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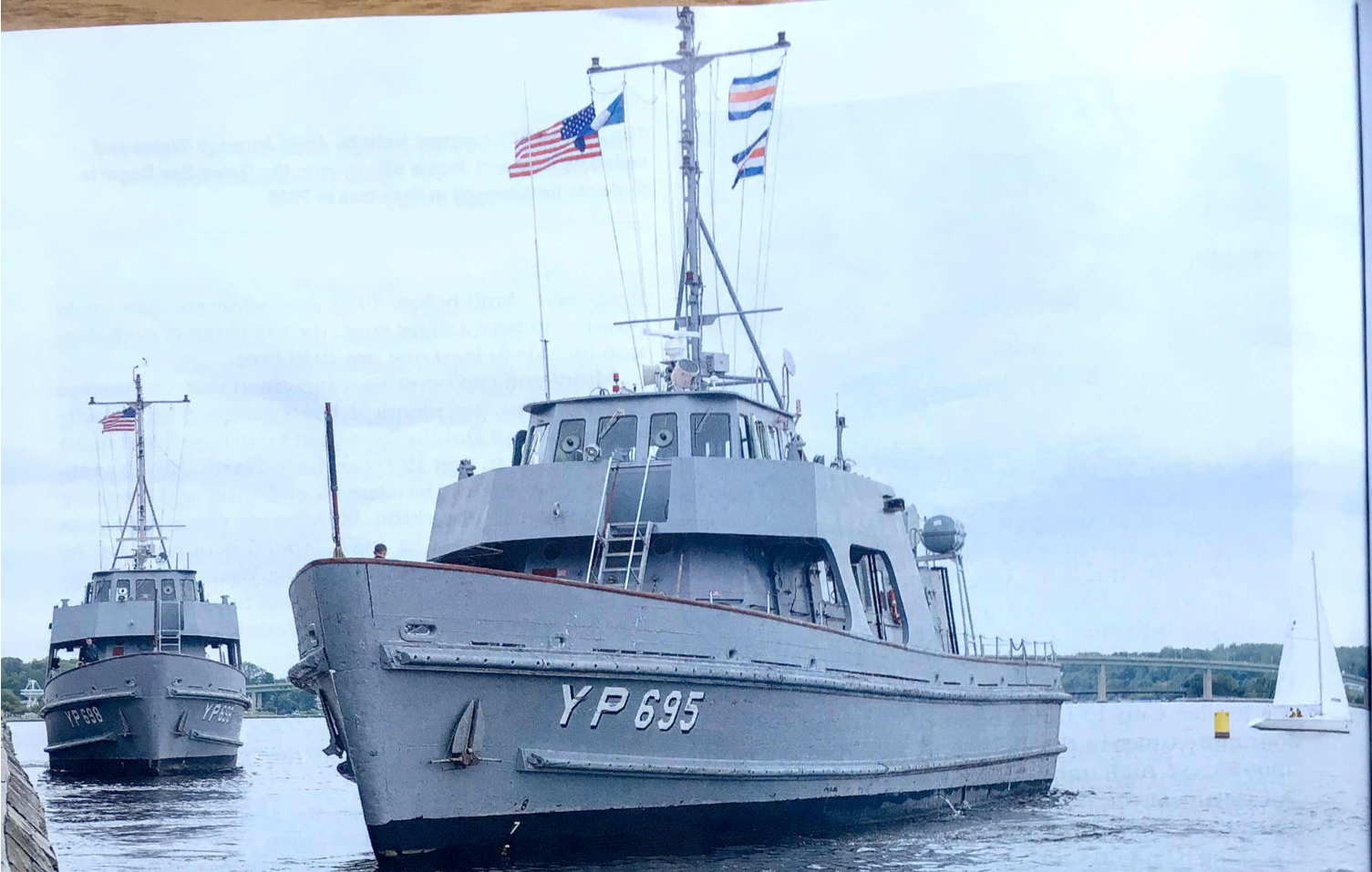
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# YARD PATROL BOATS

## *The Navy's floating wooden classrooms*

Text by Kate Livie • Photographs by Jay Fleming

**O**n a warm Wednesday afternoon in early September, the Severn River outside of Annapolis, Maryland, is a blizzard of sails: A dense fleet of recreational sailboats, propelled by a smart breeze, cuts merrily through the water. Incongruously moving through this picturesque scene at the deliberate pace of a waterborne elephant is a 108'-long Yard Patrol Boat (YP). It dwarfs the other boats.

YPs are a frequent sight on the Severn—and on the greater Chesapeake Bay. Used by the U.S. Naval Academy as training vessels, they are floating classrooms aboard which students—midshipmen, in Academy parlance—learn the basics of seamanship. The vessels are among only a handful of contemporary ones remaining in the U.S. Navy that are built, at least partially, of wood—Avenger Class Mine Countermeasure Ships

being another notable example. Why wood for these training ships? Because YPs take a beating in the hands of inexperienced students, and wood is forgiving and relatively easy to fix. Just a few years ago, in 2012, one of the YPs ran aground off Kings Point, New York, during a monthlong summer training cruise. It suffered only minor damage to the propeller and rudder, and the accident was chalked up to just another learning experience. After a few repairs, the vessel went back into service for another school year, when a new class of would-be officers boarded it for the first time.

