The Citizens' Environmental Monitoring Program Partnership of the Cook Inlet Watershed

2005 Annual Report

Creating the most comprehensive and credible citizen-based water monitoring program in Alaska.

CEMP Partnership Members:

Anchorage Waterways Council
Cook Inlet Keeper
Homer Soil and Water Conservation District
Matanuska-Susitna Borough
Palmer Soil and Water Conservation District
UAA Environment and Natural Resources Institute
Upper Susitna Soil and Water Conservation District
Wasilla Soil and Water Conservation District

Cover Photos:

Upper left: Long-term volunteer monitor Robin Song collects a water sample at Birch Creek for the Upper Susitna Soil and Water Conservation District.
Lower left: (From left to right) Laura Brooks, Josiah Campbell and Derek Reynolds attend a volunteer monitoring training with Cook Inletkeeper.
Right: Edan Badajos, Cook Inletkeeper's Laboratory Analyst, works with Kachemak Bay CEMP volunteers (from left to right) Craig Phillips, Josiah Campbell, and Lani Raymond during their annual recertification.

The Citizens' Environmental Monitoring Program Partnership Of the Cook Inlet Watershed

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Annual Report
2005

Prepared By:
Lindsay Winkler
Homer Soil and Water Conservation District

CEMP Partnership Members:

Anchorage Waterways Council	Cook Inlet Keeper
Homer Soil and Water Conservation District	Matanuska-Susitna Borough
Palmer Soil and Water Conservation District	UAA Environment and Natural Resources Institute
Upper Susitna Soil and Water Conservation District	Wasilla Soil and Water Conservation District

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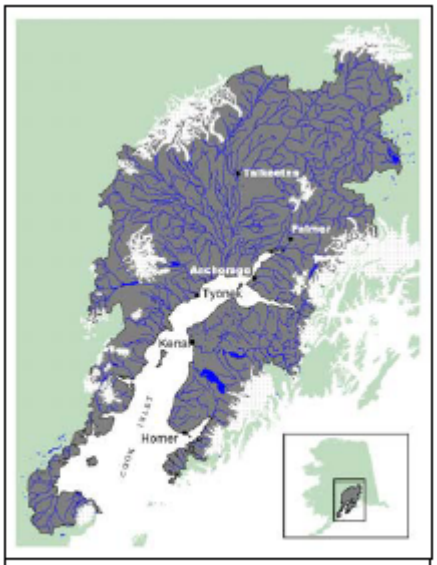
Introduction to the CEMP Partnership

Since 1996, local organizations have coordinated citizen-based water quality monitoring programs to help the State of Alaska and her citizens assess waterbody health. In the Cook Inlet Basin, rapidly increasing population and development have heightened the need for scientifically defensible, baseline data that allows citizens and managers to protect their public water resources.



The CEMP Partnership works throughout the Cook Inlet Basin.

Beginning in 1997, organizations throughout Cook Inlet have forged partnerships to train citizens in credible and effective data collection methods that will help ensure resource protection. These partnerships have grown into the Citizen's Environmental Monitoring Program Partnership of the Cook Inlet Watershed (CEMP Partnership), currently consisting of nine organizations.

CEMP Partnership Funding

In 1987, congress amended the federal Clean Water Act (CWA) and established the Section 319 (h) Nonpoint Source Management Program, authorizing USEPA to grant money to states for addressing Nonpoint Source Pollution (NPS). From 1997 until 2004, many of the CEMP Partner organizations used this grant money to pursue water quality data, supplied by the Alaska Department of Environmental Conservation's 319 program. Funding through section 319(h) is now extremely competitive, with funding requests far surpassing the amount of available funding (by millions of dollars). In 2004, the Alaska Department of Environment Conservation (ADEC) shifted the focus of its Clean Water Act funds, and many streams previously monitored by the CEMP Partnership were no longer financially supported by DEC's 319 grants.

This lack of funding is a grave concern among the Partnership. Many CEMP Partners have been severely downsized or are presently funding their programs out of pocket. The CEMP Partnership has been created to help fulfill the Clean Water Act mandate of achieving water quality standards, and the EPA obligation to fulfill this mandate. There is an overwhelming inadequacy of water quality information on many local and national watersheds and the task of assessing all of the Nation's waters for all applicable water quality standards is immense. It will require the efforts of not only governmental agencies but also private citizens organized in volunteer water quality monitoring groups. The CEMP Partnership hopes that through collaboration they may achieve the goal of a fully funded regional water quality monitoring program.

