainty of the timber industry needs. Who is the timber industry? And specifically, what does the industry need to retain human capital? The answer to these questions was summed up by one stakeholder, who said, "Healthy community support is imperative for a thriving timber industry. Small entrepreneurs require a medium-sized mill." To that end, respondents to the survey were asked a series of questions relative to maintaining, expanding, and attracting different size mill and logging operators.

Preferred outcome of alternatives	Agree	Neutral	Disagree
Maintain small mill operator supply	72%	11%	13%
Expand small mill operator supply	69%	12%	15%
Attract medium-sized mill operators	64%	9%	22%
Attract medium-sized logging operators	64%	7%	25%

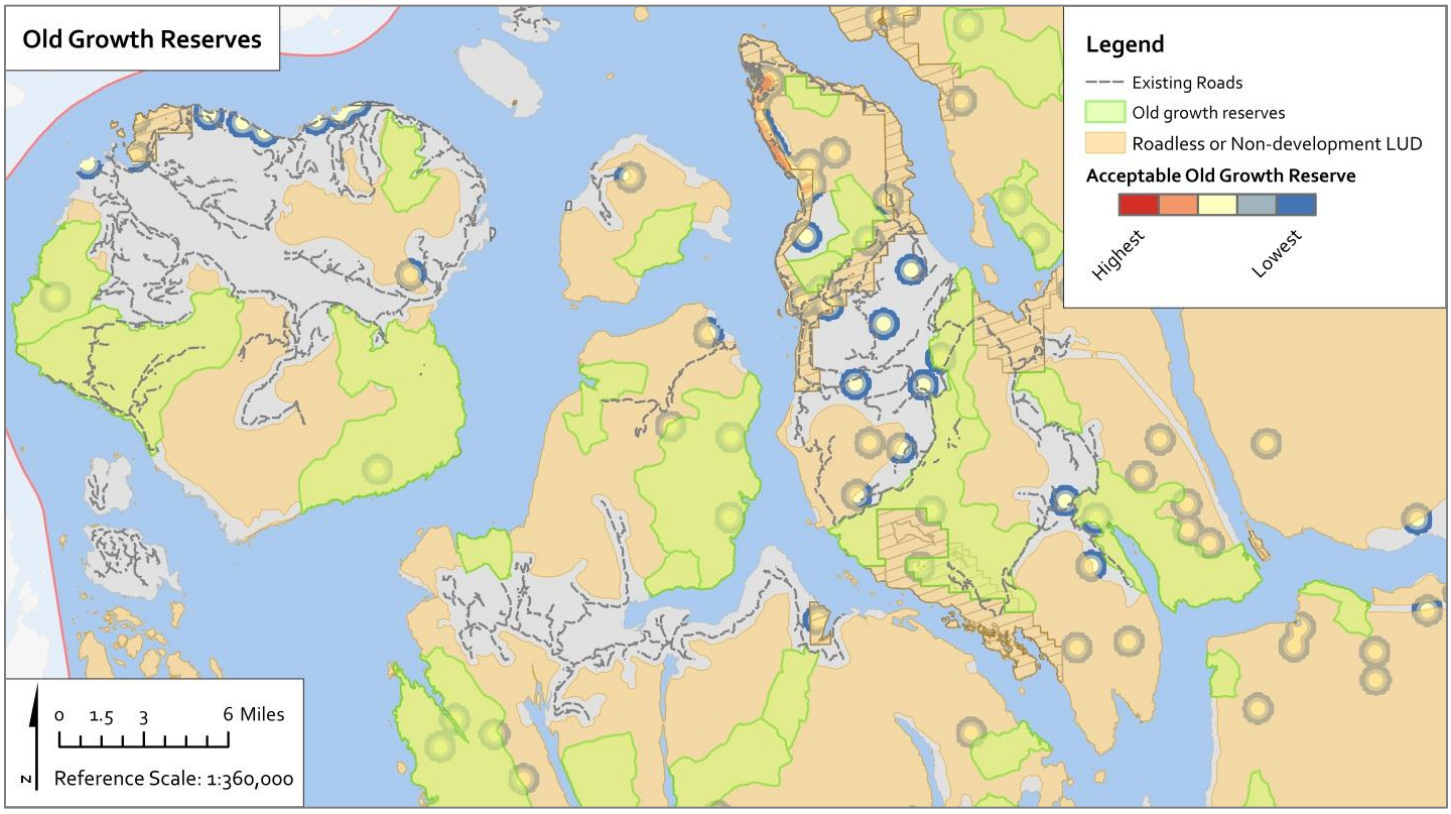
NON-UTILIZATION

Identification of conflicting uses and values not only allows managers to spatially pinpoint hotspots of conflict, but to assess the degree of conflict. Areas mapped for both acceptable and unacceptable logging (both ground-based and helicopter) overlap in the Conflicting Acceptable and Unacceptable Logging Uses map. On the road system, when overlaid with areas currently available for development (timber management, modified landscapes and scenic viewshed LUDs), hotspots exist above Mental Health land between miles 5 to 8 and near Long Lake. These hotspots can be used to further delve into the reasons behind the conflicts and provide distinct resolutions instead of blanket prescriptions or management objectives.

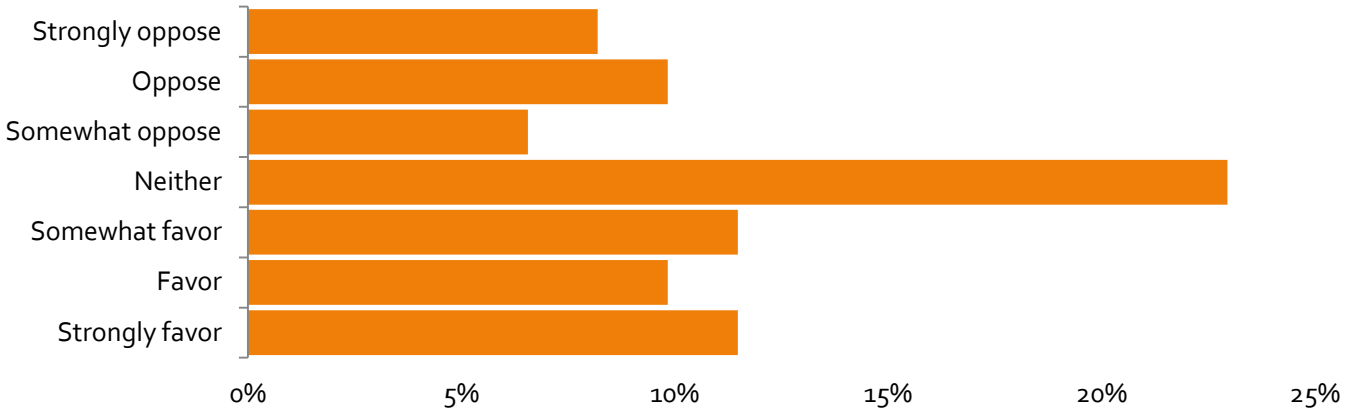


CONSERVATION

Areas currently designated as old-growth reserves (OGRs) within the Forest Plan serve to increase or maintain biodiversity and subsistence resources. These OGRs can be relocated by an amendment to the Forest Plan. Alternatives for the Wrangell Island Project may include changes to the location and connectivity of OGRs, as well as potentially increasing the total acreage. Asked about their attitude towards OGRs, respondents were evenly distributed between favoring and opposing change. Many of the locations mapped as acceptable for OGR designation currently fall under either non-development LUDs or roadless areas. Regardless of whether the social valuation or the designation of OGR came first, discussions of altering or expanding OGR designation should take into account the areas mapped as acceptable for OGR.

