

Ship Report Transcript

Friday, August 2, 2024

By Joanne Rideout

All rights reserved. No use without permission. © 2024. Joanne Rideout/The Ship Report.

It's time for the Ship Report the show about all things maritime. I'm Joanne Rideout. It's Friday, August 2nd, 20, 24.

We'll start out with a look at the weather and then a bit about anchors and anchor chains and fouled anchors and some things that happened in the story anchors this week. But first, in our Marine weather forecast, a little change in the wind direction. Winds became southerly, but will turn northerly again this afternoon. Benign seas through the weekend. So today we have southwest winds in the forecast, 5 to 10 knots, seas 3 to 4 feet. Waves from the south, two feet high at 4 seconds apart and northwest swells four feet at 9 seconds. We'll have northwest winds through the weekend. That will turn west on Sunday. And Sea Heights could reach five feet.

Well, we had an interesting incident in the Astoria Anchorage involving a ship this week, and I wanted to talk about it because it opens up a very interesting topic that we probably don't think about very often, and that is how anchors hold ships in place. We have a lot of ships that are anchored off shore here in the Astoria area, and they are all held in place by a very heavy anchor and a very heavy chain.

So it turns out that there's a little more involved in this than just what you might think. You just drop the anchor and it holds the ship in place. So we'll talk about that in just a minute.

But first, what happened? Well, I didn't see this myself, but I saw photos of it posted on the Ship Report Community Photo Page on Facebook. That's a page I started to allow people to post their own local photos that they've taken of vessels on the Columbia River and adjoining waterways.

What those pictures showed was that there was a bulk carrier out there, like many that we see in the anchorage that was hauling up its anchor. It's called weighing anchor, getting ready to head upriver to pick up cargo like generally most of the ships do that are in the Anchorage. They're waiting to head upriver to pick up cargo. So when they're ready to go, they haul up their anchor reel in the chain and and go on their way.

Well, this ship couldn't do that because when they pulled the anchor out of the water, the chain was wrapped around the anchor. So this became a big problem suddenly that needed to be solved. This problem is referred to as a fouled anchor, and it presented a dilemma for a big ship that needed help with.

Now, on a small boat, if the anchor chain gets wrapped around the anchor, you can probably just untangle it with your hands and it's all good. So on small boats, you also probably have a length of chain attached to the anchor and an anchor line of rope to attach to the boat.

But on a massive ship like this one, there is just anchor and it's chain, and both are immense. The anchor weighs many tons and the chain also, for example, each link on a ship chain, like the ones we see out in the anchorage, can weigh about 100 lbs. And on larger ships like big military vessels, like sink aircraft carriers, each link can weigh in at 350 to £500. So this ship in the Astoria Anchorage needed help in the form of a special barge fitted with a crane that could take the anchor onboard and get that chain untangled.

Once that was done, the ship hauled the anchor up as usual, continued on its way upriver to pick up cargo.

So this brings up another interesting facet of anchors and anchor chains, and that is how exactly do they work together to keep the ship in place, especially in a place like the Columbia, where there are very strong currents pulling on ships at all times?

Well, when a ship comes into the anchorage, if you are observant and happened to see one, you'll notice the ship gliding under the story, a regular bridge and slowing down almost to a stop as it approaches the Anchorage area with its anchor suspended over the water hanging down a bit. And when it reaches a place where the pilot wants to anchor the ship, it drops not only its heavy anchor, but many lengths of very heavy chain. And together they hold the ship in place so it can swing with the tide and not drag.

Ships use the weight and resistance of the anchor along with the tension and what's called the nary effect of the curve of the anchor chain, which acts like a weight and a spring and creates horizontal pull against the anchor, helping it dig into the bottom. And even though ships are very, very heavy, you know that if you've ever been on a boat, that a boat that you can't lift when it's on land can move quite easily in the water despite its weight.

So it takes a lot of weight in the form of the anchor and the chain together to keep a ship in place in the water and the anchor and chain together make that possible. So when a ship drops its anchor, the anchor is designed to bite into the seabed and provide resistance against the current that is dragging that is trying to drag the ship. The anchor's flukes, those are the pointed parts dig into the seabed, preventing the ship from drifting. Now the anchor must remain stable without turning over after it digs into the seabed. So the anchor chain then plays a crucial role in holding the anchor in place.

The chain is attached to the anchor and extends from the ship's bow to the anchor on the seabed. Now, the weight of the chain resting on the bottom with the anchor. Some of the chain piles up there next to it helps to keep the anchor in position and provides additional resistance against any dragging force.

Then you have the chain that extends from the bottom up toward the ship on this catenary curve, they call it. That is the portion of the anchor chain that's not on the river bottom, and that also contributes to holding the ship in place. The anchor is designed to hold on a horizontal pull so more chain is paid out to give that low angle of pull.

So the sag of the chain creates a catenary effect, which helps to hold the ship by providing additional resistance against that dragging force. It also provides a little give and spring effect to help keep the ship stable against the changing forces of the water moving against the ship. The type and size of the anchoring equipment on any ship, including the anchor and chain, are based on the size of the vessel and other criteria. So each shipping company has its own specific standing orders for anchoring its ships.

So the ship's anchor is suspended on the outside of the vessel, hanging from a hole in the side of the ship called a hawsepipe. And the chain is stored in a room on board in the bow called a chain locker. The chain is paid out when they're dropping the anchor and winched up when they're raising it, using huge, windless, giant winches on deck. And the process of releasing the anchor chain is done quite carefully when they're dropping anchor. If the chain pays out too fast, the immense amount of friction can actually cause a fire.

And the fast moving chain, which is so very heavy, can be deadly to anyone that is near enough to be hit by it. So crews handle dropping anchor very, very carefully when they arrive in, say, the Astoria Anchorage.

So as with many things on ships, there's a lot going on behind the scenes with this anchoring procedure and something that we on land just never see.

If you'd like to see some photos of that ship and its fouled anchor and the efforts to unfold it, you can take a look at the ship report Community photo page on Facebook. There are some great photos there by Scott Salisbury and Scottie Sam Silverman, maybe some others from some other photographers as well that illustrate this problem and how it was solved. And many thanks to Scott Salisbury for the use of his photo of the ship with its fouled anchor, which is posted with the Ship Report podcast on my website.

You've been listening to the Ship Report the show about all things maritime. I'm Joanne Rideout. You'll find ship schedules and a podcast of this program on my website at shipreport.net. Ship Report podcasts also on Apple and Spotify. You'll find marine weather and links to ship schedules and more on my Ship Report Facebook page. Transcripts of the show are available with podcasts.

Thanks for listening and have a great day.