



Levelock Watershed Community Planning Project Final Summary Report

September 30, 2005



**A project of the Levelock Village Council
with assistance from Agnew::Beck Consulting**



Acknowledgements

Thank You

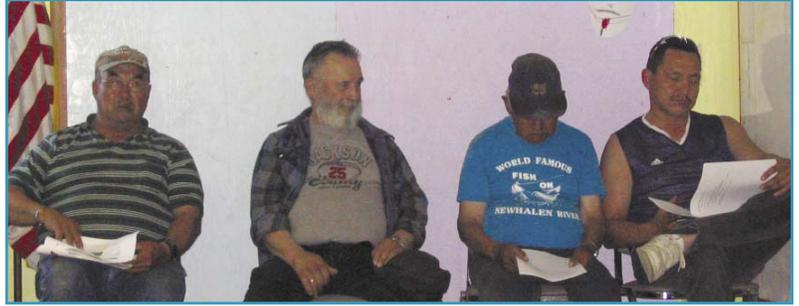
The Levelock Village Council would like to thank all those who have helped in this Community Planning project.

This project was made possible by the involved and concerned residents of Levelock, who gathered to tell the story of their lands and waters, to discuss the issues and challenges they confront in managing these lands, and the goals they have for their community - both present and future. This report is a summary of the work they have done, and a sign of their ongoing interest and effort to manage their watershed effectively, for many generations to come.

Levelock Village Council was also pleased and helped by the involvement of many other people interested in the health of the watershed area. Successful watershed management happens through a coalition of concerned and involved people. Levelock Village Council would like to thank:

- Sue Flensburg
Environmental Program Manager
Bristol Bay Native Association
- Helen Lons
Katmai Park Planner
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Executive Director
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- Jason Dye
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Alaska Department Fish & Game
- Rick Tennyson
Land Manger
Choggiung Limited

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Nick Apokedak, George Wilson, Sr., Alex Tallekpalek, Peter Apokedak, Jr. participate in the August Levelock Watershed Community Workshop.

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River grasses along the bank of the Kvichak.

Project Overview

Project Objective

To gather public input from residents of Levelock on environmental impacts to the Kvichak and Branch (Alagnak) Rivers and watersheds. To assess strategies and prioritize projects addressing local concerns, and empowering local management.

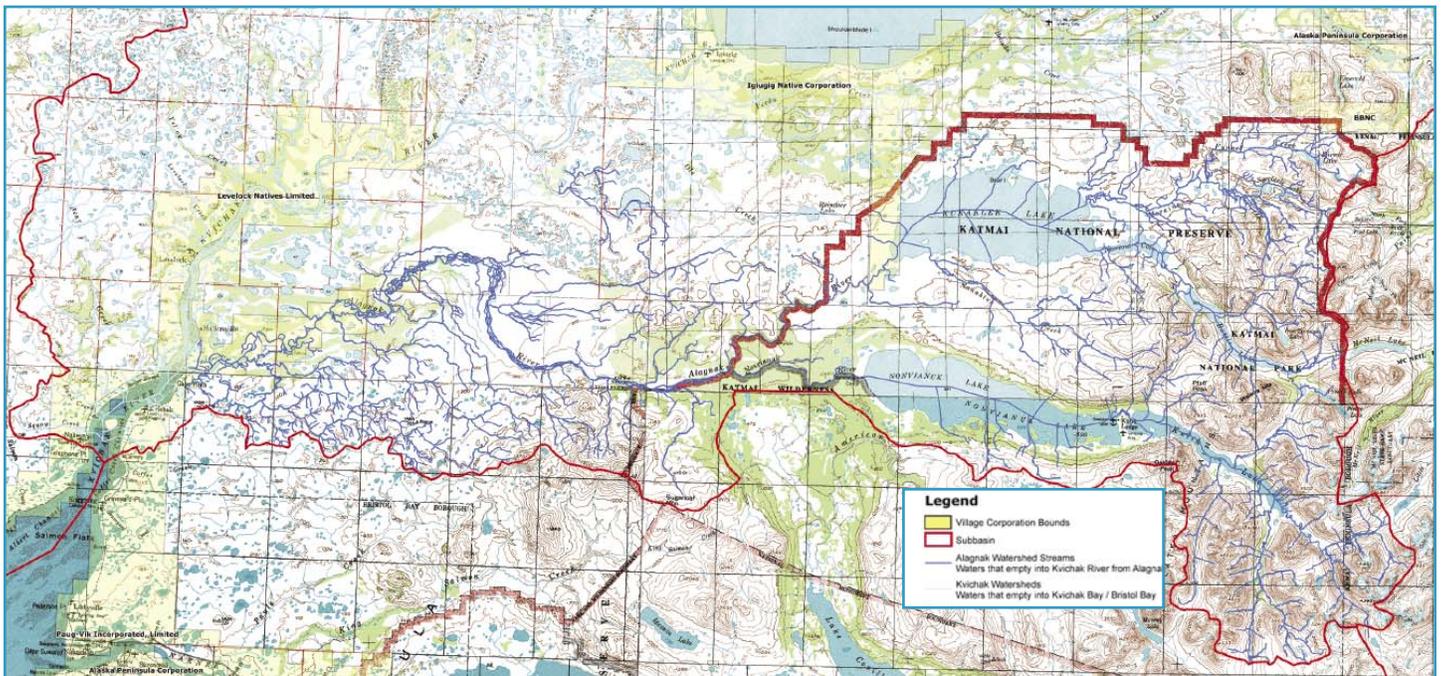
Project Goals

- Design and carry out a two-month process which documents village opportunities, issues and values related to its watershed areas, focusing on environmental impacts on these watersheds.
- Engage the full community in agreeing on the underlying values and priority actions for the future. Promote clear communication and decision-making among community members.
- Document community discussion on watershed issues, opportunities and recommended strategies for addressing priority concerns.
- Prepare a map that outlines watershed areas of significance to the community.
- Compile background materials that the community can use to make decisions.
- Give direction on priorities to local and regional governing organizations for new projects and programs designed to protect and promote the health of these watershed areas.
- Give the community greater control over its destiny, and a stronger position working with parties from outside the community, such as government agencies and large private businesses.
- Help sustain cultural traditions, subsistence, history and culture in the watershed areas.



Howard Nelson and Ida Apokedak review maps of Levelock's watershed area.

Focus Area of Study



Map Prepared by Bristol Environmental & Engineering Services Corporation

Executive Summary

Purpose of the Project

The Levelock Village Council Environmental Program initiated this Levelock Watershed Community Planning project in order to respond to community concerns over the use and health of the watershed upon which Levelock residents depend. Subsistence hunting and fishing are vital aspects of community life and economy in Levelock. In order to protect subsistence resources for future generations, Levelock Village Council, along with residents and other partners, intends to play an active role in protecting the health of the watershed and resolving conflicts between competing uses.

The purpose of this project was to gather public input from residents of Levelock on existing uses and potential threats to those uses along the Kvichak and Branch (Alagnak) Rivers and watersheds. This

The Kvichak River, outside of Levelock



“We want this project to bring together knowledge of the river systems, how they have been used, how they are being used today.”

project also identified community solutions to counter threats. This report brings together the results of Levelock’s work in order to prioritize projects addressing local concerns, and empower local management.

Description of the Project and Process

During the course of this project, the Levelock Village Council convened two community workshops, facilitated by contractor Agnew::Beck. Prior to the first workshop, Agnew::Beck worked with Bristol Environmental and Engineering Services Corporation to develop illustrative maps of the Kvichak and Branch (Alagnak) rivers and tributaries. Additional maps were created to identify areas traditionally used by Levelock residents. Agnew::Beck also completed background research into other watershed councils and organizations, both in Alaska and the nation.

During the first community workshop in August, village residents identified traditional and seasonal uses in specific areas within the watershed. Residents also identified threats to these uses and brainstormed potential solutions. Sue Flensburg, from Bristol Bay Native Association, who provides staff assistance to the Nushagak Mulchatna Watershed Council, gave a presentation on that organization and its work. Residents also identified areas for further research such as how other village corporations have enforced citations against trespass and hunting on village corporation lands. The meeting ended with a well-attended community potluck.

Following the first workshop, Agnew::Beck completed requested research and used the results from the workshop to draft a summary report and annotated map. This draft was then reviewed by village council staff, and by the community at a second community workshop. In addition, potential partners were invited to the second workshop to discuss implementation of potential strategies to protect the watershed.

During the second community workshop, village residents reviewed and affirmed the conclusions in the draft report, added comments, and prioritized outcomes. The highest priority outcome identified was to convene a meeting of project partners to plan to reinstate the Kvichak-Branch River Patrol. Levelock youth, adults and elders participated, as well as representatives from the school, National Park Service, BBNA Lands Management and BBNA Environmental Program.

Notes from these meetings, and a contact list of invited guests are included in Appendices A and B.



Guests from BBNA and NPS attended the second Community Workshop, which ended with a community potluck.

About 25 Levelock residents and guests participated in the first Community Workshop.



Summary of Community Issues, Goals & Recommendations

Issues

Workshop participants identified a number of threats to the watershed. Pollutants are a primary concern, originating from a number of sources including village landfills and sewage lagoons; sport hunting and fishing lodge septic systems, fuelling areas and solid waste disposal; potential mining development in the uplands surrounding tributaries to the watershed; and other upstream communities.

Trespass on village corporation lands is also a priority issue in the watershed. Hunting on corporation lands that are reserved for the exclusive use of shareholders impacts subsistence resources and damages corporation lands. Vandalism to cabins in the area and damage to signs and trails have been reported.

Some areas, particularly along the Branch (Alagnak) River, are overcrowded, especially during sport fishing seasons. Some village residents reported that they now

avoid certain areas for subsistence use because there are too many boats and other users.

Erosion along riverbanks - due to an increase in boat traffic, changing weather patterns and other factors - has increasingly become an issue of concern. Much of the riverfront in the village of Levelock is being washed away; the Branch (Alagnak), too, is seriously affected in some areas by motor wake and heavy use.

Impacts on the ecosystem have also been noted - such as lower returns and smaller sizes of some types of fish, decrease in berry production, increase in village brown bear encounters and lack of river freeze up due to warming winter temperatures.

Protecting water quality is vital to Levelock's residents' health and way of life. In order to measure impacts over time, baseline water quality data should be established for the watershed. Recently Levelock secured funding for a two-year (2006-2007) baseline water quality monitoring program through IGAP. Hopefully, at the conclusion of the grant cycle, monitoring will continue, occurring regularly throughout each

year. Monitoring should include the presence of heavy metals and other mining by-products within the waterways, in order to measure the impacts of upstream mining activity.

The village corporations along the Nushagak River have formed an organization which operates a permitting and river patrol program. A similar program once operated on the Kvichak and Branch Rivers, but was discontinued due to lack of funding. Currently enforcement of certain types of uses is provided by Alaska Department of Fish and Game (ADF&G) and National Park Service (NPS); village residents believe that this is not adequate to address issues of trespass and illegal use, since these agencies do not patrol for violations on corporation lands.

Increased communication among stakeholders would help to address issues identified by the community. The land ownership and land management patterns in the watershed are complex. Any protection efforts will require the concerted and cooperative efforts of all interested parties.

Goals

The community identified the following goals to guide protection of the watershed, to ensure its health for generations to come:

Goal 1: Protect Traditional & Subsistence Uses in the Watershed

Goal 2: Monitor, Reduce and Control Pollutants

Goal 3: Minimize Trespass

Goal 4: Alleviate Overcrowding

Goal 5: Address issues of Erosion & Other Environmental Degradation

Goal 6: Implement Water Quality Monitoring Program

Goal 7: Reinstate River Patrol

Goal 8: Organize a Regional Watershed Council

Goal 9: Initiate Needed Steps for Local Capacity Building (to Address All Other Goals)

Extended goals statements and strategies to reach these goals are included in the “Community Goals & Strategies” section of this report.

Recommendations

A more detailed explanation of Levelock’s recommendations for achieving their goals is included in the “Recommendations & Next Steps” section of this report. Briefly, these recommendations include:

Action 1: Initiate Steps to Reinstitute River Patrol Program

Action 2: Meet with Partners to Evaluate Potential Watershed Council

Action 3: Research and Apply for Funds to Conduct Erosion Mitigation in Critical Areas

Action 4: Participate in NPS Katmai/Alagnak Revised Management Plan Review

Action 5: Prepare and Distribute Educational Materials Addressing Trespass and Land Use Issues

Action 6: Implement Water Quality Monitoring Program

Action 7: Identify Training and Resources for Local Capacity Building

Project Schedule

Levelock Watershed Community Planning Process July to September, 2005

Project Start-Up & Watershed Mapping	Community Workshop: Issues & Ideas	Research & Draft Summary Report	Community Workshop: Goals & Actions	Project End & Final Summary Report
July	August 11	August	September 16	September 30

Potential Partners

Levelock recognizes that there are a number of legitimate types of uses in the vast watershed area. Because of the variety of users, landowners and interested parties within the watershed, efforts to protect the watershed must take a cooperative approach. Levelock’ intent is to work with all users and management entities in partnership, to address common interests.

Population of Watershed Area Communities	
Kvichak River Communities	
Levelock	57
Igiugig	54
Kvichak Bay Communities	
Egegik	76
Naknek	601
South Naknek	88
King Salmon	404
Iliamna Lake Communities	
Newhalen	183
Kokhanok	166
Iliamna	90
Pedro Bay	47
Lake Clark Communities	
Nondalton	205
Port Alsworth	113
Total Population	2,084

Potential partners to involve in planning and implementation include:

- Village corporations
- Village councils
- Area lodge owners
- Sport fishing and hunting guide services
- Mining company representatives
- Air taxi operators that bring visitors to the area
- Recreational rafting and guiding operators
- National Park Service (NPS)
- Lake & Peninsula Borough
- Bristol Bay Native Association
- State Department of Fish & Game (ADF&G) and State Troopers
- State Department of Natural Resources (DNR), including the Division of Mining, Land & Water
- State Department of Environmental Conservation (DEC)
- US Bureau of Land Management (BLM) and US Geological Survey (USGS)

Levelock Village Council is committed to involving partners in watershed planning. Local communities located in the watershed are listed in the table at left. Other potential partners are listed in Appendix A. For a list of area lodges, see Appendix J.



Representatives from nearby lake villages such as Pedro Bay, Kokhanok, Nondalton (above), Iliamna, Newhalen and Igiugig are potential village partners for a Watershed Coalition. Other “downstream” partners might include Naknek, South Naknek, King Salmon and other Kvichak Bay and Alaska Peninsula communities.

Levelock's Watershed

Description of the Study Area

The Levelock Watershed area is approximately 2,000 square miles in size, most of which is in the Lake and Peninsula Borough. It encompasses Iliamna Lake to the

"I hope this project helps us to understand the changes happening in our watershed, and the reasons why things are changing. I'd also like us to have a way to measure these changes, to keep track of them over time."

north, the Kvichak River drainage including Yellow Creek and Bear Creek, the Branch (Alagnak) River drainage, and Kvichak Bay which drains into Bristol Bay. Six villages are located in the Iliamna Lake area: Newhalen, Kokhanok, Iliamna, Pedro Bay, Nondalton, and Igiugig. Igiugig and Levelock are the two villages on the Kvichak River. In the Kvichak Bay area, there are several communities including Naknek, South Naknek and King Salmon and Egegik. Naknek and King Salmon are the largest communities in the project area. A community map of the Village of Levelock and a map of the entire watershed are provided on the pages 10 and 11.

