

2014 Oceanography Program Kaktovik, Alaska

prepared for



U.S. Fish & Wildlife Service
Fairbanks, Alaska

By

Carrie Harris and Ken Dunton
The University of Texas Marine Science Institute
750 Channel View Drive
Port Aransas, TX 78373



November 2014

Program Summary

The annual Kaktovik Summer Oceanography Program was taught at the Harold Kaveolook School in Kaktovik, AK from 15-22 July, 2014, with a final field excursion on 6 August 2014. The University of Texas Marine Science Institute (UTMSI) and the U.S. Fish and Wildlife Service (USFWS) sponsored the camp. Cliff Strain, a master teacher from Port Aransas, TX, and Carolynn Harris, a UTMSI graduate student, directed the camp and were assisted by Greta Burkart (USFWS), Tracy Burns (a resident of Kaktovik, teacher at the Kaveolook School and former Oceanography Program student and instructor), and Christina Bonsell (UTMSI). In addition, Randy Brown and Mike Courtney (University of Alaska Fairbanks) taught guest lessons on fish biology and migration on several occasions. On average, 11 students attended the camp each day. Twenty-two students attended the program for at least one day (Table 1).

Students	
Betty Ruth Bower	Jim Allen Killbear
Charles Bower	Flossie Lampe
Kim Burns	Michael Lampe
JD Douglas?	Thea Lampe
Lenora Going	Danielle Lord
Lydia Going	Collin Solomon
Danny Gordon	Edwin Solomon
Jaylee Kaleak	Cora Soplou
Paul Kayotuk	Troy Soplou
Billy Killbear	Vivian Tagarook
Janette Killbear	Jean Toovak

Table 1. Students who attended the Kaktovik Oceanography Program for at least 1 day.

The Oceanography Program

designed to introduce students to a variety of marine science topics to stimulate their interest in science and discovery. These topics include with basic morphology and body plans of marine organisms, animal adaptations to the Arctic marine environment, and the water quality standards needed to support marine life.

These goals were accomplished through many guided dissections, several arts and crafts activities, field skills instruction, and water quality testing (Table 2).

We strongly emphasized the use of field notebooks to record observations and ideas. Each child received a field notebook the first day of the program and made multiple entries each day, often in picture form. Students also recorded the results of water quality testing and of the “Great Plankton Race” activity. These notebooks were displayed at the Open House and were returned to each student.

Table 2. Brief overview of the main activities of the Oceanography Program starting Wednesday 15 July and ending Wednesday 22 July.

	Main Activities
<i>Wednesday</i>	Randy Brown guest lectures on fish biology; students learn to use a seine net to capture creatures for the classroom aquarium
<i>Thursday</i>	Students learn to use the GPS Quadcopter in the gym; older students help younger students with a starfish dissection
<i>Friday</i>	Students learn to prepare plankton slides and view them under a microscope; participate in a “plankton race” arts and crafts activity that reinforces plankton adaptations
<i>Saturday</i>	Crayfish dissection; construct clam models; learn to use handheld Etrex GPS units; fishprinting on pillow cases
<i>Sunday</i> (afternoon only)	Seine at Kaktovik lagoon for more critters to view in the classroom aquarium
<i>Monday</i>	Dissection of fetal blacktip sharks; perform water quality tests at Kaktovik lagoon; movie night at the USF&WS bunkhouse
<i>Tuesday</i>	Walk along cliffs on West side of Barter Island; use GPS units and Quadcopter to mark edge of cliffs; compare to data from 2012 to assess beach erosion
<i>Wednesday</i>	Open House

We planned the Oceanography Program curriculum for upper middle school to early high school aged students, but we discovered upon arriving in Kaktovik that the majority of students in our target age range were hunting and fishing in the mountains or had gone to Herschel Island to visit relatives. Because many of the upper elementary and lower middle school aged students in town were interested in attending the program, we adapted our lesson plans for a younger audience.

The program culminated in an Open House, held at the Kaveolook School, on Tuesday night, 21 July. This final activity was attended by 20 parents, siblings, and community members. The 2014 Open House had the highest attendance since the conception of the Oceanography Program. The students displayed what they had achieved the previous week, including their fish-printed pillowcases, field notebooks, and clam models. Students were most excited to show their parents how to prepare plankton slides and view them under the microscopes.

On 6 August 2014, several weeks after the Program's conclusion, select upper middle school students were invited to join Ken Dunton and Captains Ted and John Dunton on UTMSI's small research boat, the RV Proteus. Students learned how to make hydrographic measurements and collect plankton and benthic grab samples. This special activity was a highlight of the program for the older students.

Future Recommendations

We hope to offer an engaging science program to the children of Kaktovik again in Summer 2015. Because we didn't reach our target demographic this

summer, we hope to offer the camp to upper middle school and high school aged students in 2015. We recommend holding the camp in mid-August, before the start of school, instead of mid-July, when many older students are away on vacation or hunting trips. To ensure students know about the camp, we suggest sending camp registration materials to the Harold Kaveolook School to be distributed to students before the end of the school year in June. We also recommend designing and distributing posters advertising the camp at this time.

We helped the students set up a classroom aquarium for the second year again in summer 2014. This activity is very popular—students enjoyed both capturing organisms for the tank and observing the organisms throughout the week. We also introduced Science Program t-shirts in 2014, which were very well received by the students and the community. We hope these t-shirts will remind students of the program throughout the year and highly recommend distributing program t-shirts again in 2015, perhaps showcasing student artwork.