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Conserving Maine's Unique Natural Resource: Monitoring, Outreach, and Education on Our Sand Beaches

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Final Report to The Maine Outdoor Heritage Fund
**Monitoring, Outreach, and Education on Our Sand Beaches
Project, 122-01-06**

Submitted by Kristen Grant, Maine Sea Grant and University of Maine Cooperative Extension

I. Review of the project's success in meeting the stated objectives

- **Objective 1: Provide comprehensive volunteer monitoring of southern Maine beaches to improve state and municipal access to the quality-controlled beach elevation data, on a monthly and pre/post storm basis.**

Objective 1 has been accomplished by:

- expanding the Southern Maine Beach Profile Monitoring Program to include additional beaches to provide a continuum of coverage on the southern coast.

Results: Three additional beaches and volunteer monitoring teams have been added to the program as a result of this grant.

These include:

- West Grand Beach, Old Orchard Beach where 110 students at Lorranger Middle School students are being directed by their 6th grade science teacher to monitor the beach on a monthly basis. Monitoring benchmarks have been established at 4 locations along the beach. Volunteer coordinator Jake Aman, has provided support toward building the monitoring effort into the 6th grade science curriculum with presentations and training sessions with the teacher, students, and volunteers, and by facilitating beach related presentations to the students by Maine Audubon Society and Maine Geological Survey.

The Loranger Middle School 6th grade science teacher had this to say about the value of the profiling program for the students, "It has been great to participate in beach profiling with my 6th grade students. Gathering data on the changing shape of our beach makes the science real to kids, gets them involved in "doing" science, keeps us active, and gives us a great reason to be out on the beach once a month. It also helps students to understand the place they live in a new way."

The establishment of this team was coordinated with the Old Orchard Beach Town Manager, and in the upcoming fiscal year, the Town has agreed to propose to contribute the customary annual fee of \$700 to help sustain the monitoring program into the future.

- Ferry Beach, Scarborough where 47 students at Scarborough Middle School are being directed by their 7th grade math teacher to monitor the beach on a monthly basis. This same teacher has been monitoring with 6th grade science students at Scarborough Beach continually since 2004. With

the support of this grant, our volunteer coordinator Jake Aman has been able to offer the additional support needed to expand the educational opportunity to more students.

This beach had been monitored by community volunteers at an earlier stage of the program, but was discontinued in 2008. But benchmarks have been successfully located in proximity to the original markers, which will make it possible to compare the new data with the old.

The establishment of this team was coordinated with the Scarborough Town Manager, and in the upcoming fiscal year, the Town has agreed to propose to contribute the customary annual fee of \$700 to help sustain the monitoring program into the future.

- Pine Point Beach, Scarborough where 5 neighborhood volunteers have begun monitoring for the first time. Shorefront residents at Pine Point approached their local legislator with concerns about seemingly chronic erosion along the beach. Maine Sea Grant Extension Associate Kristen Grant has worked with this legislator for years and was contracted about the problem. Grant suggested the possibility of establishing profile monitoring efforts at Pine Point and the value of this was corroborated by coastal geologists at Maine Geological Survey. With this recommendation, the establishment of this team was coordinated with the Scarborough Town Manager, and in the upcoming fiscal year, the Town has agreed to propose to contribute the customary annual fee of \$700 to help sustain the monitoring program into the future.

Objective 1 has been be accomplished by:

- recruiting volunteers to a new network of rapid-response pre- and-post storm monitoring teams in a partnership with National Weather Service and NERACOOOS to quantify short-term beach loss and recovery for improved public alerts.

Results: Beach profiling Storm Teams monitored during five storms from October 2012 to January 2014. These included:

- Hurricane Sandy, October 28th, 2012
- Early Season Nor'easter, December 27th, 2012
- Blizzard of 2013 - "Nemo," February 8th, 2013
- Slow moving Nor'easter, March 8th, 2013
- * Coastal Flood Event, January 3, 2014

Data were collected at Goochs Beach in Kennebunk, Wells Beach in Wells, and Camp Ellis and Ferry Beach in Saco. The monitoring was conducted by 8 trained volunteers who helped to improve NWS decision making and warning efforts for coastal storms by collecting near real-time erosion data during maritime storms.