The watershed area is primarily maritime, although the continental climate also affects the weather. Summer temperatures average 30 to 66 degrees Fahrenheit; winter temperatures range from 4 to 30 degrees Fahrenheit. Annual rainfall is 26 inches, with 70 inches of snow. Fog and low clouds are common in summer. Watershed use by non-residents occurs primarily in summer; winter use is generally limited to local residents.

Land Ownership and Management

Land owners in the area are the US Bureau of Land Management (BLM), the State of Alaska (mostly managed by the Department of Natural Resources (DNR),

Levelock Natives Limited, Igiugig Native Corporation, Municipal and other private lands - mostly native allotments.

The Levelock watershed lies primarily within the Coastal Management Program Coastal Zone Boundaries of the Lake and Peninsula Borough (LPB) which includes all lands and waters within the Borough boundary, except for

perennially snow-capped mountains, glaciers, and volcanoes. The offshore coastal boundary for the Lake and Peninsula Borough extends three miles from mean low water to the limits of state jurisdiction. The Lake and Peninsula Borough's *Coastal Management Plan – Enforceable and Administrative Policies* describes the Borough's policies on development; habitat and resource protection; air, land and water quality; subsistence and personal use; transportation and utilities; fisheries and seafood processing; geophysical hazard areas; recreation; archaeological and historic resources; energy facilities; and material extraction and processing.

Management along the Kvichak River is primarily controlled by the villages of Igiugig and Levelock, whose corporations own much of the land abutting the river. Management along the Branch

continued on page 12 ►



Flying over the land reveals a patchwork of wetlands, ponds, lakes, streams, rivers, muskegs, wooded areas and uplands. Katmai's mountain ranges line the horizon in one direction; the open waters of Bristol Bay lie in the other.

The Village of Levelock



An Overview

The village of Levelock lies on the west bank of the Kvichak River, 10 miles upstream from Kvichak Bay. It is located 40 miles north of Naknek and 278 air miles southwest of Anchorage.

Levelock Village Council is the local federally recognized tribe. Levelock Natives Limited is the village corporation entity that owns and manages much of the surrounding land.

Commercial fishing and subsistence activities are vital to the community. About fifteen residents hold commercial fishing permits. Most travel to Naknek to fish or work in the canneries during the summer season. Sharing is a way of life in this village, and no one goes hungry for lack of ability to hunt or fish.

Residents say there are about 50 people living in the village year-round. Levelock contains about 50 homes, a school, washeteria, meeting room, health clinic, and state airstrip. Levelock also has docking facilities on the Kvichak, which are in need of improvement. The village is accessible by air and water and residents use winter trails to visit friends and family in surrounding communities.

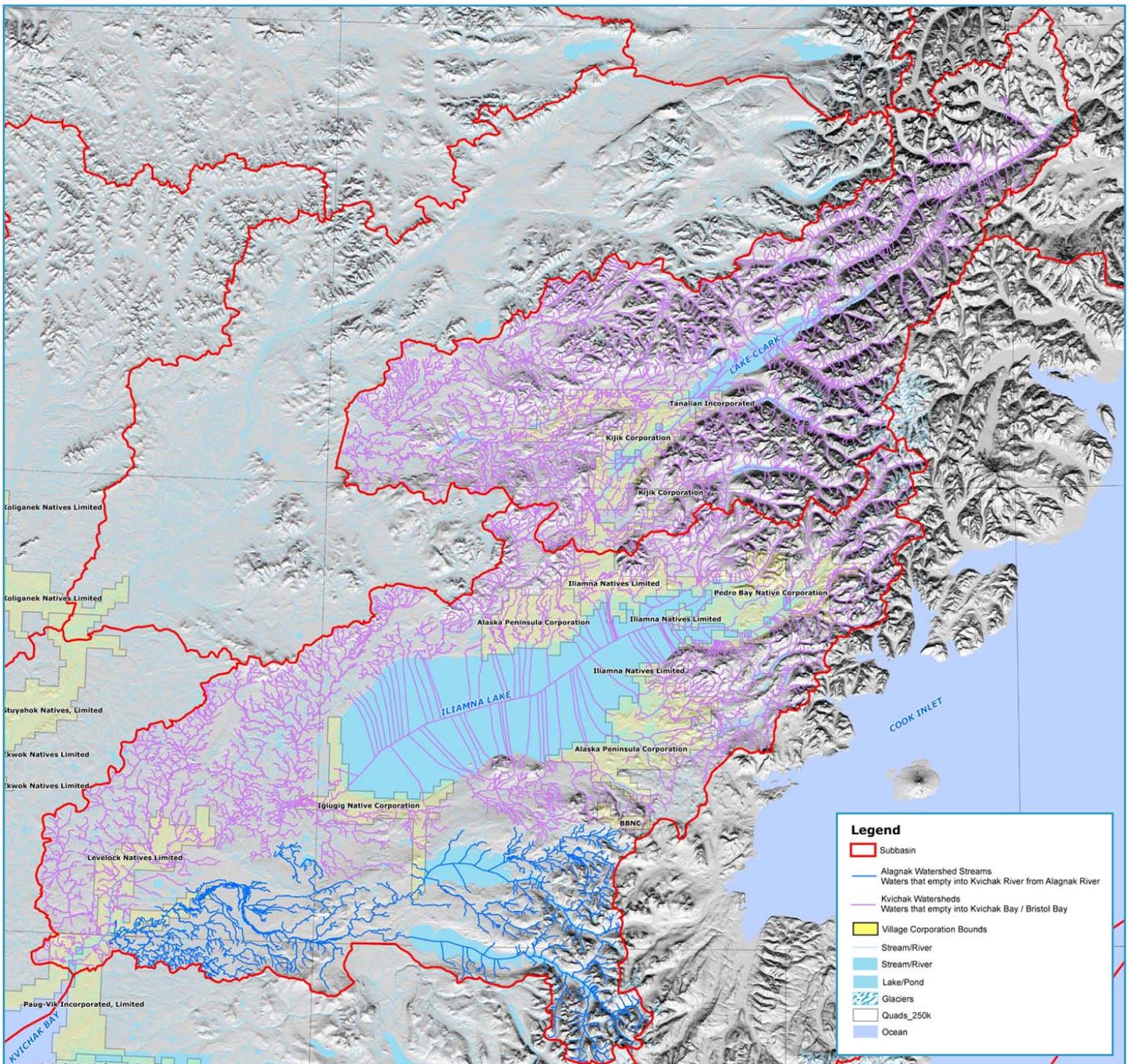


Levelock's Community Maps indicate some of the watershed management issues the village has addressed, and others in need of attention.

A new solid waste landfill has been constructed further from the river. However, the old landfill needs to be closed and the site cleaned.

Active riverbank erosion, periodic flooding, poor drainage and the possibility of hazardous fuel spills continue to concern residents. Several structures have been lost to erosion in past years.

Source: State of Alaska Department of Commerce, Community & Economic Development

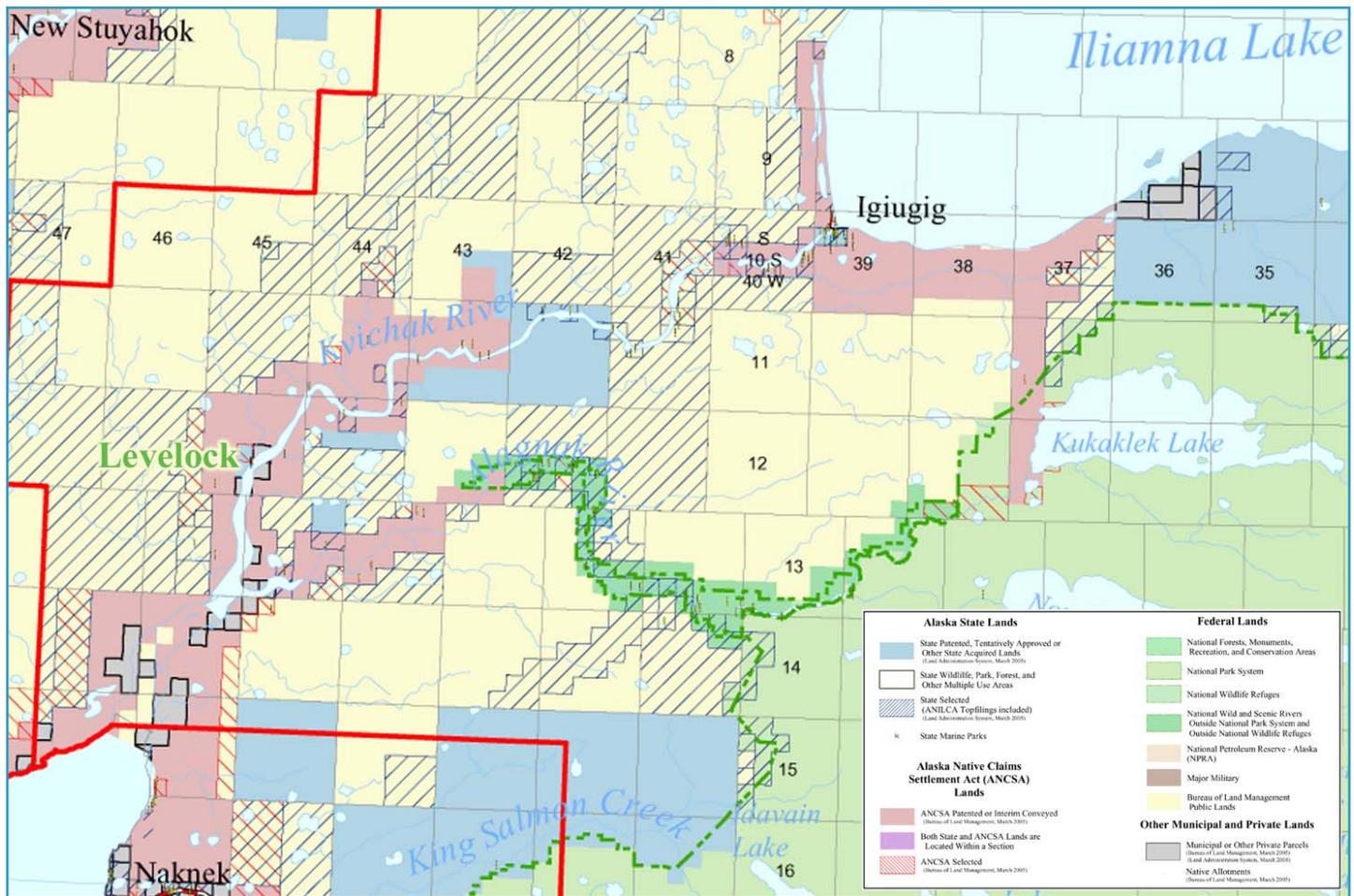


Animal & Plant Species

There are many fish species on the Kvichak, Alagnak and tributary rivers. King salmon, silver salmon, red salmon, chum salmon, rainbow trout, char, grayling, northern pike, Aleutian sculpin, slimy sculpin, Alaska blackfish, three spine stickleback, Japanese lamprey, round whitefish, and nine spine stickleback inhabit these waters. The health of all fish populations are reliant upon the success of the salmon life cycle. The diversity of wildlife found along the rivers includes moose, caribou, brown bear, beaver, river otter, lynx, mink, fox, wolverine, and occasionally wolf. There are more than 200 types of birds present on the Alaska Peninsula, many of which inhabit this area. Just some of the birds that live and nest in Levelock's watershed include swan, geese, loon, grebes, eagles, osprey, falcon, hawks, crane, grouse, ptarmigan, plover, pintail, eider, duck, teal, jaeger, gull, owl, auklet, murrelet, kingfisher, woodpecker, flycatcher, lark, swallow, jays, magpie, crow and raven. The variety of vegetation in the area includes spruce, willows and many types of berry bushes (salmon berries, blackberries, blueberries, and cranberries). Fiddlehead ferns, wild celery, and sourdock are also present and collected by subsistence users.

Source: National Park Service and US Geological Survey

Land Ownership on the Kvichak and Branch (Alagnak) Rivers



Source: State of Alaska Department of Natural Resources

(Alagnak) River is primarily done by National Park Service, through the Alagnak Wild and Scenic River Management Plan. The exception is where this river crosses into Levelock Native Corporation lands.

There are fish counting towers on these rivers that primarily monitor the sockeye salmon fisheries. Management of fish stocks and the rivers themselves are under state jurisdiction and are monitored by Alaska Department of Fish and Game.

Land & Water Uses

Subsistence Use

Subsistence use in the watershed includes various types of freshwater fish and other species such as black bear, brown bear, caribou, sheep, moose, beaver, coyote, arctic fox (blue and white), red fox (including cross, black and silver phases), hare, lynx, wolf, wolverine, grouse, and ptarmigan. Harvests of various salmon species are a significant source of residents' diets, supplemented by local game.

Tracking subsistence take accurately is challenging, due to variations

in reporting, sharing among communities and other factors; Alaska Department of Fish and Game, Division of Subsistence identifies 1992 as a 'representative' year for subsistence harvesting in Levelock. Reviewing this data along with subsistence limits will generally give a sense of overall activity. See Appendix F for estimated game harvest and limits.

Federal public lands that are open to subsistence use in the watershed include public lands managed by National Park Service Administered Parks including Lake Clark National Park (Katmai National Park is closed to subsistence); NPS Administered

Preserves including Lake Clark National Preserve and Katmai National Preserve; and Bureau of Land Management Administered lands southwest of Lake Iliamna in areas along the Kvichak River and in the Branch (Alagnak) River area.

Sport Fishing

Sport fishing on the Kvichak and Alagnak rivers include river float trips, fly-in fishing, and shore fishing. Out-camps are also popular along these rivers. There are also a number of lodges along both of these rivers. Generally, these rivers are two of the most fished rivers in the state. The high volume of anglers and other recreational users throughout the watershed cause some concerns by village residents, sport fishing lodges, and anglers alike. Harvests are closely and constantly monitored by Alaska Department of Fish and Game to maintain healthy runs.

The Alaska Department of Fish and Game's 2004 sport fishing harvest report for the Kvichak River Drainage Area shows a total of 121 trips and 213 days fished in the area's saltwaters. Saltwater harvests include silver salmon, chum salmon and halibut.

The same report also shows a total of 8,617 anglers (112,701 trips and 26,048 days fished) fishing the area's freshwaters. Over 22% of these anglers were fishing the Kvichak River, and another 35% fishing the Branch (Alagnak) River. Together, these two rivers saw almost 4,000 anglers and almost 15,000 user days in 2004.



Katmai Lodge, located on Levelock Natives Limited corporation land on the Branch (Alagnak) River, boasts some of the region's best sport fishing.

Freshwater Sport fish Angler Days (Kvichak River Drainage)

	Anglers	Days Fished
2000	6,895	31,145
2003*	5,284	24,203
2004	8,634	26,278

Data Source: Alaska Department of Fish & Game

Comparatively, in 2000, there were a total of 78 trips and 236 days fished in the saltwaters of the Kvichak River Drainage Area. There were also 6,895 freshwater anglers (16,653 trips and 31,145 days fished).

Despite a slight drop in numbers, angler days have remained relatively high over the last several years, and the trend may be on the rise again.

