

## A Month in an Oregon Lighthouse

Cape Meares Lighthouse stands on a 200-foot bluff above the Pacific Ocean. It is one of the few lighthouses on the Oregon coast where visitors can climb to the top level and stand next to the First-Order Fresnel lens.

We have worked before in Oregon as Park Hosts and thought it might be an interesting challenge to work as docents at a lighthouse. An understatement...



Last year we turned in our application wondering about our chance of being accepted. Last January the call came, "Will you work at the lighthouse during the month of August?" Our reply was a, "Yes, thank you."

After accepting the job we expected some study material, but were to be disappointed. It seems this year they decided to wait until we arrived at the Cape Lookout State Campground where they had a space for us with full hookup.

We were due to begin work on August 1<sup>st</sup>. We were working in July at the Ft. Stevens Military Museum and couldn't get away until late afternoon of July 31<sup>st</sup>. We hurriedly broke camp and drove the sixty miles to our new campsite. Shortly after we arrived Jane, the Gift Shop Manager, dropped off the study books. Time to study that night? Ha! And we were to start work the next morning.

The next morning was a beautiful sunny day. We drove the 12 miles to arrive at 10:00 AM and begin work. Fortunately, one of the locals, a member of the "Friends of Cape Meares Lighthouse" group took the first few tours while I listened. After that, it was my turn.

The first day on the job standing in my new office I wondered, "What did I let myself in for?"

Cape Meares has over 400 visitors a day. Most of them want to climb the stairs to the light, in groups of 12 to 15 at a time. I learned my job was to greet them, answer their questions and tell them a little about the lighthouse and about the people who tended the light.



In the meantime, Aldean was learning to handle the gift store located in the old workshop on the first floor. After this, she spent time on the first floor helping visitors and handling the gift shop sales. She also handled the crowds below waiting to tour the lighthouse.

Very often, especially in the afternoon I would hear her on the radio, "Can you hurry it up? We have people lined up from the bottom of the stairs, through the

gift shop and outside waiting to come up,“

It was fortunate she is a quick study because she also relieved me for breaks and sometimes for my lunch. She became very adroit at handling the tours in the top of the lighthouse and answering their many questions.

On those first days I might start by telling a little history such as, “Cape Meares is the 7<sup>th</sup> lighthouse built on the Oregon Coast in 1889...”

Then I learned the best way is to size up my audience, what did they want to hear? Perhaps they just wanted to look out the windows at the great view and take some pictures. Some had specific questions.

Many of our visitors were first timers; others had a deep understanding from their reading and from visiting a number of lighthouses. Many people were from foreign countries. It was interesting to have such a group with only one or two who spoke English. They translated my words to their fellow travelers.

Then as I grew more adroit at my job, if no one started the ball rolling I might ask a question, often of a youth. “Why do we have lighthouses? What is their purpose?”

Some of the answers were interesting and led to further discussion and more questions. The usual answer was, “the lighthouse keeps the ships off the rocks.” This is a good first part of the answer, but not the most important.

There was a lot of ship traffic in the 1800s between China and the West Coast. Imagine a sailing ship, or a steam

ship, leaving China and traveling 5,000 miles with no sight of land. Also all traffic from Europe and the East Coast came around the horn. They kept well out to sea as they traveled up the South America Coast, as there were no aids to navigation.



Imagine not being able to see the stars or sun for a navigational fix due to clouds and fog. If this happens during the last week or more of the voyage they could be a hundred or more miles off course.

Then they would see a lighthouse and could determine their exact position. How? Does anyone have the answer?

Each lighthouse has it's own “signature” made up by the light patterns and timing of the flashes.

When they saw a bright five-second red flash followed by thirty seconds of white light they could check their charts. These would show this signature belonged to Cape Meares.

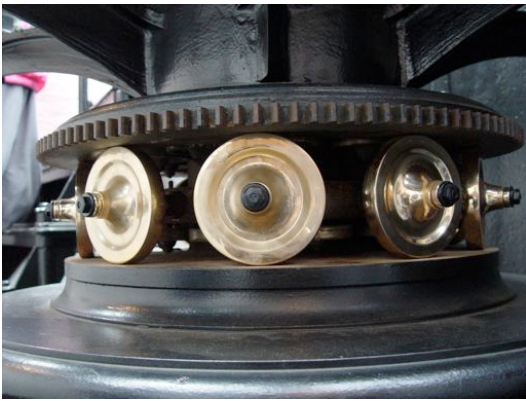
If, for instance, their destination was Portland; they knew they had to sail north to reach the mouth of the Columbia River.

