

Port

Your dock is where you park your boat, sip your coffee, and cannonball your heart out. How to choose the best type for your cottage.

Authority

By Martin Zibauer Photography Liam Mogan



Pile dock
with
floater

For a mucky shoreline in a shallow bay, Rick Keevil, who has been building cottage docks for more than 50 years, opted for a long dock (on p.77) to allow depth for boats and diving. The first half of the dock is secured with piles drilled as deep as 40 feet into the lake bed. The outer half floats, to save costs and to reduce the impact on lake ecology.

Fixed or floating

One way to categorize docks is by their relationship with the water. Floating docks maintain a relatively constant freeboard (the distance between the dock surface and the water); fixed-height docks sit on solid supports, be they pipes, legs, cribs, or pilings. To help customers decide, Cindy Belanger, the sales manager at CanadaDocks, an aluminum dock manufacturer that sells across the country, asks first about water depth. “Deeper than six or seven feet, I’d look at a floating dock, rather than one on legs,” she says. In deep water, longer legs mean less stability, and the dock can get wobbly. Belanger also asks about the lake bottom. “With a mucky or a silty bottom, foot-pads may sink in and they’ll be hard to pull out in the fall. But stony, rocky, sandy—you can go with a standing dock. And if you have a sloped shore, you can add a wheel kit and tow the dock out with your ATV.”

Floating docks can be budget-friendly, especially those that combine wood frames, plastic floats, and a DIVER to bolt everything together. (Costs for a DIY floating dock vary; a reasonable, low-end ballpark is \$25 per square foot for wood, hardware, and floats.) Wood floaters, though, are usually too heavy to take out for winter, leaving them vulnerable to spring ice, especially in open water. In general, floating docks are a bad choice in large lakes with rough water. Constant, extreme movement puts a great deal of stress on a floating dock, “and you’ll never be able to sit on it comfortably,” says Belanger. (On the ocean, however, tides make floaters the norm, despite the big waves—see “Saline Solution,” p. 83.)

While spring flooding can submerge many docks, it’s the water fluctuations within the cottage season that you should consider when picking your dock. Fixed-height docks work best where water levels are relatively stable through the summer, as in managed systems such as Ontario’s Trent-Severn waterway. While the height of many standing docks

Most cottagers face this decision at some point.

Sarah Kawasaki and Derrick Hodgson drove up to the lake in early spring, the year before last, and a chunk of dock lay in the shallows. Not their dock—they didn’t have one yet—but a piece of someone else’s that had travelled “through the ebb and flow of the north country,” says Derrick. “We receive everyone’s detritus.” They propped it up on the water’s edge, a temporary wooden seat until someone came to get it.

A dock had long been on the couple’s wish list for their small cottage on North Mazinaw Lake, in Eastern Ontario, but other expenses had always taken priority. Then, at their daughter’s fourth birthday party, “all the guests migrated to this little, weird platform that had just washed up,” says Derrick. It was confirmed: they needed to start dock shopping.

For cottagers buying a first dock, or even replacing an old one, the purchase is daunting. It’s often an expensive investment, and it’s always an important one—to secure a boat, to make swimming more fun, to add space for hanging out, and simply to connect cottage to water.

Derrick and Sarah started by asking neighbours about their docks, a first step that the pros recommend. “Your neighbours have experienced just about everything,” says Jason Pulchinski, the president of At The Lake Distributing, a dock-system wholesaler in Peterborough, Ont. The choice is affected by lake conditions, both normal and extreme. “No cookie cutter dock works on every lake.”

BUOYED UP

A floating dock doesn’t disturb the lake bottom so it’s kinder to fish. It’s also good at weathering lake-level changes and ice damage. The floats come in a range of buoyancies, from 200 to 1,800 lbs per billet or more. Plan for extra flotation at the shore end of the dock to support the weight of your ramp. When Rick Keevil and his son Daniel, who owns Keevil Contracting in Huntsville, Ont., built their latest boat port, they did it on the ice. Come spring, the dock launched itself without them lifting a finger.