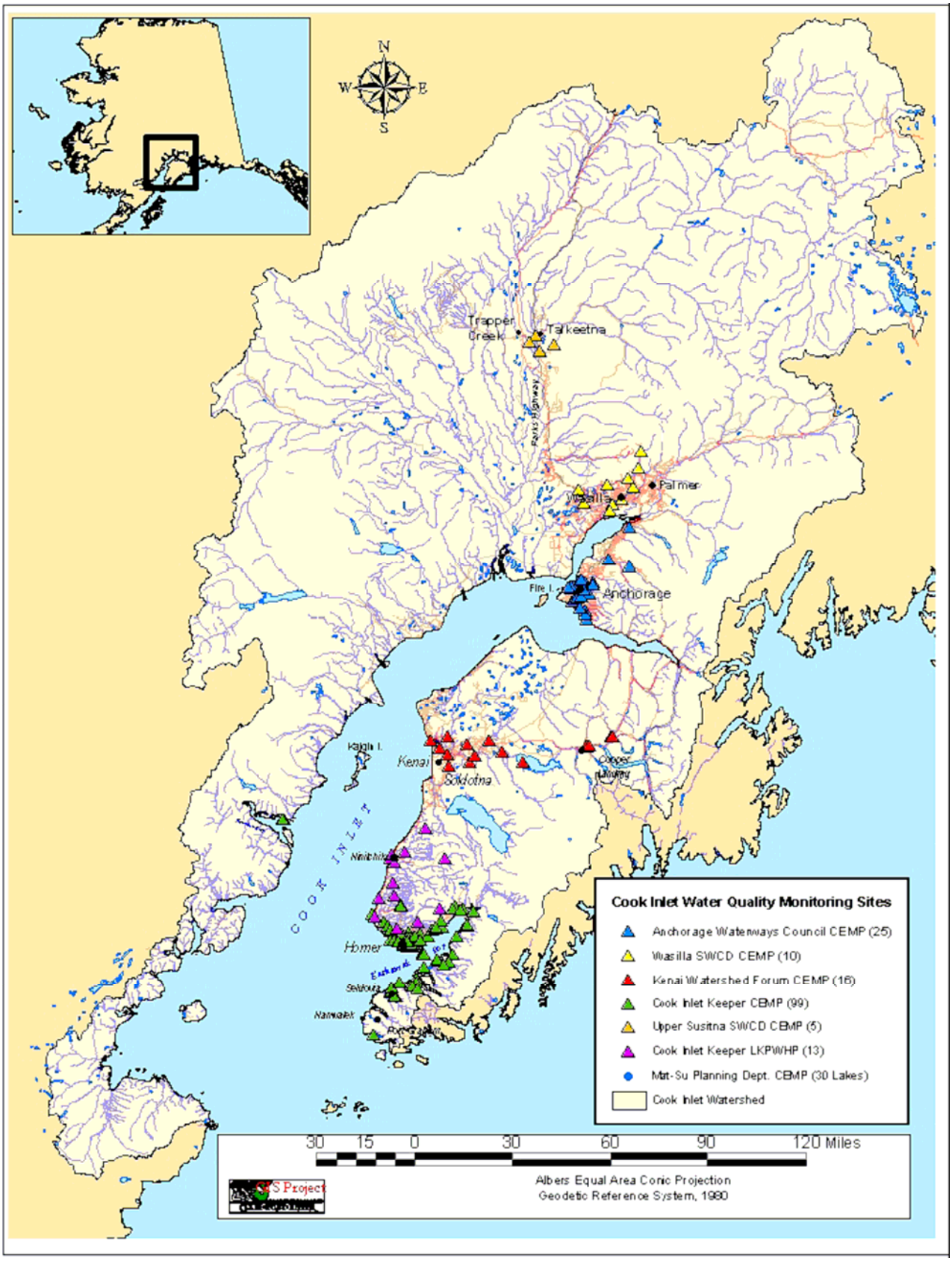
CEMP Partnership Priority Objectives

While each organization has a unique program, the CEMP Partnership has several priority objectives that all partners strive for, including:

• Inventory baseline water quality data in the waterways of the Cook Inlet Basin, and
• Detect and report significant changes and track water quality trends, and

• Raise public awareness of the importance of water quality through hands-on involvement.

Since 1996, over 700 citizens have been trained through partner organizations in the CEMP Partnership. These citizens have collected almost 4800 observations at 250 stream, wetland, lake, and estuarine sites in the Cook Inlet Basin. Including both time and equipment donations, volunteers have contributed well over $550,000 of in-kind donations towards the organization programs within the CEMP Partnership.



CEMP Partnership Monitoring sites throughout the Cook Inlet Watershed.

Highlight: Increasing Stream Temperatures Discovered across Cook Inlet

Since the inception of the Citizens' Environmental Monitoring Programs in Cook Inlet, volunteers have been collecting temperature data on their stream sites. Over the past five years, an increasing number of monitored sites within the Inlet are exceeding the State of Alaska's temperature standards for water quality. The Alaska Department of Environmental Conservation has determined the standards for Alaska's salmon streams for healthy migration routes, spawning & rearing areas, and egg & fry incubation, see Table 1 below.

