

Regional Water Resource Inventory

Upper Copper Valley, Alaska



Compiled by
USDA-NRCS Resource Conservation and Development Program
Copper Valley Development Association, Inc.
Arlene Rosenkrans, RC&D Coordinator
April, 2009

Regional Water Resource Inventory

Upper Copper Valley, Alaska

Table of Contents

INTRODUCTION OVERVIEW

I. EXISTING STUDIES AND PUBLICATIONS

- A. Groundwater** 2
- B. Surface Water and Geomorphology** 3
- C. Water/Sewage Studies** 5
- D. Community Information Resources** 6

II. COMMUNITY WATER CLASSIFICATION AND REGULATIONS

- A. Water Sampling and Utility Training Resources** 8
- B. Local Operators** 9

III. COMMUNITY WATER INFORMATION FOR COPPER VALLEY 10

- A. Water Quality**
- B. Water Accessibility**
- C. Well Protection**
- D. Financial**
- E. Maintenance**
- F. Depletion**
- G. Local Needs**

IV. PRIVATE, NON-PROFIT, STATE, FEDERAL AND OTHER RESOURCES AND ENTITIES WORKING IN COMMUNITY WATER

- A. Water Drilling** 11
- B. Water Delivery** 11
- C. Water Tanks and Pumps** 12
- D. Water Testing** 12
- E. Water Information and Funding Resources** 13

V. COMMUNITY REFERENCES 17

VI. CORRECTIONS AND UPDATES 17

USDA-NRCS Resource Conservation and Development Program
Copper Valley Development Association, Inc.
Arlene Rosenkrans, RC&D Coordinator
April 2009

Regional Water Resource Inventory

Upper Copper Valley, Alaska

Compiled by

USDA-NRCS Resource Conservation and Development Program

Copper Valley Development Association, Inc.

Arlene Rosenkrans, RC&D Coordinator

April 2009

INTRODUCTION:

Potable water is an important resource to any community and can be a limiting factor to quality of life and community development. As stated in the area plan for the Resource Conservation and Development (RC&D) program in 1999, “The Copper Valley needs a sustainable, safe, affordable source of water to serve the current and future needs of the area” and in its updated Area Plan in 2005, “Improve and promote development of clean, safe water that is more accessible to remote areas.”

The availability and quality of drinking water is an ongoing issue in the Copper Valley. Many projects and even some studies have been conducted; this document seeks summarize all water-related information into a regional inventory for easy public access. The regional planning process has highlighted the need for this comprehensive and updated information.

The *Regional Water Resource Inventory* will accompany the current planning processes in the Copper Valley and will help direct the action plans that will result from the Comprehensive Economic Development Strategy Update (2009) and the RC&D Area Plan (2009). It will help to assess what has been studied and accomplished, what has and hasn't worked and where problem areas occur. This report will be accessible to all area residents and groups, which may be used in their project planning and requests for funding.

The main body of this report (without cover and appendices) is accessible on the web at www.coppervalley.org. The appendices must be requested from the RC&D offices.

OVERVIEW:

Current water systems are generally private wells although many households and businesses have water trucked in on a weekly basis. There are a few public water systems. Three small community water systems serve Glennallen subdivisions, one serving 12 residences with two wells on Terrace Drive (Class A), one at Birch Street at Mile 186, Glenn Hwy (Class B) and the one at the Wrangell-St. Elias National Park Housing (Class B). Gulkana Village has a Class A water system that services 15-20 residences; it will have a new well drilled in a shallow subsurface gravel layer of the Gulkana River in August, 2004.

Water availability and quality varies dramatically throughout the region. Ground water in the Glennallen area is generally at depths greater than 150 feet and commonly hard and saline. Subsurface water throughout much of the area is under artesian pressure beneath fine-grained material and/or permafrost. Water in the Copper Center are from deep wells is often iron rich

and highly mineralized, requiring treatment. Tazlina has variable water quality. Although some wells in the Tazlina are experiencing variable water qualities. Good water at the Tazlina RV Park to is sold to the public. Kenny Lake has good water near the school and at the community wells. Beyond Mile 9 of the Edgerton and along the Old Edgerton, water is at extremely deep levels and sometimes of poor quality.

Wells drilled in Gulkana, Gakona and some in Kenny Lake have produced water that is somewhat saline. Water quality is likely to be a wide spread problem when developing a source of potable water.

There are multiple lakes with potable water in the region. The variability of flow and high turbidity of local rivers makes their use as a source difficult.