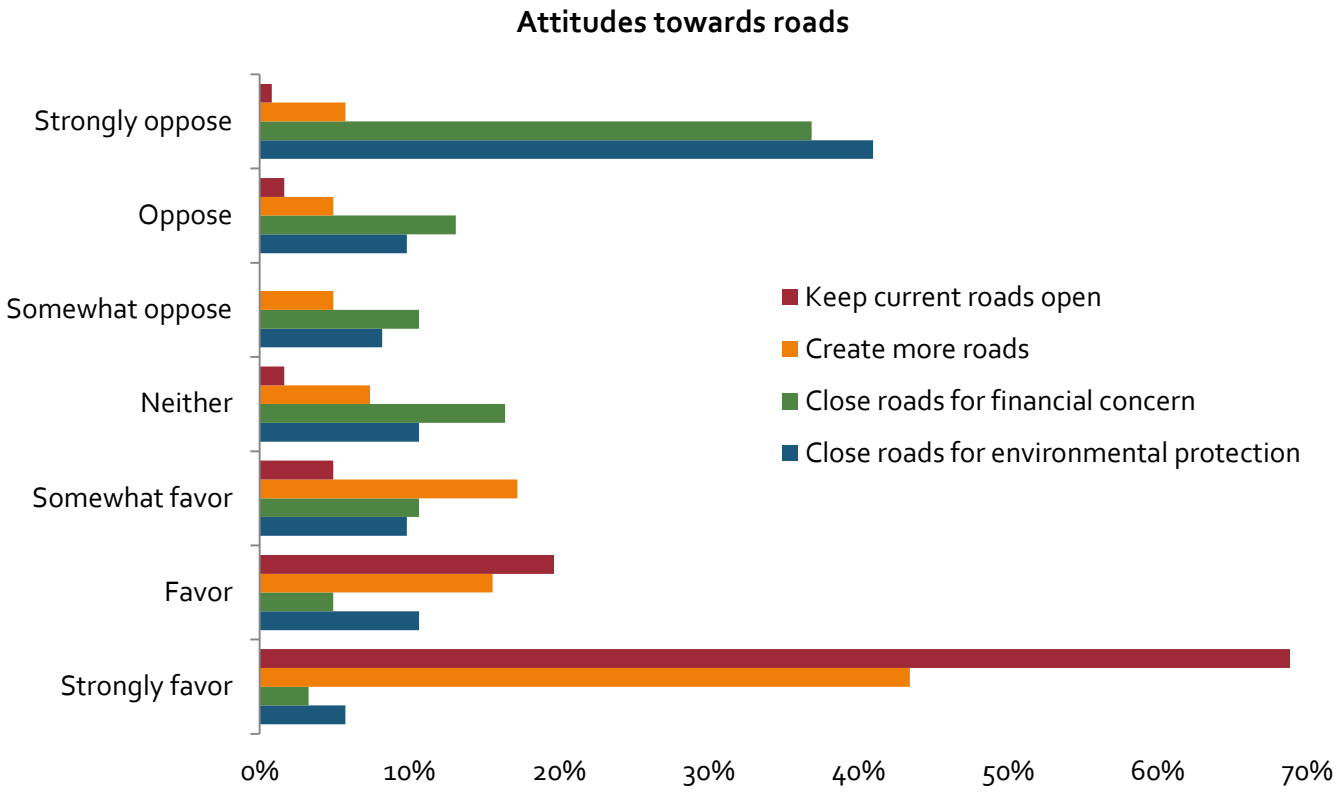


Do you favor or oppose changes to the locations of old growth reserves?



ROADS

Roads have long been an issue on the Tongass, especially recently as the Tongass is no longer exempt from the Roadless Rule of 2001. Naturally, construction and maintenance of roads has been identified as a preliminary issue in the Wrangell Island Project. Although roads provide access for timber and subsistence activities, roads can also fragment habitat and spoil wilderness character. Attitudes of the public towards roads have played a large part in the designation of LUD II and Roadless areas, and public attitudes are still pertinent today. Out of the 1.6 million acres encompassing the Wrangell Ranger District, over 90% of the land is classified as roadless. When asked about their attitudes towards roads, respondents were largely in support of creating more roads and keeping current roads open. A large majority of respondents were opposed to closing roads for financial reasons or environmental protection.



