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"Protecting the natural environment of the Tongass while supporting the development of sustainable communities in Southeast Alaska – Since 1967"

March 30, 2015

Deborah Holman,
Project Administrative Coordinator
DOT&PF, South coast Region
P.O. Box 112506
Juneau
AK 99801-2506

Re: **Sitka Katlian Bay Road State Project 67672**

Dear Deborah Holman

Thank you for the opportunity to submit comments on the proposed Katlian Bay Road construction project.

First, the Sitka Conservation Society (SCS) would like the State and the DOT to consider the rationale behind spending upwards of $16 million in the current fiscal climate to construct a road that will have very limited use and very limited access to critical resources. Many departments are having to downsize and reduce the scope of their activities. The State has a budget deficit of nearly $4 billion, so despite the funding for this project having been approved by voters for bonding (long term debt), the road is surely a prime candidate for a re-appropriation of funds. This re-appropriation is supported by the fact that the road is not of significant importance to the community. There are many other projects where the money could be better spent (a wiser investment would be to put the money into the Deep Water Dock in Sitka that was also approved under the same bond measure). In terms of importance for Sitkans, there has never been any prioritization of recreation access to Katlian valley. Currently, the community is prioritizing funding for our state parks. The budget crisis has led to a cut in State Park Funding, to the extent where they are threatened with closure. The $130,000 annual cost of maintaining Sitka State Parks could be covered for an astonishing *100 years* by the proposed road budget, with a couple of million dollars to spare. This is by no means the fault of the DOT, but we wish to highlight the potential alternatives the State could spend this money on.

SCS is also concerned as to where funding will come from to maintain the proposed road once it is built. At the open house evening in Sitka, a DOT representative mentioned that the annual maintenance costs are currently unknown. Surely, this calculation should be a priority for the DOT as the route traverses a steep peninsula that is prone to landslides and in a part of town that receives more snow than the rest of the road system. At the open house, the presenter

claimed the road could require re-grading once a month. With a State road maintenance budget that is already extremely limited and has difficulty maintaining existing road systems, it would seem that this project is a luxury we cannot afford. Therefore, SCS requests that the DOT calculates the annual maintenance cost for the Katlian Bay Road and demonstrates where the funds will come from to cover these costs once construction is complete. Otherwise, we fear the road will close after a short time due to a washout event or landslide.

At the meeting, the DOT said that the resource the road is seeking to access has changed from access to a rock pit to access to recreation resources on Forest Service land and subsistence resources. If this is the case, SCS feels that the recreation area must be considered as much as the road design itself. As with the annual maintenance cost of the road, it is currently unknown who will develop and maintain the recreational resources that the road will access. Currently there are no recreation resources in the valley other than the remnants of a road system from logging in the valley in the 1970s and undeveloped public lands (very rugged mountains, remote valleys, and wild rivers). There are no cabins in the valley, no maintained hiking trails, and no day-use areas. It is unknown who will build recreation resources and how they will be maintained. If the intent is to access undeveloped recreation opportunities, this road is not needed as access to undeveloped recreational opportunities currently exists by boat or by foot.

The DOT did state that the project includes construction of a day-use area that will include a fire pit, shelter and benches. A new rec area in a previously inaccessible watershed will be extremely popular with the people of Sitka. However, with annual funding for state parks being cut, it is uncertain who will maintain this site. There could be significant damage to the area if the necessary infrastructure is not properly sited and maintained. Further, there are currently no plans by the Forest Service, local NGOs, or other entities for construction of recreational facilities. If coordination with other entities has occurred and new plans are in place, we would like these to be included in the project's documents. If there are no existing plans for recreational facilities to be constructed by other entities, this should also be noted.

SCS requests that the DOT analyze as part of the project the result of increased access to the subsistence and sport fishing and hunting resources in the Katlian Watershed. Part of the rationale for the project is to provide more hunting and fishing opportunities for the community. We would like to see an analysis of how increased access could affect bag-limits in the valley. Specifically, we are interested in how more intense hunting and fishing may affect bag-limits for mountain goat, Coho salmon, and steelhead. We fear that this will mean increased pressure and take and thus actually result in decreased opportunity for subsistence and sport hunting and fishing.

SCS would also request that if the proposed road is built, then the DOT remove any further possible extension of the road north from all future road planning. Sitkans and community organizations have stated on multiple occasions there is no support or interest in a road north to Rodman Bay. The Sitka Tribe has stated that a road to Rodman Bay is not supported because of the social, cultural, and historic importance of the route that overlaps with the survival march of the Kiks.ádi. This was the escape route used by the Sitka Tlingits feeling from the Russian assault on their fort near Indian River in the battle of 1804.

We would also request that the DOT analyze the impacts of land sales in the Katlian Valley if the road is built. Many people in Sitka are assuming that Shee Atika is interested in selling their land in Katlian valley as lots. If this is the case and ultimately occurs, how will the road project be impacted or what further investments will be needed in the road.