I. EXISTING STUDIES AND PUBLICATIONS

While many studies have been conducted in the region relating to geology, geomorphology and glaciology, few have been conducted towards potable water resources. Most have been done in concurrence with permafrost studies which affect road and pipeline construction concerns. Some communities have had more detailed studies outlined below.

A. Groundwater

The most comprehensive ground water study was compiled in 1956 by Donald Nichols of the U.S. Geological Survey (USGS). He studied permafrost and ground-water conditions in the Glennallen area. His research has detailed descriptions of well depths and water quality for a number of historical wells in the area that have since been abandoned. Copies of the publication are available from USGS and are retained at the Copper Valley RC&D office and Wrangell St. Elias National Park and Preserve library.

Nichols, Donald R., *Permafrost and Groundwater Conditions in the Glennallen Area, Alaska*. Preliminary Report, U.S. Geological Survey, 1956, 16 pp.

More recently, a detailed ground and surface water study was completed in McCarthy, describing ground water and water quality conditions, while addressing the community's concern for the future of McCarthy's primary water supply, a spring-fed creek. It studied the water table levels and aquifer recharge rates, trying to identify the factors affecting these for planning purposes. It makes recommendations to protect water supply. They also identified possible alternative drinking water sources in the event of contamination of Clear Creek. It was funded by the State's Capital Matching Grant program. Copies of this report are housed at Wrangell St. Elias National Park library.



Hecht, Barry and Ed LaChapelle, *Hydrologic and Hydrogeologic Factors Affecting Aquifer Protection, McCarthy Area, Alaska*, prepared for the McCarthy Area Council, 1999, 37 pp.

Alaska Department of Environmental Conservation has begun a project to report on all Class A and B community water sources, with the objective to identify potential threats to groundwater and aquifer contamination, especially from septic systems and leaking underground and above ground fuel tanks. These studies were done in-house. These reports are housed in the Copper Valley Community Library in Glennallen.

Class B Source Water Assessment Reports, Alaska Department of Environmental Conservation:

Community Water Point	Com Code	PWSID Number*	Drinking Water Protection Program Report Number
Chitina Fire Well No. 2	CT	292738	879
Copper Basin Assembly of God	CV	291473	870
Birch St. Homeowners Assn.	GA	291253	867
Cross Road Medical Center	GA	291512	871
Tastee Freez, Glennallen	GA	291342	869
NPS-WRST housing area, Glennallen	GA	291805	875
Caribou Café and Motel, Glennallen	GA	291300	868
Carriage House, Gakona	GK	380418	901
Gakona RV Park	GK	381359	925
McCarthy Lodge	MK	299012	888
Kennicott Glacier Lodge	MK	291241	877
Mentasta Lodge	ML	380400	900
Duffy's Roadhouse, Slana	SL	380353	898
Double Tree RV Park, Slana	SL	381587	927
Porcupine Creek SRS	SL	380515	903
Squirrel Creek SRS	TS	291724	872
Grizzly Pizza	WC	296802	883

* Public Water System Identification

The Class A well assessments will be published in 2004, and the well protection plans will be developed from these studies.

B. Surface Water and Geomorphology

A comprehensive study of the surface water resources of the Copper River Basin was conducted by Philip Emery, et al. in 1985. This map documents stream flow and suspended sediment loads of the Copper River and its major tributaries, identifying discharge and sediment rates and looking at seasonal fluctuation. This was directed towards flooding concerns.

Emery, Philip, Stanley H. Jones and Roy L. Glass, *Water Resources of the Copper River Basin, Alaska*, U.S. Geological Survey Hydrological Investigations Atlas HA-686, 1985.

Current studies are being conducted by the Alaska Department of Transportation and Public Facilities in conjunction with USGS on area geomorphology and stream flows as they relate to

factors affecting road construction and damage from stream flooding. Contacts are Don Carlson, AK DOT&PF in Fairbanks, and Tim Brabretz, USGS, tbrabretz@usgs.gov.

The National Park Service has compiled the following water quality data sets, which characterize existing conditions to provide resource-based information for wildlife and assess potential threat to park resources. They are all on park and preserve lands but were not all initiated or completed by the Park. Contact Danny Rosenkrans, (907) 822-7240.