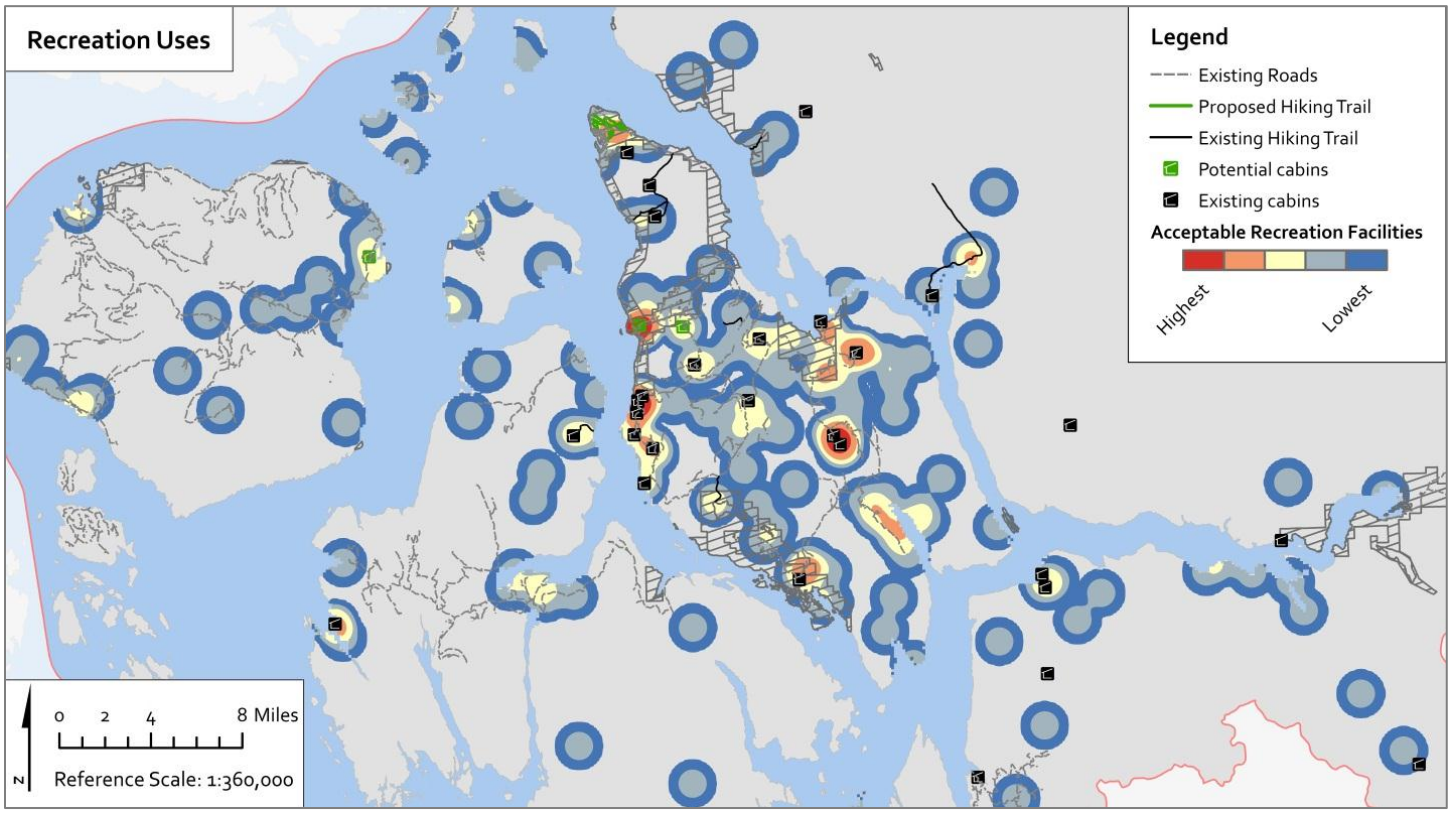
RECREATION

As the largest private sector employer in Southeast Alaska, the visitor industry plays a large role in providing economic opportunities in Wrangell. When asked to map areas on the district as highly acceptable for recreational facilities, many of those spots marked have already been developed, such as Long Lake, Thoms Lake, Highbush Lake, and many of the Nemo Loop sites. Currently, areas with a relatively high acceptability and under discussion for development include Pat's Lake and Roosevelt Harbor. On the north end of Wrangell Island, trails in areas already deemed acceptable for recreation development have already been proposed by the USFS and the City.