For more specific information on rivers and tributaries fished, as well as a comparison with other popular sport fishing areas in Alaska, see Appendix G.

All the rivers and creeks in the area are closed to all sport fishing from April 10 to June 7; only unbaited, single-hook, artificial lures are permitted year-round. There are a few dozen lodges in the area along the Kvichak and Branch (Alagnak) Rivers that bring in sport fish visitors. In addition, there are a number of operators that fly in for hunting, fishing, and recreational activities from the Iliamna Lake and Lake Clark areas, King Salmon, and other communities. Some Kenai operators also guide area rivers.

Harvested species are listed in Appendix F and I.

Commercial Fishing

Commercial fishing continues to play a big part in Levelock's way of life. Many Levelock residents commercial fish in the summers, or work cannery jobs. Fish runs in 2004 declined from previous years, yet the Bristol Bay fishery continues to be a large part of regional and local economies. Management of the fishery is by Alaska Department of Fish and Game. Forecasts for 2005 sockeye salmon estimate more than 32 million fish returning to the Bristol Bay region, with more than 5 million of those fish predicted to return to the Kvichak-Branch drainages. For an overview of commercial harvests and fish forecasts, see Appendices H and I.



A brown bear goes fishing near Mirror Lake in Katmai National Preserve, part of the headwaters of the Branch (Alagnak) River.

Sport Hunting

Sport hunting occurs throughout the region. The area is quite popular seeing 162 Bristol Bay resident hunters, 206 Alaska resident (but non-Bristol Bay area) hunters and 54 nonresident hunters in 2004 for a total of 422 sport hunters. Most of these are interested in caribou harvest, with some moose, brown bear and sheep hunting occurring. The tables at right show animals hunted and killed. For a more detailed list of resident hunters by community, see Appendix F.

Conclusions

Overall, though a flight over the region might seem to indicate little activity, the watershed area sees substantial use from area residents, businesses and visitors alike. Maintaining the health of the land and water and finding ways for these uses to continue compatibly and sustainably is the community's goal.

Game Hunted in Management Unit 9B (Kvichak-Iliamna Area and South Lake Clark Preserve)			
	Alaska Resident	Non-Resident	TOTAL
Moose	27	12	39
Caribou	218	17	289
Sheep	2	0	2
Total	247	29	330

Data Source: Alaska Department of Fish & Game, 2004

Game Hunted in Management Unit 9C (Branch/Alagnak Area and Katmai Preserve)			
	Alaska Resident	Non-Resident	TOTAL
Moose	15	12	27
Caribou	101	3	104
Brown Bear	5	10	15
Total	121	25	146

Data Source: Alaska Department of Fish & Game, 2004

Survey of Water bodies within the Watershed

Branch (Alagnak) River

The local name for the Alagnak is the Branch River. The Branch (Alagnak) River flows west from the Kukaklek Lake (located in Katmai National Preserve) to Kvichak Bay south of Levelock. The Branch (Alagnak) is a National Wild and Scenic River and is one of the most popular sport fishing rivers in the entire Bristol Bay region (see Appendix G). It is surrounded by federal land along the eastern half and Levelock Natives Limited land along the western half.

In August of 2004, millions of salmon escaped into the Alagnak River system but failed to spawn. This was frustrating to fishery managers and fishermen alike. The Branch (Alagnak) River system cannot handle such a huge number of spawning fish. In addition to the crowded conditions resulting from massive over-escapement, there is limited suitable spawning habitat. The lower part of the Alagnak River was opened to in-river commercial fishing with set-nets in 2005 due to the high number of escapements. National Park Service is in the early

Sport fishing Vessels (99613 Zip Code Area)

35	Kvichak River
47	Alagnak River
45	King Salmon (including No See Um Lodge, Enchanted Lake)
12	Igiugig
0	Egegik
139	TOTAL

Data Source:
Alaska Department of Fish & Game

stages of preparing an Alagnak River Management Plan.

Lodging

There are several lodges dispersed along the length of the river. These lodges help to bring in thousands of visitors to the region each year. Some of the revenue from lodging contributes to local economies, especially when the lodging is owned or leased by residents or village corporations. Other lodging establishments are more self-contained, with looser ties to the surrounding communities. It is hoped that building bridges between the lodges and local peoples is an eventual outcome of this project.

Land Uses

Recreation uses on the Branch (Alagnak) River consist of rafting, backpacking, sport fishing and hunting. Subsistence uses consist of trout, pike, and sockeye salmon fishing and moose, bear and caribou hunting. Commercial fishing also occurs in the area, near the bay.

National Park Service's Annual Activity Report for 2004 shows that \$2,430 in total monitoring fees were charged for Branch (Alagnak) River usage. The fee charged is \$6.00 per person per day.

Since it is such a popular river among all these user groups, management of the uses can be challenging. Improved coordination among land managers and users has been discussed during this project; several of the goals address this desire for improved coordination. Additionally, the upcoming review of the Katmai National Park Management Plan will offer Levelock residents an opportunity



Dwarf fireweed, also called "river beauty" lines the shores of area lakes and streams.

to coordinate with NPS on Branch (Alagnak) River management efforts.

Kvichak River

The Kvichak River flows southwest from Iliamna Lake and into Kvichak Bay. It is ice-free from June through mid-November. Both Levelock and Igiugig villages are located along the Kvichak. It is bordered by State, BLM and Native (Levelock Natives Limited and Igiugig Native Corporation) lands. There are several lodges located along the Kvichak River (see Appendix J).

The Kvichak provides popular sport fishing opportunities for sockeye (red) salmon, rainbow trout, Dolly Varden/Arctic char and Arctic grayling. According to some reports, the trout is nearly fished out. The Kvichak River system supports one of the largest and most variable sockeye salmon runs in the world. Sockeye salmon runs returning to Kvichak River have varied from a low of 300,000 to a high of 42 million. Recently, the Kvichak River has been down in sockeye salmon

runs. In addition, the run has a fairly distinct five-year cycle, with three years of low returns and two years of high returns. There are also indications that, on average, fish size is decreasing.

The Kvichak River Trail Access project, which was completed in 2001, has helped direct fly-in sport anglers from the Igiugig airport to the river near the village. Prior to this project, sport anglers searching for the best areas to fish were crossing private roads and property to reach the river.

Generally, this river has the greatest number of available species, greatest number of fish harvests and the highest number of anglers, trips and days fished (see Appendix G).

Iliamna Lake

Iliamna Lake is located in the northeast portion of the watershed area. It drains southwest through the Kvichak River into Bristol Bay and the Bering Sea. It is the second-largest fresh-water lake (after Lake Michigan) lying entirely within the United States and is approximately the size of Connecticut. It has a mean depth of 144 feet and is over 900 feet deep in some areas. It is 80 miles long, 25 miles wide and covers an area of 1,000 square miles. Land surrounding the lake is owned by BLM, state DNR and Igiugig Native Corporation.

Iliamna Lake has a resident population of harbor seals, along with a very successful sport-fishing industry. It is noted for its game fish, especially rainbow trout. Other species found along the lake include moose, caribou and bears.

Levelock residents visit the lake area regularly for recreation and subsistence uses. Residents camp in summer and travel to visit relatives in lake villages for carnivals in winter. Knutsen Bay on Lake Iliamna is popular for gathering red fish.

The proposed site for Pebble Mine is approximately 15 miles northwest of the village of Iliamna, located on the north shore of the lake. This development poses potential threats to the lake's water quality and habitat, and all downstream residents. Development of management plans for the proposed mine are being monitored by many living and working in the area.

Yellow Creek

Yellow Creek originates north of Levelock and flows south into the Kvichak River, about seven miles upriver from Levelock. What is labeled Yellow Creek on the US Geological Survey (USGS) maps is not what the Levelock community calls Yellow Creek; they refer to that drainage as Jensen Creek. Land surrounding Yellow Creek is owned by BLM and Levelock Natives Limited.

The creek originates about ten miles from a patchwork of mining claims. While the mining claims lie outside of Levelock Natives Limited lands, potential impacts may travel downstream, affecting the watershed.

Yellow Creek is used for both subsistence and recreation purposes. It is a popular area for trapping and moose and caribou hunting. Flights



Subsistence hunting and sport hunting for moose is popular in the area. Photo credit: iStock

in and out of the area seem to be becoming more popular and locals wonder if these flights are - or should be - regulated. There is also occasional evidence that improper game carcass disposal occurs here. Several cabins are located along the creek and winter trails to Nushagak villages originate in the area.

Bear Creek

Bear Creek originates northwest of Levelock and flows southeast into the Kvichak River, about seven miles south of Levelock. With the exception of the last mile which is bordered by Levelock Natives Limited, Bear Creek is bordered by BLM land. The creek is a popular sport fishing and hunting area. Locals report fly-in four-wheeler use in this area for hunting.

Kvichak Bay

Kvichak Bay is in the Naknek-Kvichak fishery district. The Branch (Alagnak) and Kvichak Rivers drain into Kvichak Bay, which is part of the Bristol Bay sockeye salmon fishery. Half of the world's commercially-harvested sockeye salmon are caught in Bristol Bay - and half of the Bristol Bay catch has historically been caught in the Naknek-Kvichak fishery district.

Community Issues & Concerns

Various issues and concerns about the watershed area were raised by Levelock residents at the first community workshop. Generally, residents are interested in addressing issues of:

- Pollutants
- Trespass, Overcrowding and Land Management
- Erosion and Ecological Changes
- Water Quality
- River Patrol
- Communication and Leadership

These issues are explained in more detail below. Goals and strategies to address these issues are included in the following section. An annotated map illustrating significant use areas is included on page 23.

Issue #1: POLLUTANTS

Pollutants from many different sources affect Levelock's watershed. Residents are interested in addressing these various sources in turn:

- Village-associated pollutants
- Lodge-associated pollutants
- Pollutants from mining
- Upstream users

Village-associated pollutants

In 2004, Levelock's Environmental Program conducted a Baseline Environmental Assessment, which included a residence-by-residence environmental planning survey. In this assessment, several village-

"I see this project as a tool to mitigate impacts on groundwater and river systems - impacts from waste disposal, fishing, hunting, rafting, camping, recreating and lodge-based uses."

produced pollutants were identified as problems, and remedies were cataloged. Village-associated pollutants the community would like to control include:

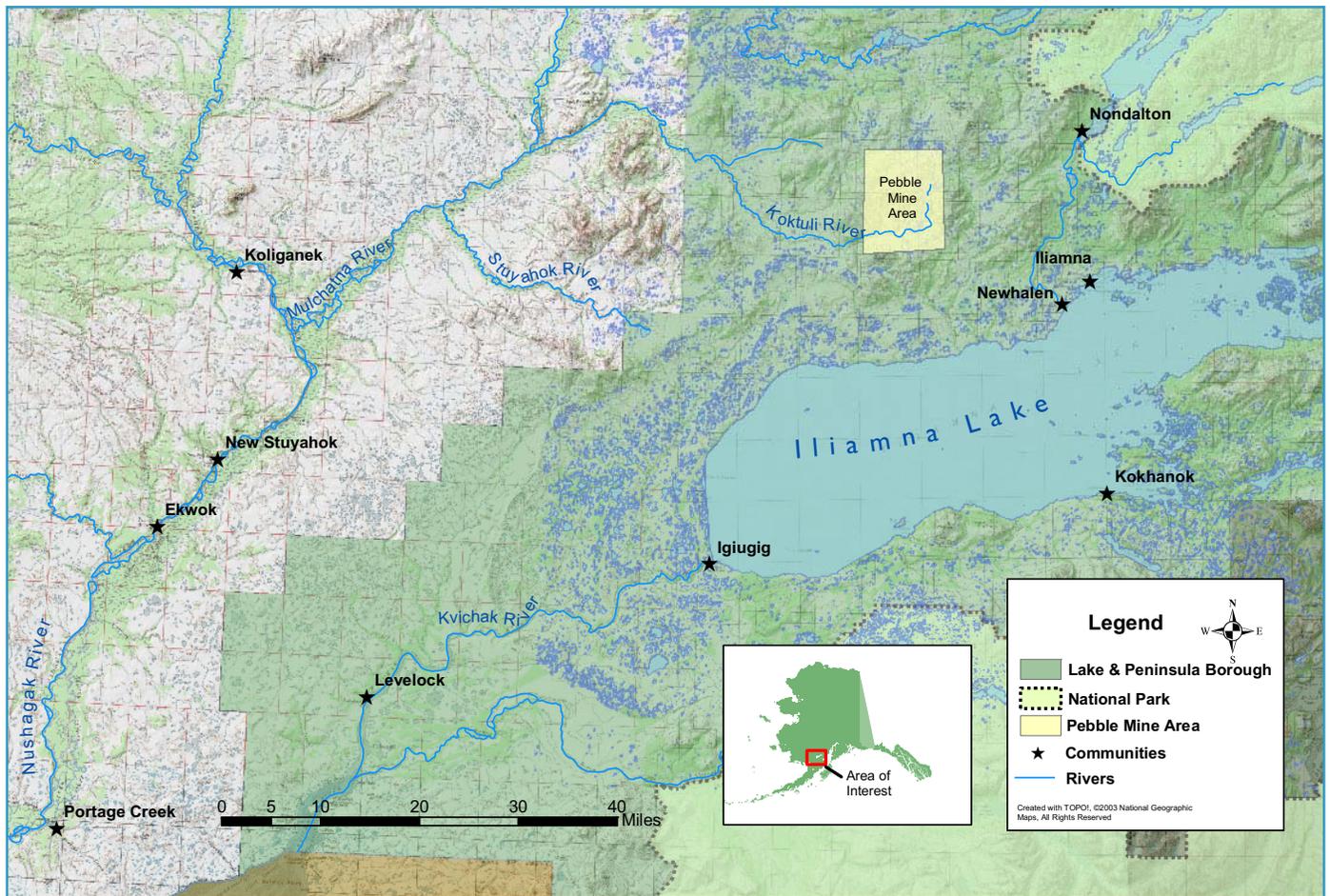
- village landfill and solid waste
- hazardous and toxic materials
- loose animals
- fuel oil contaminated soils
- raw sewage spills from septic tanks
- abandoned fuel drums
- fish and animal waste
- abandoned vehicles, boats and equipment
- leftover construction materials
- burning trash
- dust

Many of these pollution sources – such as solid waste, hazardous materials, fuel spills, septic spills and fish waste – potentially impact water quality and the health of Levelock's watershed. It was also noted in the assessment that addressing these pollution issues is vitally important for protecting subsistence resources and keeping subsistence foods contamination-free. The assessment also noted that there are other obvious health risks associated with water, soil and air pollutants that the community should be protected from. For all of these reasons, the community is committed to decreasing the amount of village-associated pollutants.



Peter Apokedak and Krystal Hanson - both interns with Levelock's IGAP program - provide planner Thea Agnew with a village tour.

Location of the Proposed Pebble Mine



Source: Agnew::Beck

Lodge-associated pollutants

Lodges and other river users are seen as an occasional source of pollutants, in particular from fuel spills from boats, planes and fuel tanks. These businesses' prosperity is intimately tied to the health of the watershed. Safe handling of fuel and rapid, thorough response to spills is in the best interest of the lodges and guiding operators. Levelock would like to work with these operators to ensure that these pollution sources are reduced.

