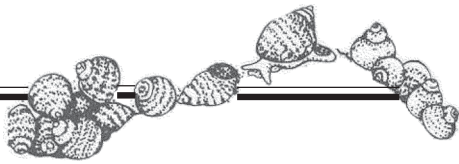


# Alaska Coastal Ecology Program



## Teacher's Planning Guide for Trips to Kasitsna Bay Lab





Dear Educator,

We are looking forward to your participation in one of the Center for Alaskan Coastal Studies (CACS) programs at the NOAA Kasitsna Bay Lab and are eager to help you make this a rewarding learning experience for all members of your group. This guide is intended to help prepare you, your students, and your adult chaperones, both educationally and logistically, for their hands-on field experience.

Field trips to the Kasitsna Bay Lab led by CACS have provided many teachers a base for exciting and extended educational activities in science, math, writing, and social studies. In particular, the core experience of our guided hikes in intertidal and coastal forest habitats have unveiled an engaging learning opportunity. Feeling the pull of the tube feet on a sea star, smelling the spring growth of spruce, seeing the pattern of time on a rock, hearing the quiet of the forest, lifting a rock to discover a sheltered world of brittle stars, sea cucumbers, worms, and gunnels – these are the experiences that create an opening for learning for both kids and adults alike.

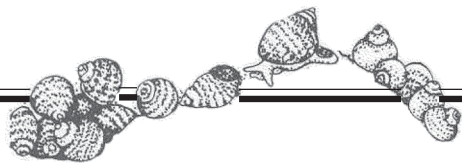
We encourage you to carefully read this guide for information about the facilities and the Alaska Coastal Ecology (ACE) program. In early April, one of our educators will contact you to go over your group details and itinerary. At this time, it would be helpful to have the "Trip Planning and Logistics Sheet" (pg. 17) on hand and be familiar with our program activity options.

Organizing a trip to a remote field station for your class requires a great deal of extra planning and preparation. We commend you for giving your students this experience. CACS staff are available to help make both your preparation and the actual field trip run as smoothly as possible. Feel free to contact us if you have any questions, concerns or ideas.

Sincerely,

The Center for Alaskan Coastal Studies

P.O.Box 2225, Homer, AK 99603  
(907) 235-6667  
[www.akcoastalstudies.org](http://www.akcoastalstudies.org)



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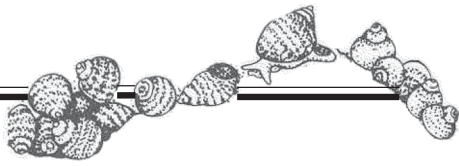
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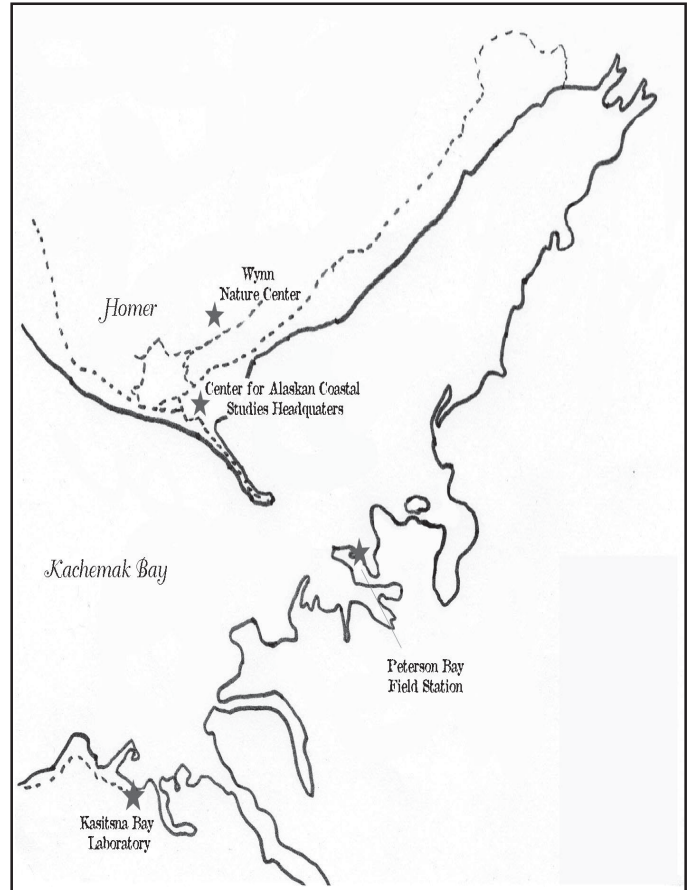
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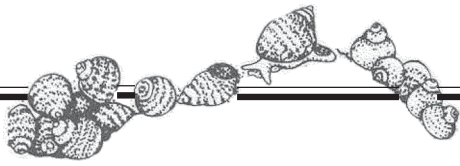
## Where are we going?

The Center for Alaskan Coastal Studies (CACS) is based in Homer, on the north shore of Kachemak Bay. Homer is located at the southwest end of the Kenai Peninsula and the drive from Anchorage, on dry roads and good conditions, can take four to five hours. In 1983, CACS began offering the Alaska Coastal Ecology program across Kachemak Bay from Homer at the CACS owned and operated Peterson Bay Field Station. Since 2007, CACS has been fortunate enough to offer the Alaska Coastal Ecology program to more classes throughout Alaska by using both the Peterson Bay Field Station and the NOAA Kasitsna Bay Laboratory.

The **Kasitsna Bay Laboratory** is owned by the NOAA National Centers for Coastal Ocean Science (NCCOS) and operated in partnership by NCCOS and the School of Fisheries and Ocean Sciences at the University of Alaska Fairbanks (UAF). The Kasitsna Bay Lab is considered semi-remote because it is only accessible by boat or small plane. There is a gravel road that connects the lab to the nearby village of Seldovia, nine miles away. Kasitsna Bay Lab is located in a coastal forest area on the shores of Kasitsna Bay. Great tidepooling is available a short hike from the lab in Jakolof Bay.



Aerial view of Kasitsna Bay, looking to the southeast. Seldovia is located beyond this picture to the right, and Jakolof Bay is visible on the left hand side of the picture.



## How is Kasitsna Lab set up?

NOAA Kasitsna Bay Lab is a state of the art laboratory facility overlooking Kasitsna Bay. The primary function of the lab facilities is to support scientific research in Kachemak Bay and Cook Inlet. The facilities offer educational groups a unique opportunity to do hands-on, field-based activities in a fully equipped marine research laboratory. Because it is a research center, it is important to remind your class not to treat the facility grounds as a campground or vacation spot.

