

It takes men of steel to break river of ice

By DARRYL CAMPAGNA
Staff writer

By February, the ice on the Hudson River carries the story of the winter in its layers and colors and textures.

Heavy rains and thaws will turn ice that forms in the next freeze a distinctive taupe, grainy with trapped silt. In stretches of pristine cold, fresh crystals give the ice a glassy polish. The layers keep building for months. To someone who knows the ice, its history can be read like sedimentary rock as the bow of the Coast Guard's icebreaker *Penobscot Bay* cuts through it.

On Thursday morning, as the boat pulled away from its mooring at West Point, the ice carried the creamy colors of marble, striated in beige, yellow, blue, white and gray-green. A few inches of fresh snow softened not only the gray surface but also the steep walls of the half-mile-wide gorge the river cut through the mountains millions of years ago.

Just ahead and to each side of the bow, diagonal cracks zig-zagged across fresh ice like lightning as the pressure of the bow pushed it apart. Tons of broken ice, churning against the inch-thick steel bow, sounded like hammers striking the metal. The accompanying reverberations are so much a part of the daily routine that if the ship pauses in open water, the silence startles crew members working below.

"You just never understand what this is like until you're here," said commanding officer Lt. John Arenstam. "The symmetry of the ice — it's beautiful, but noisy. I love it."

For the 17-man crew of the *Penobscot Bay* — one of as many as three Coast Guard icebreakers that will work the river this winter — the ice makes each day different.

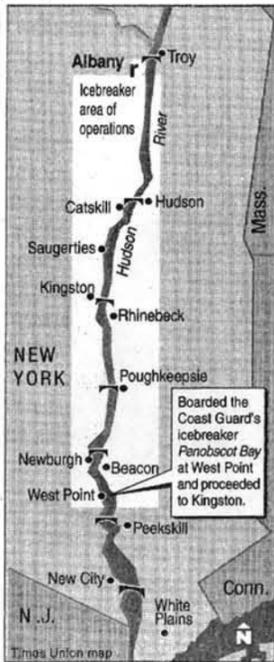
"There is more science and art to breaking ice than just raw horsepower in just driving through it," Arenstam explained. "But once you know the ice and know what it's going to do, there's many different ways to get a guy free who's ice-bound. And no way is ever exactly like another."

The length of the ice season on the Hudson varies with the weather. This winter, it began Dec. 15 and will probably continue until March. The ship, based at Governors Island off of Manhattan, is on duty for eight-day stretches, with six-day breaks in between. The 140-foot cutter moors each night at a pier along the river — ice-breaking is deemed too hazardous to do in the dark — but even while the rest of the crew is sleeping, one member is always on watch.

The crew's mission is to keep the river south of Albany open to commercial shipping traffic, free ships stuck in the ice and keep the piers open.

Keeping the river open is an endless task, a little like trying to rake leaves in a windstorm. The river's tidal forces reach all the way to Albany, and with that constantly shifting water level comes a current that flows both north and south. The ship's goal is to move as much of the ice downriver as possible. But sometimes the broken ice refreezes within hours, or the current pulls it back.

The ship's design and weight allow it to cut through ice that stalls a barge three times its length. At the front is the "stepped" profile of the bow that enables the ship to actually climb onto the ice, a bit like jumping a curb. Once it does so, the sheer weight of the ship — at 700 tons, nearly seven times heavier than most tugboats — will crack open ice



up to 30 inches thick. At the stern is the "bubbler," a giant air compressor that keeps pushing the broken ice away from the ship.

It is these logjams of broken ice that can slow a barge as effectively as an unbroken 3-foot-thick expanse, Arenstam said. The last few weeks have been especially busy because the crew is still clearing away a thick slurry of broken and partially refrozen ice known as "brash ice" that washed down the river during the floods that began Jan. 19. The runoff turned the river brown, and in the first days, unusually heavy ice jams four and six feet thick clogged the Hudson, creating gigantic pressure ridges in which the ice literally ran out of room to move.

When faced with conditions like this, how does an icebreaker free a barge the size of a floating city block? The techniques vary, but generally involve cutting a series of channels through the ice that create an ever-widening path of open water. The cuts may be parallel to the barge or looped in long, oval "racetracks" around it. Even if much of the river is frozen, the cut slabs will jostle on top of each other enough to open up a little room.

So far this winter, the *Penobscot Bay* has logged 1,808 miles in its ice-breaking tour, assisted 33 vessels — most were barges or tugboats — and cleared ice away from eight piers.

Arenstam jokingly calls his crew "the world's largest dysfunctional family." The 16 men serving under him credit the 30-year-old commander with helping this particular group mesh especially well.

