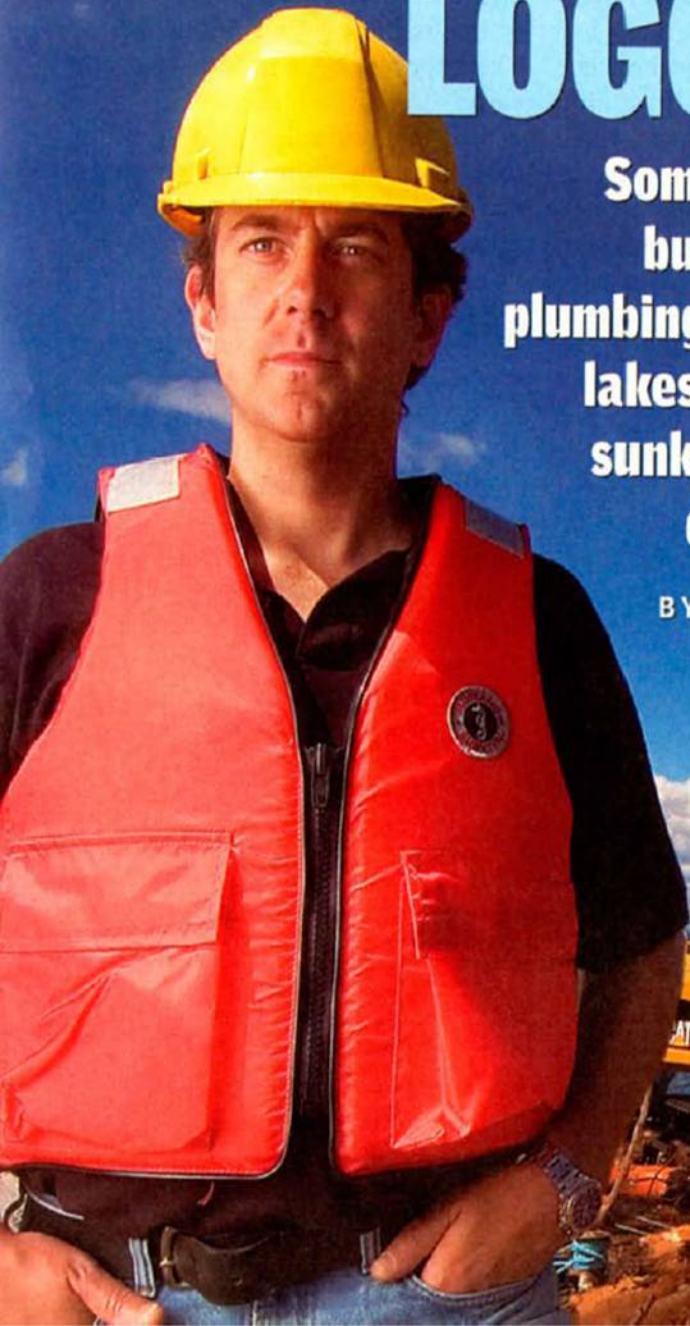


UNDERWATER LOGGERS

Some enterprising businessmen are plumbing the depths of lakes and rivers for sunken forests and drowned trees