Pollutants from mining

Numerous mining claims are located within Levelock's watershed. Of particular concern to the community are claims located along Yellow

Creek and at its headwaters. These claims are not on, but are directly upstream from Levelock corporation lands – areas that are heavily used for subsistence hunting and trapping – as well as being upstream from the village. Additionally, the community is very concerned about the potential effects on their watershed from the proposed Pebble Mine development. Levelock would like to ensure that any mining operations located in their watershed area are carefully monitored and potential pollution sources addressed so that there are no negative impacts from mining on the watershed.

Levelock welcomes the chance to work with mining developers to address potential issues.

Other Upstream Landowners

Many communities are located upstream from Levelock and use the surrounding lands in similar ways, including Igiugig, Newhalen, Pedro Bay, Kokhanok, Iliamna, Nondalton and Port Alsworth. Additionally, uses by and land management policies of other landowners such as National Park Service, the Alaska Department of Natural Resources and the US Bureau of Land Management affect Levelock, due to its position downstream. Levelock recognizes that working with all the landowners and users of the watershed – upstream and downstream – is vital to the success of any pollution-control program.

Issue #2: TRESPASS, OVERCROWDING & LAND MANAGEMENT

One lodge located on the Branch (Alagnak) River claims on its web site that “this fishing resort is considered the best salmon and trophy trout fishing destination Alaska has to offer.” Apparently

dramatic increase in fishing pressure beginning in the early 1990s. Angler complaints of poor fishing and a decrease in the size of rainbow trout throughout the watershed have become a concern.”)

In the September, 2003 issue of *Fish Alaska* magazine, the top ten spots for catching trophy rainbow trout

the number of users and user days on area rivers seems to be steady, and - some years - even increasing. Increased numbers contribute to feelings of overcrowding, issues of trespass and safety concerns. One resident remarked that, during the times when fishing and hunting season overlap – such as in September – “It feels like it’s not safe to shoot anymore.” Many subsistence hunters don’t want to go upriver to hunt or fish because of the number of tents and users. The heavy usage presents locals with a dilemma: “You don’t want to hunt moose while sport hunting and fishing going on, but if you wait you’re likely not to get a moose.”

Additionally, illegal hunting and camping routinely take place on village corporation lands. Levelock residents acknowledge that local lodges and sport fishing guides generally know the area, are respectful of tribal lands, have a vested interest in the health of the watershed and “know where not to go.” More challenging is communicating effectively with non-local hunters or sport fish operations, or other outfitters from outside the region, such as Kenai-based guiding companies.

Many residents feel that they face education and enforcement issues dealing with these groups because “they don’t know the area and think nobody owns the land.” Levelock has posted signs on corporation lands. A map showing native allotments and corporation land is distributed by National Park Service; notices are posted on several pages of Alaska Department of Fish and



Float planes are a constant companion during the summer and autumn months, both as means for local travel and to transport visitors who come to the region for world-class sport fishing and hunting.

anglers agree. Visitors come from inside and outside of the state, to try their luck at catching salmon, trout, Dolly Varden, char and other fish. The popularity of the area for sport fishing saw a marked increase in the early 1990s; despite concerns about some of the fish populations due to increased fishing pressure, it shows no signs of relenting. (The USGS Alaska Science Center noted that “Concerns have been raised about the health of Alagnak River rainbow trout population(s) because of the

were listed. Numbers one, two, three, five, six, seven and ten were all Bristol Bay locations, and of these, four – Kvichak River, Naknek Lakes, Iliamna Lake and Alagnak River – were located in the watershed area. The popularity of salmon fishing in the region is similarly high.

Despite regulation by National Park Service, Alaska Department of Natural Resources, Alaska Department of Fish and Game and Lake and Peninsula Borough,

Game's web site. Despite these efforts, trespass continues to be a recurring problem.

Some hunting and fishing practices negatively impact the land. Managing uses such as four-wheelers for sport hunting, carcass disposal and aircraft harassment of wildlife are a priority. Stories of finding carcasses with the legs or head removed are disturbing to Levelock residents. Some hunters do donate unwanted meat to locals, but because hunters are required or prefer to search for trophy-sized animals, the meat is often old, tough and not very good to eat, according to some residents.

Building relationships with unfamiliar operators and increasing capacity for effective education and enforcement will help to address these issues.

Issue #3: EROSION & ECOLOGICAL CHANGE

A number of environmental changes are impacting the village. The most significant of these changes is the amount of erosion occurring along the Kvichak and Branch (Alagnak) Rivers. The shores of the Kvichak at Levelock's dock and along the village's shoreline are eroding to a significant degree. Reclamation of the bank and mitigation of the erosion problem is a high priority. Riverbank erosion was identified as the number two community priority in Levelock's 2004 Baseline Environmental Assessment. Additionally, erosion is increasing in several locations on the Branch (Alagnak) River. Residents believe this erosion is caused or agitated by wake from boats. Controlling the motor size, the number of boats and the speed at which they travel can help address this problem.

Consulting with an environmental engineering firm on other mitigation methods is of interest to the community. Obtaining funding for these types of projects has been a challenge, which the village plans to try and address.

Aside from erosion, the community has noticed other environmental changes effecting their way of life. These changes include warmer winters, which has led to a decline in river freeze-up during the winter, in turn making travel along the river corridors and ice fishing more dangerous and sometimes impossible. Perhaps related to this change is that fact that the amount of annual snowfall seems to be decreasing in recent years, which has led to drier tundra and fewer berries and other plants gathered for subsistence. Local residents have also remarked on changes in wildlife; though the caribou and moose



The eroded west bank of the Kvichak River by Levelock's dock (left). Outbuildings succumbed to bank erosion (right). The village is interested in applying for funding to address issues of clean-up, remediation and prevention.

populations seem steady, there are more brown bears coming through the village. Salmon runs have been good, but there seem to be fewer trout and smaller fish along the Kvichak than in years past.

The community recognizes that several of these issues are probably related to global causes, such as climate change and global warming. Solutions to these problems are also global in scale; Levelock ranked “Other Environmental Issues” number fourteen in their community survey, noting that “pollution created in places far from Alaska contributes to the depletion of the ozone layer, polluted oceans and rivers.” Finding ways to affect solutions to these global issues is important to the community.

Some sources of these issues may be closer to home, however; Levelock is interested in monitoring changes in the local fish and wildlife populations jointly with state and federal agencies, and finding ways to work together to address these problems.

Issue #4: WATER QUALITY MONITORING

Having baseline data is important for water quality monitoring. Several types of data are collected by various agencies at varying points throughout Levelock’s watershed. Knowing what water quality information is currently available, and becoming more involved in water quality monitoring is important to Levelock. Working knowledge of water quality and easy access to more detailed information about the health of the watershed would improve the community’s ability to identify and respond to changes.

Levelock recently received a grant to conduct a two-year baseline water quality monitoring study through IGAP. Implementing the study and sharing the data collected is a priority project for the village’s environmental program.



Nushagak village residents such as Luki Akelkok, Sr. were instrumental in creating various organizations that oversee the management of the Nushagak-Mulchatna Watershed - such as the Watershed Coalition, the River Patrol and the Conference of Nunamta Aulukestai (“Caretakers of Our Lands”)

Issue # 5: RIVER PATROL

For several years until about 2001, Levelock participated in a River Patrol program. This River Patrol surveyed uses on local rivers on a daily basis during spring, summer and fall months, protecting Levelock corporation lands against trespass and reporting violations. Similar to the Nushagak-Mulchatna River Patrol, this program was very popular and effective. The program ended in 2002 due to funding cuts. Reinstating the Kvichak-Branch River Patrol with more secure funding is an important part of Levelock’s watershed management.

Issue #6: COMMUNICATION & LEADERSHIP

The potential for strong partnership among various user groups and regulating agencies exists in the watershed area. Many of the area's users have mutually supportive needs and goals, such as keeping fish runs healthy, minimizing trespass, preventing overuse of resources and protecting water quality. Other villages as well as area lodges are in many ways natural partners for Levelock in its watershed management efforts. State and federal agencies are mandated to work with communities to achieve these same goals. Mining interests have demonstrated a willingness to work with communities on issues that effect their land, water, air, economy and ecosystem.



No See Um Lodge on the Kvichak River.

Some measures are already in place to facilitate a strong working partnership among village residents, local lodges and government agencies. For example, the Alaska Department of Fish and Game's web site notes that "Anglers are strongly encouraged to check the regulation hotline (907-842-REGS) or our web site before heading to the Kvichak drainage. In Igiugig, the village at the outlet of Lake Iliamna, there is a new public trail from the airport to a prime sockeye sport fishing spot west of the village, so look for the signs. Please stay on public lands or get permission in advance to use private lands. Villagers also request that anglers avoid fishing close to subsistence nets and cleaning tables. A little

courtesy on everyone's part will go a long way to avoid conflicts and assure future access and angling opportunities in this wonderful area."

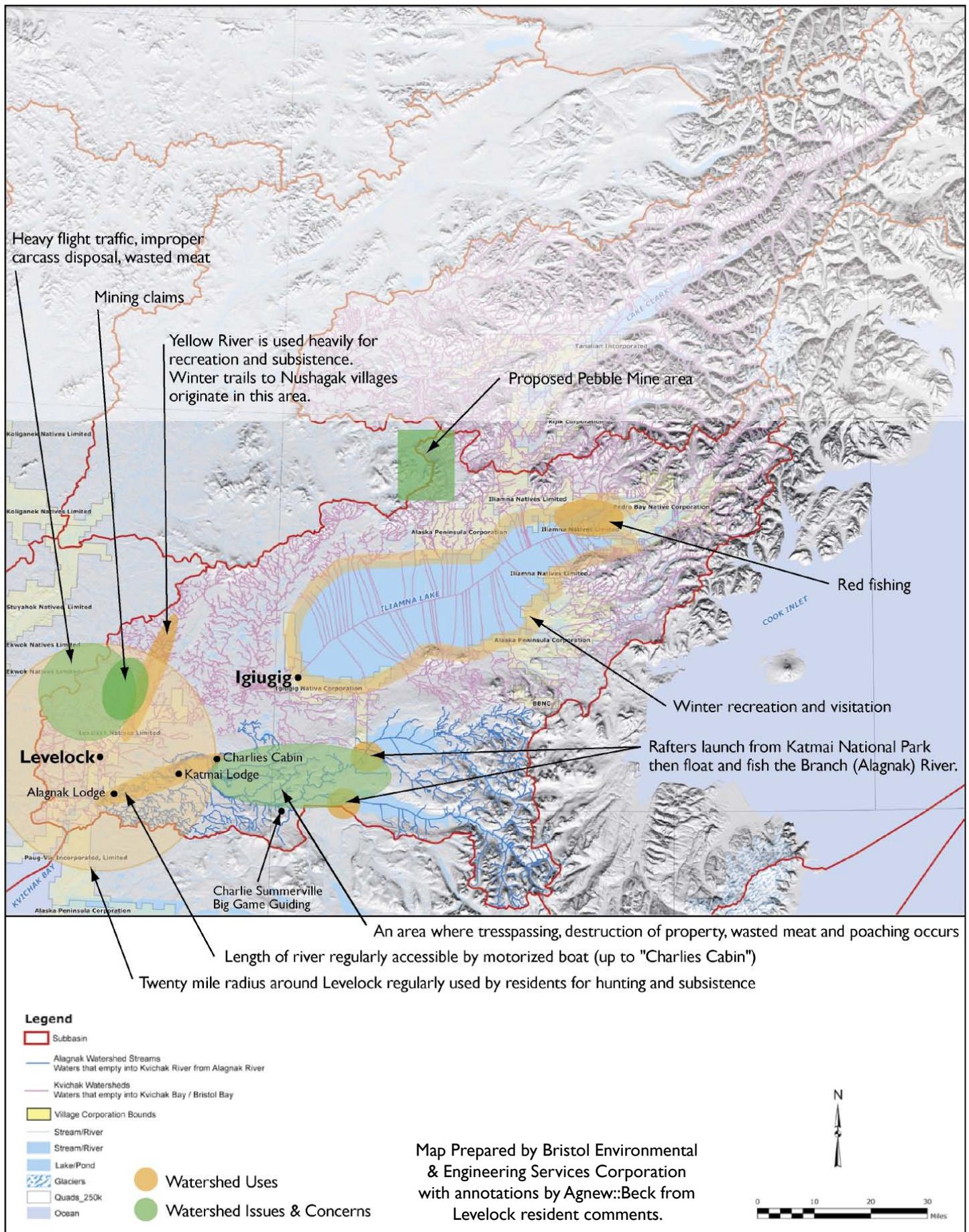
Further, the Alaska Department of Fish and Game's Strategic Plan, released in 2000, plainly states as one of its objectives: "To promote partnerships with other agencies, users, tribal entities, and other stakeholders to sustain Alaska's fisheries resources."

The National Park Service, which manages all the land along the Alagnak River except where it crosses into native lands, states on its web site "consistent with the Clean Water Act, water quality in

wild, scenic and recreational river areas will be maintained or, where necessary, improved to levels which meet Federal criteria or federally approved State standards for aesthetics and fish and wildlife propagation. River managers will work with local authorities to abate activities within the river area which are degrading or would degrade existing water quality."

Continued contact with these entities – other local watershed communities, businesses and management agencies – is the first step toward increasing good communication and leadership among all who have an interest in the health of the watershed.

Uses and Issues in the Watershed, by Levelock Residents



Community Goals & Strategies

Goal #1: PROTECT TRADITIONAL & SUBSISTENCE USES IN THE WATERSHED AREA

At the heart of the issues and goals outlined in this report is a single, simple principle: residents of Levelock want to continue practicing a subsistence way of life and traditional uses of their lands. Related to this goal is Levelock's

"We'd like to ensure that future generations can enjoy the river systems for subsistence, drifting, ice fishing, commercial fishing, and recreation."

right to self-determination and sovereignty over their land and their inherent interest in managing their land, air and water so that it is unspoiled.

The purpose of this project is to assert Levelock's intent to work for management of their watershed in a way that protects traditional ways of life and allows them to maintain the health of their land and their people.



Placing information in centrally-located visitor pass-through areas, such as the King Salmon Visitor's Center, provides a way to disseminate information about fishing, hunting and camping management policies on Levelock's corporation land.

Goal #2: MONITOR, REDUCE & CONTROL POLLUTANTS

As discussed in the Community Issues & Concerns section of this document, Levelock is aware that there are several significant sources of pollution threatening their watershed. The following strategies are recommended to address these various sources.

Village-Associated Pollutants

Remedies to address village-associated pollutants are:

- educate community members on proper waste disposal techniques for a variety of substances
- construct a Class III-permitted landfill
- hire a landfill operator (being

addressed through IGAP funding)

- set up and use a recycling and salvage system at the landfill
- organize annual Clean-Up Days
- provide incentives for proper waste disposal and clean-up
- locate a hazardous material collection center and create a workable removal program
- keep dogs and other animals under owners' control and away from garbage
- practice safe fuel tank repair, refueling and maintenance
- handle raw sewage safely and clean spills thoroughly according to best health practices
- set up a system for removal of fuel drums, abandoned vehicles, boats and other heavy equipment
- require contractors to remove waste and materials they bring into the village
- burn waste away from village to keep air and water clean
- reduce speed limit to decrease dust and improve air quality
- dispose of fish and animal waste in the traditional way

Management plans currently being drafted should help to address some of these issues.