SCS would note that the Katlian Valley was identified as the number one restoration priority watershed in the Sitka Community Use Area in a community survey in 2013 (see *Appendix I* for SCS's report and survey results). If the road is built, we would request that the DOT provide mitigation for impacts to wetlands and other impacts to restore Katlian watershed function damaged by past clear-cut logging. The road will affect several sensitive areas, notably the 4 anadromous streams and the 12 acres of wetlands it will cross; the effects of the road on these must be monitored. SCS asks the DOT to invest mitigation funds in to restoring the Katlian watershed. The US Forest Service, in partnership with the Sitka Tribe of Alaska, compiled an assessment of the Katlian Watershed in 2003 (the executive summary of the report can be found in *Appendix II* or the full document is available here). Part of this document looked at the restoration needed to return the Katlian River to its pre-logging state. Construction of this road will further alter the watershed and increase pressure on it, therefore we request that funds are allocated to put it into the best state possible and mitigate impacts. Potential activities, as outlined in the Katlian Watershed Assessment, which the DOT could contribute to include:

- *Addition of large wood structures:* Large wood in streams provides excellent habitat for salmon, their addition alters the flow of the stream creating pools and riffles were salmon fry can develop. Past logging activities removed all the large riparian trees, therefore SCS requests any large trees removed in the construction of the road be donated to improve and restore the Katlian River in-stream fish habitat.
- *Fish Passage:* A lot of the old logging roads in the Katlian watershed contain blocked culverts and other barriers to fish passage, obstructing potential access to spawning and rearing grounds. The DOT should assist in their removal and invest in hard crossings so that increased ATV access in the watershed does not impede fish passage or damage fish habitat
- *Habitat Improvement:* Past logging resulted in stands of trees that are densely packed and are less-than ideal habitat for fish and wildlife. Likewise, feeder streams are often impaired. Investment in habitat restoration efforts as identified by the Forest Service should be funded.
- *Easements on private lands to protect riparian buffers*: As part of mitigation, the DOT should purchase easements in critical riparian areas in the Katlian Watershed to protect river and stream buffers.

Another issue that we are concerned about is the safety of pedestrians and cyclists using the road. There are no sidewalks and the majority of the road is single lane and has a meandering,

twisty route, which makes it a high potential for accidents. SCS would like to know how the DOT is planning to ensure that the safety of all users of the road is certain.

During a site visit while walking the first section of the proposed road a member of SCS noticed a large cedar tree marked with the label RP (*Figure 1*.) We request that this tree be left in place, standing as a feature alongside the road. A pull off and interpretive signage on the size and age of this cedar and a description as to the specific dynamics of cedar in the Tongass temperate rainforest should be placed next to it. If that tree absolutely needs to be removed because of the route, we ask it be donated to the Sitka National Historic Park for use in carving and cultural use.

Figure 1 Marked Cedar tree along proposed road route

Thank you for the opportunity to comment on the DOTs proposed Katlian Bay Road Project. SCS fears that as funding for this road was approved during a time of relative economic prosperity but subsequently there has been minimal, if any, re-evaluation of the need or benefits of this project since that initial bond package. The socio-economic and environmental implications of the road are great if not properly accounted for. In the current fiscal climate SCS fears that the funds could be better spent elsewhere and to greater benefit for the Sitka community. We currently do not feel that the DOT has fully accounted for all the costs and issues that would arise if the project were completed. If the construction of the road does go ahead, then we hope the DOT will take positive action to mitigate the projects impact and contribute to the overall restoration of the Katlian watershed. We urge you to address the questions we have highlighted so that a more thorough cost-benefit analysis of the proposed road can be completed.

Sincerely,

Andrew Thoms
Executive Director, Sitka Conservation Society

Luke A'Bear
Conservation and Management Resident, Sitka Conservation Society

Appendix I - ***Watershed Restoration Priorities: A Strategic Plan for the Sitka Community Use Area***






Watershed Restoration Priorities

A Strategic Plan for the Sitka Community Use Area

The purpose of this Strategic Plan is to maximize the potential of watershed restoration efforts to meet community and ecological priorities in the Sitka Community Use Area. It serves as a resource to guide the efforts of the multiple management agencies, organizations, and individuals that are collaborating on the restoration of forest and aquatic habitats. Specifically, it will help identify individual community-supported project areas that are potential candidates for funding opportunities.