Data Bases maintained at Wrangell St. Elias National Park and Preserve:

Name(s)	Year Coverage	Agency	Purpose
Coastal Hydrology and Circulation	1977-1979	BLM & NOAA	MMA Oil Exploration Baseline
Kennicott Miles S1	1995	EPA	EPS-Site Investigation
Nabesna Mine S1	1994	EPA	EPS-Site Investigation
McCarthy Area Ground Water	1996-1996	ADEC/MAC	Aquifer Research
Minerals Mgmt. Gold Hill Monitoring	1986-1995	NPS	Minerals Management
Minerals Mgmt. WRST Mining EIS Baseline		NPS	Minerals Management
Mud Volcanoes/Shrub	1973,1986, 1999-2000	USGS-AVO & ADGGS	Geothermal Research
NURE	1972-1979	DOE	Uranium Research
Sudden Stream BP	1986-1990	British Petroleum	Abandoned Oil and Gas Development
Sudden Stream NPS	1985-1988	NPS	Abandoned Oil and Gas Development
Abandoned Mines Survey	1994	USBM & NPS	Minerals Management
WRST Environmental Geochemistry	1994-1999	USGS & NPS	Minerals Management
WRST Fish/Water Inventory	2001-2003	NPS-WRST	MPS Inventory and Monitoring
WRST Lake Survey	1991 & 1994	NPS-WRST	Baseline Resource Water Quality

The Copper River Watershed Project's *Fishwatch* program and growing number of Copper Valley communities are undertaking surface water sampling programs to collect baseline data on surface water quality to begin monitoring changes. This concern for water quality is not only for public health, but for the health of the fishery habitat in the Copper River and its tributaries.

Fishwatch began in 2001 and has water quality monitoring sites in the upper Copper Valley at the following locations which are sampled by volunteers monthly in the summer. Chistochina will add sites in 2004.

Paxson Lake
Gulkana River, at Sourdough
Crosswind Lake
Klutina River

Willow Creek
Squirrel Creek
Little Tonsina River
Long Lake, McCarthy Road

Measurements are taken for temperature, pH, dissolved oxygen, nitrates, phosphates and a sampling is taken of aquatic invertebrates in the stream bottom. Annual reports of their study can be obtained through the Copper River Watershed Project offices in Cordova (see resources).

Many villages are beginning surface water testing programs. These include Tazlina, Mt. Sanford Tribal Consortium and Gulkana Village. Gulkana Village will be testing the Gulkana River and a shallow subsurface horizontal gravel layer beginning March 2004 for a year. Chitina Village

Council is conducting a sampling program of Town Lake in September and after spring break-up for base line information. Contact Dean Barlip 823-2277.

The US Geological Survey has water sampling data on the Tazlina and Klutina Rivers for the years 1948-1958 and 1970-1977, sampling chemical parameters, flow and turbidity. USGS sampling at Dry Creek was done in 1971-74 and again in 1982 and at Moose Creek near Glennallen in 1971 for a full range of chemical parameters, plus flow and turbidity.

The Alaska Department of Environmental Conservation is compiling a *2004 Integrated Water Quality Monitoring and Assessment Report* including surface water in Alaska that is not expected to meet water quality standards. This report can be found on the web at <http://www.state.ak.us/dec/dawq/tmdl/index.htm>

C. Water/Sewage Studies

Several specific studies for individual communities addressing their sewage and water issues and needs have been done; three are currently underway.

Glennallen:

Project plans and estimated costs and revenues to extend the Glennallen Improvement Corporation's community sewer system eastward to the intersection with the Richardson Hwy. Village Safe Water contact Ken Hunt, (907) 269-7608

Foster, Michael L. and Associates, *Glennallen Improvement Corporation-Hub Sewer Extension Feasibility Study*, September 19, 2002, 52 pp.

Mentasta Lake:

Study focuses on building water and sewer systems for nine homes, the church and community hall while assessing the feasibility of future building plans. Village Safe Water contact Debbie Addie (907) 269-7608.

Alaska Dept. of Environmental Conservation, Facility Construction and Operation, Village Safe Water, *Mentasta Lake Village Water and Sewer Feasibility Study*, August 1997, 77pp.

Slana:

Looks at feasibility of installing private water and septic systems in 32 homes in Slana area. Difficulties with shallow water table and permafrost. Currently, one half of Slana residents do not have household septic and water. There is no public power source. Village Safe Water contact Debbie Addie (907) 269-7608.

Alaska Dept. of Environmental Conservation, Facility Construction and Operation, Village Safe Water, *Water and Sewer Feasibility Study Slana Community Corporation*, Slana, AK, April 1999, 123 pp. w/ maps.