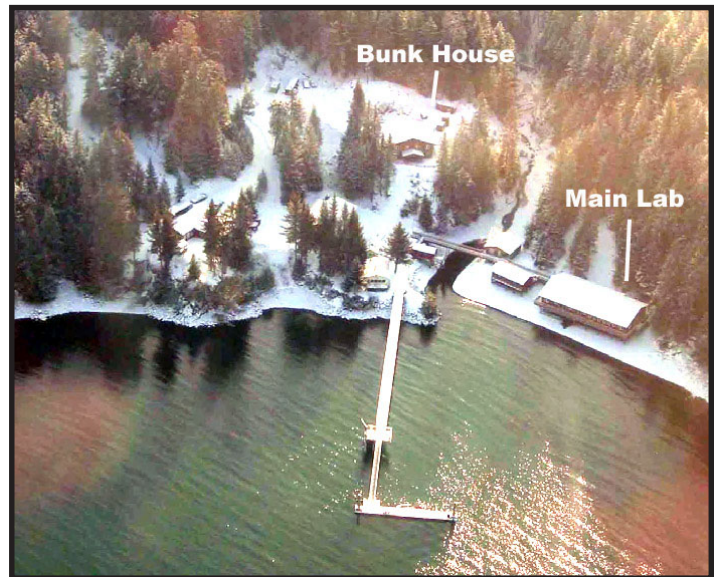
Kasitsna Bay Lab also provides your students with an up close glimpse at potential science careers. Scientific research posters line the walls of the lab building. Scientists may even be using the facility at the same time as your group, and may be willing to discuss their research with your students should the informal opportunity arise. Educational groups must, however, respect the equipment and space of these researchers.

The CACS Alaska Coastal Ecology Program utilizes two buildings in the Kasitsna Bay Lab campus. Classes will sleep, cook, eat, and meet in the bunkhouse up the hill from the dock and labs. Lab activities will be conducted in the main lab building.

The entry to the bunk house is through a mudroom, where everyone entering should remove shoes and hang coats. No shoes are allowed beyond the mudroom. In the mudroom you will also find important safety information posted, which CACS staff will review with your group. The ground floor of the bunkhouse contains a lounge area to conduct educational activities and hangout. The kitchen is fully equipped with nearly everything you might need to prepare a meal. Items you do not need to bring are listed in the section of this guide on planning for your meals. The kitchen table seats approximately 20 people, but overflow seating is available in the lounge or at outdoor tables.



Kasitsna Bay Laboratory and dock. Laboratory and scuba buildings are to the right and one of dormitory buildings can be seen up the hill in the center. Photo by Kris Holderied, NOAA.



Kasitsna Bay Lab layout. Photo from UAF Kasitsna Bay Lab Orientation Guide.



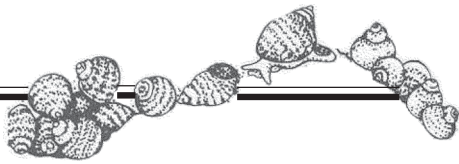
Kasitsna Bay Lab is jointly operated by NOAA and the University of Alaska Fairbanks. Photo by Bree Murphy.

### **Learn more about Kasitsna Bay Lab!**

<http://www.westnuc.uaf.edu/kbay.html>

[http://www.ccfhr.noaa.gov/about/kasitsna\\_welcome.html](http://www.ccfhr.noaa.gov/about/kasitsna_welcome.html)





One handicapped-accessible bedroom will be available to your group on the ground floor of the bunkhouse. A second room on the ground floor will be shared by CACS staff.

The second floor of the bunkhouse has six rooms available to students, chaperones, and teachers. Each room contains four beds (two bunk bed sets), and students may also sleep on the floor. There is a girl's and a boy's bathroom on the second floor. Due to the short time of your stay, and the small number of showers, it will not be possible for your group to

take showers.

During the Alaska Coastal Ecology program activities, your students will be using the wet lab, with touch tanks of live intertidal organisms, and the microscope lab in the main lab building. These facilities provide students with the opportunity to observe and explore marine organisms up close.

Kasitsna Bay Lab staff have a radio phone available in the case of an emergency. Cell phone coverage cannot be guaranteed, but many cell phones function fairly well at Kasitsna Lab.



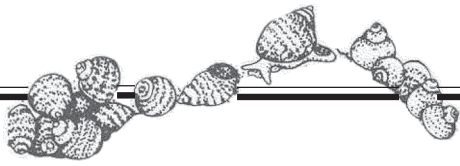
Lounge area in the Kasitsna Bay Lab bunkhouse.



Bunkhouse bedrooms provide 4 beds and plenty of floor space.



A fully equipped kitchen is available in the bunkhouse for groups to prepare meals.



## What is the area like around the Kasitsna Bay Lab?

With a cobble beach and scattered boulders right in front of the lab, Kasitsna Bay hosts a surprising amount of intertidal biodiversity. A 20-30 minute hike to Jakolof Bay will provide your students with some of the best rocky intertidal exploration and tidepooling in Kachemak Bay.

The road to Jakolof Bay passes through coastal forest habitat, and a few forest trails exist near the lab. A hike through the coastal forest provides an opportunity to teach about plant and forest ecology. The use of smaller trails may be restricted by the timing of snow melt.

The Kasitsna Bay Lab sits in a small watershed, and has a stream that passes through the campus. This watershed provides a living

outdoor lab for students to explore stream ecology, and compare differences in freshwater and saltwater organisms, habitats, and water chemistry.

Opportunities for exploring the geology of the area are also available. There are numerous great rocky outcrops on the hills surrounding the lab campus.

The cobble beach in front of the lab is a great place for games or for a fire circle in the evening when the tide is out.

The trail to the bunkhouse and the return hike from Jakolof Bay have fairly steep climbs. Please let us know if there are any students or chaperones that may have difficulty climbing hills.

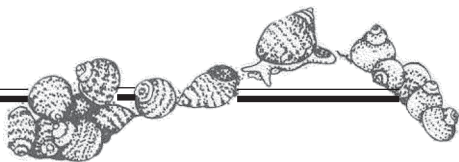


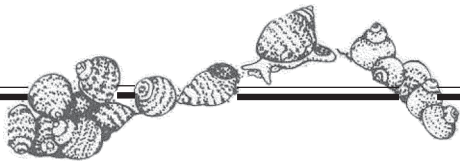
Tidepooling with CACS in Jakolof Bay.



Identifying intertidal invertebrates in Jakolof Bay near the NOAA Kasitsna Bay Lab.







