

Project Number: 050743

Project Title: Connecting with Coastwalk: Linking Shoreline Mapping with Community-based Monitoring

Principal Investigators:

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Time Period Covered by Report: October 2005 – August 31, 2006

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1. Work Performed

The following tasks were completed during this annual report period:

- 1) Work is ongoing to produce a final GIS project that will allow retrieval and viewing of the historic Coastwalk data. This builds on last year's work under this grant that included having the historic dataset evaluated by Tom Dean, importing it into a relational database (Microsoft Access), and creating shapefiles representing Coastwalk Zones to overlay with KBRR's high-resolution intertidal mapping GIS.
- 2) A poster was presented by the co-PI's of this project at the annual GEM conference in January 2006.
- 3) The Kachemak Bay Science conference was held on March 24-26, 2006. A presentation on this project was provided by the co-PI's.
- 4) The recommendations of Tom Dean are being integrated in stages into the Coastwalk protocols (the 2006 annual Coastwalk will take place in September).

The GIS project being developed will include an overview map of Kachemak Bay, rectified aerial photographs, and separate shapefiles representing both KBRR's habitat mapping segments and Coastwalk Zones. The data associated with each habitat mapping segment can be obtained by clicking on the segment, and the historic Coastwalk data for each zone will be obtained by clicking on the zones.

A poster titled "Community Involvement in Coastal Monitoring" was presented at the annual GEM conference in January 2006. This poster explained the benefits of citizen involvement in coastal monitoring and the details of this project to date. An abstract of the poster was submitted with the 2nd quarter report for this project.

The Kachemak Bay Science Conference was held on March 24-26. Conference participation was approximately 125 people, including 23 presenters. Community members attended from Homer, Seldovia, Nanwalek, Anchor Point, Kasilof, Ninilchik, Soldotna, and Kenai. Thirteen science teachers participated, including seven who attended as part of a one-credit course in professional development. P.I.s Marilyn Sigman and Steve Baird provided a presentation on the CoastWalk

Project. Marilyn chaired the conference planning committee and was the session facilitator for two sessions related to nearshore ecology and nearshore mapping and monitoring.

Thirty conference evaluations were received and a number mentioned presentations during the nearshore sessions as providing important new information. Topics of highest interest and new learning that several participants commented included the sheer amount of research being done in the bay, human impacts and environmental change (evidence of climate change, pollutants and contaminants), species declines, local and regional oceanographic patterns, interrelationships of habitats, predator, and prey populations; and the significance of Kachemak Bay in “the big picture.”

Tom Dean’s report included recommendations for changes to the Coastwalk data collection protocols that would be phased in over three years. The fall 2005 Coastwalk incorporated the first of his recommended changes, and more will be integrated into this fall’s Coastwalk.

2. Future Work.

We anticipate our project to continue on schedule.

3. Coordination/Collaboration.

This project is a collaboration between the Center for Alaskan Coastal Studies and the Kachemak Bay Research Reserve. The evaluation effort performed by Tom Dean provided the means to align revised CoastWalk protocols with those being developed for the GEM Nearshore Monitoring Plan and community-based monitoring site recommendations were provided to them as part of efforts to identify sites in several coastal communities within the GEM geographic area. Recommendations for nearshore monitoring sites were coordinated with sites employed in other projects with a substantial community involvement component in Kachemak Bay: EVOS Project 030647 Investigating the Roles of Natural and Shoreline Harvest in Altering the Kenai Peninsula’s Rocky Intertidal completed in FY2004 (Contacts: Jennifer Ruesink, Anne Salomon) and EVOS Project 030666 Alaska Natural Geographic in Shore Areas; Census of Marine Life field project (Contacts: Brenda Konar, Katrina Iken). EVOS funds supported travel for scientists to the Kachemak Bay Science Conference, including Anne Salomon, University of Washington; Carolyn Currin, NOAA, Beaufort, North Carolina; Brenda Konar, UAF/SFOS, University of Fairbanks; Verena Gill, U.S. Fish and Wildlife Service, Anchorage; and Michael Opheim, Seldovia Village Tribe Environmental Specialist. Additional travel funds were leveraged from the Kachemak Bay Research Reserve, NOAA National Marine Mammals Lab, NOAA National Ocean Service; the University of Alaska Fairbanks Graduate School, and NOAA National Undersea Research Program.

The project has been coordinated with outreach about ShoreZone mapping for use by teachers, natural resource managers, and community members. The annual CoastWalk will continue to adopt the methods and procedures recommended by Tom Dean to increase the scientific value of the results of CoastWalk surveys, including the use of GPSs to obtain coordinates for zone boundaries and identify locations for eagle nests, cliff erosion, human activities, areas of vehicle use, structures on the beach, archeological sites, garbage dumps, outfalls and pipelines; and the

adoption of procedures for documenting dead birds, collecting otter skulls, and documenting mass mortalities of invertebrates.

4. Community Involvement/TEK & Resource Management Applications

The overall purpose of the project is to develop a model for community-based nearshore monitoring. The work accomplished has increased the accessibility of historic data collected and will increase the utility of the data beginning in September, 2005, when the first phase of recommended changes to methods were implemented. The evaluation report provides a “blueprint” for the further development of this community involvement activity and the resulting database.

The Kachemak Bay CoastWalk program has goals of: 1) building community awareness of the importance of local marine habitats, 2) gathering data to detect long-term trends in biodiversity, and 3) observing and documenting the effects of human impacts. The development of more intensive data collection protocols and the merger of the dataset with the KBRR’s GIS shoreline mapping has provided the means to address these goals with greater scientific rigor and to enable the application of the collected data and trend information to shoreline habitat evaluation and mitigation of the effects of human activities such as shoreline development, point-source pollution, and marine spills.

5. Information Transfer

Sigman developed a poster presentation “Community Involvement in Coastal Monitoring” with co-authors Tom Dean, Steve Baird, and James Bodkin. The poster was presented at the 2006 GEM conference and has been described above. An oral presentation on this project was given at the Kachemak Bay Science Conference by the co-PI’s.

6. Budget

There are no substantial differences between the expected and actual budget expenses.