Gulkana:

Alaska Native Tribal Health Consortium, with Village Safe Water funding in Gulkana. Studies to evaluate water source alternatives including water quality testing, sanitation planning and feasibility study, 1996. Because of problems with water quality in the existing wells, they are presently in the design phase of a water intake structure from a horizontal gravel layer of the Gulkana River. Contact Steve Henrickson, Project Engineer (907) 729-35389 or local contact Staci Devenport 822-3746.

Copper Center-Native Village of Kluti-Kaah:

Alaska Dept. of Environmental Conservation, Village Safe Water with Kuskokwim Architects and Engineers, and MWH consultants working on master sanitation plan for Native Village of Kluti-Kaah in Copper Center. Village Safe Water contact Lynn Marino (907) 269-7602

Tazlina:

The Native Village of Tazlina has been sampling individual wells and open water sources in the Tazlina/Glennallen area since 2001, collecting the full spectrum of chemical and physical analysis. They also had well owners answer a survey about their water. They maintain a database of their results. Native Village of Tazlina, contact Rick Young, 822-4375.

McCarthy:

The McCarthy chamber of Commerce and the McCarthy Area Council worked on a survey of community infrastructure needs in 2000, in conjunction with a Master Utility Plan conducted by Michael Foster and Associates, funded by Alaska DEC Village Safe Water. The study looked at options for dealing with community water, sewage and solid waste. From this study, the McCarthy Area Council (MAC) decided to use funding monies to purchase individual filter systems at wholesale cost and resell them to interested community members. Contact Betty Adams, McCarthy for survey (907) 554-4410. For filter information, call MAC, Natalie Bay (907) 554-4411.

D. Community Information Resources

The USDA Cooperative State Research, Education and Extension Service (CSREES), with Pacific Northwest Extension offices have produced the *Domestic Water Use Resource Guide* in 2003 which encompasses many of the answers to issues surrounding domestic water supplies. The cover page of information is found in Appendix I and shows where and how copies of this publication can be obtained. UAF Extension employee Ben Seifert maintains a CD copy of this publication at his offices at the Caribou Annex in Glennallen, 822-4477.

The Web Sanitation Tracking and Reporting System (wSTARS) is an inventory of the sanitation deficiencies of Alaska Native communities, which consist of needed water, sewer and solid waste facilities for existing homes. The Alaska Native Tribal Health Consortium keeps a data base on all eligible tribal members and their water and sewage systems.

An extensive data base on individual and public wells, the date of drilling and driller, their depth and other notations is available from Alaska Department of Environmental Conservation, WELTS system (see Section IV Resources).

II. COMMUNITY WATER CLASSIFICATION AND REGULATIONS

Public Water Sources: Federal regulations for domestic water sources are mandated by the Safe Water Drinking Act and standards are set by the Environmental Protection Agency. The Alaska Department of Environmental Conservation (DEC) is the State's agency regulating these federal standards, in addition to State statutes.

Public Water Systems serve piped water to at least 25 persons or 15 service connections. Community Water Systems are any business serving the public from its own water resources. Individual residences are excluded from these requirements.

The State maintains a data base on all public wells. On the DEC web site, you may search communities to find more specific information on public wells. You can locate the operator for the specific system and find out if certifications are current.

<https://myalaska.state.ak.us/dec/water/OpCert/Home.aspx?p=SystemSearch>

Regulations are classified according to the number of users. Alaska DEC requires operators of systems serving 25 or more people to be *qualified*. The amount of training necessary to qualify depends on the size of the system and how much treatment is necessary. More information on levels of training can be found at

<http://www.state.ak.us/dec/water/opcert/oplinks/opassistancecertinfo.pdf>

The State of Alaska has a certification process for utility operators. All Class A and Class B drinking water utilities serving 500 or more people must use *certified* water system operators. **You don't need to be a qualified operator to take water samples.**

State Certification process has five levels of expertise based on education and experience. All require at least a high school diploma or GED. There is a 4 hour test to gain the next level of certification, along with application fees. State certificates are renewed every three years with a fee and about 30 hours of training

Routine Tests:

- Coliform bacteria-monthly or quarterly, depending on system size and type
- Protozoa and Viruses-monthly
- Nitrates-annually
- Volatile Organics-groundwater annually for two consecutive years, surface annually
- Synthetic organics (i.e. pesticides)-large systems, 2x in 3 yrs., small once in 3 yrs.
- Inorganics/metals- groundwater once in three years, surface water annually

- Lead and copper-annually
- Radio nuclides-Once every 4 years
- Arsenic

Consumer Confidence Reports are produced annually by each community water system, reporting on the level of any regulated contaminants detected, health effects of any contaminants found above acceptable limits, and the system's compliance with other regulations.

