Cook Inlet
Citizens Environmental Monitoring Program
Partner Group Conference
At
The Alaska Forum on the Environment
February 7th & 8th, 2002
Egan Convention Center, Anchorage, Alaska

Meeting Notes

Thursday February 7th: CEMP Partners

Attendees: Joel Cooper, Dale Banks, Sue Mauger, Robert Ruffner, Elaine Major, Elijah Donat, Rick Ernst, Peggy Hunt, Emily Creely, Tim Stevens, Kent Patrick-Riley, Laura Eldred, Beth McKibben, Shirley Schollenberg, Russell Kunibe, Maria Birkowski, Lester Stephan, Steve Frenzel, Angela Wade, Michael Lilly, Harry Banks, Chris Meade, Joyce Beelman, Sabrina Volstad, Thomas Kink, Delice Calcote, Morris Nashoanad, Daisy Lockwood Katcheak, Ron Klein, David Rogers, Clarence Seccheui, Riley Meganack, Phil Mundy, Pius Washington, Gil Roetman, Willie Andrew

Reports:

Biological Monitoring, UAA Environment & Natural Resources Institute (ENRI),Elaine Major
Elaine gave an update on the biological monitoring program. Her complete report is attached to the end of these notes. Following are highlights from her presentation:

- QAPP completed and Tiered methods all recently revised and on the ENRI website;
- Moving BMAP to SE AK in April using USFS GIS data for site classifications
- Completing Cook Inlet work – data from 2001 follows trend for previous ASCI results
- In June 2002 will conduct a periphyton study on the Kenai Peninsula with Dr. Jan Stevenson.
- Conducting a pilot study with DNR to evaluate road crossings and forestry BMPs on lower Kenai Peninsula
- Study with USFWS/KNWR to evaluate food web dynamics and relationship between frog and invertebrate populations
- Environmental quality of Kodiak rocket launch sites at Narrow Cape completed for 2001
- There are several trainings and outreach events happening this spring mostly in the Cook Inlet area.
- There are several pending proposals for ENRI dependent on funding including enhancing existing school district curricula with Alaska Stream Team methods for school-based monitoring.
- Elaine will be presenting a paper on tribal aquatic workshops at the National Water Quality Monitoring Council annual conference in May 2002 in Wisconsin.

Water Chemistry Cook Inlet Keeper, Joel Cooper

- Joel showed a PowerPoint presentation highlighting the monetary value of volunteer time in each of the partner groups minus the Mat-Su Borough's Lake Monitoring program. Also shown were the number of sites monitored throughout the Cook Inlet and the number of people trained compared to the number of people monitoring.
- Joel discussed challenges the program faces including funding and program proposals.

Partner Group Reports

Anchorage Waterways Council, Emily Creely

- Emily was hired in September as the CEMP Coordinator
- Held a Phase V training and has 5 new trainers
- Added 2 new sites (California Creek and Eagle River)
- Re-certified 8 monitors in Phase IV training
- Currently AWC has 13 sites with 25 active monitors and 136 observations this past year with 322 observations total from all years.
- Emily is reviewing and doing QA on the data and will convene a meeting during the next few weeks of agency folk to review it and provide program suggestions and identify new sites. The data will be included as a section in the State of the Creeks Report.
- AWC has an intern working on GIS mapping of sites for the next 3 months.
- AWC is updating the CEMP website
- AWC has funding proposals to expand the program
- Conducting a Phase I & II training for new monitors in April.
- Conducting a bioassessment training with ENRI this spring
- Conducting dry weather screening with the Municipality of Anchorage – need 40 volunteers
- Creek Cleanup event is scheduled for May.

Kenai Watershed Forum, Robert Ruffner

- 14 sites 111 observations
- Completed and approved QAPP including Hydrolab method for continuous monitoring. The QAPP is available for other groups to use and KWF will train people on how to use the hydrolab. They may be able to loan a hydrolab to a group if they need more data at a site.
- QAPP also includes protocols for analytical lab work
- CEMP component of KWF program not getting enough funding to expand at this time

Homer Soil & Water Conservation District, Shirley Schollenberg

- Annual report completed for the Lower Kenai Watershed Health project.
- HSWCD focuses on the information/education component of the partnership with CIK
  - Travelling kiosk with interactive watershed CD to schools
  - Provided programs to all 7th grade classes
  - Produce a bi-monthly newsletter
- Working with the Community Rivers Planning Coalition at Anchor Point which is gaining a lot of community support and growing.
- Developing a natural resource curriculum to integrate into local schools with partner groups and agencies.

