

MARINE RECYCLERS
**NEW USES FOR
OLD FIBREGLASS
BOATS**

This Ontario company is leading the way in boat recycling in Canada, but there are many obstacles on the road ahead

► BY PETER A. ROBSON

► PHOTOS BY TOM KJAERGAARD



YOU DON'T HAVE TO LOOK FAR TO FIND them—draped with ripped tarps, filled with leaves in backyards, growing barnacles and long tentacles of seaweed at marinas, and abandoned at boatyards and dumps. They're fiberglass boats that have outlived their usefulness. We've been building them since the 1960s and eventually every boat expires. The problem is they don't rust, they don't rot ▶

↑ **Above**

Stripped of its hardware, the boat is picked up by a backhoe, ready for recycling.

and they don't go away. Until recently, the only way to get rid of an old boat was to take it to a landfill where it would be buried along with the rest of our garbage.

However, in 2006, Ontario-based Marine Recyclers made a bold move and took up the challenge of recycling old fibreglass boats. Their idea was to salvage any usable parts and metal, and grind the hulls into fibreglass chips. To date, the company has disposed of several hundred boats, and in 2008, their efforts were recognized by the Canadian Safe Boating Council's "Safeguarding the Environment" award.

Despite this and other business awards, provincial, federal and local bureaucracies have shown little support for recycling boats. As such, Marine

Recyclers is facing a growing mountain of fibreglass chips.

While it would never be practical to ship our derelicts to Ontario, there is a strong need for a similar business on the West Coast. Perhaps our governments will be supportive.

Don Ford and Ted Dallimore are partners in Marine Recycling. Dallimore is the long-time owner of Sandy Cove Marine, a boat dealer with showrooms in both North Bay and Innisfil, Ontario. Although the two are partners, Ford looks after the day-to-day

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operations of the recycling operation, which is currently moving from a separate facility to Sandy Cove Marine's Innisfil property. At this point, the recycling company is mostly a one-man show. Additional labour and contractors are brought in as required.

How it Works Most of the boats the company recycles are about 18 feet long, and although there is a need to get rid of 30-foot-plus boats, the increased cost for transportation simply hasn't proven viable. Typically Ford will pick up one or more boats at a time using a flatbed



[1] The backhoe drops the boat into the grinder at Nad-Core Environmental Shredding in Barrie, Ontario. **[2]** The grinder spews out shredded fibreglass. **[3]** What was a boat a few minutes earlier is now fibreglass chips ready for a new environmentally-friendly future.

tow truck and a winch. Most owners will be charged a pick-up and disposal fee of about \$300–500. The boats are transported to the recycling yard where metal fittings, engines, tanks and most wood are removed—mostly by hand. Any old fuel is used for industrial heating. Parts that can be resold are stockpiled while stainless, aluminum, copper, brass and bronze are collected for their scrap value. However, the reality is that anything of value has usually already been removed from the boat or is rusted out. All told, Ford says he is lucky to recover \$30 or so from each boat through salvage, which unfortunately, doesn't do much to offset the labour to remove the parts. Currently, Ford has a large stockpile of used parts, which, once inventoried, he hopes to sell primarily through the Internet.

Once a boat has been stripped down to the bare hull, Ford is left with about 10 percent (by volume) of non-recyclables such as old cushions and upholstery, headliner, side panels, carpet and rotten wood debris. These must be transported to the landfill and a disposal fee paid.

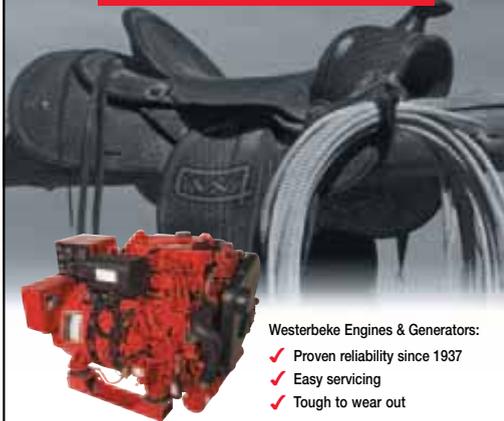
Once stripped, the boat is delivered to a nearby site that specializes in the disposal of materials from demolished houses and reno projects. Key is a massive grinding machine designed to handle everything from old concrete and rebar to tree stumps. An excavator drops the boat into the grinder and it is reduced to whatever size of chip is specified.

Utilizing the Chips Ford has gone to great lengths to find uses for his fibreglass chips. He started out with fibreglass/concrete mixes, using patio block molds. He found that by adding 30 to 50 percent fibre by volume to concrete, the patio blocks were four to five times as strong as regular concrete and up to half the weight. He also found that the fibreglass mix made the concrete much more flexible. "The blocks will bend before they break and if you hit them with a hammer, they'll dent instead of cracking." While Ford doesn't believe the patio block business is workable, experimenting with them revealed some important answers.