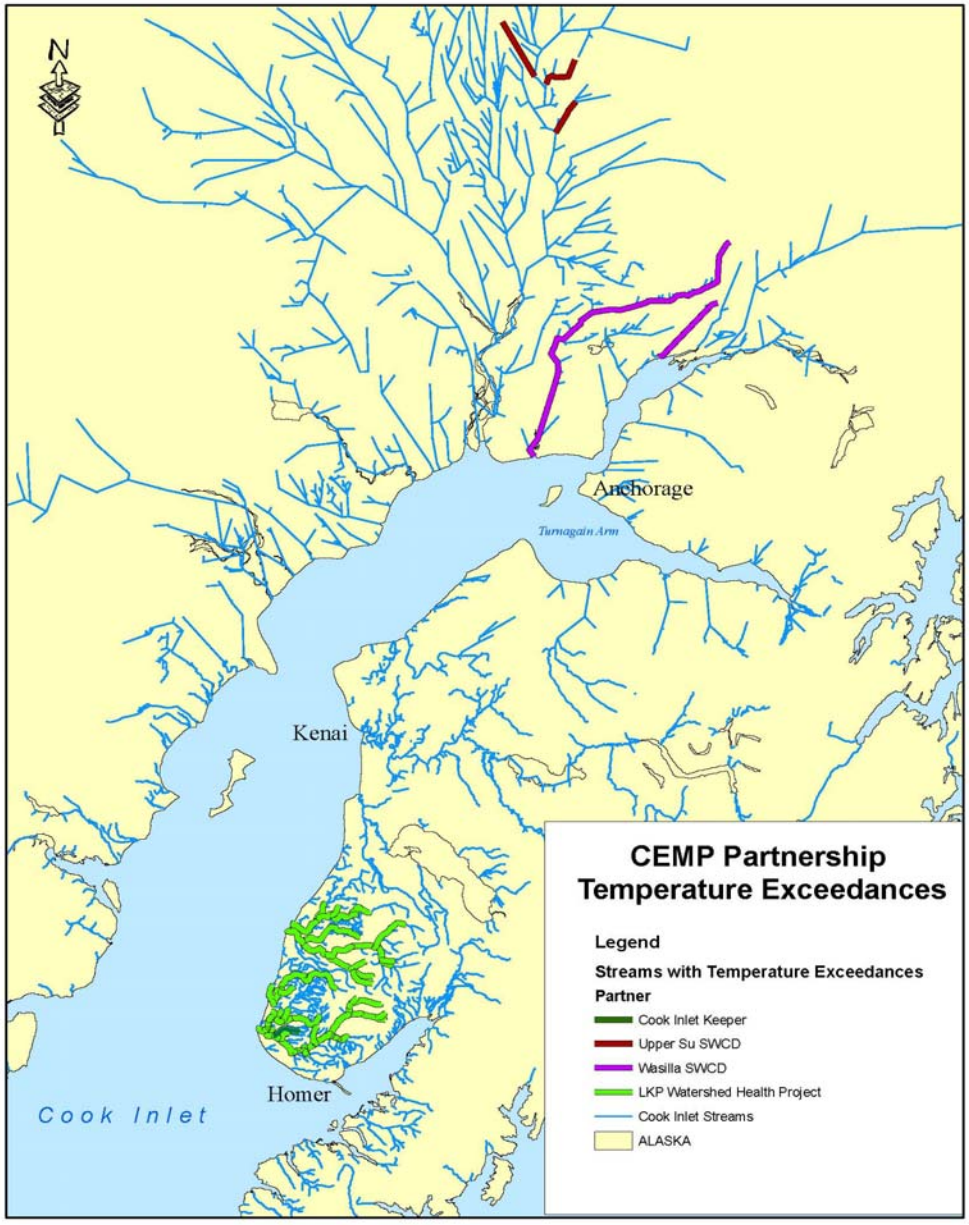
Table of State of Alaska's Water Temperature Standards[1]

(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 15° C.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not exceed 30° C.
(A) Water Supply (iii) Aquaculture	May not exceed 20°C at any time. The following maximum temperatures may not be exceeded, where applicable: Migration routes 15° C Spawning areas 13° C Rearing areas 15° C Egg & fry incubation 13° C For all other waters, the weekly average temperature may not exceed site-specific requirements needed to preserve normal species diversity or to prevent appearance of nuisance organisms.

Cook Inletkeeper, Wasilla Soil and Water Conservation District and the Upper Su Soil and Water Conservation District have reported temperature exceedances in 2005. 48 exceedances were recorded in 2005 on seven anadromous streams within the CEMP Partnership monitoring sites. Two Moose Creek, a tributary to the Anchor River on the lower Kenai Peninsula, exceeded 13^0 C for 30 days in 2005.