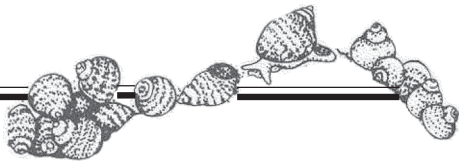
# ACE Program Options

## What are the educational concepts for this program?

### Alaska Coastal Ecology Major Learning Concepts

1. Kachemak Bay, its beaches and coastal watersheds have favorable conditions for supporting a diversity of plants and animals.
2. Plants and animals have adaptations for survival that allow them to survive best under certain conditions.
  - a) Adaptations to the conditions in the intertidal zone.
  - b) Adaptations to conditions in the coastal forest
3. Physical factors influence the distribution of plants and animals.
4. Plants and animals have a variety of relationships with other species in their environment which also influences their distribution: predator/prey, competition, parasitism, and commensalism.
5. Appreciation and understanding about the ecology of the coastal forest and intertidal zone is linked to stewardship - what people can do to avoid or minimize harm to these environments





## **What is the curriculum framework?**

### **I. Intertidal Ecology**

Students will gain a better understanding about the intertidal zone as an environment and habitat for a diversity of animals. We'll explore and study marine invertebrates and seaweed, focusing on the concepts of tides, intertidal zonation, adaptation, and interrelationships.

#### 1. Field Trips

- a) Intertidal Discovery Hike
- b) Coastal Monitoring

#### 2. Stations

- a) Live Tanks
- b) Microscope Lab: Intertidal Invertebrates
- c) Invent an Invertebrate (Invertebrate Adaptations)
- d) Algae Press and Classification

#### 3. Environmental Problem-solving Activities

- a) Miss Manners Guide to the Beach

### **II. Coastal Forest and Stream Ecology**

Do your students know the forest is a factory? Students will learn how about coastal forest ecology and how watersheds in the forest connect the land with the sea.

#### 1. Field Trips

- a) Forest Discovery Hike

#### 2. Stations

- a) Water Quality Sampling (Stream, Estuary and at Dock)
- b) Critter Catch: Comparing Freshwater and Intertidal Invertebrates
- c) Take a Liking to Lichens

#### 3. Environmental Problem-Solving

- a) Forest Management Dilemma - Spruce Bark Beetle Attack!!!

### **III. Ecosystem Connections**

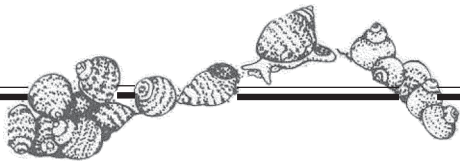
How are the ocean, intertidal zone, and the forest connected? Students will participate in a variety of hands-on activities that focus on the dynamics of the nonliving environment and relate these to interactions in living communities.

#### 1. Stations

- a) Weather and Snow Observations
- b) Geology Activity

#### 2. Environmental Problem-solving Activities

- b) Human Impacts Survey



## What are the educational activities like?

### I. Field Trips

#### 1. Intertidal Ecology

##### a) Intertidal Discovery Hike

*Our naturalist will guide the students through the experience of exploring the dynamic intertidal habitats surrounding the Kasitsna Bay Lab. Informal learning opportunities on the beach include: scavenger hunts, beach crime detectives, forming a species diversity checklist, beach bingo, silent observation, and much more.*

##### b) Coastal Monitoring

*This trip takes a more intensive look at the invertebrates and algae on the beach and encourages exploration of global questions about climate and environmental change. This monitoring option allows the students not only learn more about the intertidal, but to also participate in a global "real science" project. Our monitoring protocol includes the following: timed counts, vertical transects, and quadrat counts. (This option is offered to the classes that will be staying for at least two low tides.)*

#### 2. Coastal Forest Ecology

##### a) Forest Discovery Hike

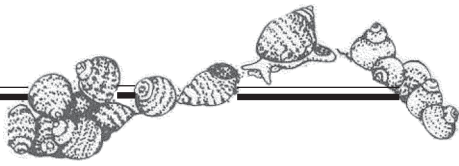
*Students will be guided by one of our naturalists to explore the forest through hands-on activities and scavenger hunts. Learning activities include: Each One Teach One, Shaman Game, Camouflage Game, Build a Tree, Unnatural Trail, Oreo Geology, and much more.*

### II. Adaptations Stations

These stations allow the students more time to focus on the adaptations plants and animals have that allow them to survive best under certain conditions in the intertidal zones or coastal forests.

1. Live Tanks - *Students will explore intertidal animals using their senses and guided questions.*
2. Microscopes - *Students will take a closer look at some of the adaptations of specific plants and animals under the microscope and record their observations in their journals.*
3. Invent an Invertebrate - *Students play a game to learn more about adaptations of animals as they create and act-out their own intertidal invertebrate.*
4. Take a Liking to Lichens - *Using hand lenses and microscopes, students will get a closer look at lichens and learn what makes them unique.*
5. Critter Catch (Freshwater Macroinvertebrates) - *While on the forest hike, scoop some macroinvertebrates from the stream to be examined back at the lab. Compare adaptations to freshwater environment to saltwater environment.*





### III. Creation Stations

Students are encouraged to let creativity flow as they use art to reflect and add to what they have learned during the field trips.

1. *Algae Press - Students will take a closer look at the different species of algae in the region while pressing them into interesting and colorful patterns.*
2. *Journal Time - Students will have an opportunity to reflect on what they have learned and experienced in the variety of habitats around the Kasitsna Bay Lab.*

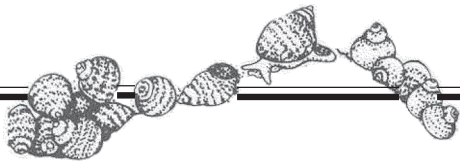
### IV. Environmental Monitoring Stations

Take this opportunity to give your students skills in monitoring while adding to the scientific knowledge of Kachemak Bay.

1. *Water Quality Sampling - Students will sample water from a variety of local sources for temperature, pH, turbidity and other water quality parameters.*
2. *Plankton Tow - While examining Kasitsna Bay-caught plankton under microscopes and video-microscope monitors, the students will be able to chart the seasonal development of larval invertebrates. Larval collectors can be checked that are located on the dock.*
3. *Coastal Monitoring Trip Follow-up - Give your students a better understanding of the data they gathered during the coastal monitoring field trip by making a visual representation of the information.*
4. *Human Impact Survey- Students will conduct a survey of evidence of human impacts to the beach or forest habitat. They will share survey results and discuss the direct and indirect consequences of these impacts.*

### V. Environmental Problem-Solving Activities

1. *Miss Manners Guide to the Beach - This activity involves students in thinking about ways to enjoy the beach without harming the animals that live there or their habitat. Our staff will work with the class to create their own guidelines for their time at the beach.*
2. *Forest Management Dilemma - Students are placed in charge of the forest and role play a town council meeting to determine how to respond to a spruce bark beetle epidemic.*



## What can we do in the evenings?

Evening programs can be an excellent way to supplement the day's learning. Teachers and chaperones are responsible for programs that take place after dinner. CACS staff often participate in evening programs.