Undeveloped areas on the district with the highest acceptability for recreational facilities were near Fools Inlet. Within Fools Inlet, over 12 respondents mapped the area as acceptable for recreational development, while one

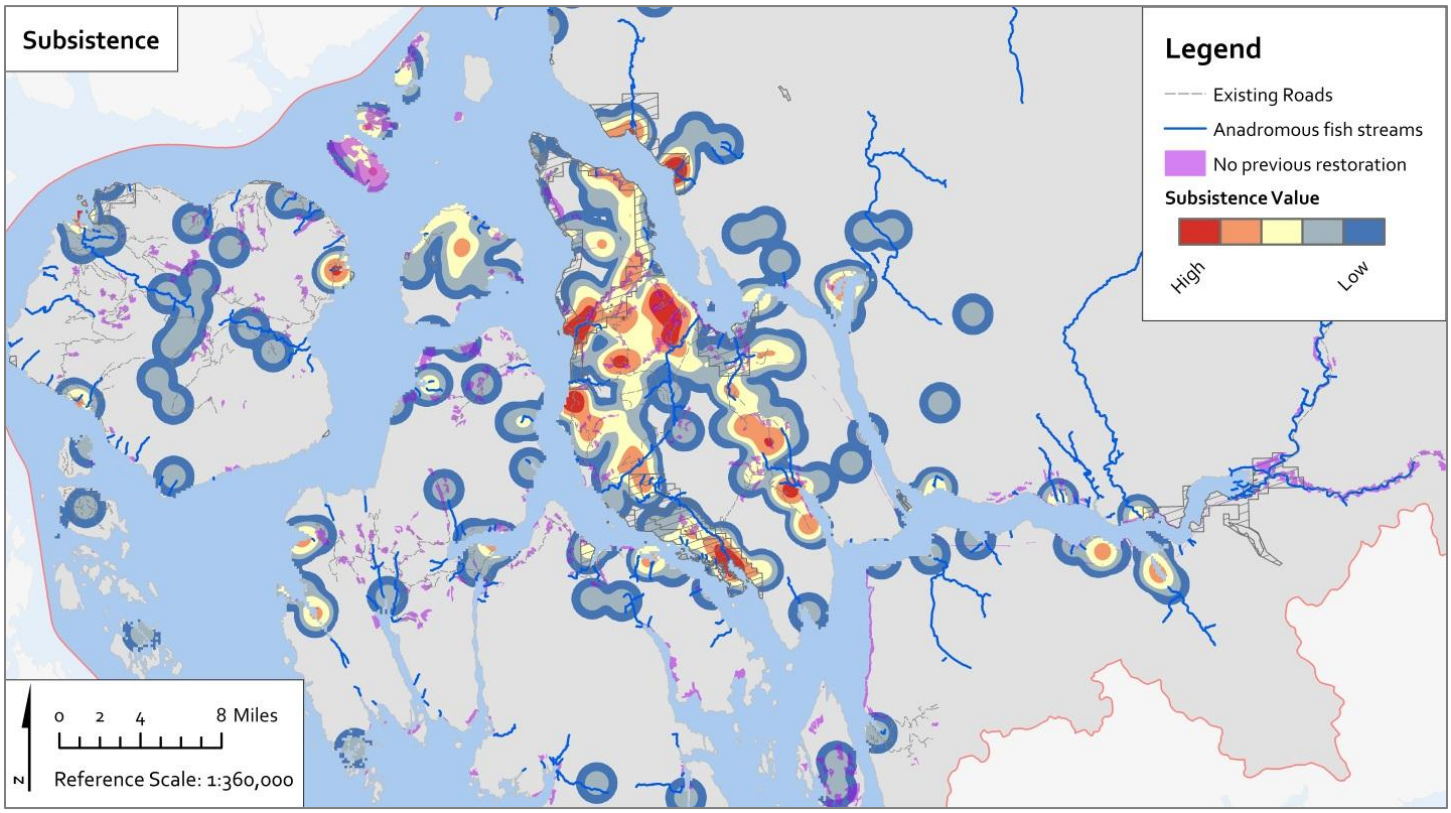
respondent mapped the Fools Inlet as unacceptable for developed recreational facilities. Snow Pass, St. John's Bay, Paradise Cove, and Anita Bay-Burnett Inlet were all areas designated as acceptable for recreational facility development without immediate plans for shelter construction.