Exceedances also occurred at Upper Trapper Creek, Upper Birch Creek, Lower Birch Creek and Lower Montana Creek within the Upper Su SWCD, and Cottonwood Creek and the Little Su River within the Wasilla SWCD. Cook Inletkeeper recorded exceedances on Ruby Creek, Fritz Creek, McNeil Creek and Palmer Creek.

[1] This table was derived from the Department of Environmental Conservation's website and is available at http://www.dec.state.ak.us/water/wqsar/wqs/wqs.htm.



Temperature exceedances documented by the CEMP Partnership are included in the figure above. Included with this map are temperature exceedances documented by the Lower Kenai Peninsula Watershed Health Project, a collaboration between the Homer SWCD and Cook Inletkeeper to monitor four lower Kenai Peninsula salmon streams.

The CEMP Partnership is concerned by these temperature exceedances in locally important streams. To further understand the extent of the temperature exceedances within Cook Inlet, the CEMP Partners are deploying more data loggers to collect temperature data on a continuous basis. Additionally, there is a need for a statewide investigation into the increasing temperature exceedances and the potential impact that could be caused to Alaska's abundant salmon populations.

Anchorage Waterways Council
Citizens' Environmental Monitoring Program

The Anchorage Waterways Council (AWC) currently has 23 active sites, covering 12 watersheds in the Anchorage Municipality. A strong community interest in the program keeps the monitoring effort alive, and 29 new volunteers were trained in 2005.

Phase III certified volunteers man the AWC's 23 active sites. These volunteer monitors complete 12 hours of training and are recertified on an annual basis. Currently there are 40 active volunteers, and over 140 citizens have participated in the training over the years. Many volunteers commit to several years and are involved in numerous AWC activities.

Anchorage Waterways volunteers monitors Chester Creek in the fall of 2005.

Fish kills occurring in Little Campbell Creek in 2005 heightened the concern for high turbidity levels in the stream. Initial investigations suggest the fish kills are most likely due to high turbidity levels during run-off and precipitation events.

AWC volunteer monitors Ship Creek in the summer of 2005.

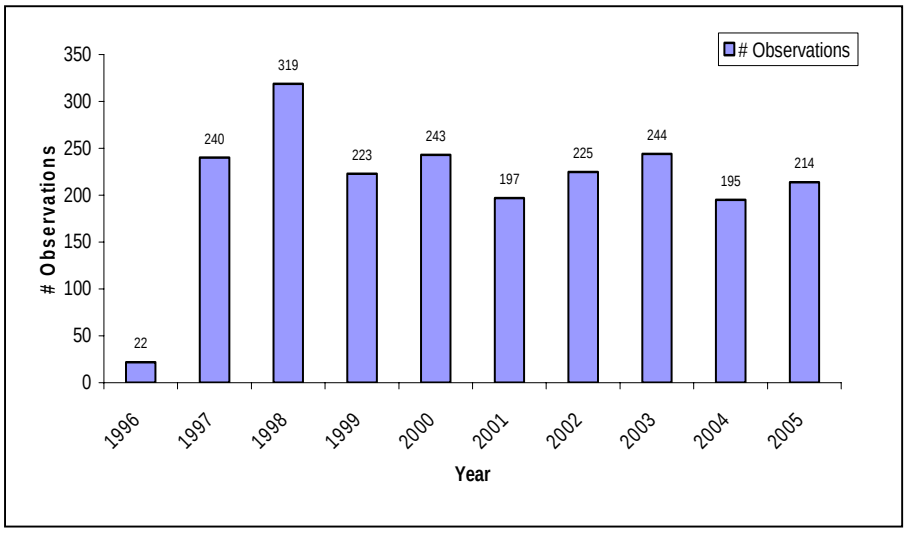
In 2006, the Anchorage Waterways Council will extends its water quality sampling efforts in Little Campbell Creek to three rehabilitation projects. AWC will continue its efforts to monitor stream discharge on Little Campbell and Chester Creeks with the Alaska Department of Fish & Game.

Cook Inletkeeper
Kachemak Bay and Anchor River
Citizens' Environmental Monitoring Program

2005 marked Cook Inletkeeper's 10th anniversary as a community-based nonprofit organization. Cook Inletkeeper was the first community-based organization in Alaska to start a federal and state-approved Citizens' Environmental Monitoring Program (CEMP) and has been praised by the Alaska Department of Environmental Conservation for "laying a credible foundation that establishes the role of citizen monitoring as part of a comprehensive watershed management program from which all Alaskans can share in its rewards, both now and into the future."

Through observations and education, Cook Inletkeeper has encouraged watershed stewardship in Cook Inlet. Keeper also works with supporting agencies and native communities to monitor water quality and foster resource stewardship.

During 2005, 37 volunteers collected a total of 214 observations at 25 sites. A total of 571 volunteer hours were contributed to the program. These hours include water quality monitoring, bio-assessment, and wetland monitoring. As of January 2005, a grand total of 1905 observations have been made in the Kachemak Bay and Anchor River watersheds since 1996 and 285 volunteers have been trained and recruited.