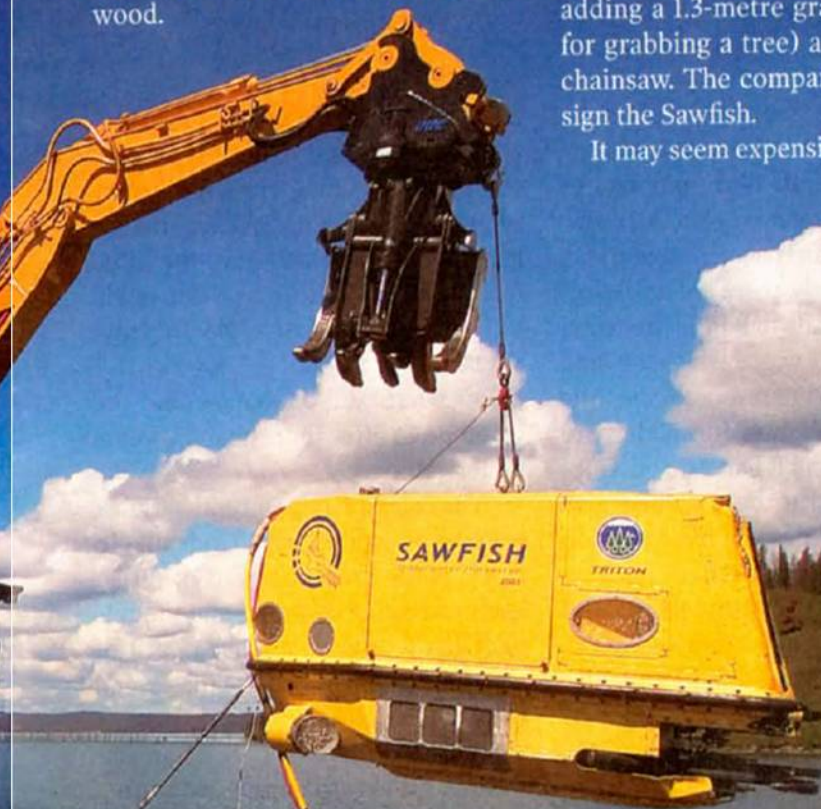
BY GRANT SHILLING



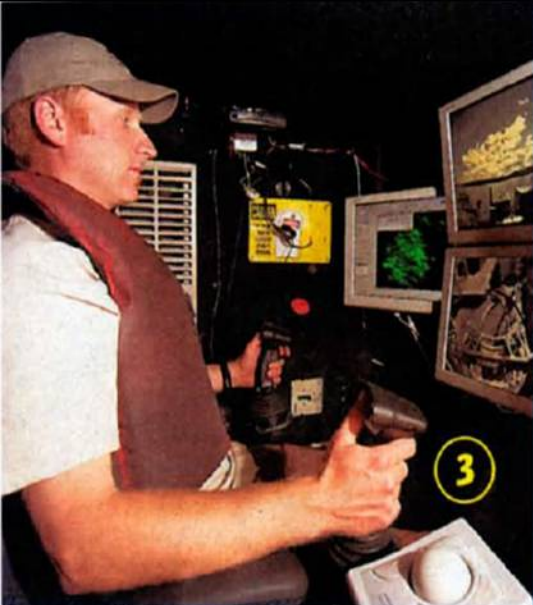
"KEEP your eyes peeled for branches," says Chris Godsall, deftly navigating a motorboat through the wizened tree-tops that poke through the silky surface of Lois Lake, B.C. The trees, still standing, were flooded as early as 1931 by a pair of dams built to supply hydroelectricity for a local mill. The feeling of floating across the canopy of a forest is ethereal, yet the reason Godsall is out here at this cold, remote lake is practical: This is premium quality wood.

Godsall, 37, is the CEO of Triton Logging, a business based in Saanichton, B.C., outside Victoria. Triton is an exclusive company: It's one of only a few outfits in Canada that log underwater. To harvest beneath a lake surface, Triton overcame a huge technological barrier and fronted enormous sums of cash. It spent \$2.5 million adapting a remote operating vehicle (ROV), a yellow submarine-like vessel, to suit its purpose by adding a 1.3-metre grapple (pincers for grabbing a tree) and a 1.4-metre chainsaw. The company calls its design the Sawfish.

It may seem expensive, but Godsall



Chris Godsall and his Sawfish.



Innovative Harvesting

(1) The Sawfish is a cousin of deep-sea exploration vessels and oil-rig repair units. Diving down to 90 metres, it latches onto a tree, attaches a 225-kilogram airbag (2) and cuts through the trunk with a 1.4-metre chainsaw.