- Study on ATV trail impacts – use of geoblocks works well but expensive
- Working on a Borough land classification project
- Submitted a wetlands grant proposal for the Anchor River for wetland and groundwater recharge study.

Wasilla Soil & Water Conservation District, Peggy Hunt

- Peggy was hired and began in September as the Watershed Coordinator and took CEMP training from Joel in October.
- 38 volunteers on record 12 active in WSWCD and 15 in Upper Su 4 trainers 11 sites with 9 active and 5 consistently monitored 59 observations this year and 122 total last 2 years
- Program was without a staff person guiding it during the critical summer sampling season and lost a few volunteers during that time also.
- Seeing coliform spikes at one of the Hatcher Pass sites. Veronica DeBoer was able to run a split sample using the filtration method at the DEC lab in Palmer and had high results also. Peggy wants to do more frequent sampling to try and pinpoint the problem.
- Partnered this past year to incorporate volunteers and sites in the Upper Su area.
- Conducting Phase I & II training for new volunteers on March 8, 15, 16.
- Challenge in the area of getting the word out about the program and getting people involved.

Upper Susitna Soil & Water Conservation District, Rick Ernst

- Upper Susitna area seeing a lot of population increase and increased development. Citizens are becoming concerned about impacts to local waterways and Rick began the process over a year ago to bring the CEMP to the area by going through the training and working with the SWCDs to form a partnership. Currently, the Uppers Su SWCD falls under the WSWCD's QAPP and they submit their data to the WSWCD. Both groups share in training volunteers.
- Upper Su hired a part time coordinator and ordered 5 kits
- Monitoring 4 sites with 14 volunteers (using teams) Birch Creek (2 sites) Talkeetna River (1) Trapper Creek (1)
- Conducted the first sampling in January 2002!
- Local Earth Day celebration good time to get people signed up and interested
- Hope to have a training in the Upper Su this spring sometime.

Mat-Su Borough Volunteer Lake Monitoring, Beth McKibben

- Completed 2 full seasons of monitoring from break up to freeze up.
- The MSB assembly helps support and fund the project
- The Mat-Su is experiencing very rapid development and increasing demands on drinking water, increased recreational use, increased shoreline development, and almost total reliance on septic and wells. The area is experiencing rapid habitat loss without much knowledge on what all is being lost.
- Part of the program is to have the volunteers make some land us observations and habitat observations.
- All lakes in the program were sampled this past year for Chlorophyll a and total phosphorous.

- Trained 35 people last year with 23 lakes monitored but some lakes have more than 1 site
- Hope to have a training at Lake Louise this spring.
- Limitations with time and distance for equipment coordination.
- MSB ready to hire a part-time volunteer coord. for program and hope to have them on board and trained this spring.

Question from the public: *Can the Mat-Su Water Monitoring Program look to have all the waters (lakes/creeks/river) tested over there on Knik Road area for POPs pollutants. There is a medical waste incinerator operating in that area and POPs are airborne with medical waste incineration. It is important to check out point sources. Medical waste was pointed out to be a very important point source for POPs. Need to look into methods and $ to do sediment sampling for POPs on lake near waste incinerator.*

Cook Inlet Keeper, Dale Banks

- 8 new volunteers with over 30 active 37 sites 192 observations last year with 1300 total observations
- CEMP notes newsletter to communicate with volunteers
- Volunteer monitor list serve
- Testing a new combo meter to replace the Hanna 4 in 1 meter. Samples pH, conductivity, temperature, total dissolved solids
- Working on graphing and the database to make it easier
- Developed a photo numbering and organization system
- Annual volunteer get-together "Splash Bash" a success
- Partnering to do biological monitoring in Anchor river watershed
- New program to train and have vessels collect water data on Kachemak Bay
- Grant to do CEMP data analysis and performance evaluation

Salmon Stream Monitoring on the Lower Kenai Peninsula, Sue Mauger

- In partnership with CIK
- Collecting baseline data on Anchor River, Ninilchik River, Stariski Creek, and Deep Creek
- Educating local citizens
- Report available from CIK on results.

