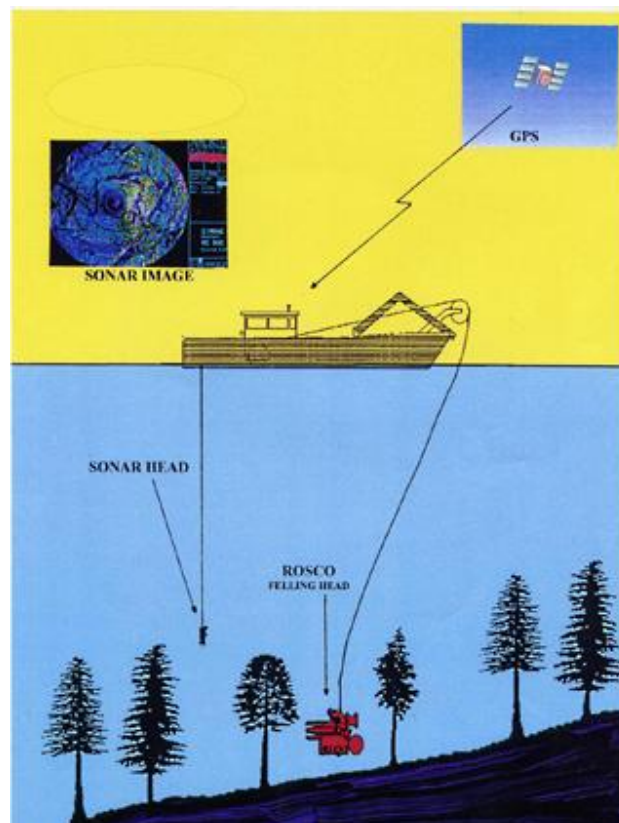


Underwater forests: The final logging frontier?

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*Image courtesy of WaterForest Group
WaterForest uses sonar and GPS to locate underwater forests.*

IN VICTORIA, B.C., the WaterForest Group is getting ready to expand into Latin America. The business, which harvests submerged forests from man-made reservoirs, is attempting to achieve true sustainability through something it calls “venture philanthropy.”

WaterForest President Doug Stables said venture philanthropy is a business system where financial, social and environmental values are all equally maximized. “We’ve done that and wrapped it up into one package. That’s where we feel businesses should be going,” he said. “We’ve tied them all together so we can truly take our best stab at being sustainable.”

WaterForest gives back to the communities it works in by using local labor. Stables said the business is operated a bit like Robin Hood, in that wood products will be sold to affluent North Americans and Europeans but impoverished local people will do the work, allowing them to make a living and learn a skill. “The value goes back to the local community,” he said.

Prices for rare woods harvested underwater range from \$4 a board foot to \$3,500 for a door made of rosewood or mahogany.

WaterForest Group is the umbrella organization for five companies that focus on different parts of creating as much value as possible from harvesting underwater forests. For example, one company — Bluewater Technologies — is centered on wood products, marketing and carbon credits, while another — SoulWood Energy — creates energy from the by-products of wood such as sawdust and branches.



Doug Stables

New Technology

Stables founded the company in 2005 with Gerry Boivin, inventor of the Rosco technology, which is the system that allows teams to harvest underwater forests.

The company began with Kinbasket Reservoir in Canada and has spent the past four years laying the groundwork for international expansion. WaterForest has agreements in Belize and Panama, and has begun harvesting trees from rivers in Belize. Those trees are up to 600 years old.

But to progress to deep reservoirs, WaterForest needs more investment. Stables said the company is moving at a good pace, has more than \$800,000 to fund the venture and should enter deep Latin American reservoirs in about 18 months. Much of the money is going towards the second version of the Rosco machine.