Objective 1 has been be accomplished by:

- funding monitoring efforts at Scarborough Beach State Park.

Results: Funding provided through this grant was allocated to the program to offset financial contributions that have not historically been made by the Maine Department of Agriculture, Conservation, and Forestry, which owns the beach at this State Park.

- **Objective II: Strengthen partnerships among beach profile monitoring stakeholders**

Objective II has been accomplished by:

- enhancing web-based outreach and education resources.

Results: The program's web site www.seagrant.umaine.edu/extension/beach-profile-monitoring/home has been expanded to enable program volunteers and other partners to contribute content. A new subset of the profiling website titled *The Beaches* has been added to the site. This enables monitors, residents, community members, and others to contribute content to share their experience and knowledge of their beach. Pilot pages have been launched for two beaches, www.seagrant.umaine.edu/extension/beach-pages/goochs-beach, www.seagrant.umaine.edu/extension/beach-pages/higgins-beach with content contributed by members of the profiling teams from these beaches. Resources shared include excerpts from scientific publications, photos, and historical resources.

Additionally, a program listserv has been established through the University of Maine to provide an online discussion tool for program members. The list includes 72 members including monitoring volunteers, program staff, and resource people from US Fish and Wildlife Service, Wells National Estuarine Research Reserve, National Weather Service, Maine Geological Survey, and Maine Dept of Floodplain Management. The tool is meeting its goal to improve effectiveness, answer questions, and relate observations. Recent online conversations have helped to refine methods, assess storm impacts across the region, enlist participation in special projects, and more.

- **Objective III: Expand teaching and learning opportunities for beach stakeholders by facilitating presentations by a range of new perspectives to constituents at the 2013 Maine Beaches Conference.**

Objective III has been accomplished by:

- off-setting speaker travel and expenses to facilitate presentations by new constituents at the 2013 Maine Beaches Conference.

Results: Funding provided through this grant made it possible for the 2013 Maine Beaches Conference steering committee to offer waived registration fees (of \$35 each) to 39 conference presenters, exhibitors, and volunteers. Additionally, five scholarships were given to participants in need of the fee reduction. Travel expenses were also covered for presenters traveling from out-of-state. The provision of waived registration made it possible for the conference to greatly expand and diversify its slate of presenters. The 2013 conference featured 57

speakers and exhibitors. They represented partners from academia (17), State Agencies (8), Federal Agencies (9), Private Industries (9), Non-profit Organizations (8), Local Government (4), Community Groups (1), K-12 Teachers and Students (2). By comparison, the 2011 conference had 32 presenters and exhibitors, the vast majority from universities and government agencies.

- **Objective IV: Publish and disseminate new and expanded data in the Maine Geological Survey's biannual *State of Maine's Beaches* reports in 2013 and 2015.**

Objective IV has been accomplished by:

- analysis, interpretation, and publication of beach profile monitoring data in the *State of Maine's Beaches in 2013* and *2015* reports; and posting of these reports on the MGS website, Southern Maine Beach Profile Monitoring Program website, presentation at the 2013 Maine Beaches Conference, and direct delivery to cities and towns participating in the monitoring program.

Results: The State of Maine's Beaches in 2013 report

<http://www.maine.gov/dacf/mgs/explore/marine/beaches13/contents.htm> was produced by Maine Geological Survey using the 2012 – 2013 beach profile monitoring data made available to the geologists via

<http://www.maineoastdata.org/reports/BeachProfileGraph.aspx>. The report is posted at Maine Geological Survey at the aforementioned link, and also at the beach profile monitoring program site at

<http://www.seagrant.umaine.edu/extension/beach-profile-monitoring/data/beaches-report>.

The findings of the report were also presented at the 2013 Maine Beaches Conference in association with two sessions:

- Plenary I – Lessons From Sandy
Monitoring trends and how Maine can prepare: Peter Slovinsky and Steve Dickson, Maine Geological Survey
<http://www.seagrant.umaine.edu/maine-beaches-conference/2013/lessons-from-sandy>
- Concurrent session I – The State of Maine's Beaches in 2013: Insights from Beach Profile Monitoring Peter Slovinsky, Maine Geological Survey; John Cannon, National Weather Service; and beach profile monitoring volunteers <http://www.seagrant.umaine.edu/maine-beaches-conference/2013/state-of-maines-beaches>

The report was also disseminated to the seven Towns and Cities supporting in the monitoring program in 2013. Each City or Town received an annual summary letter that updates local decision makers on the status of monitoring efforts, findings and short-term trends emerging from the data, any known data applications, and a direct link to their beach or beaches in the 2013 report.