Upstream Pollutants

Working with the lodges, small-scale efforts can be made to reduce their contribution to watershed pollution. Possibly running a waste collection service from river camps and lodges could help prevent improper waste

disposal as well as be a source of revenue for the village. Partnering with the state and federal agencies to do effective waste management planning – including planning how to address runoff from fuelling areas and fuel spills – and to find funding and effective methods for removing waste is also desirable. Additionally, a River Patrol - if re-activated - could help to more quickly identify and address sources of waste and fuel spills.

Goal 3: MINIMIZE TRESPASS

In conjunction with a reinstated River Patrol (see Goal 7), many steps can be taken to minimize trespass on tribal lands. First and foremost is to continue to work with area lodges who respect land ownership boundaries and who know the area. These lodges could be natural partners in education, monitoring and enforcement, since it is in their best interests to maintain good relations with the village, to minimize complaints and overcrowding, and to be good caretakers of the watershed. A model that works for other areas of Bristol Bay is permitting guiding services to access tribal lands in exchange for a fee or for patrolling services. This relationship can bring the village some revenue, but also can help to guarantee that someone is on the land, watching for trespass and poaching violations.

Aside from lodges, communicating clearly with air taxis and other transporters about land ownership boundaries and holding these businesses responsible for landing in appropriate locations is another avenue for preventing trespass.

Person-to-person conversations are effective. Creating a web site that identifies tribal lands and asking area agencies and businesses to link to the site might be another low-maintenance way to provide information to travelers and visitors.

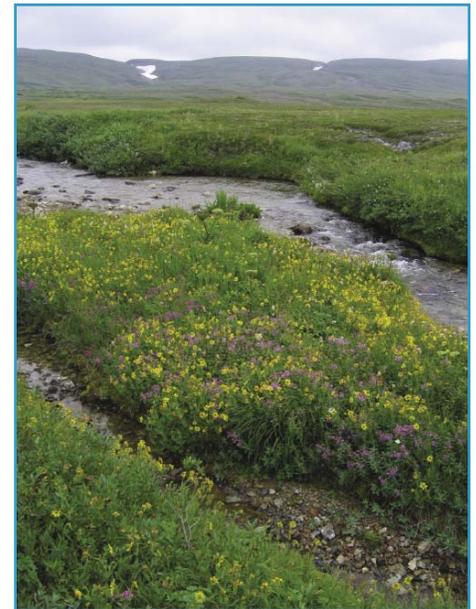
Goal 4: ALLEVIATE OVERCROWDING

One possible solution to overcrowding is to institute and enforce a permitting process for use of corporation lands. In other areas where land is managed by a state or federal agency, another mechanism for responding to increasing use pressures would be to work with these agencies to set sustainable use goals and to revise management policies. Spacing camp sites throughout an area can help with issues of overcrowding as well as help to address problems of permitting and trespass.

Goal 5: ADDRESS ISSUES OF EROSION & OTHER ENVIRONMENTAL DEGRADATION

Residents would like to formally identify erosion areas and prioritize areas in most need of mitigation measures. Implementing these measures will likely include:

- sponsoring and organizing community events to plant trees and retentive vegetation
- building and placing control blocks in heavily-used, problem areas
- “slow” or “no wake” enforcement and controlled use areas along the rivers



An unnamed tributary of the Branch (Alagnak) River supports a variety of plant life.

- building boat launch or docking facilities to direct landings away from natural banks
- consulting with an environmental engineering firm on other possible mitigation measures

Goal 6: IMPLEMENT WATER QUALITY MONITORING PROGRAM

There are three parts to the village’s water quality monitoring goal: to collect baseline information about the watershed by better coordinating monitoring efforts, to train residents on collecting and interpreting water quality data, and to address any water quality issues that exist in or potentially threaten the health of the watershed.

Water quality monitoring programs – operated by US Geological Survey, Alaska Department of Fish and Game, US Bureau of Land Management, Alaska Department

The Alagnak River, known locally as the “Branch.” Opportunities for some of the best fishing in Bristol Bay are to be found on this river.



of Natural Resources – likely exist throughout the watershed. Extensive research is also occurring throughout Levelock’s watershed area as preparation for possible future mining development. Identifying and working with existing data in conjunction with Levelock’s own monitoring program will help residents get a full picture of the region’s water quality. Residents would like to ask agencies and commercial enterprises who are collecting data to continue to do this and to systematically pass along results to Levelock.

Additionally, funding sources for training local residents on water quality monitoring and data

interpretation have been procured by the village for the next two years. A plan for addressing any water quality issues identified could be formulated as water quality results are assessed.

Goal 7: REINSTATE RIVER PATROL

Reinstating the Kvichak-Branch River Patrol with more secure funding is an important part of Levelock’s watershed management. Also, creating a mechanism by which the River Patrol can report violations and issue warnings and citations – perhaps by partnering with regulation and enforcement entities such as National Park Service and Alaska Department of Fish and

Game – will put the River Patrol in a strong position for communicating with and regulating uses of area businesses, services and visitors.

Levelock residents desire that the River Patrol be partly or wholly made up of local community members, as these are the people who understand the issues and the area, and who can best represent local interests and land management policies for Native-owned lands. Other actions of the River Patrol would be education and outreach on allowed uses, location of village corporation and Native allotment lands, and the overall health of the watershed.

Goal 8: ORGANIZE A REGIONAL WATERSHED COUNCIL

The community recognizes that the goals listed above will be best accomplished by a partnership of entities who have an interest in the health of the watershed, and who are willing to take a leadership role in implementing priority goals and projects.

Levelock would like to help initiate the formation of a regional watershed council. A strong, organized group of people who represent the diversity of interests and landowners in the watershed, working through a forum such as a watershed council, are more likely to achieve important actions than single communities or entities working alone. There are

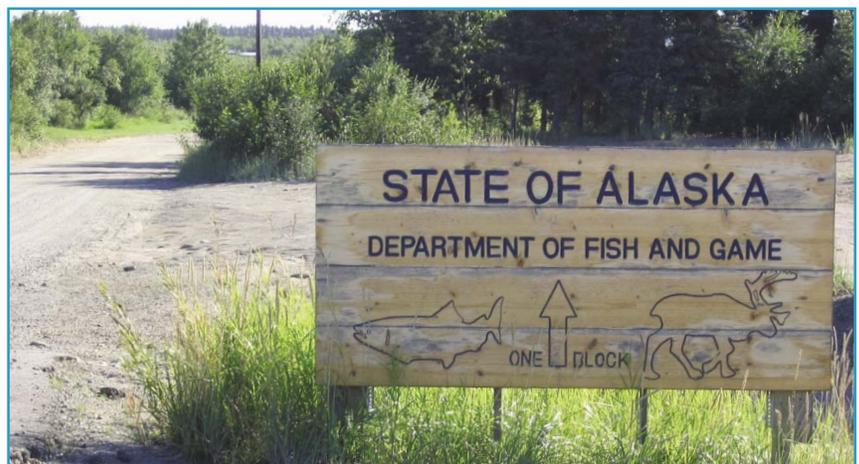
several Alaska-based models for a watershed council organization (see Appendices C and D), including the Nushagak-Mulchatna Watershed Council, the Yukon River Inter-Tribal Watershed Council, and the Cook Inlet Keeper and Prince William Soundkeeper programs.

Though many of Levelock's interests are focused on the Branch (Alagnak) and Kvichak River drainages, and uses in these areas are of particular concern to residents, Levelock also recognizes that the health of these river systems is intimately tied to uses in the Lake Clark and Iliamna areas of the watershed. Levelock believes that working with a broad, inclusive perspective on both regional and local watershed projects and issues is the best way to accomplish goals that will lead to a healthy watershed for many generations.

Goal 9: INITIATE NEEDED STEPS FOR LOCAL CAPACITY BUILDING (to Address All Other Goals)

Training in grant-writing, water-quality monitoring, community waste-management, community planning, guiding, biology and other types of land management and administrative skills will assist Levelock in maintaining and growing its local capacity to address issues and implement goals stated here.

Other capacity-building steps include mechanisms for local enforcement of locally-issued permits and locally-mandated regulations (possibly including use of a local tribal court), ability to design and maintain communication tools - such as a web site - and increased input at regional-level policy decisions.



Partnering with regulatory agencies and other area land owners - such as State Fish & Game - offer Levelock and other watershed communities the ability to better manage their lands and enforce regulations

Recommendations & Next Steps

This section outlines priority actions
- roughly in order of importance
- that the community of Levelock would like to implement, in order to reach their goals as stated in this report.

Action 1: Initiate Steps to Reinstigate River Patrol Program (in conjunction with BBNA, NPS and other partners)

Action 2: Meet with Partners to Evaluate Potential Watershed Council

Action 3: Research and Apply for Funds to Conduct Erosion Mitigation in Critical Areas (from LPB, federal sources)

Action 4: Participate in NPS Visitors Report Review and Katmai/Alagnak Revised Management Plan Review

Action 5: Prepare and Distribute Educational Materials Addressing Trespass and Land Use Issues (including a website)

Action 6: Implement Water Quality Monitoring Program (two-year funding already secured)

Action 7: Identify Training and Resources for Capacity Building

“We’d like to ensure that future generations can enjoy the river systems for subsistence, drifting, ice fishing, commercial fishing, and recreation.”



A portrait of Levelock’s future leaders. These students and several other Levelock youth participated in the watershed community planning project. Students discussed ways they can address some of their issues through school projects and volunteer work.

This Levelock Watershed Community Planning Project Summary Report is available through Levelock Village Council and is also available online at www.agnewbeck.com.

Appendices

Appendix A: Contacts

Business/Agency/ Organization	Name	Phone	Email	Website
Levelock Community				
Levelock Village Council	Howard Nelson	907-287-3030	levelockak@aol.com	
Levelock Natives Limited	Ray Apokedak	907-287-3040		
Environmental Program	Shirley Andrew	907-287-3074	shirley_andrew@hotmail.com	
Area Lodges				
Alagnak Lodge Alaska		800-877-9903	fish@alagnaklodge.com	alagnaklodge.com
Alaska Trophy Adventures		877-801-2289	katmaifishing@aol.com	alaskatrophyadventures.com
Alaska's Alagnak Wilderness Camps		315-298-6655	Teresayoung8@aol.com	alagnakwildernesscamps.com
Branch River Lodge				
Katmai Lodge		800-330-0326	katmai@katmai.com	katmai.com
Angler's Alibi Alaska Fishing Lodge		607-869 9397	info@anglersalibi.com	
Alaska Rainbow Lodge		800-451-6198	info@alaskarainbowlodge.com	alaskarainbowlodge.com
Alaska Sportsman's Lodge		907-276-7605; 907-533-2121	fish@alaskasportsmanslodge.com	alaskasportsmanslodge.com
Blueberry Island Lodge		907-246-8228	blueberryislandlodge @starband.net	blueberryislandlodge.com
Igiugig Boarding House		907-533-3234		
Kvichak Cabin		907-533-3216		
Kvichak Lodge		907.272.0209; 907.230.6370	mikemcdowell2002@yahoo.com	kvichaklodge.com
Levelock Natives Limited Hotel		907-287-3040		
No See Um Lodge, Inc.		800-950-4242	info@fishinginternational.com	
Andrew's Cottages		907-571-1648		
Alaska's Naknek Anglers		800-677-2701	info@naknekanglers.com	naknekanglers.com
Bear Trail Lodge		907-246-BEAR	beartrailodge@starband.net	beartrailodge.com

Appendix A: Contacts

Business/Agency/ Organization	Name	Title	Phone	Email	Website
Government					
FEDERAL AGENCIES					
National Park Service - Katmai	Helen Lons	Park Planner	907-246-3305	helen_lons@nps.gov	
STATE/REGIONAL AGENCIES					
State Department of Natural Resources, Division of Mining, Land & Water	Bob Loeffler	Director	907-269-8600	bobl@dnr.state.ak.us	
Alaska Department of Fish & Game	Jason Dye	Management Biologist	842-2427	jason_dye @fishgame.state.ak.us	sf.adfg.state.ak.us/ Region2/areas/bbay/ bayhome.cfm
Lake and Peninsula Borough			907-246-3421	lpboro@bristolbay.com	lakeandpen.com bristolbay.com/~lpboro
Bristol Bay Borough			907-246-4224		theborough.com
Other Organizations					
Bristol Bay Native Association (BBNA)	Tom Hoseth	Lands Management Program Director	800-478-5257 x341		
Bristol Bay Native Association (BBNA)	Sue Flensburg	Environmental Program Director	800-478-5257 x341	sflensburg@bbna.com	
Bristol Bay Economic Development Corporation (BBEDC)			907-842-4370	bbedc@ptialaska.net	bbedc.com
Bristol Bay Native Corporation (BBNC)			907-278-3602	uupa@bbnc.net	bbnc.net
Southwest Alaska Municipal Conference (SWAMC)			907-562-7380	wayers@swamc.org	southwestalaska.com
Nushagak-Mulchatna/ Wood-Tikchik Land Trust	Tim Troll	Executive Director	907-276-3133, ext. 120	troll@gci.net	nmwlandtrust.org
Choggiung Limited	Rick Tennyson	Lands Manager	907-842-5218		
Yukon Rivers Inter-Tribal Watershed Council	Rob Rosenfeld	Director	907-388-2683	rrosenfeld@yritwc.com	

Appendix B: Meeting Notes

Levelock Watershed Planning Meeting

August 11, 2005

Present: Thea Agnew, Ellen Campfield, Agnew::Beck; Sue Flensburg, BBNA; Crystal Hanson, Intern with Levelock IGAP program; Hans Apokedak, Village Council, solid waste operator, former river patroller; Sergie, community member, former river patroller; Shirley Andrew, Levelock IGAP; Peter Apokedak, Intern Levelock IGAP; Ray Apokedek, LNL President; Howard Nelson, Village Council President; Ida Apokedek, Village Council Vice President; George Wilson Sr., Annette's dad, Levelock Native Corp.; Glendora Nelson, community member.

Objectives for project:

- Bring together knowledge of the river systems, how it has been used and how it is used today.
- Tool to mitigate the impacts of sport fishing, rafting, hunting, [Alagnak had 14,000 user days in 2000, NPS document Howard worked with them]. Solid waste discharge from hunting and recreation camps and lodges is a concern.
- Bring back river patrol that surveyed use on a daily basis, protected against trespass and reported violations. Similar to Choggiung sponsored patrol on the Nushagak and Mulchatna.
- Ensure future generations can enjoy the river systems for subsistence, drifting, ice fishing, commercial fishing, and recreation.
- Understand why the watershed is changing. A way to measure changes in the watershed.
- Mitigate impacts from village solid waste disposal (Levelock's landfill) on the groundwater & river systems.

Review of maps. Map special areas and important uses. Map threats and impacts.

- Levelock village corporation lands along the Kvichak drainage, Alagnak drainages, Yellow Creek drainage
- Yellow Creek originates about 10 miles from the proposed mining development.
- Yellow Creek on USGS map is not what Levelock refers to as Yellow Creek, Levelock calls this Jensen Creek
- Mining claims are outside of Levelock Natives Ltd. lands but the impacts will come downstream
- Yellow creek is important for moose, caribou, trapping, cabins
- Alagnak River subsistence fishing and hunting, recreation, spring and fall, all seasons for fishing, ice fishing trout and pike
- Use on the Alagnak is up to Charlie's Cabin, as far as you can go with a prop – caribou hunting during the winter, ice fishing,
- Knutsen Bay on Lake Iliamna to gather red fish
- Winter: Kvichak, ice fishing, 20-27 miles, past corporate lands rainbows & trout
- Sport fishing: anywhere on Branch River (Local name for Alagnak River) to Katmai boundary
- Sport fishing: don't want to go up the river to hunt or fish because too many tents and users. "Not safe to shoot anymore." You don't want to hunt moose while sport hunting & fishing going on, but if you wait you're likely not to get a moose.