This venerable tradition of tough wooden classrooms is slowly coming to a close, however. The old wooden YPs, the newest of which was built in 1988, are slowly being phased out for the steel-hulled 703-class. The wooden YPs, with their older systems, were becoming

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**Above**—YP (Yard Patrol) Boats are training vessels used by the United States Naval Academy in Annapolis, Maryland, to teach crew of midshipmen the fine points of shiphandling and navigation. Here, YP 695 backs away from the seawall after disembarking a



Midshipman 4th Class (i.e., freshman) Sarah Padgett of Raleigh, North Carolina, takes instruction from Lieutenant Commander Ryan Rogers. YPs are ideal classrooms for such lessons, because their bridges simulate those of Navy destroyers.

difficult to maintain, and their dated navigation, propulsion, and control systems don't reflect those currently in use in the Navy's modern combat fleet. They also lack the gendered accommodations necessary in today's Navy.

The new steel-hulled YPs will have even more advanced equipment to accurately simulate modern destroyers, from state-of-the-art, fully integrated bridge systems to multifunctional displays for navigation, communication, and systems monitoring. The Academy's transition to the new YP class began in 2010, and the first three of six to be built by C&G Boatworks in Mobile, Alabama, have been completed. Twelve more are slated for construction.

Perhaps elsewhere this turn away from wooden hulls would be mourned. The new YPs, however, provide a more realistic experience for the officers conning the destroyers of tomorrow. "It's an even better environment to train midshipmen," Joe Carpenter, a 1992 Naval Academy graduate, says of the 703-class YPs. "When I walked on one of the new YPs, I thought I was on a modern Navy destroyer. It incorporates much of the technology that exists now. It's a progression. I have only enthusiasm for their [the midshipmen's] future—it's a move forward." But it's the end of a long era for the wooden stalwarts.

The replacement process is a gradual one, however, and the remaining 20 wooden YPs in the Naval Academy fleet see plenty of year-round use. First-year students—plebes—spend time on them during their introductory summer at the Academy, and they return to them



throughout their four-years of school for regular training. Midshipmen may also elect to join a so-called "YP Squadron" or "YP Color Company"—extracurricular activities that allow even more opportunity for leadership development as helmsmen, navigators, and officers of the deck during cruises to Baltimore, Norfolk, Philadelphia, or New York.

**T**he bridges of the wooden YPs were designed to be scaled-down versions of those on a 1988 destroyer—with VHF and SSB-HF communications systems, an open-array Bridgmaster radar, a Northstar GPS receiver, and a collision alarm. But basic navigation still needs to rely on an understanding of the fundamentals, so today on YP 692 the student crew is carefully checking paper charts as they monitor engines, maneuver through traffic on the busy Severn, and execute a man-overboard drill. The trainees are so precise in their maneuvers that it's easy to forget that many are still teenagers. However, these are students, and the

The fleet of Naval Academy YPs rests on the north side of the Severn River, opposite the Academy. While the wooden YPs are being gradually replaced by new steel-hulled ones, they're finding new careers as charter vessels, restaurants, and private yachts.







YPs cruise the mouth of the Severn River in late July during the plebe (i.e., incoming freshmen) summer. The vessels are a common sight on these waters, and they range as far afield as New York.

YPs themselves are designed to make sure that a craftmaster—a qualified boat handler—can take charge if necessary. Though the YP, like all Navy ships, doesn't have an autopilot, it can be steered from one of three locations: the main bridge wheel, a lever steering station forward of the helmsman's console, or from an emergency steering station aft. The transmission controls have an alarm system to alert the craftmaster if the direction requested by the engine-order telegraph doesn't match the rotation of the props.

There are plenty of other reminders that learning is going on aboard YP 692. Lt. Andrew Marsh, 30th Company Officer, is on board to share his professional experience. He offers guidance to a few of the less-seasoned midshipmen, corrects terminology, and makes suggestions when needed. Marsh is a gregarious and natural teacher. He says YPs are ideal for teaching, because they're maneuverable and thus allow plenty of room for experimentation and error. "The draft of this vessel is usually about 6'," Marsh explains. "So we can really get into a lot of places. We can let the midshipmen get into some situations that maybe they shouldn't, and then we can get them out of it. That's the best way to learn."

Although all students at the Naval Academy get YP experience under the guidance of officers such as Lt. Marsh, a few truly determined students, such as Midshipman James Brisotti, who serves as the YP 692 midshipman commanding officer, can use their time aboard

to boost their naval careers by gaining their U.S. Navy Craftmaster qualification. This entitles them, upon graduation, to serve as commanding officers of patrol craft and other small vessels. Brisotti envisions a career as a surface-warfare officer, and the skills he's gained aboard YPs could translate to a destroyer's bridge once he graduates. Brisotti also values the unique practical experience that YPs provide. "The Naval Academy is the only U.S. Navy training unit that has these craft that we can work on," he explains. "Everything that's going on in that bridge right now is the same thing that's going on in a destroyer—except that it's not 500' long with missiles."