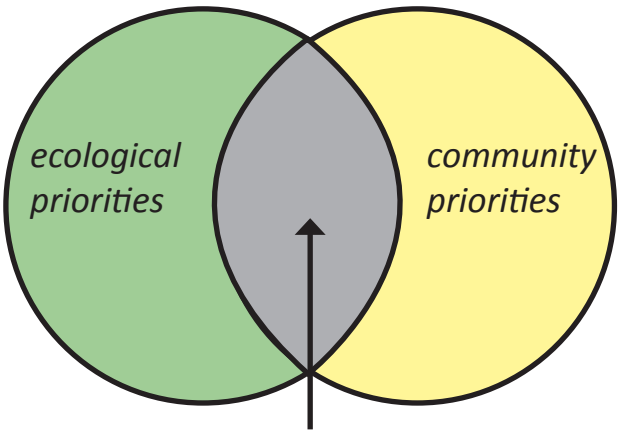
Strategic Planning for watershed restoration is not new in Southeast Alaska. Prior efforts have primarily focused on assessing the ecological needs for restoration, while integrating social priorities has been a challenge. This Plan augments and builds on those efforts by integrating the ecological assessments with a simple tool for measuring local social priorities - a survey. The result is a priority list of watersheds specific for the Sitka Community Use Area (the SCUA).

> *"… Community participation will legitimize the work of ecological restoration and bring to the table numerous resources, such as: local knowledge, workforce capacity (contractor and volunteer), funding support, and place-based roots that can lend a project long-term stability…"*
> **TWS / SEAWEAD (Christensen) 2012, *Forest Restoration in the Tongasss***

This Plan differs from past efforts in that it elevates the importance of community input in the prioritization process. At the planning table, we do a good job of involving stakeholders and decision-makers - people whose jobs are to be at the table. But we can do a better job involving the general pubic.

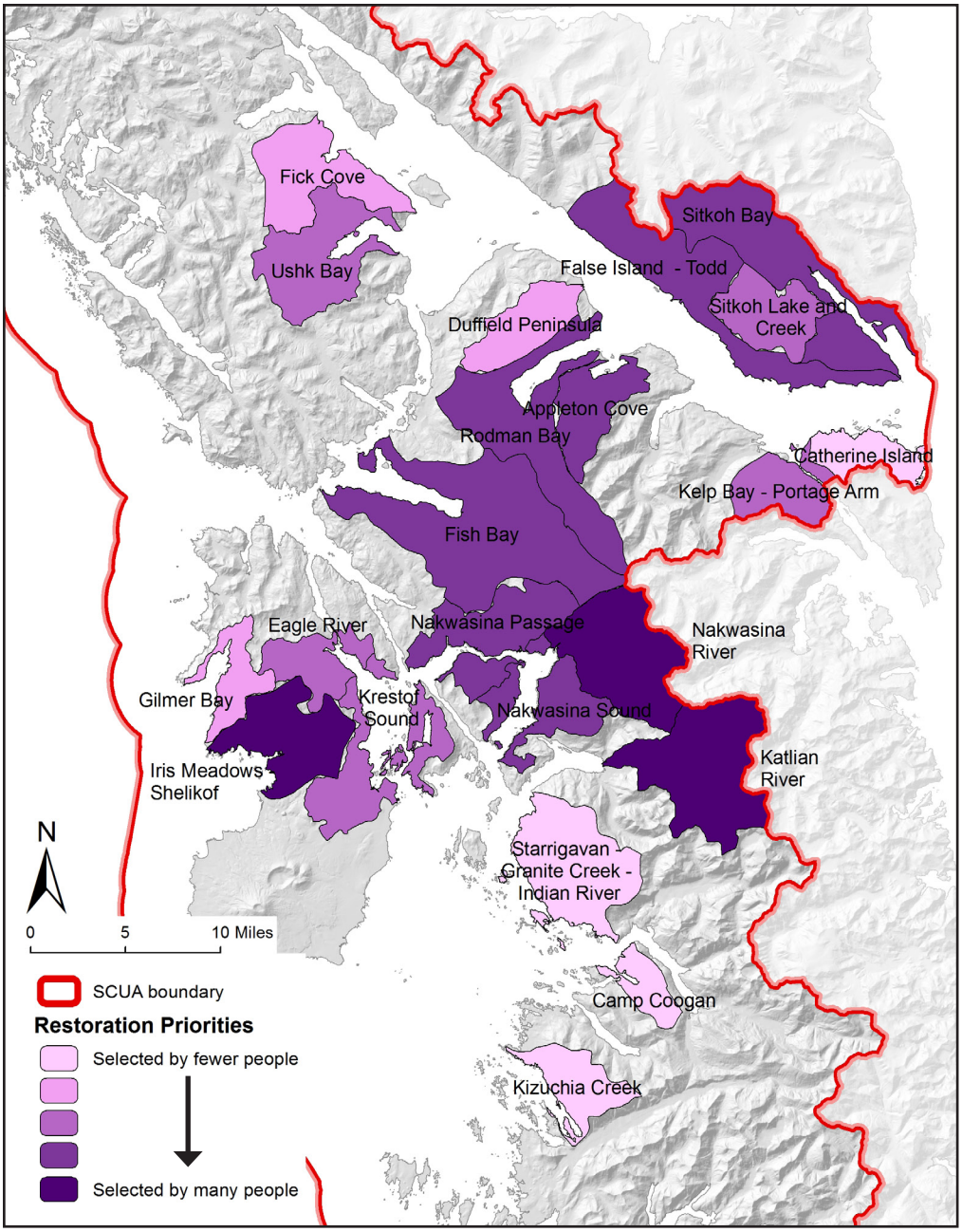
There are significant benefits to integrating social and ecological priorities, and investing restoration dollars where these priorities overlap. When people are involved