Floating dock

good for

FISH HABITAT

THE PAPER TRAIL

Once you've decided roughly the location, type, and size of your dock, talk to your local building officials about which permits you need and from which regulators. Some situations are likely to trigger more paperwork:

Your dock's in an Alberta lake year-round

Alberta Environment and Parks will let you apply for a permit if you really want to, but the ministry warns that "in general, permanent structures on the bed and shore of a lake are not approved for private use."

Or it's a crib dock

Yes, new crib docks can be built in some places, but the rules have tightened. No matter how small a crib is, you'll probably need permits from several levels of government. Repairs and dry onshore cribs that support one end of the dock are usually okay, but ask first.

It has all the fixin's

Dock structures for "non-moorage purposes," such as hot tubs, boathouses, and sheds, are further regulated in many places. Get advice from the local pooh-bahs.

It's on high-traffic water

Transport Canada cares about docks on "charted navigable waters" (check at geoportal.gc.ca, by clicking on "View the gallery" and opening the Canadian Hydrographic Service Chart Index). Essentially, you can't hamper regular boat traffic on those waterways.

Or it's big

In B.C., for example, docks bigger than 24 sq. metres or wider than three metres need a provincial okay (as do those on marine waters). Across Canada, docks larger than 20 sq. metres and smaller ones that may damage fish habitat need a review by Fisheries and Oceans Canada.

Until recently, if it were in Ontario

As of June, regulatory changes mean that work permits are only required when a crib for a dock or a boathouse physically touches more than 15 sq. metres of shore lands. Floating and cantilever docks, and structures with cribs less than 15 sq. meters, will not need work permits, as has been the case for years.

CRIB NOTES

Crib docks feel solid underfoot and are low-tech. On the downside, new builds disrupt the lakebed and aren't suited to depths more than about eight feet. Plus, cribs can be shifted by ice, and the dock can get swamped or left high and dry when water levels change. Secure docks to prepare for spring floods by weighing them down with water-filled plastic barrels, recommends the Central Okanagan Emergency Operation Centre, in Kelowna, B.C.

PARK IT

Plastic ramps that float next to the dock simplify PWC parking. Just drive up the ramp, tie it up, and you're done. For kayakers, some PWC ports can be modified with side-rail kits; grab the rails, pull yourself up the ramp, and get out of the kayak—without practising a kayak roll. Ports start at about \$2,500; the kayak kit adds \$500 or so.

Crib dock

good for

STABILITY



Whatever kind of dock you choose, leave an open space below the dock at the shore so that water and wildlife aren't impeded by the structure. This littoral zone provides habitat for as much as 90 per cent of the species in your lake.

can be adjusted by a foot or two to accommodate changes from year to year, "if water levels drop suddenly," says Pulchinski, "you can come back next weekend to find your boat hanging off the side of the dock."

Permanent docks

Docks on cribs—those rock-filled log cabins sitting on the lake bed—are permanent, meaning they stay in through the winter. Affordable and low-tech, they were once the dock default, especially where water levels don't vary. But cribs disrupt fish habitat, are vulnerable to ice damage and rot, and are difficult to maintain. In many places, including all of B.C., new crib docks are not permitted. Even where they are allowed, expect a lot of paperwork, which could include DFO permits, engineering assessments of the lake bed's bearing capacity, and even consent from neighbours and local First Nations.

Philipp Spoerndli is emphatic: "I used to fix crib docks. Horrible job." To be fair, his company, Nordcap Steel Docks, in Bracebridge, Ont., does build a competing permanent dock: the kind supported on piles. Wood piles, the least expensive type, are telephone-pole-sized logs pounded vertically into the lake bed, slender-end down. Steel piles are thick-walled pipes, driven until they hit bedrock or soil that can support them, called "the point of refusal." Helical piles (a.k.a. screw piles) resemble ice augers and are screwed partway into the lake bottom. Since piles disturb little lake bed, getting permits is easier than it is for crib docks. And, according to Spoerndli, steel piles, if rust proof, last a lot longer with far less maintenance.

