



Hardshell Clams of Kachemak Bay

Littleneck and butter clams

Two species of hardshell clams that may be found in Southcentral Alaska are littleneck clams (*Protothaca staminea*), which are also known as “steamer” clams, and butter clams (*Saximdomus giganteus*), or “butters”. They are concentrated in scattered locations throughout Southcentral Alaska. Kachemak Bay contains the largest area where hardshell clams may be found.

Life history

Littleneck clams are found from Alaska’s Aleutian Islands south to Cabo San Lucas on the Baja California Peninsula in Mexico. Butter clams are found from the Aleutians to Northern California.

Both species are found in beach gravel of varying sizes. Littlenecks are more often found on the muddier beaches, while butter clams are more often found on the sandier beaches. Both species thrive better in locations protected from wave action.

Clams spawn every year, starting at about age 3 in Kachemak Bay. Clams grow more slowly in the north end of their range, but they live longer. Clams are typically aged by counting the rings that run parallel to the edge of their shell. Littleneck clams up to 16 years old have been found in Southcentral Alaska, while littlenecks in California live only about 7 years. A littleneck clam that is a little over an inch in length in Southcentral Alaska may be 8 to 10 years old, whereas a clam that large in Washington or Oregon may be only 4 to 5 years old.

Clams on the same beach may vary greatly in size despite being all the same age. Growth depends upon how much of the time the clam is covered by the ocean, where its food comes from, and how much current washes over the clam bed, among other factors.

Littleneck clams are found in the top 5-6 inches of the beach gravel while butter clams may be as deep as a foot.

For size limits, daily limits and other regulations, consult the Southcentral Alaska regulation booklet.



Carmen Field

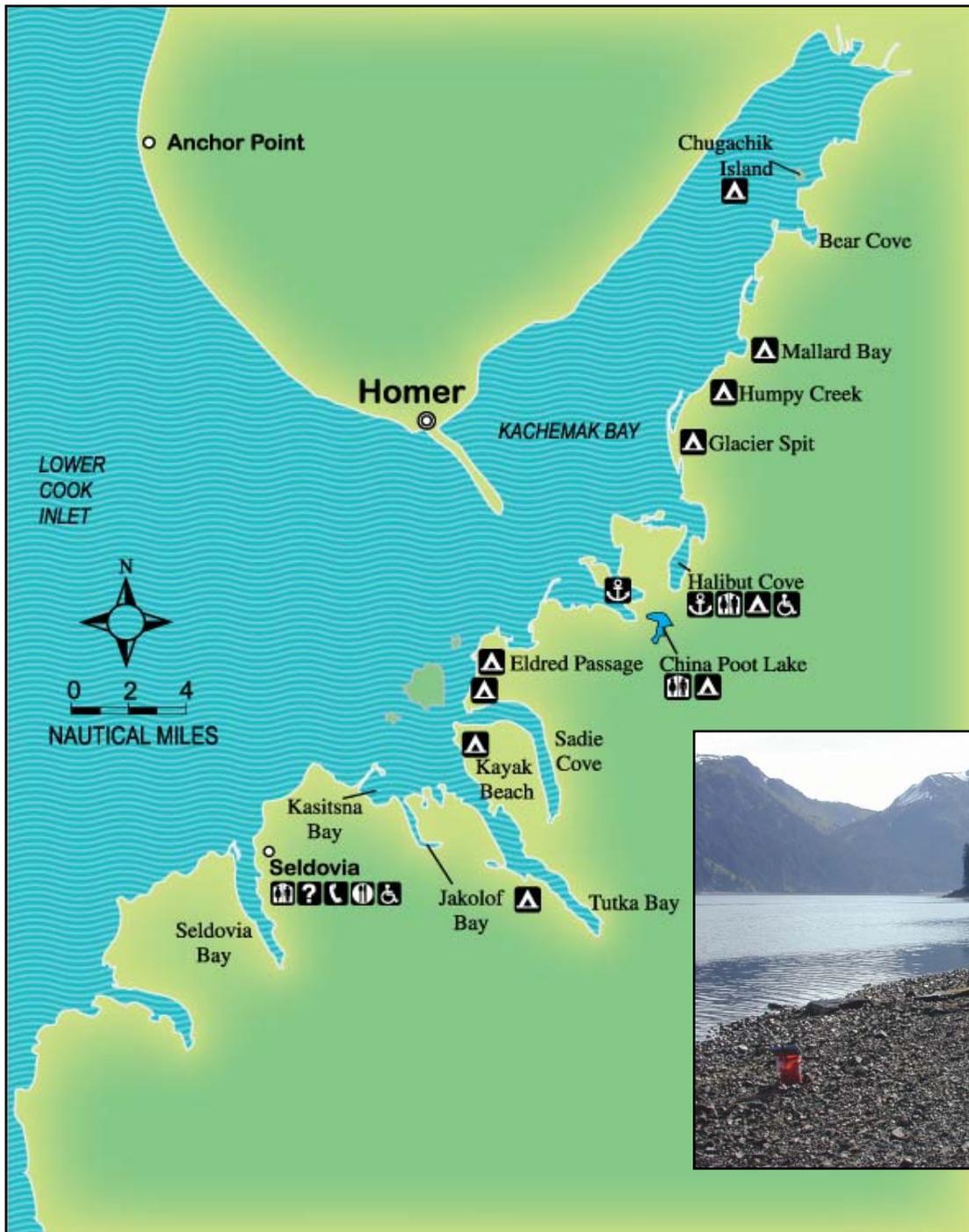
Above: A nice pile of butter clams. Below: A littleneck clam. Note the lines running up and down - the vertical ridges - on the littleneck clam. Butter clams do not have these ridges.