Choosing Priority Watersheds



the sweet spot - invest time and money here

Iris Meadows on Kruzof Island, within the Shelikof - Iris Meadows Watershed, the number three restoration priority in the Sitka Community Use Area



Priorities Map

This map shows the watershed restoration priorities, in the Sitka Community Use Area, that were first identified by ecological criteria and then prioritized through a community survey. For the 132 respondents that selected priorities (multiple selections allowed), the shading shows the number of responses for each location. Survey participants were asked which of 18 places should, "be a focus for forest and/or stream restoration". This map also shows the locations that survey respondents wrote in as "other locations" (Kizuchia Creek, Camp Coogan, Starrigavan - Granite Creek - Indian River, and Catherine Island)

The top six priorities were:

- *Katlian River*
- *Nakwasina River*
- *Iris Meadows - Shelikof*
- *Fish Bay*
- *Nakwasina Passage and Sound*

in the selection process, they feel more ownership in the outcomes of a project, are more likely to support projects, and feel more engaged in resource stewardship. Additionally, funders will be more likely to support projects that demonstrate strong community support.

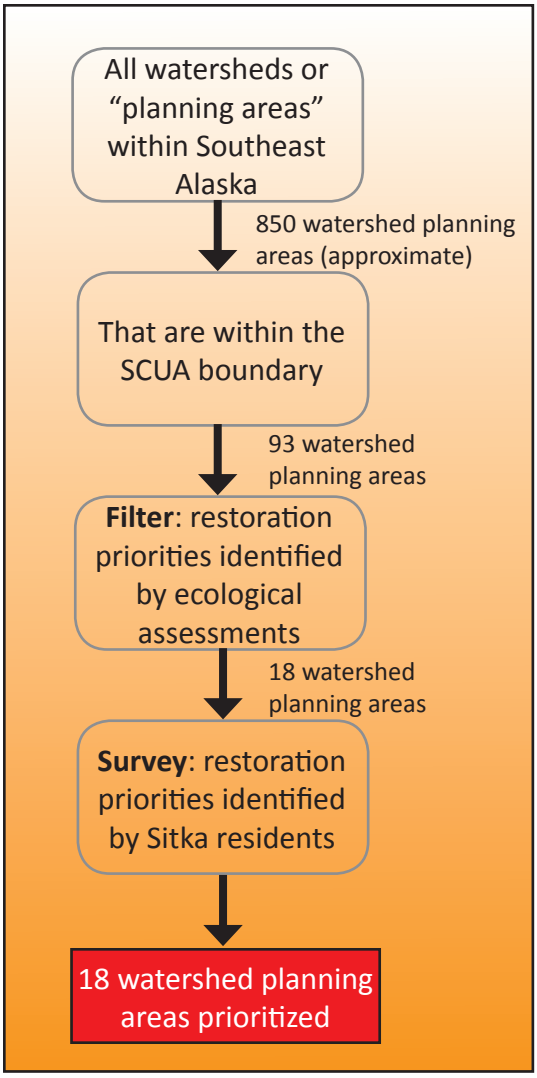
Engaging the community at all levels of resource stewardship - planning, implementation, monitoring, and learning - can have huge benefits for project success. Projects can be proposed that meet community priorities. The public will have a greater understanding of, and increased support for projects. Additional resources can be utilized such as funding, local and traditional knowledge, and volunteers to ensure project success.

Methods

This Plan prioritized watersheds using both ecological and social criteria. The schematic on the next page shows how watersheds were chosen and prioritized.

There are approximately 93 watershed planning areas in the SCUA. This includes both public and private land. A "watershed planning area" can include more than one watershed. For this report, we will use the these two terms interchangeably.

The next step was to narrow down the selection of watersheds that had restoration needs. To do this, we integrated the significant body of work that has



Schematic showing how watersheds were chosen and prioritized.

taken place to assess ecological restoration priorities. We integrated information from three sources: the US Forest Service Watershed Condition Framework (WCF), the Audubon / Nature Conservancy Conservation Assessment, and the ecological component of The Wilderness Society (TWS) / SEAWEAD Assessment.

The reason for integrating multiple assessments is that each was designed to satisfy different goals, used different criteria, and were assessed at different spatial scales. Integrating all three maximizes their strengths and provides a thorough assessment of ecological needs. Each has inherent strengths and limitations including:

- The **Watershed Condition Framework (WCF)** was designed to assess watersheds across the entire National Forest system. Therefore, some factors are not locally relevant, such as wildfire and rangeland vegetation. Also, the WCF weighs aquatic habitat more than upland forest habitats.
- The **Conservation Assessment** was primarily designed to identify opportunities to conserve pristine watersheds.
- The recently completed **TWS/SEAWEAD Assessment** combines both ecological and social criteria. It is a flexible assessment system that was designed to incorporate new knowledge (such as the community survey) and be used as a tool to inform collaborative decision-making and increase the level of community engagement.