"With the 10-mil dry epoxy coating we put on to prevent rusting," he says, "we can get a good 60 to 80 years from them." Pile docks start at about \$45 per square foot, says Spoerndli, and go up from there. Those with wood piles tend to go for less than those with helical or steel piles. Other factors that affect the cost include water depth, type of lake bottom, ease of access, and exposure.

Size and shape

Self-assessment told the Kawasaki-Hodgsons, who have only two canoes now and a small aluminum boat in their future, that they didn't need a large, permanent dock on cribs or piles. They quickly ruled out a floating dock too, having no way to pull one out or tow it to a sheltered bay. "With the prevailing winds, ice builds up here and pushes. Docks get annihilated," says Derrick.

Neighbours recommended a local dock design company—"Everything's done here by word of mouth," Sarah says. One day, while getting groceries in town, the couple dropped in ("also how it's done") on Doug Potts, the owner of Insight Designs, an aluminum fabricator in Cloyne, Ont. Potts asked how they planned to use a dock. Sarah wanted her two young kids {Continued on page 92}

LOCATION SCOUTING: RICK KEEVIL



EASY IN, EASY OUT

This pipe dock, bought as a kit, features legs atop one-foot-square plates that sit on the lake bottom. Made from aluminum, the frame won't rust and is light enough that, in places where ice damage is a concern, it can be carried onto shore each fall once the decking is removed. Almost as solid underfoot as crib docks, pipe docks are best on firm bottoms, such as hard sand, clay, or rock, where the feet won't sink into soft muck.

Pipe dock

good for

FIRM LAKE BEDS

SALINE SOLUTION

Oceanfront docks sneer at those docks on lakes and rivers. Sounds harsh—but so are conditions on the coast. "Salt-water is extremely corrosive," says Gord Wiltzen, the area manager for Eco Marine Docks in Surrey, B.C.; it dramatically shortens the lifespan of any steel dock parts. Twice a day, tides make fixed-height docks impractical (would you climb five metres up from the boat at low tide?), but they also complicate anchoring a floater. For example, the long chains that a floating dock would need for tidal fluctuations also allow more side-to-side movement; in a storm, an improperly chained dock can break loose, "and then it's gone." Wiltzen's preferred solution is to use a floating dock, secured with D-shaped hoops encircling piles. The dock can rise and fall freely, "but we can limit movement to a few inches side-to-side." Some oceanfront docks face frequent abrasion, if low tides leave them rubbing against sharp rocks. No wonder they think they're tough.

PORT AUTHORITY

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to do more splashing. “They weren’t excited about swimming when they had to climb over slimy rocks.” And she imagined a place to sit and watch the setting sun light up Mazinaw Rock, the lake’s dramatic cliff face that’s embellished with more than 260 pictographs.

Initially, Derrick figured the family only needed a dock as wide as the two-metre flotsam dock the lake had gifted them. But Potts suggested customizing it by going a little wider so the kids could run freely up and down. The couple agreed. Potts also recommended adding another section to reach deeper water, but that didn’t fly. “I thought it could be a little obnoxious,” says Derrick, concerned about the neighbours’ view of the lake.

The shape that they settled on—a single finger of dock—is cost-efficient and simple and meets their needs. On crowded lakes with narrow lots, it may be the only shape that’s not “a little obnoxious.” But where there’s space, a crosspiece to form a T- or an L-shape adds stability and creates a sheltered area on the shore side. “One side for the boat,” says At the Lake’s Pulchinski, “the other for swimming.” Mike Ward, of Shoreline Solutions in Regina, says “the patio end”—a wider section at the tip of the dock for seating—is another popular option for the post docks that dominate often-windy Saskatchewan lakes. “Extra width at the end of the dock doesn’t need any more posts, and it adds room to get in and out of boats, especially for loading bags and coolers and skis.” Ward also sees a lot of U-shapes housing boat lifts, which hoist the boat above the waterline. “If you’re putting a boat cover on, you can get at both sides of the boat.”

