

BLUE-EYED BEAUTIES



By Elaine & Karin Tammi

One of the most beautiful shells on the beach is that of the scallop, prized by beachcombers for its colorful distinctive fanlike shell. With over 400 varieties found worldwide in every ocean, scallop shells have been used by ancient civilizations such as the Incas and Mayans for their beauty as well as function. The shells have been found in ruins and were used as drinking vessels, combs, religious badges and coats of arms. They were worn by pilgrims to Santiago, Spain, during the Crusades for protection against invaders. Coquille St. Jacques, the classic French preparation, is named for St. James, the patron saint of Spain.

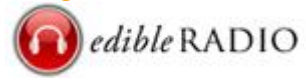
Members of the scallop family, known as Pectinids, have the ability to see and swim, which allows them to escape from predators by quickly closing their shells together. Scallops are filter feeders and rely on microscopic marine plants known as phytoplankton for food. Scallops can be found in a variety of habitats in both shallow and deep waters and are often attracted to areas having eelgrass or other types of marine vegetation in both sand and cobble ground.

Deep-water scallops are often referred to as sea scallops and those in shallow water are called bay scallops. On the east coast of the United States, you may find four distinct species of scallops. The largest and most lucrative scallop of all the fisheries in the U.S. is harvested by dredges in deep waters. This is the Atlantic sea scallop, *Placopecten magellanicus*. On occasion, the Icelandic scallop, *Chlamys islandica*, also can be found in dredges in the same areas as the Atlantic sea scallop, especially in the western Atlantic. Often referred to as the Cape or Nantucket scallop, bay scallop *Argopecten irradians* is found in shallow bays and estuaries from Cape Cod to Florida, with the most productive beds found on



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Martha's Vineyard and Nantucket. Lastly, one may find the very tiny Calico scallop, *Argopecten gibbus*, in waters along the Florida coast.

Bay Scallops

Bay scallop landings vary greatly from year to year. Scientists agree that the overall decline in the harvests can be attributed to over-development along the coast. Poor water quality and habitat loss have played a significant role in the diminishing numbers of bay scallops. They only live about 18 to 36 months, are hermaphroditic (having both sexes in one scallop) and have 42 blue eyes. The reproductive organ of the bay scallop turns orange during the summer months signalling that it is ready to spawn. On average, bay scallops release about two million eggs into the open water during spawning season, which is May to September. After fertilization, a swimming larva known as a veliger develops and swims around for 7 to 14 days. After developing a foot, the larva seeks a suitable habitat—usually eelgrass but rock and seaweed as well—to attach to in order to complete its life cycle. Upon attachment the larvae are called "spat."

Bay scalloping is a culturally important fishery in our region. Beginning in the late 1800s, bay scallops were harvested by hand or from rowboats, dories and catboats rigged with small dredges. To this day, small skiffs rigged with small metal dredges, culling boards, hydraulic winches and outboard motors are used to harvest bay scallops, though hand harvesting is still a popular method. Fishermen armed with "look" boxes (a square wooden box with glass bottom), dip nets and pusher nets wade into shallow areas, using the boxes to find scallops to scoop into nets. In Massachusetts, bay scallop season begins in October and extends through the winter until the end of March. Only bay scallops having a well-defined growth ring are harvestable. These scallops are adults and have spawned at least once to contribute to the future population. Anything smaller and showing no ring is thrown back overboard.

"Shucking Shanties" were once very common in many coastal communities, dotting the shoreline and docks. Fishermen would unload their bushel baskets to be shucked by women and children.

Bay scallop harvests have declined significantly all along the east coast since the 1900s. Massachusetts has always produced the most scallops, between 40,000 to 80,000 bushels in 1900, topping out at 200,000 bushels per year in the 1970s and 1980s. A majority of the landings were from Martha's Vineyard and Nantucket. Landings have since declined to only a few thousand bushels a year. Daily limits vary by towns and permits but between two and ten bushels can be harvested daily. The Vineyard and Nantucket have the most plentiful bay scallop beds.

