

**GK-12 Summer Field Science Program
(for students entering grades 5-8)**

**Sponsors: UTMSI GK-12, Port Aransas ISD, and the City of Port
Aransas Parks and Recreation**

Schedule (updated 5 July 2008)*

Program Coordinator: Flora Buerger

Master Teachers: Cliff Strain (FBISD) and Julie Findley (PAISD)

*Thank you to our Co-Sponsors: Coastal Bend Bays and Estuaries Program, Port
Aransas Boatmen and Port Aransas Kiwanis*

Week 1: 6/9/08 - 6/13/08 1:00-5:00 PM

Topic: Seaweeds, Seagrasses, and Salt Marshes

Teacher: Julie Findley

Teaching Assistants: Ellen Julstrom, Travis Bartholomew, Nathan McTigue, Sarah
Wallace

GK-12 Fellows: Brad Gemmell, Chris Wilson

Date	Subject	Activity	Lab	Scientist
6/9/08	Island Salt Marshes	Guided tour of a salt marsh (Mustang Island), including the plants and critters that live in this productive ecosystem. Animal track casting and ecology/adaptations.	Identify marsh plants; guest lecture and observations of squid behavior by Karin; talk by Beth on birds of marshes	Chris Wilson, Karin Akre, and Beth Hoekje
6/10/08	What is a Delta and why are they important?	Exploration of the McGregor Ranch and Nueces River Delta; discuss importance of river deltas and fresh water inflows to birds and the delta/bay system	No Lab	Gene Blacklock
6/11/08	Shallow Bays and Seagrass Beds (Estes Flats)	Boat trip to Estes Flats: kayaking, seining, coring, and snorkeling of grass beds	Build salt water aquarium for live creatures collected in the field and use microscopes to identify organisms	Jay Tarkington
6/12/08	Riparian Wetlands: The Rivers that Feed the Bays	Walking tour and activities at Fennesey Ranch to highlight food webs of the riparian (freshwater) ecosystem	No Lab	Sally Crofut and Dr. Liz Smith
6/13/08	Seaweeds are Algae!!	Jetty collection of seaweeds!	Talk by Ken on seaweeds, learn how to press and identify seaweeds	Dr. Ken Dunton

***Dates of specific activities subject to change based on Guest Scientist schedules**

*For additional information: Contact Dr. Ken Dunton, Program Director
(ken.dunton@mail.utexas.edu)*

Week 2: 6/16/08 - 6/20/08 1:00-5:00 PM

Topic: Life as an Oceanographer

Teacher: Julie Findley

Teaching Assistants: Ellen Julstrom, Travis Bartholomew, Nathan McTigue, Sarah Wallace

GK-12 Fellows: Brad Gemmell, Chris Wilson

Date	Subject	Activity	Lab	Scientist
6/16/08	Life as a Physical Oceanographer	R/V Katy trip for water column measurements (temp, salinity, DO, current, and light); trawl and sediment grabs for T/W labs	Talk by Tony on his experiences as an oceanographer; group work to collect water column samples and measurements; how to use a GPS (relate coordinates to stations, dock, and lab using nautical chart); GPS scavenger hunt	Tony Amos
6/17/08	Life as a Chemical Oceanographer	Vertical profiles of salinity and dissolved oxygen (DO) from pier lab	Talk by Hedy on chemistry of deep-sea hydrothermal vents; Winkler titrations for DO; look at trawl specimens and calculate relative abundance; GPS game (Gecko Smack)	Dr. Hedy Edmonds
6/18/08	Life as a Marine Geologist	Talk by petroleum geologist; boat ride on Coco Mialjo; examine boat electronics (radar, GPS, fishing); using electronics and geologic data for fishing	Examine sediment samples and relate geology to formations of the bottom of the Gulf of Mexico	Mike Lucente
6/19/08	Life as a Biological Oceanographer	R/V Katy trip for trawling and plankton tows. Save samples for lab analysis and aquarium	Talk by Brad on the diversity and importance of plankton; show bioluminescence; identify plankton and preserve samples; add live animals to aquarium	Brad Gemmell
6/20/08	Life as a Marine Biologist: The Study of Marine Vertebrates	Dolphin Watch boat trip (identify birds/dolphins)	Presentation by Beau on bird, fish, and dolphin behaviors	Beau Hardegree