Like a video game, the Sawfish has controls located on a barge (3) for guiding the action via sonar and video.

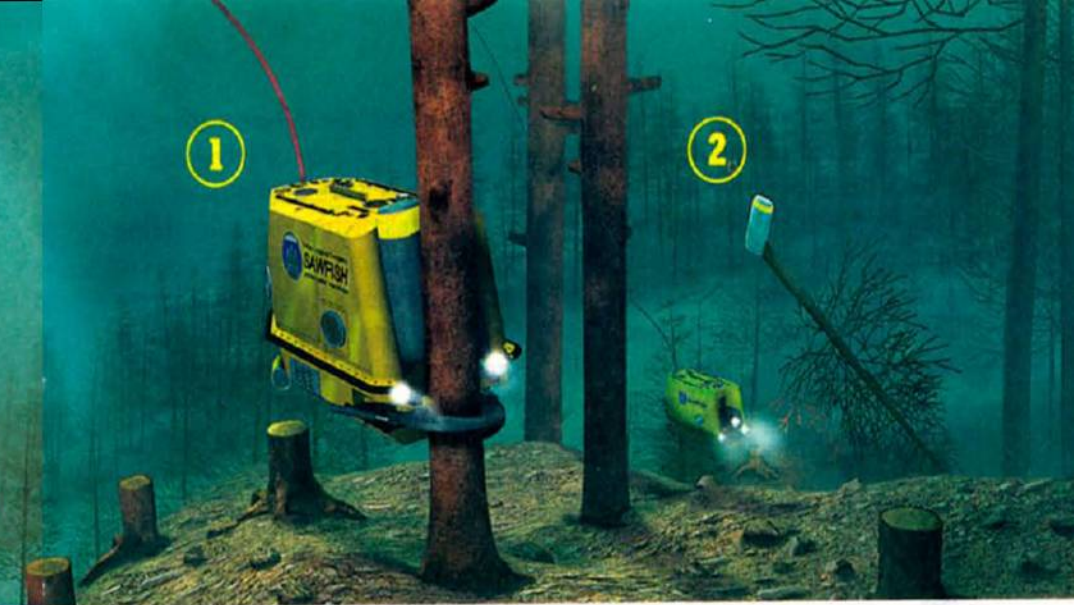


ILLUSTRATION: © JOHN KOCON

expects the cost will eventually more than balance out with that of felling trees on dry land. With underwater logging, there are no replanting costs, forest-fire season is not a problem and, most significantly, there are no expensive logging roads to build. The wood was considered waste when the land was flooded, so the resource cost little to acquire, and Triton doesn't have to purchase the land it harvests on. Godsall estimates that these savings give him a 20- to 40-percent head start on his land-logging competitors. Because of this, the cost to consumers is about the same as for land-harvested wood.

This "waste" wood is of a quality you can no longer harvest in forests. Today's second-growth trees are cut down at a relatively young age, while they consist primarily of juvenile wood with widely spaced growth rings. The old-growth species lived much longer and laid down more mature wood, with three to four times as many growth rings per inch. The result is a

finely grained, scratch-resistant, visually stunning and generally denser wood than anything else on the market. Furniture and musical instruments made from this wood have the same fine grain and texture as those made 100 years ago, because they're from the same age forest.

But what kind of shape could the wood be in after more than 60 years underwater?

"The common misconception is that water rots wood," says Godsall. "In fact it is the presence of oxygen that leads to rotting of wood, and there is very little oxygen at that depth of water to sustain organisms that would rot a downed tree."

Godsall is set to embark on an ambitious project to supply wood to a major Swedish furniture manufacturer. And he's in negotiations to use or sell Sawfish technology in other countries, including several in South America and Asia. He notes that of the world's 45,000 reservoirs, Lois Lake is just one

of at least hundreds with sunken forests beneath them, and he estimates there are about 300 million trees, with a potential worth of about \$50 billion. "The opportunity to get into underwater log salvaging was appealing because this resource is so vast," he says.