Many volunteers with KBCEMP contributed to multiple areas of the program. Additionally, many volunteers commit to long-term monitoring. Five volunteers have been with the program for over 7 years: John Mouw, Laurie Daniel, Mike Gracz, Joel Cooper, and Anne Wieland.

Realizing the need for increased temperature monitoring, KBCEMP deployed six temperature loggers (tidbits) to determine daily water temperatures and the extent to which these exceeded state standards (see related story, page 3). Tidbits were deployed at Ruby Creek, Two Moose Creek, Woodard Creek, McNeil Creek, Palmer Creek and Fritz Creek. All creeks but McNeil Creek showed temperature exceedances.

Cook Inletkeeper is also concerned about *E. coli* levels and turbidity in locally monitored streams. Diamond Creek has seen a gradual increase in *E. coli* levels since 1997. Some fecal coliform bacteria may be attributed to the landfill located within the Diamond Creek watershed, but high bacteria levels were recorded both upstream and downstream of the landfill. High levels of fecal coliform bacteria were recorded at both Fritz Creek and Palmer Creek on three occasions in 2005.

John Mouw has been monitoring his site for over seven years.

Residential and commercial development, as well as road construction, can potentially increase turbidity in local streams. High turbidity levels were documented at Miller Creek, Fritz Creek, and Mud Bay in 2005. Cook Inletkeeper will continue to monitor turbidity in order to establish baseline data and monitor for exceedances.

Future Directions:
In the future, Cook Inletkeeper and the KBCEMP will continue to improve and expand the existing water quality monitoring effort in the Kachemak Bay and Anchor River watersheds. KBCEMP plans to implement discharge measurement methods into the volunteer monitoring protocols for 2006 and increase temperature monitoring using dataloggers.

Homer Soil and Water Conservation District
CEMP Coordination and Conservation Education

The Homer Soil and Water Conservation District has been working with the CEMP Partnership since 2003 to coordinate and provide accurate and reliable information on the Partnership's efforts. 2006 will mark the last year of the Homer District' s involvement with the effort. We are pleased to announce that Ingrid Harrald, Cook Inletkeeper's volunteer monitoring coordinator, will assist with the coordination from here out. We wish Ingrid and the Partnership well in its future endeavors.

Matanuska-Susitna Borough
Lake Monitoring Program

Volunteers Harry and Jean Holt use a Quanta meter to monitor Lake Louise.

The Borough's Lake Monitoring Program continues to collect date on 27 sites on 22 lakes within the Mat-Su Borough. 228 volunteer hours were logged amongst the 24 volunteers that actively monitor the Borough's water monitoring sites. As of 2005, ten lakes have met the Borough's goal of collecting five years of continuous data.

A major accomplishment in 2005 was completing a thorough review of the Mat-Su Borough's lakes data since the program's inception, and reformatting the master electronic file for each lake. It is now easier to share data on individual lakes, and will be easier to export our data into DASLER-X (the statewide water quality database).

Future Directions:
In 2006, several new lakes are scheduled to start being monitored. Many volunteers will return to their lake sites as well in 2006. With expanded equipment available to volunteers, the Mat-Su borough's program will include turbidity as a parameter for its monitoring program.

Volunteer Rick Ernst collects a water sample from Scotty Lake.

University of Alaska Anchorage
Environment and Natural Resources Institute (ENRI)
Aquatic Ecology

In 2005, staff from the Environment and Natural Resource Institute (ENRI)) trained 16 bioassessment volunteers for the Anchorage Waterways Council. AWC Volunteers and ENRI staff conducted a total of five volunteer bioassessments in 2005: one on Little Rabbit Creek, two on Chester Creek, and two on Campbell Creek.

Teachers from the Anchorage School District learn how to sample macroinvertebrates in Chester Creek

ENRI plans to assist CEMP partners in conducting bioassessments for their water quality monitoring programs. ENRI staff will provide volunteer training and help with quality assurance and data management for these important programs. ENRI staff assists the CEMP Partnership in its annual recertification process, see results page 15.

In addition, ENRI staff has worked with all CEMP partners and continue to provide training for Alaskan Tribes through the Native American Fish and Wildlife Society's Tribal Water Quality Training Program. The program also has been working with teachers in the Anchorage School District, the Mat-Su School District, the Kenai Peninsula Borough School District, and various school districts in southeast Alaska on water quality education programs and bioassessment training.

Upper Susitna Soil and Water Conservation District
Citizens' Environmental Monitoring Program

The Upper Su SWCD's volunteer monitoring program continues to be driven by high volunteer participation. Its eight volunteers completed 90 observations in 2005 and logged over 300 hours of volunteer time.

Upper Su continues to increase its temperature monitoring efforts, as temperature exceedances in the streams' it monitors continue to increase.