We integrated these three assessments by including the watersheds that each assessment identified as having restoration needs. The table in the Appendix compares the three assessments. Differences in spatial scales (e.g. the WCF usually had higher resolution) and

The Sitkoh River Restoration Project was completed in the Summer of 2012. This project is an excellent example of how community priorities can drive the development of restoration partnerships that make things happen. After being identified as a community priority in 2009, the Sitka Conservation Society and Trout Unlimited then secured $145,000 additional funds from the Alaska Sustainable Salmon Fund and others to add to the project.

nomenclature (e.g. names that would confuse the general public) were adjusted based on local knowledge. From this filter we ended up with 18 watersheds to include in the survey.

The survey went through multiple revisions based on input from 2 pilot studies and review by 11 individuals. Input from members of the Sitka Collaborative Stewardship Group, staff from Sustainable Northwest, the Tongass National Forest, and others were used in developing the survey. The final survey is included in the appendix to this report.

We solicited responses by publishing an insert in the Friday edition of the Daily Sitka Sentinel. Estimated readership is 2000. We collected responses in October and November 2012. Respondents had the options to submit survey responses online through *Survey Monkey*, return surveys to boxes at local coffee shops or the office of Sitka Conservation Society, or mail them (respondents supplied the stamp). We received a total of 226 surveys.

Because the Sitka Conservation Society (SCS) is engaged in watershed restoration advocacy, we strove to minimize influencing the survey towards specific areas or attitudes. We also wanted to understand the attitudes and priorities for Sitka, not just our membership. These were the primary reasons for using the local newspaper as our vehicle for soliciting responses, as opposed to face-to-face solicitations. Over two-thirds of the survey respondents were not SCS members.

Survey Results

The map on page 2 shows the watershed priorities identified by the survey results. The three highest priorities were Katlian River (72% of respondents selected Katlian), Nakwasina River (54%) and Iris Meadows - Shelikof (52%).

The table on this page is another way of presenting the data. One-hundred thirty two, or 59%, of survey respondents selected watersheds or places they felt should be a focus for restoration. An additional 71 respondents did not select specific places.

In the survey design, we intentionally chose to not provide detailed information, describe restoration needs, or even provide a map for each place. We wanted respondents to select places based solely on their personal experiences, knowledge, and values.

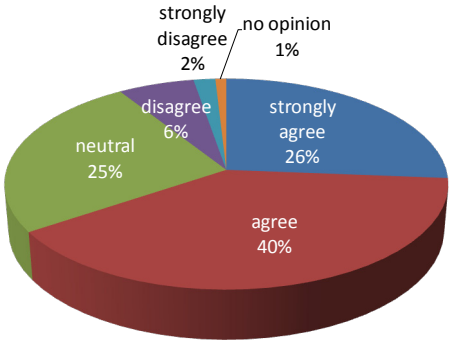
Watershed or "place"	% of respondents that selected
Katlian River	72%
Nakwasina River	54%
Iris Meadows - Shelikof	52%
Fish Bay	42%
Nakwasina Passage	41%
Nakwasina Sound	41%
Appleton Cove	37%
Rodman Bay	37%
False Island - Todd	35%
Sitkoh Bay	33%
Sitkoh Lake and Creek	31%
Krestof Sound	28%
Ushk Bay	27%
Eagle River	24%
Kelp Bay - Portage Arm	23%
Fick Cove	17%
Gilmer Bay	17%
Duffield Peninsula	15%
Starrigavan and Granite Creeks and Indian River	6%
Kizuchia Creek, Catherine Island, Camp Coogan Bay	2% or less for each

Of the 132 respondents that selected priority places, this table shows the percentage of those respondents that selected each place

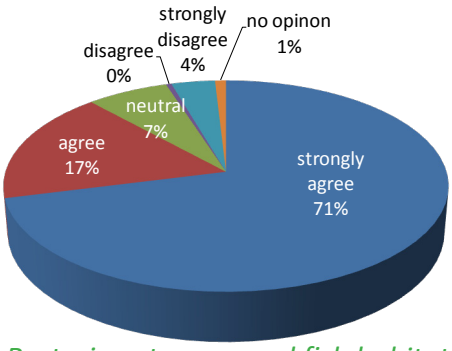
Attitudes towards restoration

In addition to prioritizing places, we also wanted to understand people's general attitudes toward and support for restoration work. The vast majority of respondents felt that restoring forests and streams was important work.