Sanitary Surveys are periodic checkups of an individual water system which must be completed by a registered engineer, sanitarian or approved sanitary surveyor. DEC will complete these for a much lower fee than an independent consultant. Class A and Class B Untreated are done at least once every 5 years.

Certificate to Operate must show that the system passes the regulations and guidance requirements of DEC.

A. Water Sampling and Utility Training Resources

The State's Operator Training and Certification program is overseen by the Alaska Department of Environmental Conservation. <http://www.dec.state.ak.us/water/opcert/index.htm>

Kerry Lindley, Environmental Specialist
 Department of Environmental Conservation
 410 Willoughby Avenue, Suite 303
 Juneau, Alaska 99801-1800
 Telephone: (907) 465-5143
 Fax: (907) 465-5177
Email: Kerry.Lindley@alaska.gov

Water Systems Operator in Training (OIT) classes are offered throughout the state by different agencies. There is a semi-annual training calendar posted on the web at DEC's web site and at <http://www.uas.alaska.edu/attac/calendar.html> on the DEC website. This link includes prerequisites, costs and locations.

Alaska Training/Technical Assistance Center in Sitka, Alaska conducts drinking water research and offers a variety of training opportunities. <http://www.uas.alaska.edu/attac/> .

Alaska Department of Community and Economic Development offers *Utility Management Training* for rural water and sewer systems, Contact Rural Utility Business Advisor Program, Greg Gould, (907) 269-8122, greg_gould@dced.state.ak.us

Native American Fish and Wildlife Society, Tribal Water Quality Testing Program
<http://www.alaska.net/~aknafws/monitoring.html>

Shawna Trumble Moser
 131 W. 6th Ave,
 Anchorage, AK 99501

(907) 222-6005

University of Alaska Extension Service:

Mater Watershed Steward Program, University Extension-10 week, 30 hour course
University of Alaska Fairbanks, Extension
2221 E. Northern Lights, Suite 118,
Anchorage, AK 99508
(907) 786-6320

Barbara Wild
Master Watershed Steward Program
(907) 786-6307
fnbjw@uaf.edu

Citizen Environmental Monitoring Program-This is an EPA program approved by the Alaska DEC and requires 20 hours training on collecting physical, chemical and biological data on stream sites. An example of where this is in the region is with the *Fishwatch* program with the Copper River Watershed Project. An example in Homer can be found http://www.habitat.adfg.state.ak.us/geninfo/kbrr/coolkbayinfo/kbec_cd/html/projsumm/cikwqmon.htm

B. Local Operators

The State's *Operator Certification Program* manages the training and certification of operators for regulated systems. Systems are classified based on complexity and operators are required to maintain certification based on the class of system for which they work. These local operators were from DEC office personnel and web site :

<https://myalaska.state.ak.us/dec/water/OpCert/Home.aspx?p=OperatorSearch>.

Copper Center	Baker, James Challoner, Wayne Chase, Robert Johns, Anthony Johnson, Roy Rodgers, James Somerville, Mark Sports, Greg Wilson, Dean
Glennallen	Bitzan, Jerri Davey, Timothy Delaney, William Gearhart, Randolph Gene, Darin Lemaire, David Peters, Milton Sine, Tim Sorenson, Kurt

	Strauss, Scott Wimmer, Russell Young, Rick
McCarthy	Darish, Neil
Chistochina/Slana/Gakona	Justin, Calvin Maxim, Clinton Pence, James Vermillion, Frank
Chitina	Winter, Michael