Photographic Method for Characterizing Streambed Sediments, Steve Frenzel, USGS

- New method USGS in Anchorage developing. Used on Chester Creek in Anchorage.
- Why is it important to look at sediments? Salmonid egg incubation, invertebrate habitat, sink for contaminants, indicative of some upstream activities.
- Basically converted a 5 gallon bucked and mounted a 35 mm camera to bottom of it. Hold bucket topside down in stream and take photo of streambed.
- Digitize and analyze photos to get particle distribution and size

Analytical Results from Agency Monitoring Partnership, Robert Ruffner, KWF

- More detailed monitoring than CEMP. Test for zinc, cadmium, lead as good indicators of urban runoff
- Willing to share the QAPP with other interested groups
- Data has raised some flags for places needing further investigations

CEMP Strategic Planning Dan Bogan, AWC, Moderator

MOA/MOUs

- Eliminate duplication
- Not a DEC 319 grant requirement
- Facilitates a level of cooperation
- Could take time to do it and sign it (negative aspect)
- Select common goals that we all agree to and come up with a general template for people to use
- A Memorandum of Agreement is more general and like a "handshake" and then do an MOU if need more detail with an individual group.
- Need a statewide CEMP brochure describing the program and how it's set-up – Elaine agreed to come up with draft text to share with partners for comment. ENRI graphic designer might be able to do the layout. Could EPA pay for the printing?
- Work with Native Villages and Tribes and look for entry points i.e. Tribal leaders and on the ground people like the Environmental Directors. Make personal communications with the tribes.
- Have the groups share and identify things they do well and are willing to share with others (ex. Hydrolab expertise from KWF)
- Need to think about what it means to be a "partner" QAPPs? Sharing info? MOUs?
- Groups could share info. via each programs newsletter
- An MOU adds validity for funding
- Separate documents for the MOUs and each group's expertise identification

Strategic Planning Outcomes:

- CEMP brochure – Elaine drafting and will share, April 1 draft text
- When emailing partners, always use the "Reply All" to share info.
- Robert will send out an example MOU/MOA
- Make the MOU easy to sign and an efficient process
- Who in the organization should sign it?
- Make it easy for add-ons to the MOU partnership
- Think about who's in and who's out for CEMP partnership (industry? Schools?) keep boundaries broad – no insiders club!
- What level of decision making does signing the MOU imply?
- Get feedback from groups outside of the partnership for draft MOU.

Strategic Planning Technical Expertise:

- Make a list of every one's technical advisory committee to share and distribute among partners.
- Year to year funding limits us
- Is there a way for longer term funding cycles in the 319 program and other state $? DEC responds that it might not be worthwhile to take the effort to change the grant cycle in 319 because the funds could dry up anytime. Over matching frees up more $ that could go towards grants in DEC's perspective.
- Look for bigger pots of $ in partnership grants

- Need cooperation instead of competition but difficult without financial resources
- Each group needs to have a paid CEMP coordinator
- Need to expand funding framework to include public, private, industry, etc. sources
- Good data presentations helps our cause
- Trust fund for mitigation as a possible source $
- Need to act before water quality problems come up "our priority watersheds are our pristine watersheds". In DEC's perspective it's tougher to get 319 $ if you propose to monitor "clean" waters.
- Partnership pool resources to hire a grant writer?
- Partnership do an annual "State of the Inlet" report card on water quality and monitoring efforts. Good media points and it's another way to get the message out.
- In villages, high turnover leads to problems in sustaining the programs.
- Environmental Ed in the villages needs to be tailored to the needs of the villages.
- Look for ways to reduce competition with tribal efforts
- If funding was available, have a set amount go to each group and then groups apply for additional money for special projects.

Summary Message:
- 3 – 5 year funding strategy would help tremendously
- Every one has the right to monitor their own watershed but we need to find ways to reduce competition with ourselves.
- The current system forces us to compete with each other.
- We should try to pool our resources to streamline grant writing/reporting procedures and diversify funding sources.

Data Management Russell Kunibe, DEC

EPA's national database is STORET (STORAGE & RETRIEVAL) and EPA requires all water quality data collected using EPA funds to be entered into STORET.