### **1. Games on the Beach**

*Take your students on a short hike to the gravel beach below the lab when the tide is out to play games like the following: Shark Seal Octopus, Crab Tag, The Succession Game, Food Shelter Water, Capture the Flag, and much, much more. CACS staff can provide you with the game instructions. Games can also be played in the gravel area behind the bunkhouse. This is a great option for a class that has extra energy.*

### **2. Tidepool Slideshow**

*Watch a colorful slideshow that provides a window into the fascinating world that lies between the highest and the lowest of Kachemak Bay tides. This is a great option if you would like a preview or follow-up to the Intertidal Discovery Hike. CACS staff can provide you the powerpoint slideshow to view.*

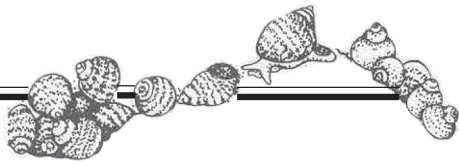
### **3. Campfire**

*Classes may build a simple campfire ring on the beach in front of the lab. You need to bring your own firewood to Kasitsna Bay Lab. Most groups close the day with a campfire program. Campfires may not be permitted if there is a burn-ban in effect. Your school staff will be responsible for planning and conducting the campfire programs. Campfires must end by 9:30 pm. Skits, songs, and stories can work well when they are planned ahead of time. Feel free to contact us for campfire program ideas. However, we would like to stress all campfires will be structured by school leaders. Our staff will help set up the fire and remain to put out the fire.*

### **4. Sleep!**

*After long travel and long days outside, certain children may be too tired to attend evening programs. For these students you may want to consider a sleep option. An adult must be in the sleeping area with students.*





## What does an example trip itinerary look like?

The schedule of events on your ACE field trip will be created around the time of the low tide. As a result, each group's trip will have a different schedule of activities and field trips. In addition, each year CACS hires new environmental educators and naturalists to lead the school programs. Many activities will reflect the expertise and creativity of the staff. To give you a sense of the flow of a day, we have provided you here with some sample itineraries. The first itinerary is for a two-day ACE trip, another for a three-day ACE trip, and a third is for a three-day trip that combines an ACE field trip with our Beluga Wetlands and Onboard Oceanography programs.

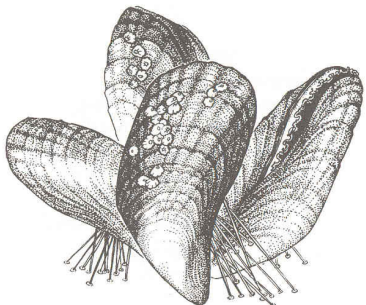
### Sample Two Day Itinerary

#### Day 1

- 2:15 p.m. Arrive at Homer Harbor for check-in and gear chain
- 3:00 p.m. Depart for Kasitsna Bay Lab
- 4:00 p.m. Arrive Kasitsna Bay Lab , carry gear to bunkhouse
- 5:00 p.m. Orientation to lab and bunkhouse, start dinner and set up sleeping areas
- 6:00 p.m. Dinner
- 6:06 p.m. High tide, 15.1**
- 7:30 p.m. Campfire or games (teacher led activities)
- 9:30 p.m. Quiet time in the bunkhouse, lights out

#### Day 2

- 7:30 a.m. Breakfast and make sack lunches  
All gear should be packed up and brought to lounge, rooms should be cleaned)
- 8:30 a.m. Marine Ecology Stations (topics: Invent an Invertebrate, Water Quality Monitoring, and Live Tanks)
- 10:00 a.m. Beach Etiquette Activity and depart for Jakolof Bay
- 10:30 a.m. Oreo Geology activity on hike to Jakolof Bay
- 11:00 a.m. Tidepooling on Jakolof Beach
- 12:08 p.m. Low tide, -1.1**
- 12:30 p.m. Lunch on the beach
- 1:00 p.m. Hike back to lab
- 1:30 p.m. Pack and clean up bunkhouse
- 2:15 p.m. Wrap up activities and evaluations, if time play Kasitsna Bay Celebrity review game
- 2:45 p.m. Carry gear to dock
- 3:30 p.m. Pick up by boat
- 4:15 p.m. Return to Homer Harbor



### Sample Three Day Itinerary

#### Day 1

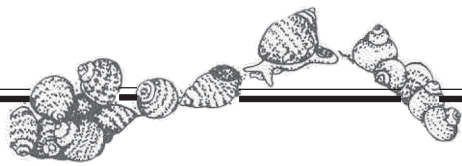
- 3:30 p.m. Arrive at Homer Harbor for check-in and gear chain
- 4:00 p.m. Depart for Kasitsna Bay Lab
- 4:06 p.m. High tide, 21.1**
- 5:00 p.m. Arrive Kasitsna Bay Lab , carry gear to bunkhouse
- 5:30 p.m. Orientation to lab and bunkhouse, start dinner and set up sleeping areas
- 6:30 p.m. Dinner
- 7:00 p.m. Campfire and games (teacher led activities)
- 9:30 p.m. Quiet time in the bunkhouse, lights out

#### Day 2

- 7:30 a.m. Breakfast
- 8:15 a.m. Beach Etiquette Activity and depart for Jakolof Bay
- 9:00 a.m. Oreo Geology activity on hike to Jakolof Bay
- 9:45 a.m. Marine Ecology Beach Walk
- 10:22 a.m. Low tide, -2.4**
- 11:45 p.m. Depart for Kasitsna Bay Lab
- 12:30 p.m. Lunch
- 1:15 p.m. Biodiversity Checklist
- 2:00 p.m. Marine Ecology Station Rotations (Algae Lab, Live Tanks, and Marine Life under Microscopes)
- 3:30 p.m. Down time
- 4:39 p.m. High tide, 21.6**
- 4:00 p.m. Forest ecology and watershed hike
- 5:30 p.m. Return to bunkhouse
- 6:00 p.m. Dinner
- 7:00 p.m. Campfire and games on the beach
- 9:30 p.m. Quiet time in the bunkhouse, lights out

#### Day 3

- 7:30 a.m. Breakfast and make sack lunches (come down with bags packed)
- 8:30 a.m. Sweep and clean rooms
- 9:00 a.m. Invent an Invertebrate and Kasitsna Bay Celebrity activities
- 10:00 a.m. Depart to Jakolof Bay for Marine Ecology Beach Walk
- 11:00 a.m. Low tide, -1.2**
- 11:45 a.m. Depart for Kasitsna Bay Lab
- 12:15 p.m. Lunch and Biodiversity Checklist update
- 1:00 p.m. Clean-up bunkhouse
- 2:00 p.m. Wrap-up activities and evaluations
- 2:30 p.m. Clean bunkhouse and load gear out to dock
- 3:30 p.m. Pick up by boat
- 4:15 p.m. Return to Homer Harbor



## Sample Three Day Itinerary with an Onboard Oceanography Program Included

### Day 1

Noon Arrive at Boat Harbor Ramp #2, check-in and gear chain down ramp and into boat 10:30 p.m.  
12:30 p.m. Introduction to Oceanography Cruise on the boat  
1:00 p.m. Crab pot discussion  
2:00 p.m. Drop crab pots (all on deck), drive by Herring Islands then conduct a plankton tow  
2:30 p.m. Station Rotations (The boat will be stationary)

#### **1. Plankton/ Water Transparency-**

Each group will pull a check out the net, make observations, discuss zoo/phytoplankton, and have time for a quick look in TV scope. Talk about larval development of crabs and briefly mention larval dispersal. Each group will measure water transparency with a Secchi Disk. There will be time for discussion on what and how a photic zone would impact larval crabs.