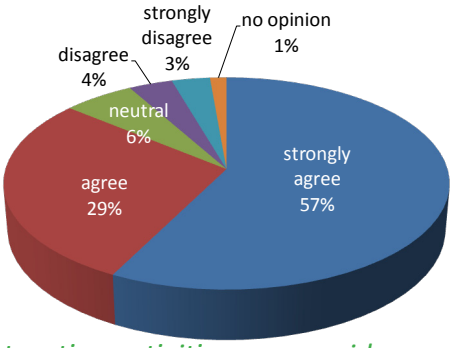
Responses are shown in the charts on the following page. Responses were on a scale of 1 (strongly agree) to 5 (strongly disagree). Two-hundred twenty three people responded to these questions.



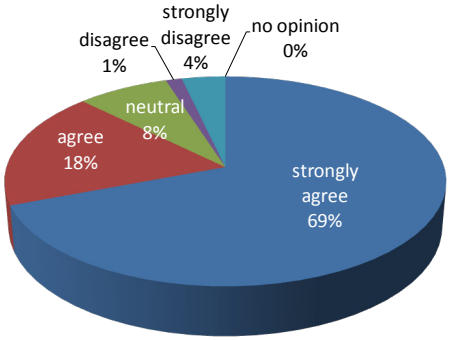
I have a good understanding of forest and stream restoration. Rating average = 2.17



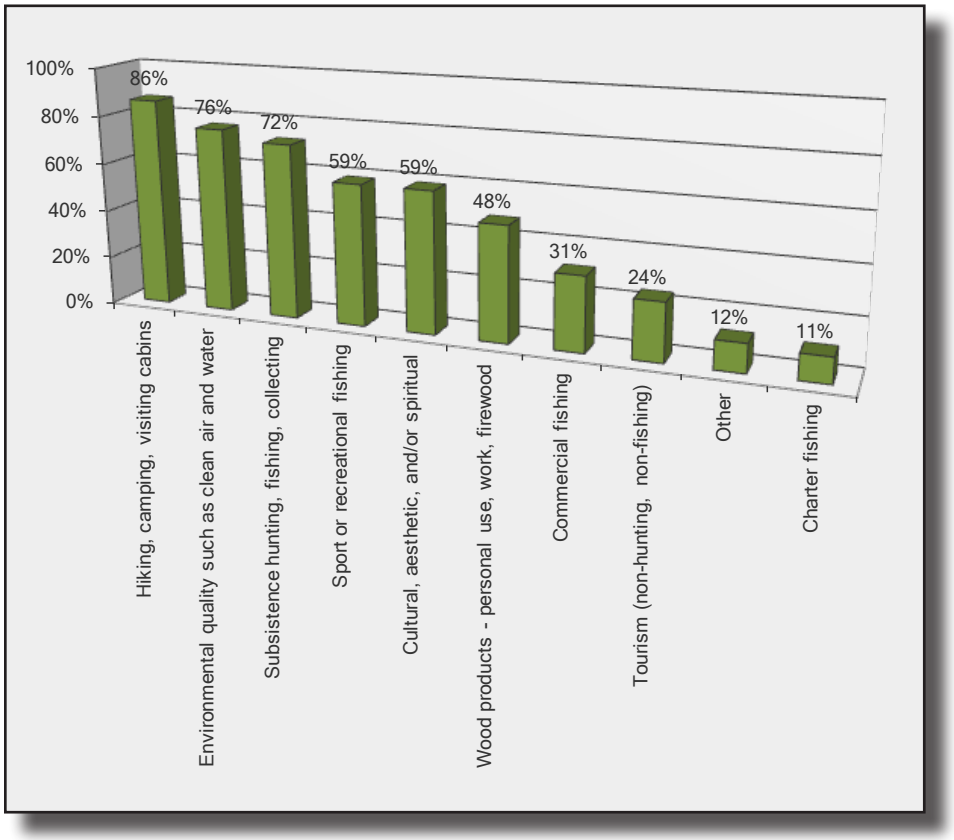
Restoring streams and fish habitat is important. Rating average = 1.47



Restoration activities can provide economic benefits to our community. Rating average = 1.65



Restoring forests and wildlife habitat is important. Rating average = 1.52



Proportion of survey participants that selected each use or value they place on the Sitka Community Use Area. n = 220

Landscape Values

We also wanted to learn how people value the landscape. This information is invaluable to resource managers and agencies because it identifies the activities and values that are the most meaningful to local residents. When planning projects or long-term priorities, resource managers can make better-informed decisions about how to balance the potentially competing interests of recreation, subsistence, resource extraction, ecosystem services, and others.

From a provided list, survey participants indicated the ways (multiple responses allowed) they "use, depend upon, or value the Sitka Community Use Area". Recreational, subsistence, and quality of life values were the most popular responses, as shown in the figure on the previous page.

Conclusion

By integrating prior assessments with a local survey, this Plan provides a powerful tool to inform collaborative decision-making about where to invest the next restoration dollar in the Sitka Community Use Area. We hope this effort will be replicated in other communities as well. Dependent upon local circumstances and objectives, we estimate replicating this Plan in other communities would have a total cost of $5000 at the most, and potentially much less.