Appendix B: Meeting Notes, continued

- NPS permits to use NPS corridor, number is growing.
- Rafters are one of the worst because they don't know the area and think nobody owns the land. Mostly guides out of King Salmon, Soldotna, Sterling, drop off / pick up. Issue with rafters is trespassing on village corporation land, hunting
- Sportfishing guides generally know the area and know where not to go.
- Hunting on village corporation land, trespass.
- No relationships exist with rafting companies.
- Map with native allotments and corporation land is available and NPS distributes it.
- Grassy Point is a pick up spot, below Charlie's Cabin on Alagnak
- Bear Creek: four wheelers being unloaded for hunting.
- Summer main time of year for impacts from outside users. Winter users mostly limited to local residents and Naknek users.
- Spring caribou hunt: airplanes chasing wildlife, landing shooting a caribou, take the legs and take off again.
- Sport hunters come in to drop off unwanted meat but it's tough and old, not good to eat.
- Lake Ilimana used for recreation for camping in summer, traveling to visit relatives in lake villages for carnivals in winter
- Winter time go to New Stu, Dillingham, Koliganek, Portage, Ekwok
- 20 mile radius around Levelock for hunting and subsistence

Ecosystem changes:

- River doesn't freeze anymore
- Increased erosion on the Alagnak, much from boats & motors, wake, consider a limit on motor size to limit erosion
- Fewer trout and smaller fish along the Kvichak
- Less snowfall means drier tundra, fewer berries
- Moose & caribou populations are still pretty good
- More brown bears in town

Mining Issues:

- Help shut them down
- Village council and corporation have submitted resolutions of support for the mine to provide jobs for village residents.

Strategies to counter threats:

- Erosion control – community events to plant trees, build and place control blocks
- Trespass and poaching:
 - Ability to cite and enforce citation
 - Disperse information about lands (maps – include GPS coordinates?)

- Webpage linked to other sites
- Have a river patrol that works with ADF&G or NPS
- Talk to transporters; hold them responsible
- Set designated camping areas (with fee collections?)
- Trash collection:
 - Help haul waste back home, airplane backhauls
 - Collection from camps along river, lodge service
 - State or federal regulation and assistance with waste planning
 - Watchdog and whistleblow
- Fuel storage:
 - Work with lodges to control runoff and small boat spills
- Village waste
 - Move landfill further away from river
 - Clean up equipment around village
 - Hazardous waste (see environmental assessment)
- Water quality:
 - Monitoring programs
 - Work with existing data
 - Ask agencies and commercial operators who are collecting data to continue to do this and to pass along results to Levelock

Who Would You Partner With?

- NPS-Katmai
- L&P Borough
- BBNA
- BBEDC
- BBNC
- Igiugig
- Other Lake Villages
- Lodges along Alagnak and Kvichak
- Guiding operators based outside of the region



Shirley Andrew, Environmental Coordinator, and Peter Apokedak, IGAP intern, in Levelock's Environmental Program office

Appendix B: Meeting Notes, continued

Models for Watershed Organizations

- Nushagak Mulchatna Watershed Council

Make the organization as inclusive as possible:

- What's your mission statement? "To provide a forum to get people to talk about what they see as problems and what they see as opportunities"
- Has expanded over the years – Nondalton and other villages participated to get exposure to a council that worked together well, even though they are in a different watershed.
- How to prioritize which areas to work on? Which areas of the watershed are most important to you and why? How are you going to work together? NMWC decided to be governed by consensus – makes it difficult to get things done, potentially, but if everyone makes a good-faith effort to come together and accomplish things, it can work.
- Decision to make the organization as inclusive as possible: all the village councils along the rivers, plus DNR (landowner), BBEDC, BBNC, etc.
- Look at yourself first – the cleanliness of your village, the good practices – before pointing the finger. Set a good example and people will notice and respect that.
- Want to put together baseline information. Important to ensure that local people are doing the monitoring and reporting, that the local people are "driving the bus."
- NMWC relies on its own resources for running programs. Don't have a lot of money, but it was a priority and people were needed to volunteer and use your own resources to build internal strength, while addressing problems.
- Want to talk with one voice to 'outside' organizations, such as The Nature Conservancy, other environmental groups, soil and water conservation districts, state and federal government, and regional organizations.
- There are 23 board members on the Council. Meet about 3 times a year. Grant started the ball rolling. Elected officials, environmental program staff. Set aside travel costs from environmental programs. Also set aside money for the patrol, etc.
- Other groups to work with: Native American Fish & Wildlife Society, BIA Water Resources technical training program, Coastal Zone Management Plan (work within this mission).

Review of Other Watershed Councils and Models:

Ugashik Watershed Council

Yukon Inter-Tribal Watershed Council

Port Hayden, Pedro Bay and other communities are looking to get involved in watershed issues. Choggiung is another good model.

Next Meeting:

Would like to send others an invite: NPS, villages.

September 15-30 is a good time for the next workshop meeting.

Levelock Watershed Planning Meeting

September 16, 2005



Helen Lons, Katmai Park Planner, and Tom Hoseth, BBNA's Lands Management Program Director, participated in the second Community Workshop in Levelock.

Present:, Ellen Campfield Nelson, Agnew::Beck; Sue Flensburg, BBNA; Tom Hoseth, BBNA, Helen Lons, NPS, Krystal Hanson, Intern with Levelock IGAP program; Shirley Andrew, Levelock IGAP; Peter Apokedak, Intern Levelock IGAP; Howard Nelson, Village Council President; Glendora Nelson, Jordan Chukwak, Greg Andrew III, Keith Andrew, James Woods, Rebecca Korwes, Ryan Andrew, Daneya McDowell, Brittany Rosh, Anna Chukwak, Ashley Apokedak, Charles Andrew, Myrtle Anelon, Rhea Andrew, Nick Apokedak, Brian Apokedak, Mary Apokedak, community members.

Comments on DRAFT Summary Report and Issues & Uses:

The areas identified on the map are used by many different people in the region – not Levelock residents exclusively.

Include 2002 report information from Howard's Anchorage meeting with agencies.

Protect rural priorities for hunting and fishing on federal public lands.

There are more than five lodges on Branch river. 48 organizations applied for IBP with Park Service. Draft Visitor use Survey Report at NPS recently conducted. Shows 8 or 9 lodges on the Branch river.

River patrol – BBNA manages native allotments, piggybacked funding for River Patrol to monitor allotments. BBNA will not manage the River Patrol, but can provide funding for it. A different organization must be responsible for reporting and maintaining the equipment. This funding could be made available again. An established River Patrol really deters problems of trespass. Nushagak River Patrol has been very effective.

Set up future meeting with lodge staff and village council.

People are generally pretty good about trash, but there are lots of calls about this problem to BBNA.

Concern about erosion and how to find funding to address erosion issues. Howard will look into it with Lake & Pen Borough.

Comments on Goals & Actions:

School service learning, such as village clean up, is something the school is supportive of. Also science projects monitoring water quality. Understanding the flow of groundwater and its effect on well and septic, drinking water. Students have budget for science materials and can write their own proposals for projects. Also organize Clean-up day. Test well water in village.

Excellent website/Internet resources for students that BBNA can provide. Help train future community leaders to understand infrastructure and community health issues.

Airport landing strip has a lot of erosion – perhaps another school student project.

Mining – BLM might be best source for finding out about active mining in region.



Hanging out at the Levelock dock, along the Kvichak River.

Appendix B: Meeting Notes, continued

NPS Interpretation Dept. annually issues newsletter about respecting Native lands. NPS would be willing to distribute literature to help address trespass. Newsletter goes out in large quantities. School project? Also signage “Now entering Levelock native Corporation Land” – NPS can’t put boundary signs up, but Village Corporation could.

Designated public use sites. Are there regular use spots? Rafters usually stay on braids or below high water mark. 17B easements – for camping, hiking, etc. Signs get ripped down often. Easements already set up and mapped on the Kvichak and Branch Rivers. 1990 map – from BBNA.

Lodges tend to police each other for garbage and pollutants, also from rafters.

Starting 2004, people are no longer required to check in with NPS before and after their trip. Superintendent decision (Steve Frye)

Beginning-of-season meeting with guides and lodge managers to discuss management and maintenance. Also good for visitor safety, so everyone can keep an eye out for each other.

Explore possibility of website development through student project, BBNA or other web designer. Link to lodge sites, NPS site.

Nondalton watershed meeting Sept. 23.

River Patrol gives notices, doesn’t issue citations. Possibility of issuing trespass citation and requiring violator to go to Tribal Court, or reporting to other jurisdiction.

Katmai Lodge once offered a boat to use for River Patrol. Perhaps could recreate this type of relationship.

Erosion is a big problem, in the village and at certain points along the Branch. Homes and other significant sites are threatened in several areas. Pursue funding possibilities for erosion control. How much is natural and how much is caused by human uses? Sandbar outside village is expanding; deepest part of the river no longer the middle.

Bigger rains cause more erosion.

Next Steps:

Get together with potential partners to discuss pilot project – river patrol?

Finalize Report and distribute to all interested parties.

Appendix C: Watershed Management Models

Watershed Coalitions tend to organize for similar purposes, and in similar ways. Though specific programs and projects are unique to each organization, generally speaking, these groups organize for three main reasons:

1. To monitor the watershed and its ecosystem.
2. To educate and create clear communication among all the users of the watershed.
3. To address watershed issues and work to eliminate threats to the watershed.

Methods for achieving these purposes might include:

1. To monitor the watershed and its ecosystem.
 - a. Water quality monitoring programs
 - b. Ecosystem monitoring programs
 - c. River/lake water patrol programs
 - d. Monitoring and responding to citizen calls
2. To educate and create clear communication among all the users of the watershed.
 - a. A forum for communication among various watershed users – residents of various watershed communities, subsistence users, commercial fishing and sport fishing industries, tourism, mining, and forestry industries, government agencies and monitoring programs (USGS, USF&WS, USFS, NPS, EPA, etc.)
 - b. Education programs to teach users safe, healthy practices (e.g., regarding dumping, fuel safety, fish waste, etc.)
 - c. Education and raising public awareness on current watershed issues
 - d. Member training programs on how to patrol, take samples, record findings
 - e. Plan for the future of the watershed – set incremental goals to gauge health and success of programs
 - f. Clean-Up days and other community outreach events

3. To address watershed issues and work to eliminate threats to the watershed.

- a. Advise citizens on how to respond to possible problems or violations
- b. Report violations to monitoring agencies
- c. Bring legal claims against polluters, if necessary

There are many successful models for watershed organizations. Common characteristics of successful ones include:

- Being a coalition of various communities and user types
- Having a clear, stated purpose (or purposes) for the organization
- Relying on a source of funding and support (doesn't have to be much money)
- Having a strong leadership (a board of trustees or directors and also staff)



Fishing leftovers on the Kvichak

Appendix C: Watershed Management Models, continued

Some successful organizations are included below. Contacting these organizations will provide more information about possible structures for a Kvichak-Branch Watershed Council, or similar organization..

WHO: Nushagak Mulchatna Watershed Council
WHERE: Nushagak Mulchatna Watershed
WHY: To monitor the health of the Nushagak Mulchatna Watershed for the safety and use of communities along the watershed.

WHO: Yukon River Inter-Tribal Watershed Council (www.yritwc.org)
WHERE: Yukon River
WHY: Long-term goal – “to be able to drink water directly from the Yukon River”

WHO: Waterkeeper Alliance (www.waterkeeper.org)
WHERE: A national organization with affiliated organizations.

In Alaska:

1. Cook Inlet Keeper – Bob Shavelson (www.inletkeeper.org)
2. Prince William Soundkeeper (www.pwsoundkeeper.org)

And in other parts of the U.S.:

3. Hudson River Keeper (riverkeeper.org) – out of state, but a model for a river

WHY: to make citizens aware of watershed threats and patrol watershed



Riverfront property in Levelock

WHO: Center for Watershed Protection (www.cwp.org)
WHERE: A national organization specializing in helping citizen groups develop watershed plans.
WHY: To provide resources for watershed management. Their website has many helpful, practical resources for conducting watershed plans and identifying sensitive areas and threats to watersheds.

Other river-related programs:

- Wild and Scenic River program on the Alagnak (www.nps.gov/rivers)
- US Geological Survey (USGS) water monitoring
- US Fish and Wildlife (USF&W) and Alaska Department of Fish and Game (ADF&G) fish monitoring

Appendix D: Nushagak-Mulchatna Based Watershed Management Programs

Nushagak Mulchatna Watershed Council

The NMWC was organized in 1998 to serve as a forum for developing solutions to common natural resource problems and opportunities in the Nushagak Mulchatna watershed. There are 23 seats on the council representing tribal and municipal governments, ANCSA corporations, and other organizations. The NMWC is an advisory body and relies on its member entities to implement decisions and actions recommended by the council.

The Watershed Council was established in 1998 as a forum to get communities and individuals to talk about what they see as problems and opportunities affecting the Nushagak watershed, and to pursue specific projects of mutual interest.

The Council is not formally structured as a non-profit organization. Instead it has chosen to remain a more informal group of parties with common interests and common goals. The organization has aimed to be as inclusive as possible. Members include all the village councils along the rivers, plus DNR (landowner), and regional organizations such as BBNA and BBNC. There are 23 board members on the Council. Village members include representatives of the communities below: Koliganek, New Stuyahok, Ekwok, Dillingham, Portage Creek, Clarks Point, and Aleknagik. Recently the villages of Nondalton and Newhalen have joined the group, even though they are in a different watershed, to get exposure to a council that worked together well. Other groups the NMWC has worked with include the Native American Fish & Wildlife Society, The Nature Conservancy, BIA Water Resources technical training program, Coastal Zone Management Plan.

NMWC decided to be governed by consensus. This at times makes it difficult to get things done, but if everyone makes a good-faith effort to come together and accomplish things, it can work.

One of the benefits of the organization is that increases local clout with entities that have capacity to affect the future of the watershed. The Watershed Council is able

to talk with one voice to ‘outside’ organizations, such as The Nature Conservancy, other environmental groups, soil and water conservation districts, state and federal government, and regional organizations.

One of the outcomes of the Watershed Council’s work has been better communication among partner villages. This has contributed to the creation of an important new organization, The Nunamta Aulukestai “Caretakers of Our Land.” This entity was formed to help 6 villages along the Nushagak River work on issues of common interest, particularly land management, subsistence and tourism.

The Council recognizes it is important that communities “look at yourself first – the cleanliness of your village, the good practices – before pointing the finger. Set a good example and people will notice and respect that.”

A grant to BBNA started the project, and has allowed BBNA to provide staff for the organization. The Watershed Council does not have a dedicated budget. While the Council doesn’t have a lot of money, volunteer time has allowed the organization to continue its role as a forum and information exchange, and several other projects described below. More recently, the Watershed Council has obtained grant funding to take on more ambitious projects.