#### **2. Water Temperature/Weather-**

Each group will measure: temperature of air and water, wind speed and direction, and other weather parameters. How might these physical parameters would affect crab distributions?

#### **3. Tides/Current Study-**

Students will have the opportunity to cast current balls and observe currents by both watching the floating balls and looking at current maps.

4:00 p.m. Review data collected in station rotations and make predictions for crab populations. Pick-up crab pots and collect data on adult crabs.  
4:30 p.m. Travel to Kasitsna Bay Lab. Wrap-up on crab data along the way. How did the predictions compare to the actual data?  
5:00 p.m. Arrive Kasitsna Bay Lab and carry gear to bunkhouse  
5:30 p.m. Orientation to Kasitsna Bay Lab, sleeping assignments and dinner preparation

6:00 p.m. Dinner  
8:30 p.m. Games and campfire on beach (teacher led)  
9:30 p.m. Lights out

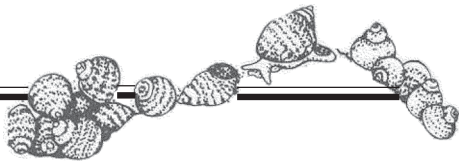
### Day 2

8:00 a.m. Breakfast  
9:00 a.m. Marine Stations rotation in main lab (Stations: Microscopes, Tidepool Tanks, and Invent an Invert)  
10:00 a.m. Snack break  
10:15 a.m. Finish station rotations  
11:00 a.m. Algae Pressing  
12:00 p.m. LUNCH  
1:00 p.m. Beach Etiquette Activity  
2:00 p.m. Depart for Marine Ecology Hike/Tidepooling at Jakolof Bay (Includes free exploration, quiet pool observations, tidepool card investigations, and biodiversity checklist)  
**4:16 p.m. Low tide, -1.2**  
5:00 p.m. Return to Kasitsna Bay Lab bunkhouse  
6:00 p.m. Dinner  
8:30 p.m. Games or campfire (teacher led)  
9:30 p.m. Lights out

### Day 3

8:00 a.m. Breakfast  
9:00 a.m. Hike to Jakolof Bay. Geology stop along the way. Comparison of high tide and low tide  
**11:55 a.m. High tide, 15.1**  
11:00 a.m. Return to bunkhouse, play Kasitsna Bay Celebrity/Jeopardy review game  
12:00 p.m. LUNCH  
1:00 p.m. Pack and clean-up bunkhouse  
2:00 p.m. Wrap up activities and evaluations  
2:30 p.m. Bring gear down to dock  
3:30 p.m. Pick up by boat  
4:15 p.m. Return to Homer Harbor

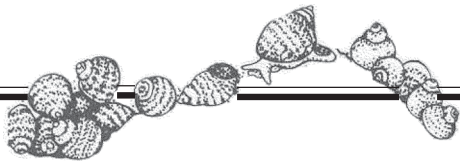




# Pre-Trip Preparation

## *What do I need to do before the trip?*

- \_\_\_\_\_ Read your confirmation letter and make sure dates and times are correct. Please contact the CACS program coordinator immediately if you discover a problem. (907)235-6667
- \_\_\_\_\_ Read this guide for all the planning and background information. Review program policies and procedures with your students.
- \_\_\_\_\_ Introduce your students to basic learning concepts and vocabulary outlined in this guide.
- \_\_\_\_\_ Discuss with your students the need for special gear: waterproof rain/snow gear, boots and warm clothing. Give students a list of what they need and how to pack.
- \_\_\_\_\_ Make your transportation arrangements to Homer. Take in consideration potential weather conditions and stops you might want to make along the way.
- \_\_\_\_\_ Select and prepare chaperones. We recommend a 1:6 ratio of chaperones to students.
- \_\_\_\_\_ Divide class into two fieldwork groups that will work together during the field experiences.
- \_\_\_\_\_ Assign students and chaperones to their sleeping arrangements. Adult chaperones are required to sleep in the same room as the students, with the appropriate gender mix.. Each room contains four beds, and the bunkhouse has a total of 28 beds available and ample floor space.
- \_\_\_\_\_ Encourage students to design waterproof name tags that they will wear during their visit. You may also may want to consider making student journals.
- \_\_\_\_\_ Make sure that a CACS staff has contacted you during the first two weeks of April to go over "Trip Planning and Logistics Sheet" and confirm boat schedule, program selection and any other special needs.



## Trip Planning and Logistics Sheet

During the first two weeks in April, one of the CACS staff will contact the attending group leader to discuss details of your trip. Below is the list of the basic information we will cover at that time. Please keep this in a convenient location so that you can give or note any pertinent information.

School \_\_\_\_\_ Program dates \_\_\_\_\_  
 Attending Group Leader \_\_\_\_\_ Have you been to Kasitsna Lab before? \_\_\_\_\_

**NUMBERS:**

# Students \_\_\_\_\_ + # Adults \_\_\_\_\_ = Final Count \_\_\_\_\_ Non-refundable deposit paid: \_\_\_\_\_  
**Please call the CACS office (907) 235-6667 if your total number of participants drops down below 25 or there is a drastic change in the number of participants.**

**BOAT:**

Rainbow Connection departure date and time from Homer Harbor: \_\_\_\_\_  
 Rainbow Connection departure date and time from the Kasitsna Bay Lab: \_\_\_\_\_  
**Please arrive at the Homer Harbor one hour before departure time to allow time for loading of gear.**

**GROUP ASSIGNMENTS:** (Should be assigned and told to students prior to arrival)

1. Assigned # of study groups: \_\_\_\_\_ (Please divide groups evenly)
2. Sleeping assignments:  
     # sleeping in bunkhouse beds (28 beds available) \_\_\_\_\_ # sleeping on floor \_\_\_\_\_
3. Meal preparation and clean-up (who is assigned responsibility?): \_\_\_\_\_

**MEDICAL INFORMATION:**

**Teacher or authorized school personnel will be responsible for keeping track of medical information and dispensing prescription medicine.**

- Don't forget to bring school required medical forms or medications.
- Are there any pre-existing medical conditions that could cause an emergency (e.g. seizures, diabetic coma, etc.)?