However, this Plan is certainly not the final word. It should be refined and improved as more information becomes available. Restoration priorities should also be ground-truthed to verify our knowledge of specific places. And the public should be provided ample opportunities to stay engaged in all stages of the process.

For More Information

- US Forest Service Watershed Condition Framework can be accessed at http://www.fs.fed.us/publications/watershed/, including an interactive map and technical guide
- Audubon / The Nature Conservancy Conservation Assessment can be accessed at http://home.gci.net/~tnc/
- The Wilderness Society / SEAWEAD Assessment can be accessed at http://www.sustainablesoutheast.net/documents/Tongass-forest-restoration-low-rez.pdf

A young growth forest stand in Krestof Sound - one of the restoration priority areas

For more information contact:

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January 2013

NATIONAL FOREST FOUNDATION

SITKA CONSERVATION SOCIETY

Appendix II - ***Katlian Watershed Assessment: Executive Summary***

Executive Summary

Yuk ay ee yuh ah yuh. Ah shuk uk too see ah.
"This is a good place that we should anchor."

David Davis II – Tlingit Elder

Introduction and Purpose:

The need for this assessment is based on the importance of the area and its resources to local residents combined with its history of timber harvest that may have effects on these important resources. It was out of concern for the preservation and continued use of the resources for current and future users that this assessment was conceived and produced collaboratively by the Sitka Tribe of Alaska and the United States Forest Service. This assessment provides an overview of the watershed and its resources, both historic and present. This overview includes oral accounts of several local Tlingit elders and local individuals who have first hand knowledge of Tl'ayáak Héen (Katlian). Furthermore, this assessment recommends restoration and management opportunities to improve stream habitat and water quality.

Watershed Overview

The Katlian watershed is located in Southeast Alaska, on the west side of Baranof Island, approximately 8 to 10 miles north of Sitka. Approximately 93% of the 37,384 acre (58.4 mi^2) drainage area is public land, managed by the Forest Service for multiple use recreation and timber production, among other uses. The remainder of the watershed is owned by the Shee Atiká Corporation and primarily managed for timber production.

The watershed is characterized by high rainfall, steep topography, and small proportion of valley bottom area relative to higher slopes. The valley supports abundant fish and wildlife, including large salmon runs, deer, goat, and bear, as well as marten and other furbearers. Katlian's close access to Sitka and abundant resources are why many people use the area. Native people of this region have used the valley for hundreds and likely even thousands of years.

Shortly after the turn of the 20th century, several Presidential Proclamations between 1902 and 1906 created what is now, the roughly 17 million-acre Tongass National Forest. This change in ownership to Federal control, along with few granting's of land use claims under the Alaska Native Allotment Act of 1906, has greatly reduced local Tlingit family and Tribal traditional use areas which have been used for generations. Despite this change in ownership, traditional use in many areas without explicit ownership continued until the mid to late 1940's when many seasonal subsistence camps deemed unoccupied, were torn or burned down. Many areas, including Katlian, were abandoned for subsistence gathering after this time period.

In 1971 the Alaska Native Claims Settlement Act (ANCSA) was signed into law. Under ANCSA, the Shee Atiká Corporation was formed and selected 2,557 acres in the lower Katlian valley and retains the above and below surface rights. Although these lands are once again in native ownership, management of these lands under a corporate structure often differs from the subsistence lifestyle of old.

Large-scale logging occurred in portions of the watershed in the early 1960's prior to ANCSA, removing more than 120 million board feet of timber. This included large diameter spruce and hemlock trees that were located primarily in the valley bottom areas.

Disturbance and Current Floodplain Vegetation

Valley bottom channels in the Katlian watershed are dynamic due to powerful stream flows. This promotes undercutting of tree root systems along the stream edges and in the flooded bottomland areas during heavy rainfall and high stream flows. Undercut trees often fall into channels and create structural fish habitat as they move and stabilize within the streams.

The main channel migrates regularly, changing its path throughout the floodplain area. Heavy rainfall combined with steep slopes that lead to the valley bottom produce large flood events that promote shifts in the river channel. These flood events carry large sediment loads that eventually settle out in the floodplain of the river, establishing new gravel bars where the river turns and reduces its speed.

Approximately 3,270 acres were logged in the 1960's, primarily in the valley bottoms using clearcut prescriptions without stream buffers. Large conifer trees were removed along most of the lower reaches of the Katlian Rivers and their tributaries in the lower valley area. About half of the valley bottom trees were harvested, depleting future sources of available large wood for the main river channels. About half of the total productive forest is currently in a small tree size class, mostly in 35 to 40 year old stands that established after logging. Red alder trees dominate much of the floodplain, overtopping younger conifers and suppressing their growth and vigor. Current young-growth conifer trees are dense and slow growing.