Modular flexibility

The docks that Ward sells are modular; standardized sections that cottagers can configure into different shapes—like waterfront Lego—and expand with new sections as the budget allows. “Oh yeah, dock sections are getting bigger and bigger,” agrees Cindy Belanger. “If you start off with an 8-by-16 as your little patio at the end of a boardwalk, next year I guarantee you’ll have an 8-by-24 or a 16-by-16 square. It’s just gonna happen.”

Parking space

“What kind of boat do you have?” is the first question that Landon Stephan of Beachside Docks in Pigeon Lake, Alta., asks new customers. “In the shallow lakes of central Alberta, it makes a big difference. If you have a pontoon boat, you might only need three feet of water. A bigger wakeboard boat might need four feet.” To get enough water depth to accommodate the boat’s draw, a heavy boat or a V-hull can need a significantly longer dock—“a couple of hundred feet on some lakes,” says Stephan. That’s not cheap, so Albertans sometimes share a dock among several neighbours, creating a mini-marina at the distant end of a long, narrow finger.

Along with a boat’s draw, its length and weight affect dock choice. When wind and waves push a large, heavy boat against a lightweight dock, one or both can get damaged (even with bumpers), says Stephan, and you need to ensure that a floater is anchored properly to prevent the boat breaking it free of its anchors. Crib or pile docks stand up to the pressure, but an increasingly popular add-on to all dock types is a boat lift (costs vary depending on how much they can lift, and whether they’re manual or electric). Boat lifts help reduce hull fouling and, in lakes affected by zebra and quagga mussels, help keep intakes clear.

Wood, metal, plastic, and more

Among cottagers who want a traditional look for their lakefront, wood is still popular for permanent docks and, especially, for floaters, where the wood’s weight adds stability in rough water. A wood floating dock is also an approachable DIY project, requiring skills similar to those you’d need to build a simple deck. There’s an even easier opportunity for DIY—installing a wood top deck yourself on a purchased frame. “It definitely can be a cost saving”—up to \$7,000 to \$8,000 saved on a 1,000 sq. ft. dock—says Gord Wiltzen. His company uses high-density polyethylene to fabricate floating saltwater docks, which Wiltzen says are often decked by a DIY owner.

Pressure-treated decking is an option where there are no bylaws prohibiting it, but the green variety can corrode aluminum frames (you can use MicroPro

Sienna with aluminum). Cedar costs almost twice as much as pressure-treated. It gets along well with aluminum and looks great, but like most of us, its beauty will fade over time. Staining the cedar every few years is an option if you can bring it on shore; applying stain over water is such an obviously bad idea that we don’t need to tell you not to.

Most other dock surfaces—including composite lumber, PVC, and coated aluminum—are more expensive than cedar (Trex composite, for example, is more than twice as much), but need little maintenance over a long lifespan. Wiltzen thinks that more docks should have perforated “flow-through” panels or grates as decking, which are least damaging to fish habitat because they let light through. He often supplies these grates (about \$25 per sq. ft.) for docks in the U.S. “In Washington State, environmental standards are quite a bit higher than in Canada. There, we have to use a certain percentage of open grating on a dock.” He believes Canadian regulators will follow suit.

The reveal

In the spring of 2016, after a year with the accidental dock that washed ashore, Sarah and Derrick watched Doug Potts install a new aluminum lift-up dock at their cottage. Each fall, they remove the decking and winch the frame, like a skeletal drawbridge, up and off the lake bed. The neighbours don’t think it’s obnoxious; they like it. “A bunch of birds are using it as their zone to defecate,” says Derrick, laughing. “We’ve given the locals a new place to hang out.”

“We go out there with coffee or to sit with our kids. It’s changed the way we spend time in the early morning and at the end of the day,” says Sarah. Even the chunk that washed up is still there, still useful as “part of the lead-up to the rest of the dock.”

“We’ve had my brother’s family here this year and Sarah’s folks; everyone just goes to the dock. Docks are like that,” Derrick says. Like what, exactly? He pauses. “Like walking on water.” 🐾

Martin Zibauer’s family cottage in Northern Ontario needed no dock; two logs and a winch were enough to roll the aluminum boat up onto the beach.