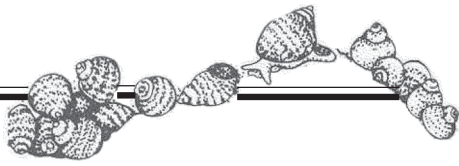
**PROGRAMS:**

Low Tide Day One: \_\_\_\_\_ feet \_\_\_\_\_ time      Low Tide Day Two: \_\_\_\_\_ feet \_\_\_\_\_ time  
 High Tide Day One: \_\_\_\_\_ feet \_\_\_\_\_ time      High Tide Day Two: \_\_\_\_\_ feet \_\_\_\_\_ time  
 Three Stations Day One: \_\_\_\_\_  
 Two Day Programs Coastal Monitoring : \_\_\_\_ (Time Dependent) Three Stations Day Two: \_\_\_\_\_

**IMPORTANT DETAILS:**

Reviewed what to bring and what not to bring? \_\_\_\_\_ Have you decided on meals? \_\_\_\_\_  
 Is there anything we need to know to prepare or make special arrangements for individual students?  
 \_\_\_\_\_

**We are excited about your trip, please do not hesitate to call us if you have any further questions.**



## What do we need to bring?

### **Sleeping Gear**

- Sleeping bag
- Pajamas/sleeping clothes
- Sleeping pad or air mattress (only if you have more than 28 in your group)
- Pillow case

### **Clothing** (Warm jacket, gloves and hat should be accessible for boat trip to the lab)

- One to two changes of clothes (depending on length of stay). Warm clothes that can be layered are best, plus lots of extra socks and long underwear. Long pants are preferred over shorts.
- Warm waterproof jacket or poncho, knit wool hat and warm gloves
- Sturdy hiking shoes (hiking boots are preferred due to muddy nature of trails)
- Knee-high rubber boots (no hip boots)
- Slippers (or heavy socks) to wear inside the Kasitsna Bay Lab bunkhouse

### **Personal Gear** (Showers will not be available)

- Toothbrush and toothpaste
- Hand towel or wash cloth
- Brush, washcloth and soap
- Sunscreen and bug spray
- Alarm clock (for chaperones only)
- Flashlight or head lamp
- Water bottle or canteen (filled with water)
- Day pack
- 3 pens or pencils
- Special foods or medications

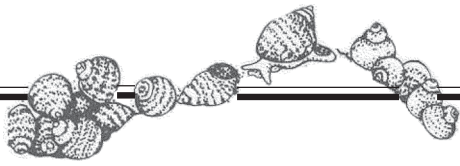
### **Optional**

- Camera and film
- Binoculars and hand lens
- Student journal
- Money for field trip tee shirt or other souvenir
- Firewood for evening fire on the beach

**No electrical equipment should be brought to Field Station** (This includes, but is not limited to the following: radios, iPods, computer games, and blow dryers). If student have electronic equipment used during long travel, please ask your students to leave them on bus.

In addition, **no pets, knives, firearms, fireworks, alcohol, or drugs are allowed. The Kasitsna Lab septic system requires the use of special soap products, so do not bring any soaps.**

**All clothing and gear should be marked with student's name** (CACS is not responsible for lost items.) Please call (907) 235-6667 to arrange for return of lost items. Lost and found items will be kept until June 1st of that year and then donated to charity.



## What do we need to know to plan for cooking our meals?

The Kasitsna Bay Lab does not have a cook on staff, so that means you get to facilitate the unique experience of cooking for your group. Due to limited cooking space, you will also be expected to cook for two CACS staff.

The Kasitsna Bay Lab bunkhouse kitchen has the following amenities:

- ◆ Electricity
- ◆ Water
- ◆ Pots, pans, and utensils for cooking
- ◆ Plates, cups or glasses, and silverware
- ◆ 2 Electric stoves and a microwave
- ◆ 2 Refrigerators and 2 freezers
- ◆ 2 Dishwashers
- ◆ Kitchen towels, hot pads, sponges and rags
- ◆ Hot water urn for warm beverages
- ◆ Coffee maker

CACS will provide the following for your group:

- ◆ Disposables: garbage bags, foil, paper towels, toilet paper
- ◆ Dishwasher soap and hand soap
- ◆ Condiments: Ketchup, mustard, relish, mayonnaise, and ranch dressing

We like to encourage the visiting school groups to help the environment by minimizing and planning to recycle. You will take your recycled items (aluminum, corrugated cardboard and glass) with you when you leave the lab. There are recycling bins in the parking lot of the Homer Safeway on the way out of town. Since we supply dishware and utensils, **please do not bring paper or styrofoam plates, cups, bowls or plastic utensils.**

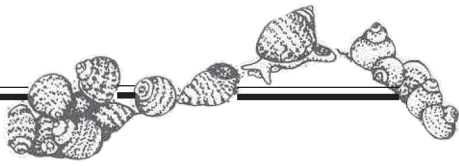
Meal tips include the following:

- ◆ Plan simple meals. (Spaghetti, pizza and tacos are favorites, because meat can be precooked.)
- ◆ Lunches could include cold cut sandwiches with veggie and fruit trays.
- ◆ Do as much food preparation as possible before you come on the trip.
- ◆ Bring food items in bulk. Even trail snacks can be packed in bulk and small portions can be measured into ziploc bags that can be reused.
- ◆ Avoid individually wrapped food when possible. These can generate a tremendous amount of waste.

Students are asked not to bring any gum, candy, or snacks so that we don't have any problems with animals trying to get into the yurts. No food or drinks will be allowed in bunkhouse rooms, so be sure all food brought is packed with group food.

Pack food so it can be hauled on and off of boat, up the dock, up the hill to the bunkhouse, and stored right away. Plastic totes with good handles that are not packed too heavy work best. Very large, heavy coolers are difficult to transport--please bring smaller ones.