Name	Location	Contact Number
Milton Peters	Alaska Bible College	
Nicholas Volkening	Alaska Bible College	
Dean Wilson	Alyeska	
D. Evans	Birch Street Homeowners Association	822-3803
John Gustafson	Blackburn Place Apartments	
Leslie Sutherland	Blackburn Place Apartments	
James Fields	Caribou Café & Motel	822-3111
Dean Lenard	Chitina Volunteer Fire Dept	823-2250
Carol & Clarence Catledge	Copper Basin Assembly of God	822-3485
Randy Gearhart	Copper Basin Regional Housing Authority	822-3633
Tim Davey	Copper River School District	822-3234
Bennie Chambers	CRNA Copper Center Community	
Donald Ressler	Cross Road Medical Center	822-3718
Dennis Heikes	Div. of Parks/Squirrel Creek	745-3975
James Fimpel	Eureka Lodge	
Victor Kivi	Eureka Lodge	
Gary Willford	Glennallen Heights GHWSA	822-3201
Kurt Sorenson	Glennallen Heights GHWSA	
Jasper & Eva Hall	Glennallen Heights GHWSA	822-3653
Sheila Hoffman	Great Alaskan Freeze	822-3329
Mr. Williams	Grizzly Pizza	822-3828
Nate Stanton	Gulkana Village	
Staci Devenport	Gulkana Village	
Paul Howard	Gulkana Village	
Mark Somerville	Kenny Lake Community Well	
	Kenny Lake Diner	822-3313
Dean Wilson	Kenny Lake Fire Hall	822-4114
Neil Darish	McCarthy Lodge	544-4402
Douglas Miller	McCarthy Lodge	544-4402
Russell Wimmer	Medeltna Creek Lodge	822-3346
Ronald Pitka	Mentasta Lake.	

Wayne Challoner	National Park Service	822-7214
Jim Baker	National Park Service	
Robert Frisbie	National Park Service	
Rick Young	Native Village of Gakona	
Paul Echols	Paxson	
Susan Echols	Paxson	
Robert Browner	SEND International, AK Bible College	
Meredith Weaver	SEND International, AK Bible College	
James (Scooter) Abraham	Slana	
Lorraine Radigan	Tazlina RV Park	
Dan Huntsinger	Tiekel River Lodge	822-3259
	Tolsona Lake Resort	822-3433
Graham Ward	Tolsona Wilderness Campground	
David and Michelle Lemaire	Water Works	822-4420
Robert Farmer	Wolverine Lodge	
Bob Chase		
Brian Herring		
Russel Thomas		
Mark Wuitschuck		
Gerry Northway		

III. COMMUNITY WATER INFORMATION FOR COPPER VALLEY

A data base on each individual community is housed at the Copper Valley RC&D offices in Glennallen, and is updated as information becomes available. A sample of this data base is in Appendix II. There is also a summary from the Department of Community and Economic Development RAPIDS data base on funding for water-related projects in the Copper Valley.

IV. CURRENT ISSUES AND NEEDS IN THE COPPER VALLEY

A. Water Quality

- Much of the water in the Glennallen area is saline, adding to health concerns, along with hard and iron-rich water, although not harmful, the taste is undesirable. Positive results for arsenic are occurring in some wells.

B. Water Accessibility

- Well drilling is expensive and results are not guaranteed. Four hundred feet deep wells have been drilled which resulted in low flows or poor quality. Heaving from the permafrost and cold soil temperatures make maintenance of pumps and pipes expensive, especially with high power costs. Delivered water is limited to 4,000 gallons a load.

C. Well Protection

- Shallow wells are sometimes drilled, capturing subsurface stream flow and better quality water, but these are often in risk of being contaminated by nearby septic systems and fuel tanks spills.

D. Financial

- Well drilling is high cost and high risk for most small farmers and businesses with small capital reserves. There are USDA programs available for the development of individual water and sewage systems, but they have income requirements and are not available to small businesses. The Kenny Lake Community League will lock the community well for the first time in 20 years beginning June 1, 2004. Users must pay an annual fee of \$50 to secure a key for entry.

E. Maintenance

- With the loss of community revenue sharing funds to help maintain and operated the community water systems, the development of any new community water sources must have an entity willing to not only take on the management, but also the collection of fees for its operation.

F. Depletion

- There has been concern from aquifer users with increased subdivision development and building and its possible effect on the long-term flow rate of the resource, as in the Willow Creek area near Kenny Lake School. The recharge rate at the Kenny Lake Fire Hall does decrease some times during the summer.

G. Local Needs

Several communities have expressed interest over the years for a community well, although it is not certain with the current funding situation, whether there is still this interest. Some areas do not have local entities willing to take on the management of these systems, with the testing requirements and maintenance and costs that they require. There are few public washeterias or

laundromats in the area; Chitina and Glennallen serve most of the area. The private facility in Kenny Lake is closed in the winter. There is a small facility that just opened in Tonsina Lodge at Mile 79 of the Richardson.