Birch Creek continues to be a high level of concern for the District. The Lower Birch Creek site has had exceedances in the summer months since the District started monitoring the site in 2002. Additionally, in 2005, the Upper Birch Creek site, approximately 6 miles upstream, had three temperature exceedances.

Upper Su volunteers grab a sample from the stream. Often stream flows are too high and volunteers must sample from the streambank.

Future Directions:
2006 will mark Rick Ernst's last year as the District's Watershed Health Coordinator. The loss of such a talented and inspiring coordinator will certainly be felt with the Upper Su District and throughout the partnership.

Goals for 2006 include opening new sites on at-risk streams and to increase the number of volunteer monitors.

Wasilla and Palmer
Soil and Water Conservation Districts
Citizens' Environmental Monitoring Programs

Wasilla District monitors gather a sample during their training in April of 2005.

The Wasilla Soil and Water Conservation District's CEMP Program continues to expand its water quality monitoring efforts with 17 volunteers monitoring 16 sites in the Wasilla District. Over 462 hours of monitoring were contributed in 2005, leading to 225 observations on their streams.

The Wasilla District increased its temperature monitoring efforts in 2005 to place a hobo meter (which collects temperature data continuously) in Wasilla Creek and a second meter is planned for 2006 on this creek, see related story page three.

As with many areas in Alaska, the Mat-Su Borough is growing rapidly and maintaining data about water quality and a visual presence along our area waters is critical. To address this, Wasilla High School Students became active monitors during the fall semester of the 2005-2006 school year. The Wasilla District increased its monitoring force in 2005 and provided over 128 hours of community training to assist with water monitoring.

Future Directions:
The Wasilla Soil and Water Conservation District aims to increase their area of data collection. In addition, the Wasilla District is seeking to combine efforts within their district to extend their monitoring expertise to site restoration projects.

Young monitors learn about the importance of water quality

Additional Cook Inlet Water Quality Monitoring Organizations

The CEMP Partnership works with various water quality monitoring organizations throughout Cook Inlet. These organizations include:

Native American Fish and Wildlife Society's Tribal Water Quality Training Program
Contact: Shawna Trumblee Moser
www.alaska.nafws.org

The Native American Fish and Wildlife Society's Tribal Water Quality Training Program provides technical assistance and training to numerous Tribes across the State of Alaska through several levels of water quality monitoring training.

Chickaloon Village Traditional Council, Environmental Protection Program (CVEPP) Watershed Health Project
Contact: Sarah Masco
Chickaloon Village conducts stream monitoring on several streams within their Tribal boundaries.

Kenai Watershed Forum
Contact: Robert Ruffner
www.kenaiwatershed.org

The Kenai Watershed Forum is a local 501(c)(3) non-profit organization dedicated to maintaining the health of the watersheds on the Kenai Peninsula in southcentral Alaska. Based 160 miles south of Anchorage in Soldotna, efforts are focused on the entire peninsula using education & outreach, restoration, and research programs.

In 2005, the Kenai Watershed Forum focused efforts on water quality research projects on the Peninsula that were supported by the Kenaitze Indian Tribe, the US Environmental Protection Agency, the Alaska Department of Environmental Conservation and National Oceanic and Atmospheric Administration. Our principal concern is addressing the high concentrations of gasoline products that enter the Kenai River each year during the summer months, often exceeding state water quality standards.

2005 Annual Recertification Results

The Citizens' Environmental Monitoring Program Partnership of the Cook Inlet Watershed