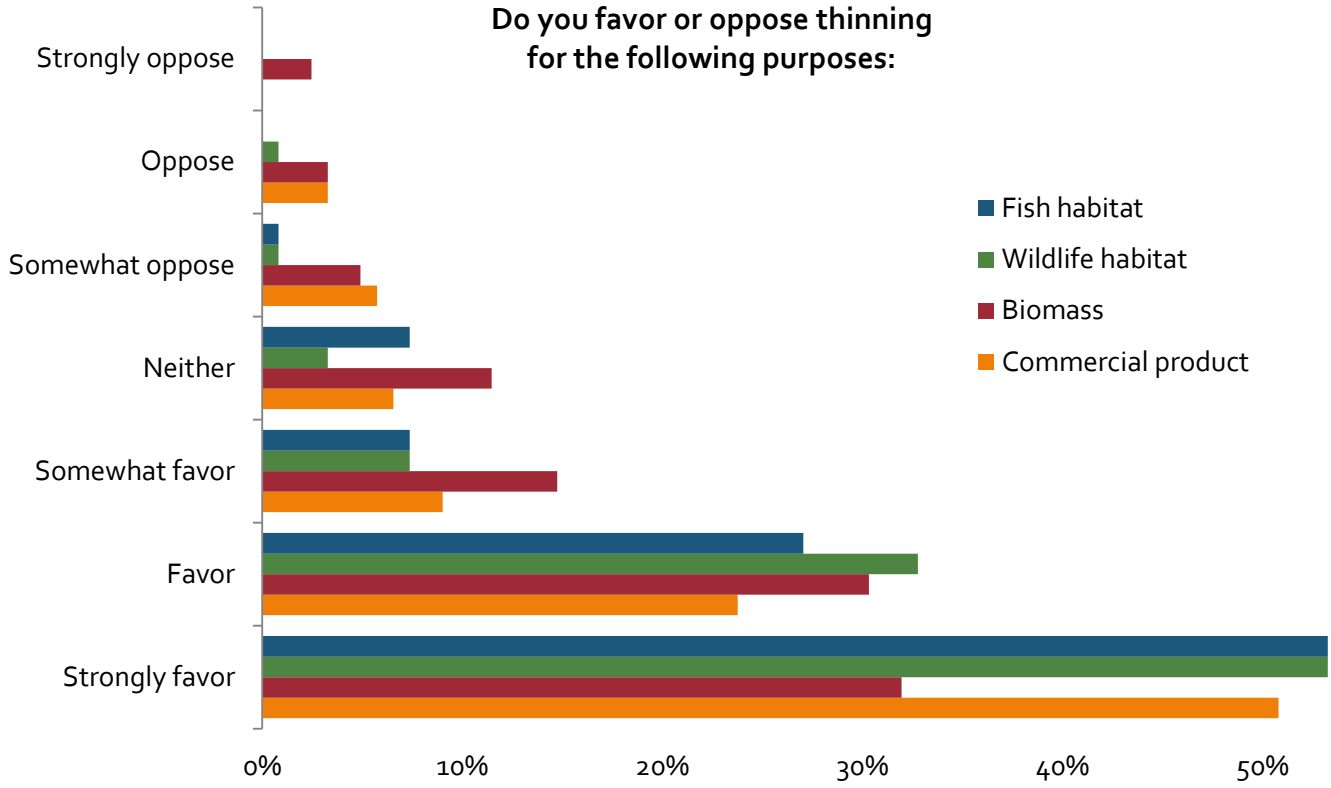
The Transition Framework raised the concern of the ability of outfitters and guides to obtain more commercial permits. When asked about permits available for outfitter/guides to conduct commercial visitor services on Forest lands near Wrangell, 80% of respondents felt there were enough permits available, while 63% felt that the impact from outfitters/guides on the district was minimal.