The crew consists of Arenstam, his Executive Officer Brian Finney, the Engineer Officer Brad Ward and 14 enlisted men. The crew is all men; although the *Penobscot Bay* was built eight years after the Coast Guard began admitting women to its academy, the ship still has only one shower facility. Eventually, the bathroom may be renovated to accommodate female crew members, Arenstam said.

Long days working together with the cooperation necessary to run the ship creates a strong bond. A painting on a piece of steel housing proclaims the crew's pride in their mission: a thrashing shark surrounded by the legend: "Nature makes it; P-Bay Breaks It."

Just before 4 p.m., on a day that never really saw the sun, the



Times Union photos by Skip Dickstein

TEAMWORK is important as Seaman William May and Seaman Robert Kenyon Jr. prepare to dock the *Penobscot Bay* in Kingston.

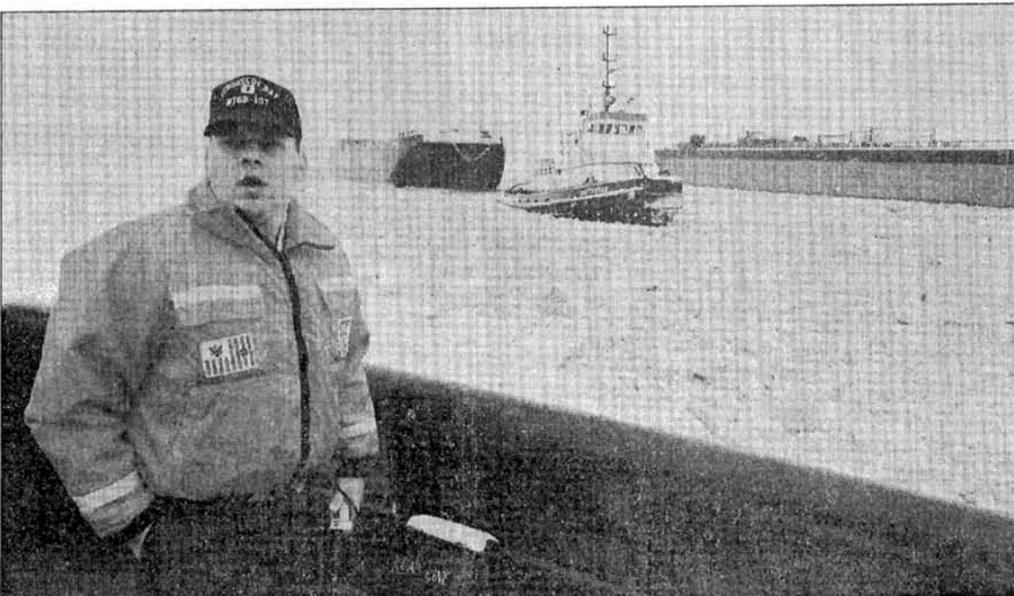
Penobscot Bay delicately edged up to the pier at Kingston. It was a good day, Arenstam said, tallying up the assist to the trapped barge, the drill and the relatively mild 35° weather. There have been days this winter when so much spray froze on the deck that the crew had to break it up with wooden baseball bats. Oddly enough, few of the crew members wear gloves on the deck; they joke that they no longer feel the cold, and claim they've never found a pair of gloves that combine enough warmth and dexterity to be useful.

Some days, as the ship heads for its overnight pier, the helmsman cuts a final channel in the ice in the shape of the letter "P." The initial lasts about 15 minutes before the undulating tables of ice shift into the slice of open water and blur it beyond recognition. That doesn't matter; the crew just wants to let the river know the *Penobscot Bay* will be back the next day.

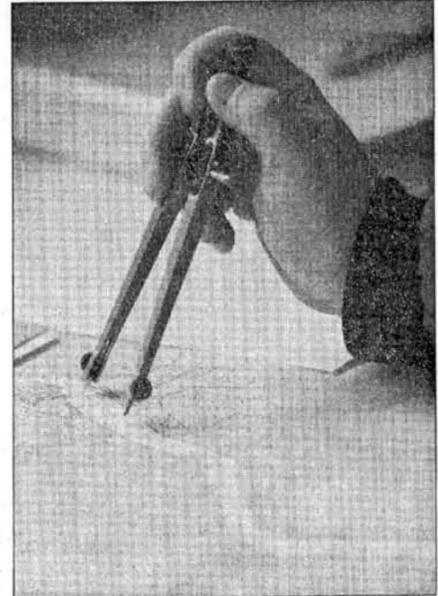
"Zorro had his Z," Arenstam explained, smiling. "I don't think anybody ever sees it, but we do. It's what makes it fun."



THE BEAR MOUNTAIN BRIDGE looms large before the bow of the Coast Guard ship on the Hudson.



ICE-BREAKING is an art and a science, says Lt. John Arenstam, commander of the *Penobscot Bay*.



CHARTING the ship's position on the Hudson River is an important job.