2005 Volunteer Coordinator Performance Evaluation (PE) Results

Organization	pH Colorimetric pH Octet Comparator (Lamotte- 5858)		pH Quanta Meter		pH Hanna Combo (HI 98129) Meter		Specific Conductance Quanta Meter		Specific Conductance Hanna Combo (HI 98129) Meter		Orthophosphate Ascorbic Acid (Hach PO-19)		Nitrate-Nitrogen Cadmium Reduction (Chemtrix 8302)		Nitrate-Nitrogen Zinc Reduction (Lamotte 3354)		Turbidity Jackson Turbidity Units (Lamotte 7519)		Dissolved Oxygen (Chemetrics-K-7512)		Dissolved Oxygen Micro Winkler Azide Modification (Lamotte 5856)		Temperature Quanta Meter		Temperature Hanna Combo (HI 98129) Meter		Temperature Thermometer		Temperature Air Thermometer		Comments
	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	PE Stand.	Result	NIST Therm. °C	Result °C	NIST Therm. °C	Result °C	NIST Therm. °C	Result °C	NIST Therm. °F	Result °F	
	pH units	pH units	pH Units	pH units	pH Units	pH units	µS/cm	µS/cm	µS/cm	µS/cm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	NTU	JTU	mg/l	mg/l	mg/l	mg/l	°C	°C	°C	°C	°C	°C	°F	°F	
Anchorage Waterways Counci	7.50	8.77				7.59		8.77		192	157	0.24	0.06			0	0.20	10	10			8.5	10.0			22.4	22.6	22.0	22.6[a]	69	74	[a]Thermometer filament slightly separati
	7.50	8.77				7.58		8.77		192	157	0.18	0.06					10	10			8.4	10.0					22.0	22.2[a]	66	72	[a]Thermometer filament slightly separati
						7.67		8.77		192	157											8.6	10.0									
						7.67		8.77		182	157											8.3	10.0									
Cook Inlet Keepe	7.75	8.77				7.36		8.77		157	157							5	5			8.4	8.2			22.2	23.0	23.0	22.6[a]	74	74	[a]Thermometer filament slightly separati
	7.75	8.77				7.42		8.77		148	157							5	5			7.9	8.2			22.4	23.0	23.0	22.5[a]	74	74	[a]Thermometer filament slightly separati
						7.47		8.77		154	157																					
						7.48		8.77		153	157																					
Matanuska-Susitna Boroug				8.10	7.85			100	113													7.6	8.2	22.08	22.1[b]						[a]Thermometer filament slightly separati
																						8.1	8.2	21.79	21.9[b]						[a]Thermometer filament slightly separati
Upper Susitna Soil & Water Conservation Distric	7.75	9.30				7.57	9.30			177	182	0.12	0.02			1	1.00	15	5			7.4	8.2			22.4	22.6[a]	22.0	22.0	72	72	[a]Thermometer filament slightly separati
	7.75	9.30				7.62	9.30			177	182	0.10	0.02			1	1.00	15	5			7.6	8.2			21.7	22.0[a]	22.0	22.1	72	72	[a]Thermometer filament slightly separati
						7.63	9.30			177	182															21.8	22.0[a]	22.0	22.0	72	72	[a]Thermometer filament slightly separati
						7.65	9.30																									
UAA-ENR	8.25	9.30				8.15	9.30			187	182	0.08	0.02			0.5	1.00	10	10			9.8	10.0			21.1	22.1[a]	23.0	23.0	74	74	[a]Thermometer filament slightly separati
	8.25	9.30				8.34	9.30			189	182	0.06	0.02			0.5	1.00	5	10			10.0	10.0			20.9	21.8[a]	22.0	22.0	72	72	[a]Thermometer filament slightly separati
						7.99	9.30			188	182							5	10			10.0	10.0									
						8.20	9.30			190	182																					
Chickaloon Village						7.46	9.30	182	182					0.70	0.20					11	10					24.4	24.2					
						7.50	9.30	180	182					0.50	0.20					11	10					24.3	24.2					
						7.52	9.30	183	182																	24.3	24.2					
						7.51	9.30	182	182																							
						9.75	9.65																									
						9.74	9.65																									
						9.73	9.65																									

[a]The PE Standards from USGS for pH were determined to be unstable.

c Environmental Resources Associates PE Standard for pH

c Environmental Resources Associates PE Standard for pH

c Environmental Resources Associates PE Standard for pH

CEMP Partnership of the Cook Inlet Watershed
Quality Assurance and Quality Control Measures

The CEMP Partnership recognizes the need for a quality system of program management that offers performance uniformity among the numerous volunteer water quality monitoring projects throughout the Cook Inlet basin. Only through such a documented management system can quality assured data be obtained for valid comparisons and interpretations. The CEMP Partnership uses many quality assurance and quality control measures to assure the quality of the collected data. These include:

TRAINING

- Monitors are required to complete Phase I through III of training to be eligible to collect data for the CEMP Partnership.
- Quality Control (QC) Coordinators are required to complete Phase I through IV of training to be eligible to collect data for CEMP Partnership.
- Monitors attend annual re-certification to review monitoring procedures, ask questions and fine-tune skills.
- Monitors analyze performance evaluation standards during annual re-certification to check their precision and accuracy.
- QC Coordinators attend annual re-certification conducted by the CEMP Quality Assurance (QA) Officers to review monitoring procedures, ask questions and fine-tune skills.

QUALITY CONTROL REQUIREMENTS

- QC Coordinators analyze performance evaluation standards during annual re-certification to check their precision and accuracy.
- Monitors perform analysis on replicate samples each site visit.
- The QC Coordinator collects split samples at 10 % randomly selected active sites for analysis at state-certified laboratory.
- The QC Coordinator will perform split sample analysis at 10 to 20 percent of all active sites (randomly selected) during each year.
- Broken equipment and expired or defective chemical reagents are replaced immediately upon discovery.

Joel Cooper, CEMP Partnership QA Coordinator works with various CEMP Coordinators at the 2006 annual recertification.