The lighthouses on the West Coast are positioned so their beams overlap. A

ship coming toward the coast will see at least one lighthouse.

The Cape Meares light rotated once every four minutes alternating between red and white with darkness in between each light change.

One frequent question was, “how was the lens rotated?” It weights over 2,000 pounds and rests on a chariot of ten brass rollers.



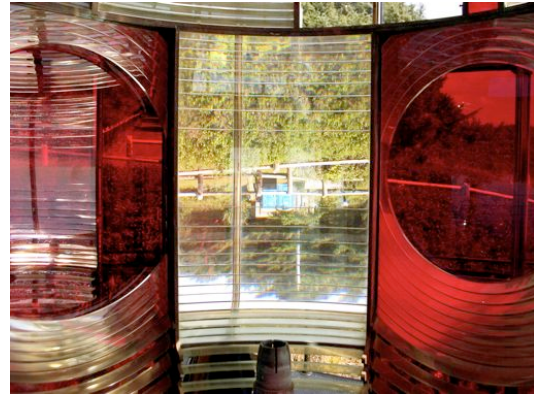
It was operated by a mechanism similar to that in a grandfather clock. This used a 200-pound weight. A grandfather clock usually needs the weight raised once a week. At Cape Meares the weight had to be cranked to the top every two hours.

The Fresnel lens was invented by Augustan Fresnel in Paris in 1822. No one has bettered his design. It takes a light source that may be three inches high turning it into a twelve-foot high light. The red Cape Meares light produced 160,000 candlepower and could be seen 21.5 miles at sea. The replacement Vega beacon on the hill behind and above produces 57,000 candlepower and can be seen for 17 miles. Will anyone come visit this light in 115 years? I think not.

The Cape Meares lens was manufactured in 1887-1888 in Paris, France. It was put

onto a sailing ship, which traveled around the horn and anchored below the 200-foot high cliff where the light now stands.

Block and tackle were used to sway the two-thousand pound lens up from the ship, to the top of the cliff, then into its position in the structure.



It is possible to look inside and through the lens at Cape Meares. Many people are surprised to see everything appears upside down..

The first light source was a kerosene lamp on the built-in pedestal in the center of the light.

The lighthouse went into service on New Years' Day, 1890. In 1910 the lamp was converted to an oil vapor light similar to the Coleman lantern of today.

At dawn the light was turned off and cleaning begun; soot on the inside and outside of the lens, brass work to be polished, the inside and outside of the windows to wash, weather permitting.

All of this cleaning work was to be completed by 10:30 AM.

If the Inspector appeared on one of his infrequent trips and found the work not finished or not up to his satisfaction, the

Lighthouse Keeper could have his \$600. a year pay docked.

One can only imagine the happiness in 1934 with the installation of a generator, an electric bulb and an electric motor to turn the lens. Cleaning was much easier and no more cranking of that 200-pound weight throughout the night.

Many rumors repeat the story that the lighthouse was built on the wrong cape. This is untrue.

From the beginning the lighthouse was to be built on Cape Meares.

There were several reasons to build there. The most important is a lighthouse at Cape Lookout would leave a two mile stretch of darkness on the West Coast of the United States. A ship could reach the shore without seeing a single lighthouse.

Also, there was no water source at Cape Lookout, building a road would be too difficult and it was further away from Tillamook Bay.

Lighthouses are supposed to be tall, aren't they? Cape Meares Lighthouse stands on a 200-foot high cliff. Any higher and the light beam would often reach out above the fog and not be visible to people on the ships.

While in Oregon we took advantage of some interesting finds. At Fort Clatsop, where Lewis and Clark spent a Winter, we learned of Capt. Cook's voyage to the area and why his return home resulted in a number of ships traveling between China and our West Coast.

This was furthered by the later voyages of Capt. John Meares for which the Cape is named and a visit to the area by Capt.

Robert Gray while searching for the Columbia River mouth.



Much of this is available at the Garibaldi Maritime Museum of Discovery located in the nearby town of Garibaldi, OR. [www.GaribaldiMuseum.com](http://www.GaribaldiMuseum.com)

This trade had a direct bearing on the later financing of the Lewis and Clark expedition to the area.

And all this started with Capt. Cook's casual trade in Sea Otter fur. The Sea Otter is now extinct on the West Coast.

Was this an interesting experience for us? Yes! Will we work in another lighthouse? Perhaps...

*Gene & Aldean Redman*