CEMP to use a Core Module Access database that uses a STORET compatible frame (EPA Region 8 is doing the same.)

Core Access Database to Include:
- Export station info. to STORET
- Built-in graphing capability
- Volunteer tracking module
- Equipment tracking module

Tasks:
- Have Core Database at each station.
- Need to add graphing, volunteer module, equipment module, convert existing database, and provide training.

Core Database to be ready by April 2002!

Other Database Tasks:
- Create a copy of TORET with individual organization ID
- Install STORET on individual stations
- STORET interface module (SIM)
- Look into web based SIM

Database News:
- Region 8 is working on a new release of SIM that will import Superfund groundwater data.
- Fairbanks is using STORET in their Contaminated Sites pilot project.
- News release of DataStor.
- Hoping to have Core Database and station modules ready to use by May and then do training.
- Charting volunteers and equipment modules may have to be built in-house.
- Kent mentioned that unspent 319 grant moneys (May – June 30) could potentially be used to fund other modules if excess money exists.

Friday February 8th: CEMP Partners

Attendees: Joel Cooper, Dale Banks, Sue Mauger, Robert Ruffner, Elaine Major, Elijah Donat, Rick Ernst, Peggy Hunt, Emily Creely, Tim Stevens, Kent Patrick-Riley, Laura Eldred, Mike Lilly

Moderator: Dan Bogan, Anchorage Waterways Council

Effectiveness of CEMP – Analyzing our current methods; Sue Mauger, Cook Inlet Keeper
EVOS grant to analyze CEMP to see if it is achieving the objectives.
1. inventory baseline
2. developing stewardship
3. detect and report scientifically defensible data
    1. How much natural variability are we measuring?
    2. What is "significant" change? (using the CIK database because it is the most complete and longest running)

Quality Assurance Project Plans (QAPP)
- ENRI's Biological Monitoring QAPP is complete and approved. Elaine has copies available.
- ENRI is revising the Standard Operating Procedures every other year and making the updated versions available on the web.

CEMP QAPP Comments:
- It's a lot to do for one person as get more and more volunteers if they are trying to manage other programs. Need to have a person dedicated to manage CEMP and volunteers.
- The side-by-side splits have to occur on 10% of volunteers each year.
- The QA is important and needs to be a priority for CEMP managers.

- Document changes made to database i.e. if go back and update pH sensitivities, document on datasheet.
- Need to develop standardized methods/procedures for documenting database changes.

Quality Management Plan (QMP) Cook Inlet Keeper
- Nearly complete and hope to have final draft this spring.
- QMP provides a management system review. In-house audit of QAPP annually.
- Provides a format for protocols for each method.

QAPP/Quality Management Plan (QMP) Joyce Beelman, DEC Quality Assurance Officer
- The DEC reviews QAPPs if a group is required under a DEC permit to collect water quality data or if a group or agency is using DEC funds to collect water quality data.
- Follow the EPA format. Joyce has a QAPP guide, "Elements of a QAPP" to follow that references EPA's more detailed document (R5) and the EPA Guidance (G5) with descriptions of what goes in each section of the QAPP.
- If a group has minor changes to their QAPP, just submit a sheet describing the changes once per year or once every 2 years depending on the group and what the changes are.
- More major changes to the QAPP require a re-submittal of the QAPP for approval.
- DEC reviews the data collected and conducts informal audits of groups for QA purposes.

CEMP Revised Methods/Parameters for 2002:

pH: colorimetric test sensitivity read to 0.25 units and not 0.5 units.
- Need to document and explain if change in database. Footnote follows data point forever if change.

Dissolved Oxygen: 15 minute holding time before adding first two fixing reagents. Bucket needs to be covered with no sunlight and no heat though.

Turbidity: we're collecting data in JTUs and state needs data in NTUs. Ray Rolande at Cooperative Extension may have some insight into a conversion formula.
- Elijah suggests not purchasing in-field turbidity meters but in-house unit and bring sample back to lab to test.
- DEC does not know the background level of turbidity so there is usually no enforcement of the water quality standard.
- Salinity: test is OK. It is probably not useful for measuring street runoff – use conductivity for this. If see increase in conductivity with increased surface flows – flag it.