Week 3: 7/7/08 - 7/11/08 1:00-5:00 PM (9 am to 1 pm Tuesday)

Topic: Beaches and Bays

Teacher: Andrea Skloss

Teaching Assistants: Ellen Julstrom, Travis Bartholomew, Nathan McTigue, Sarah Wallace

GK-12 Fellow: Chris Wilson

Date	Subject	Activity	Lab	Scientists
7/7/08	Our Bays and Estuaries	M/V Mustang Dolphin Watch on south CC Bay/Shamrock Island to sample beach/bay water quality; use light meters, secchi disks, and data sondes for temp, salinity, oxygen	Analyze and compare bay water columns to beach water columns; dissection of a crayfish (Body Part Bingo);	Chris Wilson
7/8/08	Human Impact on the Bay	***9:00 am – 1:00 pm Tour of birding center and; wastewater treatment plant; birds and human impact on nesting and how to identify in the field	Discuss freshwater influences and the effects of human activities on our estuaries	Nan Dietert
7/9/08	Life on Our Bay Bottoms	R/V Katy trip to back bay for plankton sampling and benthic trawls (examine samples for arthropods and observe movements in/out of the water)	Separate crustaceans and identify species and groups; discriminate shrimp species; remove a carapace on a blue crab and relate body parts to shrimp	Dr. Chris Shank and John Williams
7/10/08	Shifting Sands and Beaches or A Day at the Beach	Seine, benthic coring, and beach profiling at 3 locations (jetties, bath-house, and pier); snorkel near pier if seas and time permits	Identify and calculate relative abundance of specimens; draw and present beach profiles from different locations (group work)	Ellen Julstrom and Travis Bartholomew
7/11/08	St. Joe's: A "Natural" Beach	Jetty Boat to St. Joe's to profile beach at 2 locations (jetties and ranch boundary); Students split into 2 groups for walking tours with Tony (debris and bird life) and John (ID/discuss beach and dune plants)	Compare profile findings of both days on a nautical chart of Aransas Pass; short talk on beach erosion by Tony; walk to gun turret on dunes across campus (time permitting)	Dr. John Fucik and Tony Amos

Week 4: 7/21/08 - 7/25/08 1:00-5:00 PM

Topic: Sea Creatures: Adaptations and Ecology

Teacher: Julie Findley

Teaching Assistants: Ellen Julstrom, Sarah Wallace

GK-12 Fellow: Chris Wilson

Date	Subject	Activity	Lab	Scientists
7/21/08	Plankton: “Just a stage They’re Going Through”	Beach or bay seine (separate vertebrate and invertebrate specimens); plankton sampling (walking or pier lab); identify meroplankton; match with adults in seine	Discuss major taxonomic groups with characteristics and examples; talk by Brad and Deana on adaptations of plankton; dissection of a squid; students journal taxonomic groups	Dr. Deana Erdner, Brad Gemmell
7/22/08	Stressing out in Tidepools and Those Sping Guys	Jetty collection of sea urchins, sea squirts, sponges, and corals by teachers; snorkel near Ave. G for sea stars, sand dollars, and molluscs	Examine specimens from fouling plates hung off pier lab under a microscope; observe echinoderm samples for movement of tube feet/mouth; grouping of animals; dissection of a sea star; examine sea urchin test and internal parts	Dr. Paul Montagna
7/24/08	Vertebrates Without Bones	Boat and jetty collection of fish (trawl and hook/line); visit fish cleaner count and classify carcasses (bony or cartilaginous)	Dissection of fetal sharks and donated adult sharpnoses; bull shark behavior and shark senses	Cliff Strain
7/24/08	Adaptations to Salinity by Plants and Animals of Deltaic Marshes	Exploration of the McGregor Ranch and Nueces River Delta; discuss importance of river deltas and fresh water inflows to maintain estuaries	No Lab	Flora Buerger
7/25/08	Bones, Beauty, and Adaptation	Seine for fish on beach/bay, sift through <i>Sargassum</i> , and obtain cull from a shrimp boat; dockside tours of a shrimp boat to view gear and storage (<i>Polly Anna</i>); FAML tour	Students group all fish by adaptations/body design; phyla ID competition by groups for prizes; dissection of a mackerel or perch	Dr. Jim Tolan