## How should we pack?

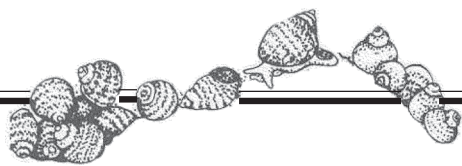
**Packing** - Moving the gear can be a big task, but it is made easier by following a few rules:

- ◆ Pack frugally. Don't let the kids bring unneeded or forbidden items.
- ◆ Pack into bags and boxes that are light enough to be handled by everyone in your group.
- ◆ Make sure all items are packed **INSIDE** the duffel bags or backpacks. There shouldn't be any shoes, boots, or pillows tied to the outside. They make the bags clumsy to handle and often are lost or left behind.
- ◆ Use waterproof bags and plastic garbage sacks around boxes and anything else that is not waterproof. There's always the chance of rain and boxes and bags will need to be placed on wet decks, stairs, etc.
- ◆ Pack sleeping bags **INSIDE** a plastic bag **INSIDE** a stuff sack. If you place the plastic bag on the outside, it may tear and the sleeping bag will get wet.
- ◆ Securely tie all bags and ensure that there is a strong handle or loop of rope by which they can be lifted and handed from one person to another. Plastic garbage bags work well for many items and a loop can be made from heavy tape.

### **DO NOT BRING THE FOLLOWING:**

- 1. Paper or styrofoam plates, cups, or bowls**
- 2. Plastic utensils**
- 3. Knives, firearms, or fireworks**
- 4. Electronic equipment (like iPods and Gameboys)**
- 5. Pets**
- 6. Alcohol or illegal drugs**





## How do we get ourselves and our gear to the Kasitsna Bay Lab?

You will travel to the Kasitsna Bay Lab on the *Rainbow Connection M/V*, a charter vessel licensed to carry large groups. The *Rainbow* is 65' long, with a warm comfortable cabin, snack bar, marine heads, and decks that can be used for viewing both fore and aft. It is one of the few vessels of this nature on Kachemak Bay with a fully-automated roll control system for smooth cruising under most weather conditions.

Please plan to arrive at the Homer Harbor, located at the end of the Homer Spit, at least **one hour before your scheduled departure time**. One of our CACS staff members will be meeting your group in the Homer Harbor at the top of Ramp 2. Ramp 2 is located conveniently next to the harbor bathrooms and just before the historic Salty Dawg Saloon. When arriving by bus, it is usually better to have a chaperone get out and check out the parking situation above Ramp 2 before bringing the bus into the narrow lot.

**Loading the Boat** -The first activity during your field trip will be loading all of the gear on to the boat, the *Rainbow Connection M/V*. Remind students to bring only the gear listed on the packing guide included in this manual. To help facilitate a smooth loading follow these procedures:

1. Everyone can keep a small backpack to take onboard (this is where the warm jacket, hat, and

gloves, can go if these items are not already being worn), but everything else needs to be stowed in the hold for the trip over.

2. A CACS staff person or volunteer will meet you at the boat harbor parking area. They will help oversee the gear chain process and may ask adult chaperones for help loading water jugs if needed.
3. Direct all of the students and adults to form a line, beginning at the bus or vehicles the gear is on, and leading down the ramp, which may be fairly steep at low tide. Everyone stands at arm's length from one another and each piece of gear is moved from hand-to-hand (not tossed!!) down the ramp. This is called the GEAR CHAIN. Hand carts are usually available at the foot of the ramp to move the gear to the boat. The gear chain reforms to move the gear to the boat and into the hold.
4. Designate 2 or 3 students to go down in the hold to help the *Rainbow* crew. They may direct you to leave some things, such as food boxes on the back deck.
5. The students and adults can board the boat after all gear is stowed.
6. Once on the *Rainbow Connection*, crew will provide a boat safety briefing before the boat leaves the harbor.

## What happens when we arrive at the lab?

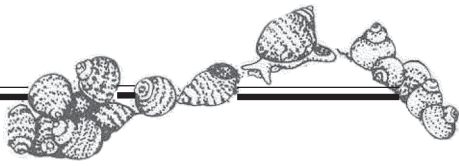
The trip to the Kasitsna Bay Lab takes about 45 minutes. The *Rainbow Connection* will arrive at a large dock accessible at all tide levels. A steep ramp connects the dock to the land and lab campus. This steep ramp is relatively narrow, so it is easiest to have everyone carry gear individually up the ramp. Two or three carts are available to move gear to land and a short distance to a staging area. The path from the dock to the staging area is narrow with a steep drop on one side. Extreme care must be used in this area

and absolutely no horseplay.

Then gear must be carried up a steep and winding trail up to the bunkhouse. Most groups require several trips by each student and adult to get all of the gear moved to the bunkhouse. Because of the time required to move gear, you should bring tarps that can be placed over the gear on the dock in the event of rain.

The University of Alaska Fairbanks requires that students wear life jackets on the dock at all times.





## *Who will be leading activities at Kasitsna Bay Lab?*

Although we strive to make the Alaska Coastal Ecology (ACE) program fun and interactive, our activities are educational in focus. Our instructors, volunteers, and naturalists have extensive background and experience in the field of environmental education. We train all volunteers and new staff to be CACS instructors who will lead this incredible hands-on field experience.

During the first weeks of April you will be contacted by one of the CACS instructors that will be leading your group. At this time, the ACE program options will be discussed and a schedule formed. You will also go over the information on the "Trip Planning and Logistics Sheet." Make sure that you have the form handy during the conversation. If you have activities you would like to lead or "quiet

time" provisions be sure to discuss this with the CACS instructor when they contact you.

One CACS instructor will work with each group of approximately 15 students. We expect that the school will provide at least one classroom teacher and chaperones so that there will be a ratio of **1 chaperone for every 6 students**. The CACS instructor will be responsible for leading the field activities and stations, however the CACS instructor will not be responsible for leading activities during "down time" or after dinner. It is a good idea to have chaperones prepared to lead simple games or project during these times. Down time usually occurs during the 30 minutes before and after meals. Adult chaperones are expected to supervise students at all time. This leads nicely to the next question...

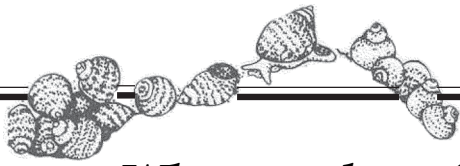
## *What will be the responsibilities of the teachers and chaperones?*

We highly respect the participation of the chaperones in this experience. Without them, the students would not be able to have such a great field trip. The job of a chaperone is demanding yet vital. We openly acknowledge the great rewards, both personal and group related, which result from their efforts.

To help facilitate a smooth experience, chaperones should be carefully chosen and well prepared. They will be expected to participate in all activities and be role models of positive involvement. We expect the teacher and chaperones to maintain discipline in a way that learning and fun can take place. They should be ready to keep pace with the students during long days of outdoor activities (which

includes 3-4 miles of hiking). They should be flexible and have a good manner with students in order to work with them effectively. A keen sense of humor is always helpful. Some groups bring chaperones who take major responsibility for preparing and cooking meals, but this is also can be an important group experience.

It is crucial that each chaperone be assigned to a group of students, learn their names, and maintain a cooperative spirit within the group. Again, when you, the teacher, and CACS instructors are not leading activities it is helpful to provide chaperones with games or projects to keep students occupied during the time CACS instructors are not leading the group.