Communities expressing interest in water projects are:

- Willow Creek, around Mile 93 of the Richardson Highway. These residents are approximately 15 miles from the Kenny Lake well. The new agricultural land sale will also bring added demands for water in the area. Several State subdivision lots have been sold in the area also. The Kenny Lake Soil and Water Conservation District is researching options for residents in that area.
- Nelchina-Mendeltna, Mile 154 of the Glenn Highway. Many residents get their water trucked in from a private business or use private springs or an open water source. The local lodge must treat its water coming from Mendeltna Creek.
- Chitina, Mile 33 Edgerton Highway has had difficulties with its pumps and would like more storage capacity.
- The Native Village of Tazlina has interest in developing a community water system
- Chistochina has an interest in developing a washeteria.
- The Native Village of Kluti-Kaah is working with Village Safe Water with its water/sewer needs.
- Gulkana Village is upgrading its well and water systems.

V. PRIVATE, NON-PROFIT, STATE, FEDERAL AND OTHER RESOURCES AND ENTITIES WORKING IN COMMUNITY WATER

A. Water Drilling

Swan Drilling (\$38.5/foot 2003)
M-W Drilling
Hood and Sons Drilling
Double C Mining

B. Water Delivery

Water Works, Glennallen
Copper River Native Association (for elders)

C. Water Tanks and Pumps

Water Works, Glennallen, plastic water tanks up to 2,500 gallons, specially-ordered black tanks to help prevent bacterial growth; pumps and filters and parts for pumps and their installation. 822-4420.

D. Water Testing

Water samples must be shipped within 24 hours to a testing lab in either the Matanuska Valley or Anchorage. These are some of the privately-owned testing labs that are being used by local businesses and community groups:

CT&E Labs, Anchorage
Mat-Su Test Lab
Northern Testing Labs

E. Water Information and Funding Resources

1. Non-Profit Organizations:

Copper Valley Development Association, Inc.
Resource Conservation and Development Program
Arlene Rosenkrans, Coordinator
P.O. Box 9
Glennallen, AK 99588
(907) 822-5001
arlene.rosenkrans@ak.usda.gov

Copper River Watershed Project
KristIn Smith, Executive Director
P.O. Box 1560
Cordova, AK 99574
(907) 424-3334
crwp@copperriver.org

National Rural Water Association
Brad Ault
aknwa@gci.net

The Alaska Rural Water Association
1075 Check Street STE 106
Wasilla, AK 99654
(907)357-1155
(907)357-1400 Fax
<http://www.arwa.org/>

Rural Community Assistance Corporation (RCAC)

Assist communities to achieve compliance with their drinking water and wastewater systems by using diverse funding sources.

301 E. Fireweed Lane, Suite 201
Anchorage, AK 99503
(907) 279-1126

Alaska Native Tribal Health Consortium

ANTHC is a non-profit organization serving Alaska Natives with health and sanitation issues. The Tribal Utility Support program provides technical assistance and training to water and sewer system operators and managers. Through grants to regional health organizations and classroom assistance, Sustained Operations staff offers training courses across Alaska.

<http://www.anthc.org/cs/dehe/sustops/>

Alaska Native Tribal Health Consortium
4000 Ambassador Dr.
Anchorage, AK 99508
Ph: 907.729.1900
Fax 907.729.1901

<http://www.anthc.org>

The Awwa Research Foundation (AwwaRF) is a member-supported, international, non-profit organization that sponsors research to enable water utilities, public health agencies, and other professionals to provide safe and affordable drinking water to consumers.

<http://www.awwarf.org/thefoundation/aboutus/overview.aspx>

Alaska Rural Water Association (ARWA) Their mission is to help Alaska's water and wastewater utilities develop personnel and operating practices that will best ensure their long-term survival. This is best accomplished by providing free training and technical assistance to utilities—while simultaneously representing their interests with regulatory authorities.

http://www.arwa.org/p_links.html

2. State Of Alaska:

Alaska Department of Environmental Conservation

Division of Environmental Health, Drinking Water Program

The Drinking Water Program requires public water systems to be in compliance with state and federal regulations, for drinking water, for the public health protection of the residents and visitors to the State of Alaska.

If you need to contact us, please dial **1-866-956-7656** (for Anchorage) or **1-800-770-2137** (for Fairbanks).

Program Manager: James Weise
(907)269-7647

Alaska DEC, Fairbanks Office

610 University Ave.
Fairbanks, AK 99709
(907) 451-2108
Fax: 451-2188
Gulkana, Mentasta, Slana, Gakona

Alaska DEC, Wasilla Office
P.O. Box 871064
Wasilla, AK 99687
(907) 376-1850
Chistochina, Glennallen, Nelchina, Kenny Lake, Chitina

Anchorage Office: Drinking Water Protection Program, Suzan Hill, (907) 269-7521
suzan_hill@dec.state.ak.us

Village Safe Water

Native and non-native monies.