In order to ensure that bay scalloping can continue, seeding programs have been initiated by many towns, using aquaculture facilities to supply seed. On the Vineyard, the Martha's Vineyard



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Shellfish Group (MVSG) supplies bay scallop seed to the shellfish constables for dispersal on the town scallop beds. Also, towns have begun restoration projects using artificial spat collectors and spawning to increase bay scallop populations. Bags with plastic mesh are placed in water during spawning season to mimic the eelgrass and help the scallops complete their life cycle by providing a substrate on which to attach. Spat are then redistributed on the beds. This program has worked well, especially in Lagoon Pond in Oak Bluffs. The MVSG and Shellfish Constable Dave Grunden are working to ensure a commercial harvest of bay scallops, and other states and towns are looking to these efforts to develop enhancement programs in their estuaries.

Sea Scallops

Sea scallops are found along the deep waters of the Atlantic coast ranging from Newfoundland to North Carolina. Harvesting can occur year round, though most scalloping usually takes place from January to March. Sea scallops have flat, reddish brown, tan or white-colored, saucer-shaped shells with fine ribs. Their shells can be as large as eight inches across and they have about 120 dark eyes all along the edge of the shell. Sea scallops have separate sexes and usually spawn in the fall, and can live as long as 20 years, but 8- to 10-year old scallops are more common.

During Colonial times, sea scallops were harvested from the inshore waters of Canada and New England using small oyster dredges and sailing vessels. The industry grew rapidly along the New England coast to the Mid-Atlantic region after the 1930s as technological advancements were made in cold storage, vessels and fishing gear. As vessels could venture farther offshore, large concentrations of sea scallops were discovered, especially along Georges Bank. This fishery grew rapidly and a substantial fishing fleet developed at the port of New Bedford, Massachusetts. By the late 1970s sea scallop landings began to decline, as did the number of vessels in the fishing fleet. In 1984, a boundary dispute between Canada and the U.S. resulted in the establishment of the Hague Line which gave a large area of the fishing grounds on Georges Bank to Canada. By the 1990s, the government closed large areas of Georges Bank due to overfishing of groundfish (cod, haddock, flounder) and under-sized scallops. This was an unprecedented act by the government to avoid a complete collapse of the New England fishery resource. Strict guidelines and regulations were imposed on the fleet to protect and to rebuild the stocks. This event was a major turning point for sea scallops.

By the late 1990s limited areas were reopened to sea scalloping and the resource began to rebound. The management guidelines and practices have had a positive impact on the fishery. The reopening of the sea scallop beds was a cooperative effort between scientists, researchers, scallopers and industry members. They worked together to determine the location and densities of the sea scallop beds using dredge surveys and video cameras to assess scallop populations, improve biological information and manage healthy sustainable stocks for future generations.

The port of New Bedford ranks number one in dollar amounts of fishing revenue of all U.S. ports. Most of this revenue is due to sea scallops. For the past few years, the fishery has brought in an average of \$200 to \$300 million to our regional landings. In 2008, 53.5 million pounds of sea scallop meats valued at \$370 million were harvested in the United States. The fishery is undergoing review by the Marine Stewardship Council to be recognized as an eco-labeled sustainable seafood product.

The management program is very complex and the sea scalloping fleet must respond to the latest management decisions. It goes without saying that the fishing families have also endured the process. Commercial fishing is one of most deadly professions. In 2009, the Northeast fleet had the highest fatality rates of U.S. fleets, even greater than the famed Dungeness crab fleet documented on the show *Deadliest Catch*. Consumers should appreciate the hard work and dedication that has gone into creating a sustainable sea scallop fishery along our Atlantic coast. We can all take pride in the fact that this fishery is extremely important to the United States, and is the largest wild capture fishery remaining in the world.

Purchasing and Cooking Scallops

In the U.S., scallops can be found at seafood markets already shucked. Sea scallops are shucked at sea and the shells and other tissue are dumped overboard. The scallops in the display case at your seafood market are actually the muscle that opens and closes the shell. Unless you know a scalloper, only the meats are sold, and not the whole scallop. Often you will find that European restaurants and recipes serve the scallop roe or "coral", but it is very rare to find on the menu or at seafood markets in the U.S.

