

## Visit Maine's Beacons of the Sea

**By SHERRY BALLOU HANSON** 

Trade and travel, even life itself, often depended on these coastal lights for survival.

Cixty-one lighthouses dot the Orocky coast of Maine, (63, if you count those that protect Portsmouth Harbor), and with good reason: all those granite ledges and hidden reefs lying just below the surface of the ocean that could rip the bottom of an unsuspecting boat. Today most vessels, from fishing boats to cruise ships, have Global Positioning Systems, but before this modern technology, the lonely lighthouses were all that stood between a captain at sea on a stormy night and the perilous coast.

Lighthouses were invented in ancient times. The Lighthouse of Alexandria, reputed to be 120 meters high and considered one of the Seven Wonders of the World, was built in the third century B.C. It functioned as a beacon for shipping until two earthquakes in the fourteenth century destroyed it.

Ownership of 28 of Maine's coastal lights passed from the federal government to local groups in 1998. Federal budget cuts left little money to maintain the lighthouses, and the commandant of the U.S. Coast Guard, Admiral James Loy, signed an official transfer. Most of the lights had been automated by then, so there was no longer a need to have a keeper on site. New owners pledge to maintain the lighthouses and keep them accessible to the public wherever possible.



The lighthouse on Seguin Island in Georgetown, located two miles south of the mouth of the Kennebec River, was commissioned by George Washington in 1795 and is one of the oldest in the United States. You can see the lighthouse from Popham Beach State Park, and its beam is visible for 20 miles. You can visit the lighthouse in the warm months by private boat or take a ferry from the Maine Maritime Museum in Bath. (See www. mainemaritimemuseum.org for information.) There's a dock and a cottage on the island. Search out the seasonal caretaker to guide you up the winding stairs into the light tower to see the First Order lens. Or simply pack a picnic lunch and enjoy the offshore peace and quiet.

The lens at Seguin is a fixed light, meaning that it does not rotate. Most of the original lenses used in lighthouses in the Northeast were mounted on mercury bases that were designed to rotate; these were later removed because of the danger of mercury poisoning. Seguin's used no mercury, so it could be kept in place. The Friends of Seguin Island now own and care for this precious piece of Maine's history. Contact them at www.seguinisland.org for more information on visiting.

Portland Head Light, Maine's oldest, is said to be the most photographed lighthouse in the world. Built in 1791, also under the direction of George Washington, this sentinel has witnessed many a wreck. Twenty vessels were destroyed in a great 1869 storm alone, when waves wiped out the foghorn. Henry Wadsworth Longfellow was known to visit Portland Head Light to write poetry.





Top: Bass Harbor Light. Bottom: The Blue Angels fly over Portland Head Light in Cape Elizabeth.

Today, during ocean storms as well as fair weather, people visit the outside (there is no public access inside) to watch the crashing waves. Drive to Fort Williams State Park, adjacent to the light, to see why. You could spend a day here, watching the surf, touring the old fort site, and stopping in the gift shop. There are picnic tables and barbecue pits, so take a lunch or something to grill.

Picturesque **Ram Island Ledge Light** is visible from the state park, too, on the north side of the entrance to Portland Harbor. Surrounded by deadly ledges not visible at high tide, this light, built in 1905, prevented lots of wrecks. Its unique pattern is two white flashes every ten seconds.

Built in 1827, the lighthouse at **Pemaquid Point** farther up the coast looks like it sprouted from the long, ragged ledge it commands. Located on the western side of Muscongus Bay at the end of route 130 in Bristol, it is well worth a visit. The light flashes every six seconds. The interior is open to visitors in season (Memorial Day to Columbus Day) as long as a volunteer is available. The Fishermen's Museum, formerly the keeper's cottage, is also open daily in season and has a nice collection of old photos, scale models, and fishing paraphernalia. Picnic facilities, Pemaquid Art Gallery, a restaurant, and gift shop are located nearby.

The ledges at Pemaquid Point experience magnificent surf during storms, and many a shipwreck occurred here, including one on September 16, 1903, when Captain Willard Poole and 13 of the 15 men aboard the fishing schooner George F. Edmunds were lost. For more information on Pemaquid Light, visit www.lighthousedepot.com.

Doubling Point Light, the closest to the city of Bath, is one of four smaller river lights on the Kennebec River that guide ships to and from the Atlantic Ocean. It is automated, as are nearby Squirrel Point and Kennebec River lights. You can't go inside, but you can drive and then walk to the grounds of all three by following Route 127 south from Bath. To visit Doubling Point and Kennebec River lights, turn onto the dirt road marked "Doubling Point Road" 1.8 miles south of Bath. Fork left for the Kennebec River light. To reach Squirrel Point from 127, turn onto Steen Road just north of the Arrowsic/ Georgetown Bridge and follow it a half mile to Bald Head Road, and park your car. Walk to the grounds on the .8-mile footpath.

**Spring Point Ledge Light** in South Portland, on the west side of the main channel in Portland Harbor, is accessible by car. Surrounded by water when built in 1897, it was joined to shore in 1951 when a 900-foot breakwater was built. The interior is open during the summer months.

Many lights in Maine and elsewhere are now in the hands of private organizations. Most are automated and no longer rely on the large, beautiful lenses of the past. But the lighthouses themselves are still there, so make a visit and step back to a time when our nation was young and when trade and travel, even life itself, often depended on these coastal beacons for survival.

And don't miss the Maine Lighthouse Museum in Rockland, home to 12 original Fresnel lenses and many lighthouse artifacts. This year the American Lighthouse Foundation merged with the museum, bringing together two of the country's finest exhibits. For more information, visit www.mainelighthousemuseum.org.



A lighthouse beacon illuminates
Edward and Elizabeth Young as they
tour the Maine Lighthouse Museum
in Rockland. The museum is home to
the largest collection of lighthouse
lenses in the United States.

## The Fresnel Lens

Ever wonder what made the lights in those tall towers so bright? Resembling giant beehives, the original Fresnel lenses used in Maine's lighthouses—and other lights along

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Light shines through the Fresnel lens inside Pemaquid Point Light in Bristol.



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## THE FRESNEL LENS

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coasts of the United States and the Great Lakes—were made of prisms that redirected light from a single lamp into a concentrated beam.

Depending on the size (also known as the order) of the lens, the beam was visible up to 20 miles. The first Fresnel lens was handmade in France in 1822 by French physicist Augustine Fresnel and shipped unassembled from France to the United States. The largest, called a First Order lens, could be as tall as 12 feet. Rings of glass prisms above and below the center drum bent the light beam. Later designs incorporated a bull's eye into the center of the lens, magnifying power.

A Fresnel captured all but 17 percent of available light, whereas an open flame lost 83 percent of its light. The First Order, a 282-prism beauty on Seguin Island, reflecting the light of a single 1,000-watt bulb today, is one of only two working First Order lenses north of Virginia and can be seen 20 miles off shore.

Order, from first to seventh, is determined by distance from the flame, or bulb. First Order lenses were installed in larger seacoast lighthouses, whereas smaller lenses went in breakwater lights, like the Fourth Order at Owl's Head.

Early standard Fresnels posed problems, as more and more lighthouses were built. A ship's captain could not tell one from another on a stormy night, so Fresnel began incorporating "personalities" in the lenses, varying the arrangements of the bull's eye or prisms. Many lights became known for their distinctive flash patterns.