WaterForest is the only organization that uses the Rosco, a remotely operated submersible vehicle. Stables said it works like a suspended yo-yo. The machine hangs from a fiber-optic-reinforced cable and is guided underwater by sonar and cameras that are controlled from the surface. It enters the water in a “giant circle,” finds a tree, grabs it, cuts it and brings it to the surface as it is winched up. The tree is then transferred to a log holder.

It takes trees upwards of six months to dry by air. WaterForest is also exploring the possibility of putting trees in a dehumidifying kiln to dry, which would take around 35 days.

The first Rosco version could complete its cycle every seven minutes. The next version of the machine should take less than 13 minutes, as the tropical wood found in Latin America is denser and heavier compared with the softwood the original Rosco was harvesting in Canada.

The second version will also be larger: about 10 feet tall by 6 feet wide by up to 4 feet deep. Stables said the machine will go as deep as a cable will allow it to, lift up to 25 tons and cut trees that are 5 feet in diameter.

In the near future, WaterForest plans to license and sell the technology and provide a turnkey service with branding and marketing for other businesses.

“There's so many reservoirs and there's no way we can go to all the reservoirs and do all that work,” Stables said. “It's better to not reinvent the wheel but do strategic partnerships.”

Underwater reservoirs



Photo courtesy of WaterForest Group

Crews use Rosco underwater logging equipment to locate, cut and retrieve wood from the bottom of reservoirs.

Stables said there are 45,000 hydroelectric reservoirs across the globe, of which 20,000 are in the tropics. Three quarters of those reservoirs have submerged wood in them.

Hydroelectric reservoirs were formed over the past century when countries needed to create electricity. To do that, they built dams and back-flooded large tracts of forest. Once flooded, the trees trapped underwater began to die and give off carbon dioxide and other gasses. The process preserved endangered woods that have been overharvested, such as mahogany, teak and ebony.

“They're still available, it's just that they're underwater right now,” Stables said. “It's a great lost resource.”

Much of these underwater forests have difficult pasts. Stables said people have been displaced and, in extreme circumstances, executed to make way for dams.

“A lot of them have a real tragic history to them,” he said. “It's all about getting hydroelectric power to sell or use. The forest was never looked at as something of value.”

To honor the lives and livelihoods lost, WaterForest has branded its wood and wood products under the name SoulWood. Though it may seem like a morbid name, Stables said it is really all about rebirth. “This is all about the rebuilding and rebirth and re-education ... building a new livelihood out of something that was lost.”

According to Stables, reservoirs are located “pretty much everywhere” from Asia to Africa. Brazil is estimated to have 600, he said, and is still building another 50 per year. Ghana has 8,700 square kilometers of reservoir while Venezuela has 4,700.

Harvesting the trees also has an environmental benefit in that, theoretically, every tree harvested underwater saves a tree on land, offsetting deforestation. It also stops the process of decay, which stops the release of gasses from the trees and keeps carbon sequestered. These aspects make the trees valuable in providing carbon credits.

Social justice

WaterForest is trying to be sustainable by giving back to the communities that have been damaged over time by the creation of these reservoirs. Stables said when WaterForest first entered Latin America, locals were apprehensive because Canadian mining companies had a reputation for processing valuable materials without giving back to community. That, he said, is not what WaterForest wants to do.

WaterForest is going to hire and train locals to work on every aspect of the job, from Rosco operation to machine repair to wood milling. It will also support other aspects of life, such as providing day-care for workers' children.

“We want to use as many local people as we possibly can,” he said. “The whole point is to use local labor because it's just a win-win for everybody.”

WaterForest chose to concentrate on Latin America because it felt like it could have a stronger benefit there, and create more value for local people. However, adding to the community also benefits the company because endangered wood is so valuable. “There's enough money to be made in the process to support the whole range of investors ... but it also helps the local people.”

One of the reasons he helped start the company, Stables said, is that nonprofits constantly search for money in order to do good. By building it into his business, he hopes to avoid that problem.

“(You) build the culture back where the culture was lost and that's really the whole point of it,” he said.