RESTORATION

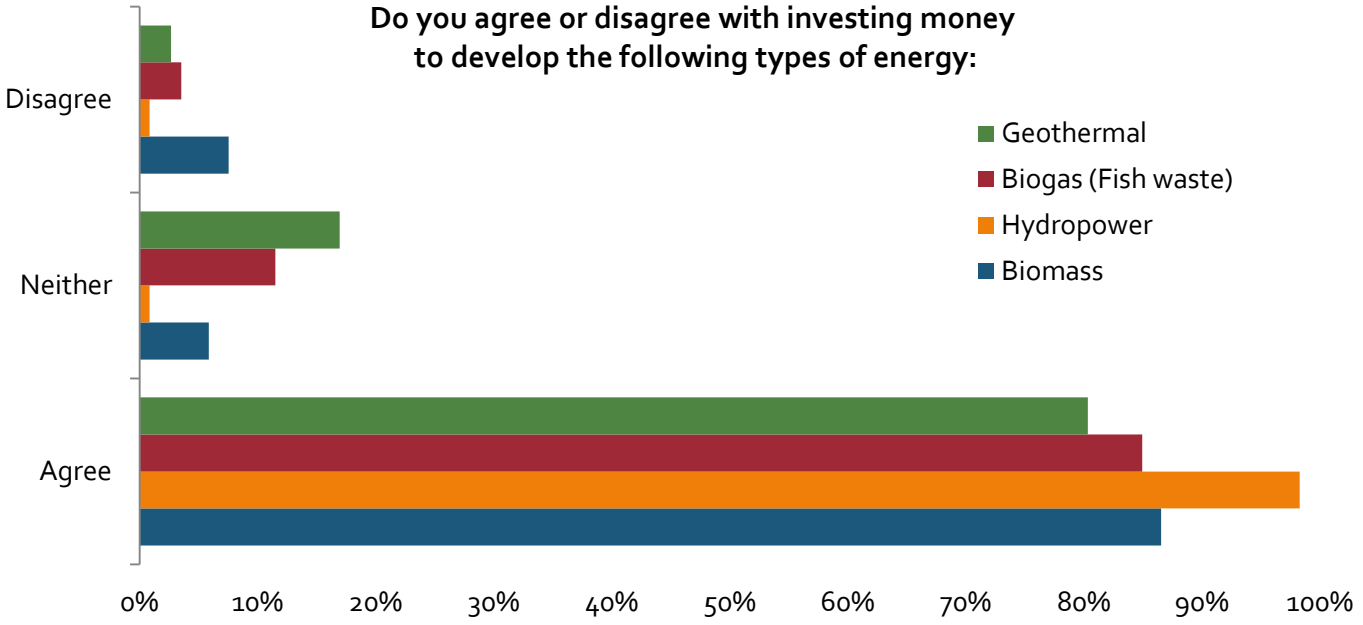
In the case of the Tongass, places with high priority for restoration work include anadromous streams in watersheds of extensive logging as well as young-growth stands near beaches or along riparian areas. The majority of the restoration work needed on the forest includes thinning to improve winter forage for deer in young-growth stands, while stream restoration often includes reintroducing large woody debris to decrease stream turbidity and temperatures. Both species associated with these restoration needs are highly valued for subsistence uses. When overlapping these managed stands requiring restoration work with subsistence values, Pat's Creek, Lower Salamander, Fools' Inlet, and Vank Island are all watersheds with high subsistence values and restoration opportunities. Of note, over ninety percent of respondents obtained food for their households from the Tongass, with upwards of ten percent relying on the forest for over half their household food. Most of the respondents were supportive of thinnings conducted under the objective of improving wildlife or fish habitat. While there was some opposition to thinnings done with the purposes of biomass production or future commercial timber product improvement in mind, these activities were still relatively well supported.


Subsistence
Legend
Existing Roads
Anadromous fish streams
No previous restoration
Subsistence Value
High
Low
0 2 4 8 Miles
N
Reference Scale: 1:360,000


Do you favor or oppose thinning for the following purposes:
Strongly oppose
Oppose
Somewhat oppose
Neither
Somewhat favor
Favor
Strongly favor
Fish habitat
Wildlife habitat
Biomass
Commercial product
0%
10%
20%
30%
40%
50%

RENEWABLE ENERGY

Wrangell currently utilizes hydropower from Tyee Lake, which is then shared with Petersburg and Ketchikan through the Swan Lake – Tyee Intertie. As technology changes and demands for energy grow, efforts to decrease energy costs and diversify energy sources across the region were addressed in the Transition Framework. Respondents were asked about their attitudes towards different forms of renewable energy, and were given options to map areas of acceptable and unacceptable energy use. While only 85 markers were mapped for acceptable use and seven were marked for unacceptable, the graph below shows the attitudes of respondents to various types of renewable energy sources available on the Wrangell Ranger District.