Color:
- good test to check trends over seasons
- check the booklets to make sure the colors haven't faded or gotten too wet.
- The database averages both readings and this makes the result incorrect. Need to change this!
- If a site has a dramatic color change, capture it in a photo.

Photos:

- Can be difficult to ID photos if not developed for months after sampling and have to go back and match photos to datasheets.
- Suggestion to have volunteers hold a sheet of paper with site ID and date so it's included in the photo.
- Dale developed a new photo tracking/cataloguing system and is willing to share the info. to other CEMP managers.
- USGS uses a photo database. Not too expensive and has some nice features like search.
- When get the disposable cameras developed, get on CD and photo index card. Make sure to get the negatives.
- If using a digital camera, put photos on a disk immediately following sampling event and attach disk to datasheet.
- Select two reference points that are used each time for the photos to standardize. OR Get CEMP monitoring site signs at each site and use as the reference point and also provides education (bad though because might be vandalized).

Nitrate: working well as screener test

Phosphate:

- Hach kit working OK but LaMotte kit working poorly.
- Should all CEMP partners switch to the Hach kit or try a meter? Both Hanna and Hach have meters available but they cost more. Should we look into these meters?
- CEMP probably phasing out the LaMotte phosphate kit.

Coliforms:

- Coliscan test OK as a screening tool.
- Remember counting E. coli and total coliforms and NOT fecal coliforms.
- Start counting the teal blue-green colonies as a separate "could be" category. Record separately on datasheet too.
- Make sure volunteers have the most recent photo guides from Coliscan. It should have 2 photos on top but not include all of the colonies we're not looking at.

New Methods:

Flow:

- Film canister method – SOP approved via ENRI's QAPP and methods
- Need to start using it in order to analyze results and add test sensitivity, precision, accuracy to data quality objectives.

Stage Gage:
Need to explore options and protocols.

Temperature: HOBO data logger

- Hobo temperature data logger – continuous instream measurement
- Approximately $110 and USGS can train CEMP managers and help deploy in the stream
- Need to get a data shuttle too to upload data from the logger and download to computer.

- Could deploy in places where seeing exceedences to get more data over longer period of time.
- Joel looking into finding SOPs for the Hobo meter and maybe USGS has one to use.

- Native American Fish & Wildlife Society uses Kimetrics kits for some parameters (ex. cyanide, arsenic, lead) and are willing to share some of their methods with CEMP. They'd like to use the QAPP template from CEMP for developing theirs for the tribes to use. Also, they use Davis Instruments and are having luck with replacing Hanna 4-in-one meters with a different comparable piece of equipment.
- Physical habitat assessment: approved method from Ray Rolande. ENRI method? Need to come up with a standard method and provide more training.

Timeline for QAPP/SOP Revisions:

- Propose new method/equipment.
- Trial time (6 mos – 1year) side-by-side comparison if replacing equipment. One suggestion of a 9 month trial period and 3 mos. evaluation so ready to adopt or not at annual meeting.
- CEMP partners discuss and determine if want to incorporate or not.
- If pre-proven equipment/method then incorporate more immediately.
- Comparability studies of old equipment vs. new equipment important to have as validation. Be sure to document the transition.
- ASCT has equipment/method testing protocols we may be able to use
- Suggest using labs to test and shorten time to get results on equipment/method.
- Evaluation includes reliability, durability, ease of use, use in cold conditions.
- For statistical analysis need at least 30 side-by-sides.
- CEMP needs to be able to provide "tricks of the trade" to volunteers on equipment.
- Phase in new equipment – use old equipment until it dies or runs out of chemicals and retire it. Replace it with the new equipment/method.
- If all CEMP partners changing then submit changes to DEC as a group for QAPP. If individual programs doing things differently, then submit individually.
- DEC will get information on the needs of the state for QAPP changes.
- Stennis Space Center – Hydrologic Instrumentation Facility: lab dedicated to testing equipment. USGS uses. Contact Gary Solin (USGS Anchorage) on how to contact HIF. Also, UAF Water and Environmental Research Center: www.uaf.edu/water Contact Quentin Costello 907-474-7350.

Final Thought:

- Each method is different for testing and work out the timeline with the TAC.
- Share testing info. with partners and include questions that need answered and if partners have time/resources to participate in the testing, they can.
- Evaluate results.
- Develop SOP.
- At annual meeting adopt or not.