Carmen Field

In some areas, in order to protect the spawning population, only clams of a certain size may be kept. These sizes are intended to allow clams to spawn twice before they are harvested. Clams smaller than the size limits may not be kept.

Littlenecks and butters, like many clam species, can’t rebury themselves and need your help to sustain this resource. Clams



Above: Sadie Cove

The majority of hardshell clams in Kachemak Bay are found on the southern shores of Kachemak Bay. The Department of Environmental Conservation tests clams for PSP only from Chugachik Island south to Kasitsna Bay.

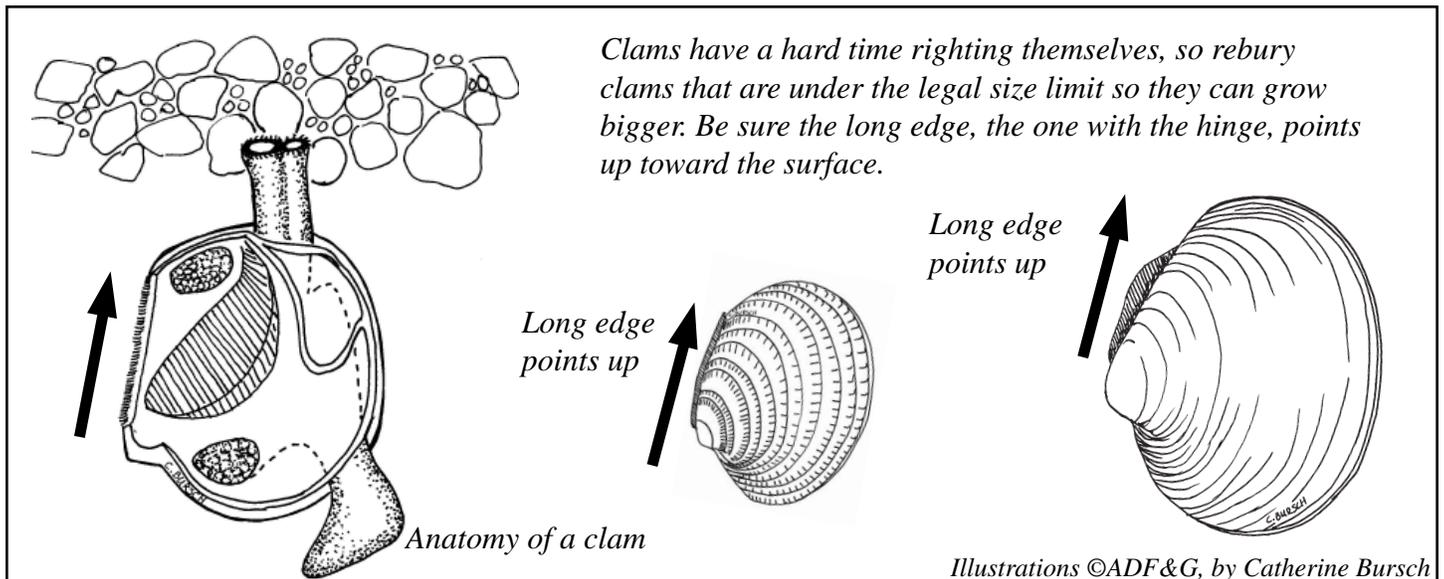


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that are returned to the clam bed should be reburied with their necks pointing up, and covered shallowly so they'll survive.

Also, return the material you've removed to the hole, so the pile doesn't suffocate the animals under it. Filling in the holes also prevents people from falling in those holes after the tide comes in and covers them a little.

PSP - Paralytic shellfish poisoning

Clams feed by filtering plant and animal plankton out of the seawater. In some cases, their filtered food makes them toxic to humans. The 20 toxins responsible for paralytic shellfish poisoning, for example, result when clams eat a type of one-celled swimming algae called "dinoflagellates." These microscopic algae produce toxins that accumulate inside shellfish like clams, oysters and mussels as they filter water through their bodies as part of feeding.

Different species retain PSP toxins for different lengths of time. Mussels are usually the first to accumulate the toxins, but are also the first to expel them. Butter clams concentrate the toxins more slowly but also retain them the longest.