The company recently partnered with the concrete testing laboratory at Ryerson University.

"They took samples, and their engineers concluded that recycled fibreglass makes an excellent aggregate for ▶

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concrete,” says Ford. “They also suggest that government and industry support its use and get involved financially for further testing.”

Marine Recyclers has also been trying to get support from the National Research Council, but at this point, the company is still waiting and hoping the NRC will lend its support.

Currently Ford is working on a project to use fibreglass chips as an aggregate in concrete for radiant heat flooring. Ford also believes the chips alone have value as an insulating layer between gravel and concrete foundations. “Fibreglass chips have a high R-value, are easier to place and make a better insulating material than standard high-density foam board commonly used today.”

The only problem is that despite its benefits, the use of fibreglass aggregate in structural concrete has not been approved

◀ **Left** Adding shredded fibreglass material to cement reduces the weight of patio stones and increases their flexibility.

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by building inspectors. One objection is that the chips are not 100 percent pure. When grinding fibreglass, it is impossible to remove all the wood coring material sandwiched between layers of glass. The fear is that the high pH value of concrete could degrade the wood, creating voids that could potentially affect the structural integrity of the concrete. Currently, there is no cost-effective way to remove the impurities.

Roadblocks “Everybody likes what we’re trying to do,” stresses Ford, “but getting approval from the government and the building inspectors is like running up against a brick wall. So far, the government seems to be more concerned about our financial statements than the value of recycling fibreglass.”

Toronto currently trucks its garbage five hours south to a landfill in Michigan State. “They spend a lot of money, use a lot of fossil fuel and generate tons of harmful emissions. Certainly whatever they can do to support any form of recycling—including fibreglass—would result in

a win-win situation.” Currently, Ford estimates it costs about him about \$300 to recycle a fibreglass boat and that is about equal to the fee he can charge clients. There is no profit in it yet, but if he could sell the fibreglass chips, it could benefit us all.

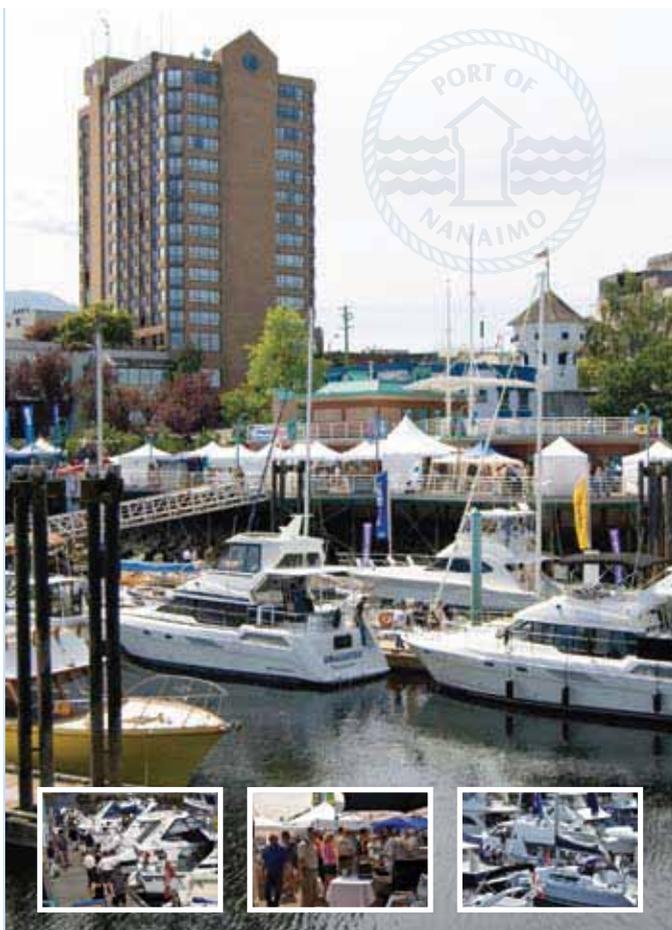
REGARDLESS OF THE challenges, recycling fibreglass is clearly something that our governments should support—instead of leaving Marine Recycling to do all the legwork.

“I don’t understand why government isn’t getting on side and helping us,” says Ford. “I know the chips work for a number of products—we’ve proven it—but I can’t do it all on my own. I simply don’t have the resources or the financial backing.”

Mankind has found ways to recycle everything from plastic bottles to electronics and if we’re really serious about wanting to reduce our environmental footprint, we should put our heads together to make a viable enterprise out of recycling our old fibreglass boats. ♻️



Marine Recycling and Don Ford can be reached by email at: marinerecyclers@live.com, or by phone: 416-659-8336.



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