CONCLUSION

To advance the Transition Framework, this project sought to increase the capacity of organizations and stakeholders in Wrangell to foster a diverse economy while increasing forest health. The ability of this project to encourage this capacity was measured by four separate outcomes.

First, capacity was measured through the community's increased understanding of stewardship contracting and how these contracts can be used to assess Wrangell's long-term supply of work on the forest. Within the workshops themselves, stakeholders were presented with an introduction to stewardship contracting, community collaboration, best value in contracting, stewardship agreements, stewardship contracting myths, the potential of current USFS projects to become stewardship contracts, the use of restoration in stewardship contracts, and finally, a potential scoring system for use of retained receipts.

Second, capacity was measured by an increased awareness of the USFS towards local contractor capacity and barriers to successfully winning forest stewardship contracts. During the workshops, contractors pointed towards needs in better communication, diversity of industry scale, a predictable timber supply, quick turnaround on sales, and a clearer vision of the desires of the community.

Third, capacity was measured through increased awareness of the community to the natural resources available for use in creating and sustaining jobs on the forest. The creation of the community values and forest asset maps not only address where these natural resources are available for utilization, but also how these resources match up with community preferences. When viewed through the lens of the Transition Framework, opportunities for combining restoration within stewardship projects exist in multiple areas, such as wildlife thinnings in places valued for subsistence, recreational facility development in areas of proposed timber sales, and support for timber utilization in areas designated for such land use.

Finally, when alternatives for the Wrangell Island EIS become available, the alternative maps should be draped over the value/asset maps so as to better assess how well the significant issues addressed in the EIS meet community preferences. Further along in the planning process, when determining the encompassing timber sale areas, managers can use these same maps to provide insight or inspiration for potential stewardship projects.

While this project focused on sectors identified in the Tongass Transition Framework, and issues identified through the Wrangell Island Project, the integrated assessment process can be utilized by other communities on the Tongass or by communities undergoing a similar transition in other forests. Conversely, although the process was site specific, national forests belong to the public, and landscape valuation is not a vote but a snapshot in time to gauge the socio-political environment at a local level. Ultimately, while the nature of forest mapping and landscape valuation is vague, to bring these concepts into a spatial realm may serve simply as a catalyst for collaboration, the final measure of increased community capacity.

ACKNOWLEDGEMENTS

Thank you to the citizens of Wrangell who participated in the survey, the participants of the workshops, the USFS Wrangell Ranger District, the Southeast Alaska Conservation Council, the National Forest Foundation, Dr. Greg Brown at the University of Queensland, and the UAF Resilience and Adaptation Program.

REFERENCES

Agnew::Beck Consulting. (2012). Wrangell Sustainable Outdoor Recreation Action Plan.

Alexander, S. J., Henderson, E. B., & Coleman, R. (2010). *Economic Analysis of Southeast Alaska: Envisioning a Sustainable Economy with Thriving Communities*. (R10-MB-725). Juneau, AK: Forest Service, Alaska Region.

Brackley, A. M., Haynes, R. W., & Alexander, S. J. (2009). *Timber harvests in Alaska: 1910-2006*. (Res. Note PNW-RN-560). Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station.

Juneau Economic Development Council. (2011). Southeast Alaska Economic Asset Mapping: Phase 1 of the Southeast Alaska Cluster Initiative. Juneau, Alaska.

Sheinberg Associates. (2010). City and Borough of Wrangell Comprehensive Plan. Wrangell, AK.

U.S. Department of Agriculture. (2011). *USDA Investment Strategy in Support of Rural Communities in Southeast Alaska 2011-2013.* (R10-MB-734).

USDA Forest Service. (2008). *Tongass National Forest Land and Resource Management Plan*. (R10-MB-603b). Juneau, AK.