The toxins build up in the clam and can reach levels that cause a wide variety of symptoms, ranging from nausea and vomiting to the more serious tingling or numbness in the skin and lips, to difficulty in breathing, memory loss, and, in some cases, death. Symptoms generally appear within ½ to 2 hours after eating either raw or cooked clams. As soon as the first symptoms appear, vomiting should be induced and the victim needs immediate professional medical care.

Clams in Alaska are tested for toxins only in areas where they are dug commercially. In Southcentral Alaska, the Alaska Department of Environmental Conservation (ADEC) tests littleneck clams, butter clams and mussels for PSP only on the southern shores of Kachemak Bay, from Chugachik

Island to Kasitsna Bay. ADEC reports dangerous levels of these substances on their web site at www.dec.state.ak.us/eh/fss/seafood/psphome.htm.

Once a warning is issued that PSP has been found in these clams, the warning remains in effect until tests confirm that dangerous toxins are no longer present. Warnings can be in effect for several months to a year or longer. Clams and mussels in Kachemak Bay have periodically been found to have PSP.

You dig and eat clams from outside the tested area at your own risk. For more information, visit http://seagrant.uaf.edu/features/PSPS/psp_page.html

Harvest and care

Legal methods for taking clams include hands, rakes and shovels. You'll want to use a rake or a trowel for the best success. Some diggers prefer a rake with a long handle so they don't have to bend over so much. Knee pads and rubber gloves are helpful in protecting skin and clothing.

Clams should be cooked and eaten as soon as possible after harvest. Keep live clams cold, preferably refrigerated between 32°F and 38°F. Refrigerate live clams in well-ventilated containers covered with a damp cloth or paper towel. Do not store live shellfish in airtight bags or containers. Storing live shellfish in salt water shortens their life, and storing them in fresh water kills them.

Live clams should have tightly closed shells, or shells that close tightly when tapped. Gaping shells on an uncooked clam indicate that the clam is dead, and is not edible. Clams in the shell will open when cooked. Discard any that don't open after cooking. For more information, visit www.food-safety.gov.

An often recommended method for removing grit and waste from the digestive tract of hardshell clams is submerg-

ing clams in cold seawater mixed with cornmeal. While this may be an effective method for expelling some grit and waste, it also speeds clam deterioration.

Research and management

Precisely determining the status of littleneck and butter clam populations in Kachemak Bay is difficult because their habitats are so diverse that their distribution is scattered. The Department periodically estimates the abundance of legal-sized littleneck and butter clams at Chugachik Island, Mallard Bay to Grewingk River, Sadie Cove, Jakolof Bay and other locations in Kachemak Bay. The length and age composition of littleneck and butter clams from these study beaches is also estimated. Abundance is estimated by dividing the beaches into sections, then examining the number of clams in selected sections. The number of clams in the sections is expanded to the whole beach area. Beach slope, beach gravel size, elevation and position are also measured at study sites. All clams are collected and measured for length. A subsample of clams is aged.

Hardshell clams are taken in commercial and recreational fisheries in Kachemak Bay. The sport and personal use harvest guideline is 160,000 pounds per year and the commercial guideline is 40,000 pounds. The annual recreational fishery harvest is about 60% of the guideline while commercial harvest is approximately 50% of the guideline. Harvests have been stable since 1997. Fewer than 10% of the legal clams are harvested annually at most locations. Annual variation in littleneck clam abundance is likely the result of environmental factors.

The recreational finfish and shellfish fisheries of the Kachemak Bay area are managed by the Division of Sport Fish Homer Area Office, 3298 Douglas Place, Homer, Alaska 99603, (907) 235-8191. Their web site is www.sf.adfg.state.ak.us/Region2/areas/homer/homhome.cfm

The Division manages recreational fisheries for sustainability and opportunity through regulations and management plans adopted by the Alaska Board of Fisheries. Enforcement of fishing regulations is primarily the responsibility of the Alaska Dept. of Public Safety, State Troopers' Bureau of Wildlife Enforcement.



Raking through gravel near Humpy Creek.

At times the Division issues in-season regulatory changes, called Emergency Orders, primarily in response to under- or over-abundance of fish. Emergency Orders are sent to radio stations, newspapers, and television stations, and posted on our web site at www.sf.adfg.state.ak.us.

We also maintain a hotline recording at (907) 235-6930 (Homer) or (907) 264-2510 (Anchorage).

A sport fishing license is required to dig for, and to keep clams, unless you hold the ADF&G PID (senior license) or ADF&G Disabled Veteran's card, or unless you are under 16. No permit is required. Please check the regulation booklet for daily limits.

For information about camping, accommodations, fishing guides, and other visitor services, contact the agencies listed in this publication, or the Alaska Travel Industry Association at 2600 Cordova Street, Suite 201, Anchorage, Alaska, 99503
web: www.travelalaska.com email: info@AlaskaTIA.org



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