The NMWC is partnering with various organizations on the following projects that should provide important resource data for Village Corporations in developing land management plans and for community planning projects:

- Holds meetings with all members, typically about 3 times a year, to explore issues and exchange information
- Collects baseline environmental information. The council believes it is important to ensure that local people are doing the monitoring and reporting, that the local people are “driving the bus.”
- Most recently, the Watershed Council has partnered with the Nature Conservancy and USFWS to prepare a 3-year, \$500,000 Traditional Use Area



Appendix D: Nushagak-Mulchatna Based Watershed Management Programs, continued

Conservation Plan. This plan will map and document cultural and natural resources in the area, and set the stage for more active watershed management.

- Soils Survey for the Nushagak Mulchatna Watershed Area
- Traditional Use Conservation Planning Project
- Bristol Bay Native Place Names Project
- Nushagak Water Quality Monitoring Project

Implications/Lessons for Levelock:

- Be inclusive as possible
- Start with modest, achievable projects (e.g., river patrol, water monitoring)
- Use the credibility and commitment of the group to seek funding for more ambitious projects.

Nushagak River Patrol

Overview

The River Patrol was begun by Choggiung Corporation (date), working with the Village Corporations of Koliganek, New Stuyahok, Ekwok (and Portage Creek?). While the State of Alaska owns the river below the average high water mark, these villages own essentially all land on both sides of the river. Hunting and fishing activities had been steadily increasing along the river for decades. While activities focus on the river itself, there was significant, largely unregulated use of adjoining native corporation property, both by commercial and private users. As use continued to increase, corporations and village residents were increasingly concerned about trespass on native land, and impacts on subsistence resources and on fish and wildlife habitat.

The program has been very successful, giving village corporations a significant degree of control over the amount, character and impacts of hunting and fishing. Key to the program's success is the fact that all four villages chose to work together to establish a cooperative program. Establishing the program took time and persistence. Initially, users, operators, and

state and federal entities like Fish and Wildlife officers,

were reluctant to acknowledge Native land ownership. Over time these groups have become more supportive partners – particularly the operators who see the program as a way to offering a quality product and being assured of sites to support continued use.

The River Patrol program is the pioneer of this approach in Alaska. Many villages from around Alaska are contacting Choggiung to learn about the program, with hopes of taking a similar approach in their areas.

Structure of the Program

The program is focused on the relatively short (3-4 week) king salmon season, during June and July. Some commercial operators have tried to establish silver salmon operations later in the summer, but this has not been very successful because the arrival of the fish is hard to predict.

The program is based on the issuance of permits for use of Native property. A fee structure sets different charges for different uses. The major participants in the program are commercial operators who establish riverfront camps. There are three classes of camps: Class 1 – up to 100 man use days/season, Class 2 – up to 300, and Class 3 – up to 500. In order to maintain the quality of the river, and minimize impacts on subsistence, the total number of commercial fishing camps is limited to 36, of which no more than 7 are of the largest class. There is currently a waiting list to get a commercial permit, and several operators hold multiple permits to limit competition. Permits are also issued for private use, for overnight camping or day use. Permits include a set of guidelines, requiring, for example, certain standards for managing litter, fuel, and disposal of human waste.

The Nushagak has two branches for about 25 miles above Portage Creek. The program has directed commercial camps to the west branch, and left the east branch free to support local uses.

Three river boats, with one person per boat, patrol the river twice every day to ensure any one using native land has the necessary permits, and are complying with permit terms. One boat each patrols the upper, middle, lower stretches of the river.

The corporations have set a limit of 36 total camps, reflecting their goal of controlling and limiting growth rather than maximizing use and revenues. Currently the program does not issue commercial permits for hunting. In the future the program may allow permits for bear hunting, but not for caribou or moose due to the conflict with local subsistence.

Funding

Funding to establish the program came from Choggiung. After several years of operation the program became self sustaining, and produces a modest flow of revenue back to the villages. Revenue beyond what is required to run the program goes to the Village Corporation on which the use occurs. The fee structure is outlined below:

- fee for establishing commercial camps, with a different fee for each of the three different camp classes. The fee is calculated on a charge per “man use day” with the smaller camps being charged \$33 per man use e.g. for camps – so a 20 person camp generates \$500/day
- private camping fee for individuals – purchased prior to use or in field - \$25 man use day

Management of the program is done by Choggiung under contract to the other partner villages.

How does enforcement work?

River patrols cruise and check for permit compliance. Most users are commercial operators who generally follow rules. Permit holders who stay in good standing (follow all guidelines) retain rights for getting a permit on the following year. Rick just completed a survey of all commercial permit holders and found all but one to be in compliance.

If the patrol finds a party or individual using native land without a permit they can pay for and get a permit in the field. If someone refuses to pay they are issued a written warning; if they continue to camp without paying the river patrols call state troopers. The river patrol does not try to enforce fishing regulations; but leaves that to appropriate state agencies.

The biggest thorn in program is the presence of state lands. Day users (“mostly doctors and lawyers from Anchorage”) often will try to claim they are staying on the state river land, but in fact are using private property.

Who makes up river patrol staff?

The program tries to hire river patrol from local villages. People like the jobs, but the pay is currently not very good. An increase in pay is being discussed.

Cooperating agencies

The program works closely with the State Troopers/ Fish and Game enforcement personnel. The river patrol program provides a place to stay for a trooper during the height of king salmon season, which makes it easier for the troopers to assist with enforcement. In the past, the program cooperated with field representatives from Alaska DNR, which was very helpful.

Summary – Challenges and Issues

- The program has established the fact that native corporations have the authority to control use of land along the river, and when necessary revoke permits. Users understand their use is a privilege, not a right.
- There are some mixed feelings along the river about the program, due to lingering concerns about out-of-town people using local resources.
- The program currently has a sliding fee structure, with larger camps paying less per day. This may be changed so larger camps pay at least as much per person as the smaller camps, as their impacts are equal or greater.
- Choggiung is re-evaluating river patrol staff pay rate.

Appendix D: Nushagak-Mulchatna Based Watershed Management Programs, continued

Advice for Levelock

- The program has been a big success, and a similar program could work for Levelock.
- Key to success will be forming agreements to control use of as much of the river as possible, which will be more challenging for Levelock than along the Nushagak. Partners for Levelock will need to include Igiugig, the Park Service and State.
- Setting up a successful program requires working with existing operators, and setting up a system with a fair fee structure, and a system that ultimately provides benefits to operators.
- Setting up the program requires an initial investment, but eventually can be self sustaining.
- Choggiung will put together a power point presentation on the program this fall, and could be available to do a presentation



The Nushagak River, near Ekwok

Sources:

Tim Troll, ttroll@tnc.org

Rick Tennyson, rick@choggiung.com

Sue Flensburg, sflensburg@bbna.com

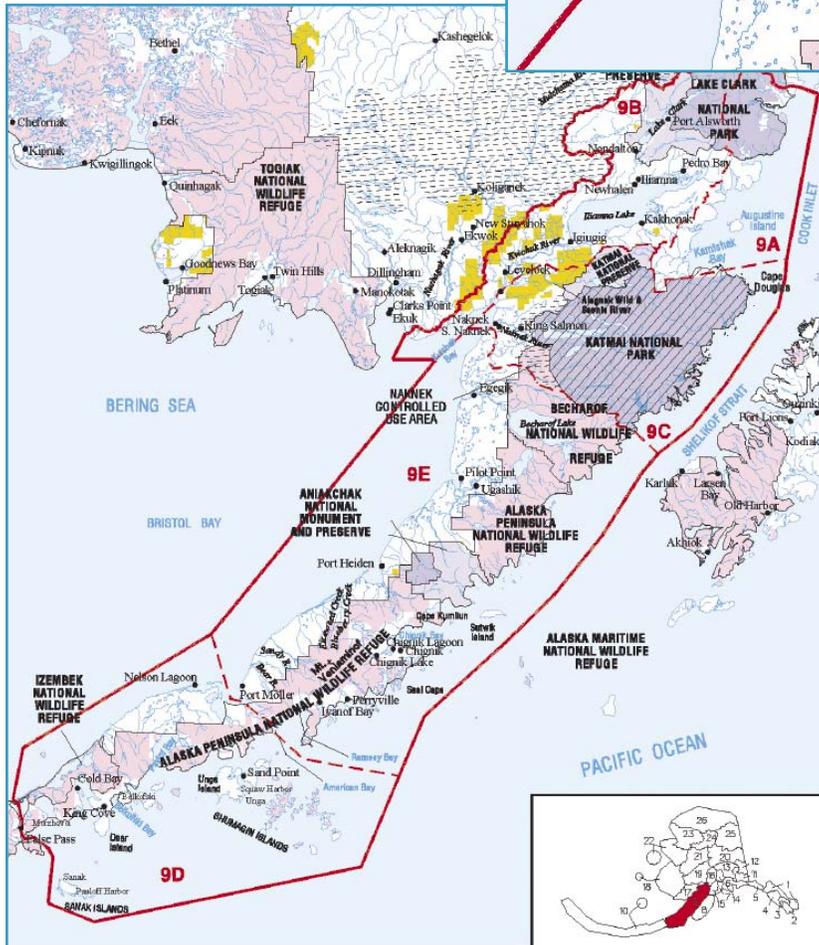
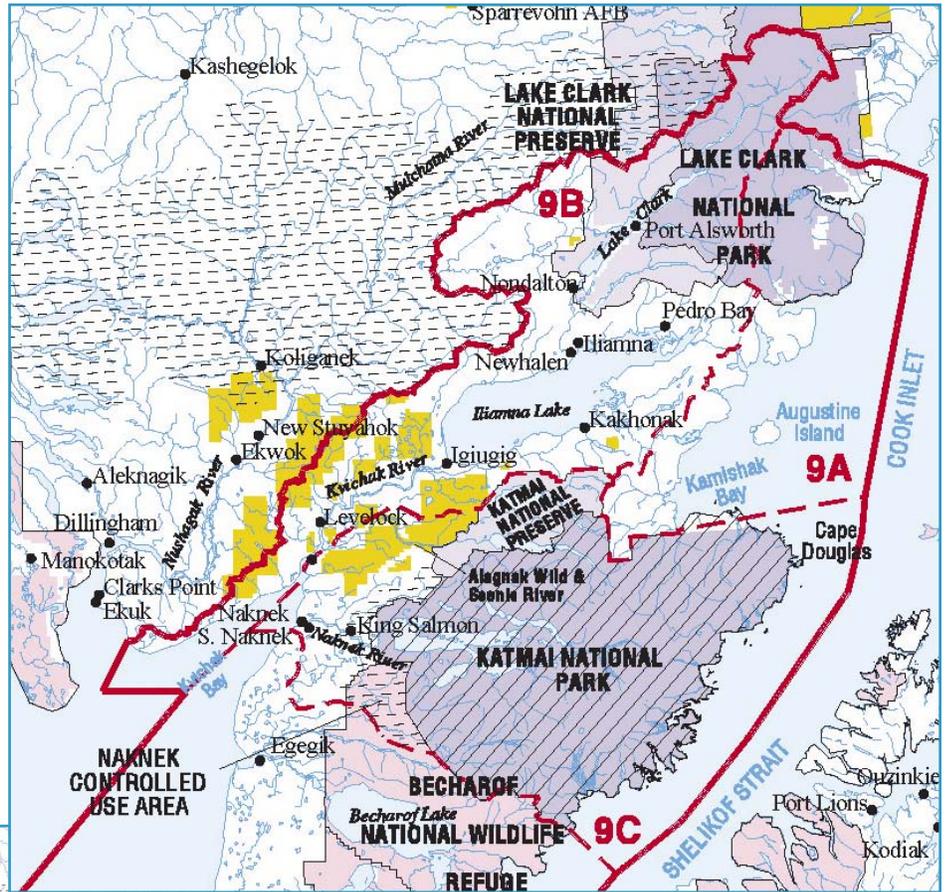
Appendix F: Subsistence Data

Summary of Subsistence Hunting in Game Management Units 9B and 9C

Resident Hunters by Community (combined moose, caribou, sheep and brown bear)			
	GMU 9B	GMU 9C	TOTAL
Bristol Bay Villages			
King Salmon	6	55	61
Naknek	16	40	56
South Naknek	-	4	4
Igiugig	12	1	13
Iliamna	2	-	2
Pedro Bay	1	-	1
Pilot Point	-	2	2
Kokhanok	5	1	6
Port Alsworth	3	-	3
Dillingham	14	-	14
Total BB Villages	59	103	162
Other Alaska Communities			
Anchorage & Eagle River	72	14	86
Mat-Su Valley	46	-	46
Kenai & Kodiak	55	-	55
Prince William Sound & Southeast	4	1	5
Other Villages	4	3	7
Other Communities	7	-	7
Total Other	188	18	206
Total	247	121	368

Data Source: Alaska Department of Fish & Game, 2004

Game Management Units in the Project Area



Unit 9 Alaska Peninsula
Bristol Bay and Kodiak/Aleutian Islands Regions

Federal Public Lands Open to Subsistence Use	
Light Blue	FWS Administered Land
Light Green	NPS Administered Parks
Light Purple	NPS Administered Preserves
Light Yellow	BLM Administered Land
Light Orange	USFS Administered Land
White with diagonal lines	Closed to Subsistence
White with dashed lines	Special Management & Controlled Use Areas
Red outline	Unit Boundary
Red dashed outline	Sub-Unit Boundaries
Black line	Roads

Appendix F: Subsistence Data, continued

Summary of Subsistence Hunting Regulations in the Kvichak River Drainage Area

Area	Subsistence Area	Species	Harvest Limits	Open Seasons	Open To
KVICHAK RIVER DRAINAGE	Unit 9B – Kvichak River drainage	Black bear	3 bear	July 1 – June 30	Rural residents of Units 9A, 9B, 17A, 17B, 17C
		Brown bear	1 bear by Federal registration permit only.	July 1 – June 30 (season closes when 4 females or ten bears have been taken, whichever occurs 1 st)	Rural residents of Unit 9B (special limits on Lake Clark National Park & Preserve)
	- Lake Clark National Park and Preserve area within Unit 9B - All of Unit 9	Caribou	5 caribou (no more than one bull from July 1 – Nov 30)	July 1 – April 15	Rural residents of Units 9B, 9C, and 17
		Sheep	1 ram with 7/8 curl horn or larger by Federal registration permit only	Aug 10 – Oct 10	Residents of Iliamna, Newhalen, Nondalton, Pedro Bay, Port Alsworth and Lake Clark National Park and Preserve (in Unit 9B)
			1 ram with 7/8 curl horn or larger	Aug 10 – Sept 20	All rural residents of Unit 9
		Moose	1 bull	Aug 20 – Sept 15 Dec 1 – Jan 15	Rural residents of Units 9A, 9B, 9C, 9E
		Beaver	2 beaver per day	Apr 15 – May 31	Residents of Units 9A, 9B, 9C, 9E and 17
		Coyote	2 coyotes	Sept 1 – Apr 30	All rural residents
		Arctic Fox (blue and white)	No limit	Dec 1 – Mar 15	All rural residents
		Red Fox (including Cross, Black, and Silver Phases)	2 foxes	Sept 1 – Feb 15	All rural residents
		Hare	No limit	July 1 – June 30	All rural residents
		Lynx	2 lynx	Nov 10 – Feb 28	All rural residents
		Wolf	10 wolves	Aug 10 – Apr 30	Rural residents of Units 6, 9, 10 (Unimak Island only), 11-13, 16- 26, and Chickaloon
		Wolverine	1 wolverine	Sept 1 – Mar 31	All rural residents
Grouse	15 per day, 30 in possession	Aug 10 – Apr 30	All rural residents		
Ptarmigan	20 per day, 40 in possession	Aug 10 – Apr 30	All rural residents		