Comparison with Pre-Large Scale Harvest Conditions

The amount of forest within the harvested areas dominated by large conifer trees (crown diameter >= 36 feet) was reduced from 69% before harvest to 13% after. This coincides with the large increase in both small conifer and red alder dominated stands.

Frequent shifts in the main channel due to flood events and associated sediment regularly create new non-forested gravel bars. Although the size and occurrence of these gravel bars change over time, their overall area has remained approximately the same.

Stream Habitat Trends

Timber harvest and road construction removed most streamside trees along 17.5 miles of fish streams (37% of Class I and 8% of Class II). There has also been harvest along the banks of larger non-fish (Class III) streams that directly influence downstream fish channels. The loss of large streamside riparian trees will decrease future large wood input into these streams for many years. This loss of forested riparian vegetation can have the following effects on the channel:

- Reduced bank stability
- Loss of temperature moderation
- Loss of overhanging bank cover
- Change in type and quantity of leaf litter and terrestrial insects to the channel
- Decreased input of large wood

These changes, along with the possibility of increased sediment input, can reduce the amount and quality of fish rearing and spawning habitat.

Xaat, uh tai ee yay uh tee.
"*The fish are under the rocks or trees.*"

David Davis II – Tlingit Elder

Most streams still have abundant amounts of old large legacy wood, still in place from before timber harvest, however the condition of the impacted streams in the watershed will decline as the older in-stream wood and streamside stumps decompose, and are washed out of the system. This process will have the greatest impact on species such as coho salmon and Dolly Varden char, which spend several years of their life cycle rearing in streams.

Management Guidance and Restoration

Although timber harvest reduced the amount of old-growth canopy and increased red alder dominated stands, existing data indicates this disturbance has not yet dramatically changed the stream channels. The large wood supply in the stream channels, other than the main channel, is currently adequate to high as compared to the USFS R10 Fish Habitat Management Objectives.

Timber harvest in the valley bottom areas removed large amounts of productive forest along many stream banks. The decrease in the amount of large conifer trees, and the increase in small conifer and red alder trees in this area after logging indicate a loss of future large wood sources for the stream channels. As the existing current large wood in the streams breaks down and moves out of the system, there will likely be a shortage of large trees for many years to replace those structures. There will be a period of time when the quantity of large wood in some streams sections will likely become insufficient to maintain high quality fish habitat.

Existing old-growth trees, as well as larger young growth located in the valley bottom riparian areas should be left intact until the surrounding young-growth forest is of adequate size to contribute structure to the streams. Young-growth stands can be thinned to produce healthy larger diameter trees to provide future stream structure and habitat in a more expedient manner than will occur naturally.

Stream reaches that already have a shortage of large wood, but have the potential to provide high quality fish habitat could benefit from the placement of large wood structures. This work should focus initially on smaller tributary stream channels where it is more likely to be successful. Very large key pieces of wood are necessary to anchor and function in the large main channels.

Over 17 miles of roads were constructed in the Katlian watershed between 1960 and 1965 in support of the logging activities at that time. During a recent low intensity survey of the road system in 2001, a total of 42 stream crossing sites were identified. Of these 42 sites only one appears to obstruct fish passage and one potentially contributes significant sediment load to a fish (Class I) stream. The low impact levels are primarily due to the fact that most of the drainage structures (bridges and culverts) were pulled out years ago, allowing stream channels to re-stabilize. Future road maintenance restoration work should include placing drainage structures and/or ditching at existing washout sites, cleaning or removing partially plugged culverts that remain, and removing artificial barriers to fish passage.

> *"This river changes bed, it's bed every year. In other words, after a spawn and next spring after a runoff, you might find a different riverbed there…"*
>
> **Mark Jacobs - Tlingit Elder**

This assessment documents information collected, reviewed, and analyzed to help evaluate current conditions in the Katlian watershed. Its purpose is to give:

- An overview of how the watershed and its resources have been affected over the past few decades. This includes the oral transcription accounts of several local individuals;
- A description of the current condition of the Katlian watershed; and
- A list of opportunities for restoration and future management of stream habitat and water quality.

The Katlian Watershed Assessment was designed to combine local traditional ecological knowledge held by long-time residents of the community of Sitka with information from fieldwork, and new and existing resource management data for the Katlian watershed system. The goal is to establish Management Guidance and Restoration Opportunities for the Katlian River watershed.

Information provided in this assessment may not follow the contemporary format for watershed analysis. For example, a key component of the assessment are interviews, perspectives and accounts of local users of the watershed who were able to provide a history of developments tied to Katlian. These are personal and honest opinions regarding historical actions that shaped the Katlian watershed and are important in understanding the cultural and social values associated with it.

Thus, while the Katlian Bay Watershed Assessment should be regarded as a technical watershed analysis, it must also be understood as an effort to document social, cultural and historical geography for a small but very important local watershed. Whether or not you agree with every personal quote, perspective or management prescription, we hope the reader can respect the value of this collaborative approach to improving our understanding of the Katlian River, known as Tl'ayáak Héen to the Tlingit people.