In our area, Taylor Bay Scallops provides whole, live bay scallops for specialty restaurants and seafood markets. The bay scallops are farm-raised and grown in nets in the pristine waters of Buzzards Bay.

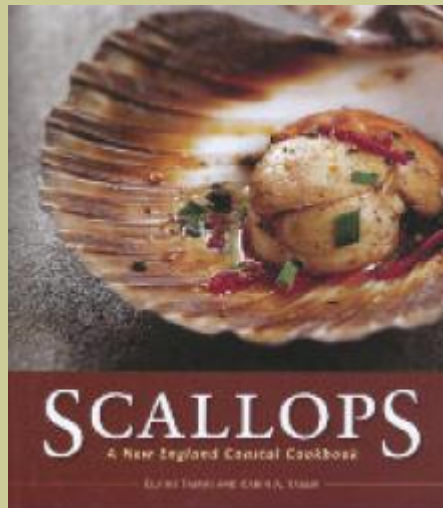
In the fish market, consumers will find "wet" and "dry" scallops. "Dry" scallops are shucked and placed on ice or frozen without any additional liquid added and will have a firm appearance and be sitting in very little water. "Wet" scallops usually appear to be sitting in liquid. These scallops were most likely dipped in water and a food chemical called sodium tripolyphosphate, or TSP, to extend their shelf life for shipping. They are then frozen in bulk or individually using a quick-freezing method. TSP is a food additive that is not harmful, but some people may be sensitive to the chemical. "Wet" scallops will release the water during the cooking process.

Scallops are sold by the pound. Colossal and large sea scallops may only have five to ten meats in a pound and be labeled as U5s or U10s, whereas bay scallops may have 50-80 meats per pound. Before cooking scallops, remove the small piece of tissue on the

side of the scallop; this is sometimes called the "foot." Rinse scallops and pat dry thoroughly.

Most chefs like scallops cooked very briefly, 1-2 minutes on each side for seared scallops. When other ingredients are added, the scallops will take on those flavors. Be careful not to crowd the pan when searing scallops, and cook them in batches. To stretch a recipe, slice the meats horizontally and of similar size for even cooking. Before grilling scallops, poach the meats for about 1 minute to prevent them from sticking to the grill.

SCALLOPS: The Cookbook



Elaine Tammi and Karin A. Tammi, authors of the recently published cookbook, *Scallops: A New England Coastal Cookbook*, started on their long journey 15 years ago. Their book evolved from Karin's graduate research at the University of Rhode Island on bay scallop restoration in the Westport River. After a large bay scallop harvest, the women collected recipes for a small pamphlet as a Christmas present for all the volunteers. This became a book proposal sent out to many publishers. The Tammis received over 200 rejection letters, took time out when "life got in the way," and started again. One publisher wanted only the recipes, not a history of the fishery. Another wanted only a few color photos and a few black and white photos. Many publishers were not publishing single ingredient cookbooks in the late 1990s. Changes in the publishing industry and digital photos made publishing easier in the year 2000. After five or six book proposals crammed with colored photos, several publishers were interested. In 2009, Pelican Publishing wanted a complete manuscript, which evolved into a cookbook published in May 2011.

Julia Child became involved when the authors consulted her for help in writing the cookbook. All three women were members of the Women's Fisheries Network (WFN). Julia advised them to become known as "scallop authorities" and to write magazine articles, which appeared in *Coastal Living* and *Food Arts*.

RECIPE

Sandy Neck Shrimp & Sea Scallops Au Gratin

Karin Tammi is a shellfish biologist who manages the Luther Blount Shellfish Hatchery at Roger Williams University in Bristol, Rhode Island. She researched bay scallop restoration at the University of Rhode Island for her Master's Degree in Fisheries. She lives in Little Compton, Rhode Island.

Elaine Tammi, a retired English teacher, lives in Sandwich. She enjoys cooking as well as reading and writing mysteries. Elaine and Karin have co-authored articles for Food Arts magazine, Coastal Living magazine and Cape Cod Magazine.

For a list of upcoming appearances and cookbook signings as well as recipes, visit www.scallopcookbook.com

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