Surrounding Lois Lake, some 150 kilometres northwest of Vancouver, near Powell River, are mountain slopes with patches left bare by traditional logging operations. As he points them out, Godsall notes that Triton is reclaiming a resource. And the Sawfish doesn't harm the lake ecology since it is electrically powered and it uses vegetable oil as hydraulic fluid.

He pulls the boat up to a barge in the middle of the lake. On board is the Triton crew and equipment. Godsall, who has a Master's of Science degree in responsibility and business practice from the University of Bath, England, has gathered a talented crew to work on this project.

Biologist Josh Chernov, 34, helps tie

up the boat to the dock. He operates the Sawfish and has experience "flying" ROVs for environmental research projects. "If you'd told me two years ago that today I'd be a logger, I'd never have believed it," he says.

A SMALL crane on the barge starts to lower the Sawfish into the water. As it descends, an electrical cable sends signals to Chernov, who directs the craft from a control room on the barge. The Sawfish has eight cameras, and eight individually mounted engine thrusters give it incredible mobility underwater.

"The most difficult thing is navigating on the bottom and not getting caught in the trees," Chernov says.

Using the two joysticks mounted on either side of his chair and watching a series of cameras, sonar and navigation-system monitors, Chernov singles out a tree on the lake bottom. He directs the Sawfish to give it a bear

hug with the steel grapple, drill into the wood to attach an airbag, inflate the bag with compressed air and then cut the log free with the chainsaw. The tree shoots to the surface like a breaching whale. A boom tug recovers it, adding it to a pile of harvested logs floating nearby in the lake. They will be cut wet and left to dry for 30 days in a barn-size kiln or in the open air.

TIMBER lost to dam reservoirs is not the only source of underwater logs. On the other side of the country, Gord Black recovers logs at the bottom of the Ottawa River and its tributary waterways. The 52-year-old founded Logs End Incorporated in 1997 to clear the river of deadheads, or sunken logs, to provide local employment and to create a sustainable business.

A long time ago, a poet described Ottawa as “the city of laws and saws.” For over a century, a classic Canadian image of boom men dancing “catty” on logs was the work of the Upper Ottawa Improvement Company or ICO, a Crown corporation that transported logs down the Ottawa River to sawmills in Ontario and Quebec. After ICO wrapped up operations in the 1990s, logs that had sunk to the bottom of the waterways of the Ottawa River valley became a hidden resource.

Black purchased five log-recovery tugs from the last employee of the old ICO and then got his open-water diving certificate. “I don’t even like to swim,” chuckles Black, “but when I get into something, I literally jump in

with both feet.” He did more than 250 dives in his first year of salvaging.

The divers work in depths of nine to 25 metres, using portable diving lights. Because the logs had been cut before they were slipped into the river, this company’s method of harvesting is relatively simple—albeit considerably slower—compared to Triton’s operation. A diver retrieves the logs one at a time, tying each with a rope. Then a worker on the barge hauls them up by hand and ties them to the vessel.

Logs End salvages an average of 200 logs a day—predominately pine but including birch, oak and maple—in a season that lasts up to five months. The logs are brought to shore at the Logs End yard in Bristol, Que., where they are cut, air-dried and milled. They’re then shipped 40 kilometres down the road to Renfrew, Ont., where they’re kiln-dried.

“When violin manufacturers such as Antonio Stradivari were creating these perfect instruments centuries ago, it was a bit of a mystery as to how he produced the best,” says Black. “The thing is, he had a little trade secret. He submerged his wood so all the resins would come out and therefore produce a better sound due to a cell structure change in the wood. Our wood doesn’t contain resin either.”

BACK IN British Columbia, Chris God-sall looks around the clear-cuts surrounding Lois Lake. “This is about finally taking logging in a new, sustainable direction,” he says, “one stick at a time.” ■