II. Detailed accounting of how Maine Outdoor Heritage Fund monies were spent: Project awarded \$8,362

5405723 20 Conserving Maine's Beaches

Report Description

Journal Date	Description	Amount
Travel		
60204	Out-St Travel--Partici Costs	
07/22/13	JOHN DUFF	\$122.72
08/16/13	JOSEPH TANKSI	\$426.66
	Section Total:	\$549.38
Supply		
60200	Participant Costs	
08/14/13	SOUTHERN MAINE CMNTY COLLEGE	\$61.71
08/14/13	SOUTHERN MAINE CMNTY COLLEGE	\$208.28
	Section Total:	\$269.99
Other		
60000	Independent Personal Svcs	
05/24/13	WELLS RESERVE	\$5,400.00
12/11/13	WELLS RESERVE	\$1,180.00
	Section Total:	\$6,580.00

8/14/2013	SMCC costs for Beaches Conference
5/24/2013	WNERR for Beach Profiling Coordinator
12/11/2013	WNERR - additional funding for Coordinator
3/4/2014	Indirect costs taken by University of Maine - \$962. Total spent \$8,361.37

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III. Copies of / links to press related to the project

Media coverage of the 2013 Maine Beaches Conference:

The Working Waterfront What Maine can learn from Superstorm Sandy

Free Press Keeping a lookout for marine invaders

Associated Press Maine Beaches Conference to focus on lessons from Sandy

York County Coast Star Lawsuit over access to Goose Rocks Beach highlighted at conference

MPBN Maine Beaches Conference kicking off

WCSH6 (NBC) Maine lesson's from Sandy's destructive path

WMTW (ABC) Maine Beaches Conference held in South Portland

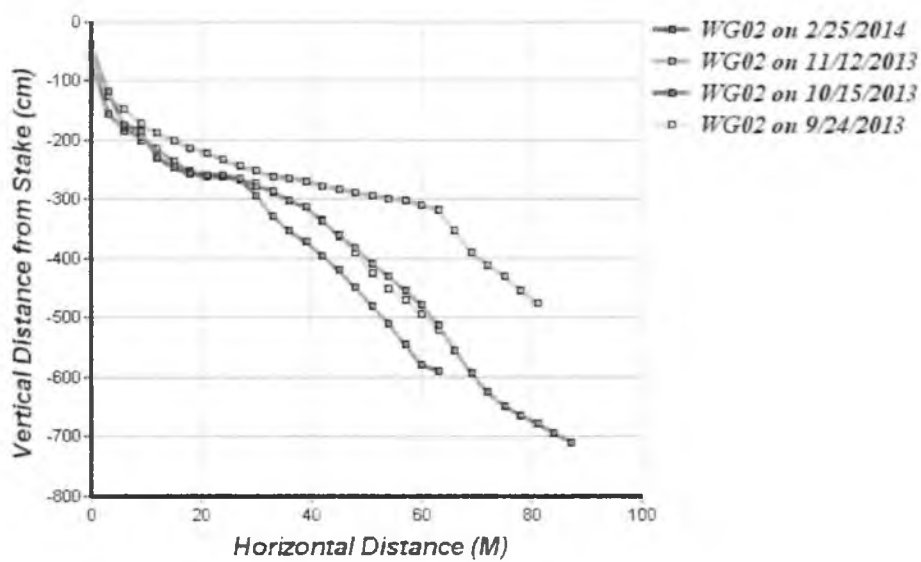
WGME (CBS) Maine Beaches Conference held in South Portland

IV: Color photographs or slides illustrating the project and its results



Loranger Middle School 6th grade science class monitoring a profile at West Grand Beach
(Photo Credit: Laura Seaver)

Beach Profile



created with ChartDirector from www.advsofteng.com

Student data from West Grand Beach showing winter sand erosion
(www.maine coastdata.org).



Community volunteers record the first measurements at new profiles on Pine Point Beach in Scarborough.