Greg Magee, Program Manager

555 Cordova Street

Anchorage, AK 99501-2617

Telephone: (907) 269-7613

Fax Number: (907) 269-7650

Email: Greg.Magee@alaska.gov

Division of Air and Water Quality.

Drew Grant,

410 Willoughby, Suite 303

Juneau, Alaska 99801

(907) 465-5304

Preparing 2004 Integrated Water Quality and Assessment Report (*see web page below*).

<http://www.state.ak.us/dec/dawq/tmdl/index.htm>

WELTS- Well Log Tracking System. This is a statewide database. It is an index to the files of over 25,000 well logs that have been submitted to the Hydrologic Survey, as required by state statute

<http://info.dec.state.ak.us/welts/default.asp>

Publications:

Northern Flows, a newsletter from Alaska DEC for operators and owners of community water systems. Updates on changes to regulations and management issues. A copy is in Appendix III with DEC staff directory

<http://www.state.ak.us/local/akpages/dec/deh/water/newsletter4.pdf>

Regulations:

State of Alaska, Dept of Community and Regional Affairs, Dept. of Environmental Conservation, *A Plain English Guide to Alaska Drinking Water and Wastewater Regulations-for rural utilities serving 25-1,500 people*. December 1998, 158 pp. Updated January 2002. Available in full text on the web at <http://www.state.ak.us/dec/deh/water/plainguide.pdf>

State of Alaska, Dept. of Environmental Conservation, *18 AAC 80 Drinking Water*, the complete text of regulations, October 1, 1999. 243 pp. update

Alaska Department of Natural Resources

Water Resources Division: Manages water rights. The Hydrologic Survey Unit collects, analyzes, interprets, and reports on Alaska's waters, including wetlands, glaciers, and coastal waters; provides scientific advice and hydrologic data on the quantity and quality of Alaska's surface and subsurface waters.

<http://www.dnr.state.ak.us/mlw/water/>

Alaska Hydrologic Survey: "The systematic collection, recording, evaluation, and distribution of data on the quantity, location, and quality of water of the state in the ground, on the surface of the ground, or along the coasts, are in the public interest and necessary to the orderly domestic industrial development of the state." Many links.

<http://www.dnr.state.ak.us/mlw/water/hydro/hydro.htm>

3. Federal:

Environmental Protection Agency: regulatory agency for drinking water

<http://www.epa.gov/ebtpages/water.html>

EPA's Safe Drinking Water Hotline (800) 426-4791

Environmental Protection Agency's Office of Water:

<http://www.epa.gov/ow/>

USDA Rural Development, low interest loans and grants for community and private water systems (home improvement) for qualifying groups and individuals. Find more out about these programs at <http://www.rurdev.usda.gov/ak/>

Jim Pohlman and Kim Wood
590 University Ave., Suite A
Fairbanks, AK 99709
(907) 479-6767 x111

Indian Health Service, in partnership with American Indian and Alaska Native people, Office of Environmental Health and Engineering (OEHE). Provides technical and financial assistance to Indian tribes and Alaska Native communities (tribes) to promote a healthy environment through the cooperative development and continuing operation of safe water, wastewater, and solid waste

systems and related support facilities. It annually assesses the water, sewer and health care needs of all 220 Native villages in Alaska, ranks them based on the urgency of their needs, and provides the funding necessary for improvements.

<http://www.ihs.gov/NonMedicalPrograms/DFEE/index.cfm>

Cooperative State Research Education and Extension Service, USDA/CSREES Water Quality Grants-funded Alaska Native Village Public Outreach Project

VII. COMMUNITY REFERENCES

David and Michelle Lemaire, Glennallen Water Works; Conversations from September 3, 2003.

Staci Devenport, Gulkana Village Council

Rick Young, Native Village of Tazlina

Danny Rosenkrans, Wrangell St. Elias National Park and Preserve

VIII. CORRECTIONS AND UPDATES

Please mail, fax, call or email any omissions, corrections or updates to:

Arlene Rosenkrans

Copper Valley Development Association

P.O. Box 9

Glennallen, AK 99588

(907) 822-5111 or 822-5001

arlene.rosenkrans@ak.usda.gov or cvda@cvinternet.net