Summary of Subsistence Hunting Regulations in the Alagnak (Branch) River Drainage Area

Area	Subsistence Area	Species	Harvest Limits	Open Seasons	Open To
ALAGNAK (BRANCH) RIVER DRAINAGE	Unit 9C – Alagnak (Branch) River drainage, Naknek River drainage, and all land and water within Katmai National Park and Preserve	Black bear	3 bear	July 1 – June 30	All rural residents
		Brown bear		No federal open season	Rural residents of Unit 9C
	- That portion within the Alagnak River drainage - The remainder of Unit 9C	Caribou	1 caribou	Aug 1 – Mar 31	Rural residents of Units 9B, 9C, 17, and Egegik
			1 bull by Federal registration permit or State Tier II permit. Federal public lands are closed to the taking of caribou except by residents of Units 9C and 9E, hunting under these regulations.	Aug 10 – Sept 20 Nov 15 – Feb 28	Rural residents of Units 9B, 9C, 17, and Egegik. Federal public lands open to residents of Units 9C and 9E only.
	- That portion draining into the Naknek River from the north - That portion draining into the Naknek River from the south	Sheep	1 ram with 7/8 curl horn or larger	Aug 10 – Sept 20	All rural residents of Unit 9
		Moose	1 bull	Sept 1 – Sept 15 Dec 1 – Dec 31	Rural residents of Units 9A, 9B, 9C, and 9E.
	- Remainder of Unit 9C		1 bull	Aug 20 – Aug 31 (by Federal registration permit only)	Rural residents of Units 9A, 9B, 9C, and 9E.
			During the December hunt, antlerless moose may be taken by Fed. Registration permit only. Antlerless season ends when 5 antlerless moose have been taken.	Sept 1 – Sept 15 Dec 1 – Dec 31	Rural residents of Units 9A, 9B, 9C, and 9E. During December, Federal public lands are open only to rural Alaska residents of Units 9A, 9B, 9C, and 9E.
			1 bull	Sept 1 – Sept 15 Dec 15 – Jan 15	Rural residents of Units 9A, 9B, 9C, and 9E.

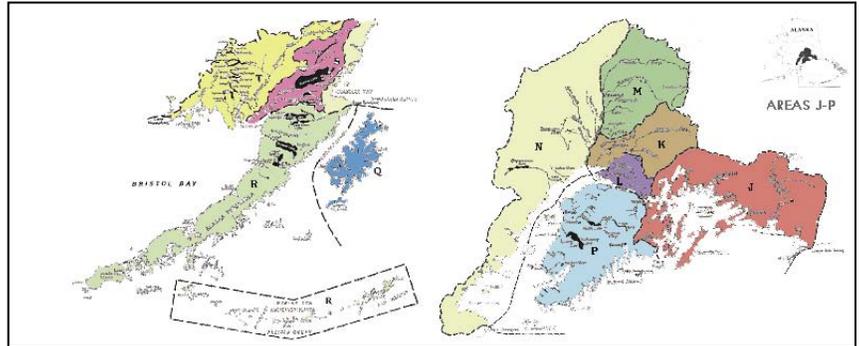
Appendix F: Subsistence Data, continued

Summary of Subsistence Hunting Regulations in the Alagnak (Branch) River Drainage Area

Area	Subsistence Area	Species	Harvest Limits	Open Seasons	Open To
	Unit 9C – Alagnak (Branch) River drainage, Naknek River drainage, and all land and water within Katmai National Park and Preserve (cont.)	Beaver		Apr 15 – May 31	Residents of Units 9A, 9B, 9C, 9E and 17
		Coyote	2 coyotes	Sept 1 – Apr 30	All rural residents
		Arctic Fox (blue and white)	No limit	Dec 1 – Mar 15	All rural residents
		Red Fox (including Cross, Black, and Silver Phases)	2 foxes	Sept 1 – Feb 15	All rural residents
		Hare	No limit	July 1 – June 30	All rural residents
		Lynx	2 lynx	Nov 10 – Feb 28	All rural residents
		Wolf	10 wolves	Aug 10 – Apr 30	Rural residents of Units 6, 9, 10 (Unimak Island only), 11-13, 16- 26, and Chickaloon
		Wolverine	1 wolverine	Sept 1 – Mar 31	All rural residents
		Grouse	15 per day, 30 in possession	Aug 10 – Apr 30	All rural residents
		Ptarmigan	20 per day, 40 in possession	Aug 10 – Apr 30	All rural residents

Appendix G: Sportfish Data

Sport Fish Management Regions - Southcentral Alaska



Kvichak River Drainage Area - Sport Fish Effort and Harvest

LOCATION	ANGLERS	TRIPS	DAYS FISHED	HARVEST
SALTWATER				
	17	121	213	454
	0	14	17	39
Saltwater Total	17	135	230	
FRESHWATER				
Kvichak River	1,948	2,836	5,790	2716
Newhalen River	698	1,256	1,842	3663
Alagnak (Branch) River	1,913	3,211	9,028	6197
Copper River (Lake Iliamna Area)	599	584	1,349	144
Lower Talarik Creek	384	395	438	0
Kulik River	796	707	1,253	175
Moraine Creek	563	705	987	0
	167	301	714	221
Lake Iliamna	617	615	1,398	1199
Tanalian River	865	1,872	2,886	1322
	67	219	363	157
Freshwater Total	8,617	12,701	26,048	15,794
Grand Total	8,634	12,836	26,278	16,287

Alaska Department of Fish & Game – Division of Sport Fish, 2004

Appendix G: Sportfish Data, continued

Other Popular Sport Fishing Areas in Alaska - By Region

LOCATION	ANGLERS	TRIPS	DAYS FISHED	HARVEST
Kenai Peninsula Area, 2004 (Freshwater Only) - Region P				
Total	74,131	103,791	173,509	124,811
Nushagak River Drainage - Region T				
Total	6,512	21,496	46,011	29,402
Nanek River Drainage - Region R				
Total	9,829	29,537	52,842	38,602
Susitna River Drainage - Region M				
Total	72,692	12,836	26,278	16,287
Kvichak River Drainage - Region S				
Total	8,634	12,836	26,278	16,287
Alaska Department of Fish & Game – Division of Sport Fish, 2004				

Spawning salmon take turns leaping up a tributary of the Branch (Alagnak) River



Appendix H: Commercial Fishing Data

Commerical Harvest			
District	Fish Type	1984-2003 Average Harvest	2004 Harvest
Naknek-Kvichak	Chinook Salmon Harvest	4,567	1,273
Naknek-Kvichak	Sockeye Salmon Harvest	8,309,000	4,787,000

Estimated Numbers of Salmon, 2004			
District	Forecasted Run	Actual Run	Deviation from Forecast
Naknek-Kvichak	22,297,000	17,623,000	21% less

Commercial Escapement, 2004		
River System	Biological Escapement Goal Range	Escapement
Kvichak River	6,000,000 – 10,000,000	5,500,134
Naknek River	800,000 – 1,400,000	1,939,374

Source: Alaska Department of Fish & Game, 2004

Appendix I: Bristol Bay Salmon Run

2004 Bristol Bay Salmon Total Inshore Run

District		Sockeye	Chinook	Chum	Pink	Coho	Total
EAST SIDE: Naknek-Kvichak District							
Harvest		4,786,694	1,273	28,896	7,710	2,150	4,826,723
Escapement	Kvichak River	5,500,134					5,500,134
	Naknek River	1,939,374	12,878 ^a				1,952,252
	Alagnak River	5,396,592	6,755 ^a		1,000,000 ^a		6,403,347
Naknek-Kvichak Subtotal		17,622,794	20,906	28,896	1,007,710	2,150	18,682,347

Preliminary data, in numbers of fish

Source: Alaska Department of Fish and Game, 2004



Salmon rest in slow waters above Kukaklek Lake

Appendix J: Area Lodges

Area Lodges		
Business Name	Mailing Address	Lodge Location
ALASKA RAINBOW LODGE INC	King Salmon, AK	KVICHAK RIVER
ALASKA SPORTSMANS LODGE	Anchorage, AK	KVICHAK RIVER
BLUEBERRY ISLAND LODGE	Naknek, AK	KVICHAK RIVER
IGIUGIG BOARDING HOUSE	Igiugig, AK	KVICHAK RIVER
KVICHAK CABIN	Igiugig, AK	KVICHAK RIVER
ANDREWS CABIN	Igiugig, AK	KVICHAK RIVER
LEVELOCK NATIVES LIMITED HOTEL	Levelock, AK	KVICHAK RIVER
NO SEE UM LODGE	Millville, CA	KVICHAK RIVER
OLE CREEK LODGE	Fairbanks, AK	IGIUGIG, KVICHAK RIVER
KVICHAK LODGE	Anchorage, AK	IGIUGIG
ALAGNAK LODGE	Warrenton, VA	ALAGNAK RIVER
ALASKAS ALAGNAK WILDERNESS CAMPS	Pulaski, NY	ALAGNAK RIVER
ALASKA TROPHY ADVENTURES	Washington, NC	ALAGNAK RIVER
BRANCH RIVER LODGE		ALAGNAK RIVER
KATMAI LODGE	Everett, WA	ALAGNAK RIVER
ALASKAS ENCHANTED LAKE LODGE INC	Anchorage, AK	KATMAI NATIONAL PARK
HALLO BAY WILDERNESS	Homer, AK	KATMAI NATIONAL PARK
KULIK LODGE	Anchorage, AK	KATMAI NATIONAL PARK
ROYAL WOLF LODGE	Anchorage, AK	KATMAI NATIONAL PARK
BEAR TRAIL LODGE LLC	King Salmon, AK	NAKNEK RIVER, KING SALMON
C AND R OUTFITTERS	Anchorage, AK	KING SALMON
FOX BAY LODGE	Shady Cove, OR	RAPIDS CAMP RD, KING SALMON
JACK WOOD GUIDE SERVICE	Miami, OK	KING SALMON
NORTHERN KNIGHTS WILDERNESS LODGE	Roosevelt, UT	KING SALMON, NAKNEK RIVER
RAPIDS CAMP LODGE	Dallas, TX	NAKNEK RIVER, KING SALMON
RICHARD GUTHRIE MASTER GUIDE OUTFITTER	Anchorage, AK	KING SALMON, COLD BAY, GALBRAITH LAKE
ALASKAS NAKNEK ANGLERS LLC	Anchorage, AK	NAKNEK RIVER
BEAR TRAIL LODGE LLC	King Salmon, AK	NAKNEK RIVER, KING SALMON
NORTHERN KNIGHTS WILDERNESS LODGE	Roosevelt, UT	KING SALMON, NAKNEK RIVER
RAINBOW BEND LODGES	Portland, OR	NAKNEK RIVER
RAINBOW WILDERNESS LODGE	Fairbanks, AK	NAKNEK RIVER
RAPIDS CAMP LODGE	Dallas, TX	NAKNEK RIVER, KING SALMON
Estimated Number of Area Lodges:	32+	
Source: ADF&G Registered Guide Businesses online database, 2004, with additions by Agnew::Beck and Levelock residents		

Appendix K: Selected Project Bibliography

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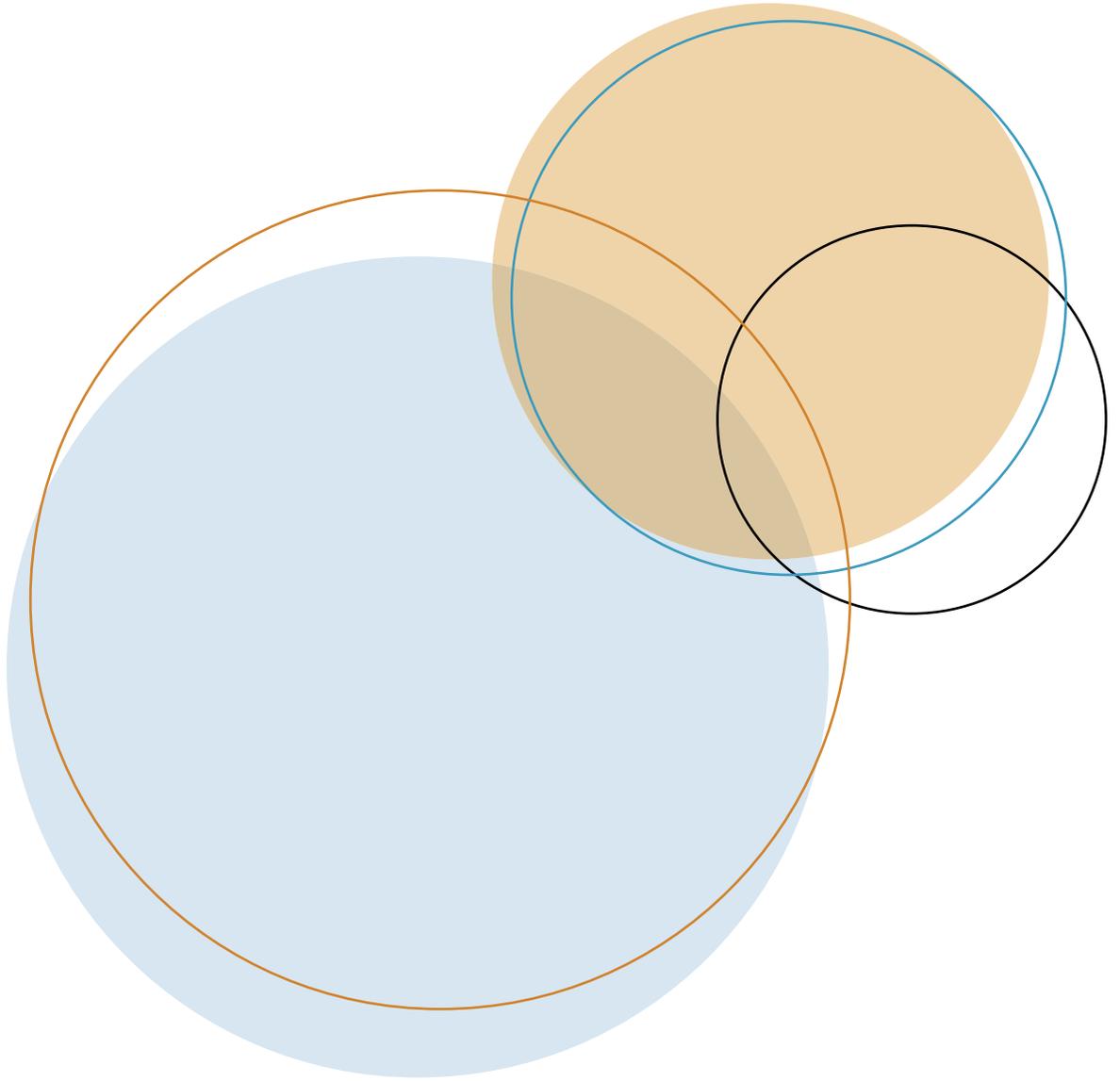
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The end of fishing season on the Kvichak



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