DATA VALIDATION AND USABILITY

- Raw data is entered into the CEMP Water Quality Database (and DASLER-X, the statewide water quality database) where mathematical calculations, when applicable are performed by the database.
- Data that do not meet project accuracy and precision objectives are entered in the CEMP Water Quality Database and flagged accordingly. All field and data entry comments are included with the dataset. Data that does not meet data quality objectives will not be exported to DASLER-X. Data that falls just outside of the objectives may be exported to DASLER-X, but will be flagged accordingly.
- The QC Coordinator is responsible for contacting monitors to determine the cause of data errors and arranging for monitor re-training if necessary.
- The QC Coordinator determines reviews results to see if they are higher than expected for a particular site. If any results are found higher than expected, the QC Coordinator will arrange to re-sample that site. If necessary, the samples will be split with the QC Coordinator or an outside EPA approved laboratory will perform replicate analysis.

ASSESSMENT AND OVERSIGHT

- CEMP Partners operate under the guidance of the CEMP Partners of the Cook Inlet Watershed Quality Management Plan (QMP).
- CEMP Partners of the Cook Inlet Watershed hold an Annual Conference and conduct a Management System Review.
- The CEMP Partnership of the Cook Inlet Watershed receives comments and technical advice from a Technical Advisory Committee.
- The CEMP QA Officers perform an annual Technical System Review.

CEMP Partnership Enrolls in the USGS National Field Quality Assurance Program

At CEMP Partnership annual monitoring coordinator recertification March 21, 2006 in Anchorage, participating volunteer monitoring coordinators and volunteer monitors utilized pH and specific conductance proficiency samples from the U.S. Geological Survey (USGS) National Field Quality Assurance Program (NFQAP) for the first time. Although not officially enrolled, the partnership utilized samples from the program to conduct this year's blind performance evaluation (PE) for these two parameters. Additional PE samples were provided by Cook Inletkeeper's Cook Inlet Community-based Laboratory.

The NFQA disburses about 6,500 proficiency samples annually for pH, specific conductance, and alkalinity to USGS, contract, and cooperator personnel. Each field analyst receives 2 bottles of each type of proficiency samples they analyze. The CEMP Partnership of the Cook Inlet Watershed is excited to enroll in this program as a cooperator and will begin participating this fall. The two specific objectives of the NFQA Program are to provide precision data for the field measurements and to identify water-quality analysts who need additional training. Annual proficiency samples are distributed to individuals who determine alkalinity, pH and specific conductance in the field. Go to http://nfqa.cr.usgs.gov/ for additional information.

Also, at the recertification coordinators discussed continuing to work with Cook Inletkeeper's lab to provide QA/QC standards for the additional parameters. In addition partners discussed utilizing the lab to provide for nutrient analysis and will try a test run this summer to work out the logistics. The Partners finish the meeting with a good discussion on equipment problems and how to respond to anomalous data.

Future Direction of the CEMP Partnership

In 2006, the CEMP Partnership will increase its efforts to understand the significance of the temperature exceedances seen across the Inlet. Increased deployment of temperature loggers to continuously collect temperature data will increase the understanding of the initial exceedances identified.

Additionally, Ingrid Harrald, Volunteer Monitoring Coordinator for Cook Inletkeeper will take over the partnership coordination for the CEMP Partnership. Goals for CEMP Partnership outreach in 2006 include holding local events for National Monitoring Day and participating in the ongoing efforts to form a Statewide Watershed organization.

CEMP Partnership of the Cook Inlet Watershed
Annual Statistics

Organization	Number of Active Sites	Number of Observations	Number of Volunteers Trained In 2005	Number of Active Monitors	Hours of Contribution	Volunteer Donations[2]
Anchorage Waterways Council	23	224	29	40	900	$16,236
Cook Inletkeeper	25	214	11	37	571	$10,301
Matanuska-Susitna Borough	27	66	24	24	228	$4113
Wasilla and Palmer SWCDS	16	225	17	23	462	$8334
Upper Susitna SWCD	8	90	*	7	301	$5430
Total CEMP Partnership	**99**	**819**	**81**	**131**	**2590**	**$44,414**

* Indicates information not available at the time of printing

[2] All volunteer contributions are calculated based off national standards for volunteer time, available at www.independentsector.org. In 2005, the standard volunteer hour rate was $18.04 per hour.

Monitoring Program Contacts

Partner Organization	*Address, Phone*	*Email, website*
Anchorage Waterways Council Molly Welker Watershed Program Director	P.O. Box 241774 Anchorage, Alaska 99524 (907) 272-7335	molly@anchoragecreeks.org www.anchoragecreeks.org
Cook Inletkeeper Ingrid Harrald Volunteer Monitoring Coordinator Sue Mauger, Stream Ecologist	3734 Ben Walters Lane Homer, Alaska 99603 (907) 235-4068	ingrid@inletkeeper.org sue@inletkeeper.org www.inletkeeper.org
Chickaloon Village Traditional Council Sarah Masco Environmental Specialist	P.O. Box 1105 Chickaloon, Alaska 99674 (907) 745-0737	sarah@chickaloon.org
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