## What are the safety rules at the Kasitsna Bay Lab?

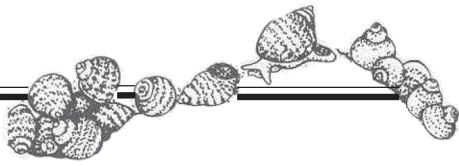
### **CACS and Kasitsna Bay Lab Rules:**

We have some basic rules you should go over with your class and the chaperones before the trip. As with many outdoor and field school programs the foundational guidelines are the three "R's":

#### **RESPECT YOURSELF, RESPECT OTHERS, RESPECT THE ENVIRONMENT**

1. Comply with all directions from CACS instructors or NOAA Kasitsna Bay Lab staff. CACS instructors will give an orientation to the lab and bunkhouse, review the safety procedures, and show the facility boundaries.
2. Swimming is not permitted at any time during your visit to Kasitsna Bay Lab.
3. UAF and NOAA staff are not permitted to supervise students. Please respect the privacy of UAF and NOAA staff-- this is their home. They are dedicated to assisting you with equipment and facilities issues and will help in the event of an emergency.
4. Keep the Kasitsna Bay Lab bunkhouse clean. There is no cleaning staff for the bunkhouse. A list of cleaning procedures required by the university is located near the door of the bunkhouse. Cleaning duties will be assigned to your group to complete before you leave. Report any plumbing, electrical, heating, or appliance problems to a CACS instructor immediately, even if they may not seem urgent.
5. Always stay with your group. When hiking or exploring the class will stay together. If a student has to leave they should first inform an adult and then take a buddy. If a group plans on leaving the immediate lab campus during down time or teacher led activities, please notify the CACS staff of your travel plan, including estimated time of arrival and departure. Everyone should be aware that black bears occur in the vicinity of the lab.
6. Bring only items that were recommended on the packing list. All personal possessions that are not allowed in school will not be allowed at the lab.
7. Walk! Running is only excepted in designated areas during organized games. There will be no climbing on trees, stumps, or rocks.
8. All students are required to wear life jackets on the Kasitsna Bay Lab Dock at all times. Students are not permitted on the dock unless they are participating in a supervised activity.
9. We allow absolutely no horse play or throwing of things. If an accident were to happen, an x-ray or stitches would require scheduling a special boat trip out and back to the lab and may take several hours round trip.
10. Follow the beach and forest etiquette rules that you will learn from CACS instructors on your hikes. This will include not handling or feeding wildlife unless given permission by guides.
11. Do not collect souvenirs from the beach or forest. CACS instructors may give permission to bring a small number of live plants or animals back to the field station for further study. Otherwise, replace things where you find them for other people to enjoy.
12. Smoking is not allowed for anyone under 18 years old. Chaperones may only smoke in designated areas.
13. Let CACS instructors know immediately if someone is sick or hurt.
14. Be safety conscious in all your actions. If a rule is not stated, common sense, good judgement, courtesy, and respect should apply.





## What are the emergency procedures at Kasitsna Bay Lab?

During orientation to the Kasitsna Bay Lab, CACS staff will go over safety information and emergency procedures.

### **Facility Emergency:**

In the event of a fire or other facility emergency, adults are responsible for moving students to the designated safe location. While moving to the designated safe area it is important to travel in groups established around chaperones. No one should return to the buildings until a CACS staff determines that it is safe to do so. Emergency procedures are posted near the door of the bunkhouse.

### **Medical Emergency:**

If a medical accident of any type occurs or someone becomes seriously ill, **do not move the person**. Instead report it to CACS staff. Send one adult, or two students, to the CACS staff with the following information: where to go, who is hurt, and who is staying with the injured person. All CACS staff are certified in First Aid/CPR and will determine if a medical problem requires evacuation. The lab has a basic first aid kit and CACS staff will carry first aid kits and cell phones with them on all field activities.

Visitors with medical conditions that could cause an emergency, e.g. seizure, should notify CACS staff of the nature of the condition, symptoms when expressed, medications taken, emergency treatment, and how to contact your physician.

CACS staff will also inform the lab staff of any serious pre-existing medical conditions.

Teachers or other authorized school personnel will be the only adults responsible for dispensing prescription medications to students. Chaperones can remind students to show up on time to receive their medication.

### **Lost Student:**

In the case of a lost student notify CACS staff immediately. CACS staff has been instructed as to the proper procedure for a lost child.

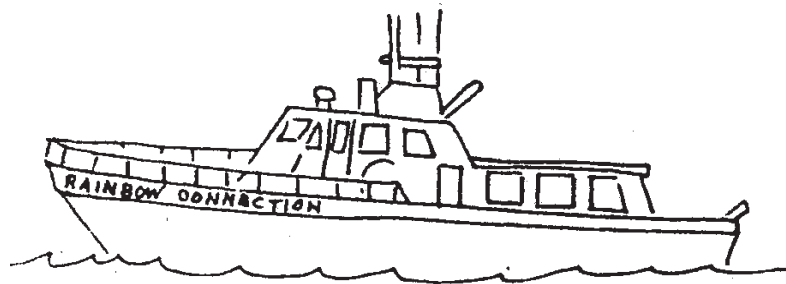
### **UAF Vehicles:**

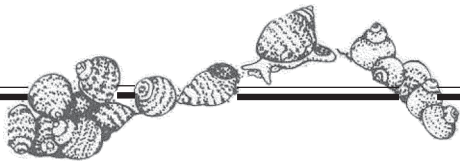
In the event that a UAF vehicle must be used for emergency purposes, UAF personnel must be the vehicle operator. All passengers are required by law to wear safety belts. Other than in an emergency, UAF vehicles may not be used to transport minors - please do not ask lab staff to violate the rules.

### **Emergency Communications:**

Cell phone reception has improved markedly at the lab. Please bring your own cell phone if you anticipate needing to use a phone. Incoming calls on the lab phone will be answered by lab staff.

All non-emergency related messages should go through our Homer Headquarters office (235-6667). The CACS Homer Headquarters staff will relay all messages on a daily basis.





### **Kasitsna Bay Lab Contact Information**

Lab phone and fax number: 907-235-4042

Websites: NOAA: [www.ccfhr.noaa.gov/About Us/kasitsna](http://www.ccfhr.noaa.gov/About%20Us/kasitsna)  
UAF: [www.westnurc.uaf.edu/kbay.html](http://www.westnurc.uaf.edu/kbay.html)

Address: Kasitsna Bay Lab  
Drawer G  
Seldovia AK 99663  
[kbaylab@guru.uaf.edu](mailto:kbaylab@guru.uaf.edu)  
<http://www.westnurc.uaf.edu/kbay.html>