**Y**Ps have served as training vessels for the Naval Academy since 1939, when the first of the "78-Class" YPs were assigned for midshipmen training. The designation "Yard Patrol" goes back to World War I, when miscellaneous wooden vessels were requisitioned for Naval and Coast Guard use and painted gray. Most YPs are nameless, and their classes were determined by the first hull number in a series. These motley, early YPs from classes 1-77 were not standardized. Everything from yachts to tuna-fishing boats were reclassified as YPs, and essentially any moderately sized, durable vessel would do the job. The civilian crews of early YPs often volunteered to serve in the Navy aboard their own boats, which patrolled coastlines and carried





Aboard YP 690, petty officers handle mooring lines during a docking exercise.

cargo. The 78 class was the first to be commissioned by the Department of Defense to standardized specifications; they were built by pleasure boat outfits such as Mathis Yacht Building in Camden, New Jersey, and Hutchinson Boat Works in Alexandria Bay, New York. Though these 78-class YPs were primarily for instruction at the Naval Academy, as with earlier classes they were pressed into use during World War II for rescue, dispatch, transport, and, if required, assault.

The modern YP design emerged after World War II, and was designated the “647-class.” They were built specifically for training at the Naval Academy and at the officer candidate school in Newport, Rhode Island. In the ensuing decades the YP class was updated to reflect current standards, but all the while they had wooden hulls.

The Navy’s construction specifications were rigorous. Rather than grown or sawn timbers, all curved wooden pieces, including frames, deckbeams, and knees, were laminated from white oak—in some cases as many as 40 layers of it. The planking is also robust—a 1¼”-thick Douglas-fir outer layer is laid over a 1”-thick Alaska yellow cedar inner layer. The outer planking is back-fastened to inner planks with silicon-bronze screws. Hulls are sheathed in a 5”-wide band of copper extending down from the waterline to protect against ice and debris.

The hulls are driven by two 437-hp Detroit 12V-71N engines that give the YP a cruising speed of about 8 knots at 1,100 rpm and a top speed of 12 knots. Dual tanks can hold more than 6,500 gallons of diesel fuel—enough for a cruise of 1,400 nautical miles without refueling. The engines drive two 4” stainless-steel propeller shafts that can be easily locked in case of engine failure or—more likely—for towing. Two Detroit 3V71 generators power the electrical systems, including the galley, lights, and battery chargers while underway.

Only a few shipbuilders were capable of building a wooden vessel of this size to the exacting standards of the Naval Sea Systems Command specifications. The last two generations of wooden YPs were built by two Wisconsin shipyards. Peterson Builders Inc. (PBI; see WB No. 58) of Sturgeon Bay, which also built wooden

minesweepers, patrol boats, and training craft for the Navy, turned out YPs 671 to 682 between 1977 and 1985; Marinette Marine built YPs 683 to 700 between 1986 and 1989.

Each generation of purpose-designed YPs was extremely durable, with a projected service life of 20 to 30 years. Once outdated or too expensive to maintain, the vessels have been decommissioned and sold. Because of this, many have had second lives in civilian service. Their sturdy construction and maneuverability has made them suitable for environmental science instruction, luxury chartering, and even high-end dining cruises.

**T**hough midshipmen do not enjoy the amenities—or artisanal cocktails—afforded on YPs converted to civilian use, many Academy graduates fondly recall summer training cruises. “Some of my favorite memories and experiences of Annapolis were on YPs,” Joe Carpenter says, “and there’s not one I don’t look back on fondly and appreciatively.” YP experience has real-world implications. Carpenter recalls how one challenging high-traffic, foul-weather port departure from Cambridge, Maryland, in a YP played a critical role a few years into his career during a post-Cold War diplomatic maneuver. “I was almost in the same situation bringing [a] destroyer into port in Lithuania on a goodwill visit. An American warship hadn’t visited since the beginning of the Cold War, so everyone was watching,” he recalls. “The weather conditions were atrocious, and I had to bring the ship into a tight port without tugs or any real assistance. I thought, ‘I’ve done this before.’” The landing went smoothly. “I instinctively felt a sense of confidence,” Carpenter said, “drawing on YP experience I’d had when I was 21 and 22 years old.”

It’s a future that Midshipman Brisotti is ready to step into on this warm fall afternoon on the Severn River. Not all YP cruises are as easy as this relaxed afternoon trip, he points out, remembering Baltimore several years ago in January when a YP’s wooden hull had to break ice to get out of the harbor. “It’s all an adventure,” he says of YP cruises. “But this is one of the better ones.”

*Kate Livie is an educator, writer, and historian from Chestertown, Maryland, who serves as the director of education for the Chesapeake Bay Maritime Museum. She has written for The Chesapeake Bay Journal and The Chesapeake Log, and she blogs regularly on Bay topics at beautifulswimmers.tumblr.com and on oysters at katelivie.com. Her new book, Chesapeake Oysters: The Bay’s Foundation and Future (History Press, 2015), is available on Amazon.com and through Bay-area retailers.*