



Remote Operated Bulldozer system tackles B.C.'s steep slopes

Island Pacific Logging has been using the steep slope Remote Operated Bulldozer (ROB) winch assist system—developed in New Zealand—on Vancouver Island since last summer, and it's working so well that the company has agreed to be the North American distributor for the system.

By Paul MacDonald

Just how effective is the steep slope Remote Operated Bulldozer (ROB) winch assist system developed by New Zealand-based logging contractors Rosewarne and May?

So effective, says B.C. logger Lyle Newton of Island Pacific Logging Ltd., that he agreed to become the North American distributor for the system.

Newton has been using the New Zealand-developed ROB system in his own logging operations on Vancouver Island since last summer, and has found the dozer-based winch assist approach delivers huge safety, environmental and production benefits.

“There will always be a need for hand fallers on the B.C. Coast,” says Newton. “But we can now log steeper ground, safer, with mechanical systems.”

Newton came across the ROB system when Lars Rosewarne was visiting B.C., to check out a used Madill 124 grapple yarder he was purchasing—and sending home to New Zealand. Rosewarne left behind a DVD showing his ROB system.

“I watched that DVD once, and I could see that we needed this equipment here in B.C. for our operation,” said Newton.

“I phoned Lars up in New Zealand and told him I wanted one, and he shipped it over. We put it together and put it to work—and it was everything we thought it would be,” added Newton.

Newton approached Rosewarne about selling it for them in Canada, and they struck a deal to be the distributor for the ROB system for all of North America.

Since last summer, Island Pacific Logging has been doing steep slope harvesting on Vancouver Island with a Cat TK 752 feller buncher and a Cat 552 buncher, both with Southstar FD750 directional felling heads, with the ROB mounted on a John Deere dozer. At the end of 2015, Newton was putting the finishing touches on two



more machines mounted with the winch assist systems. The three machines are John Deere 850 C and J dozers, equipped with hydrostatic drive, which assists with feeding of cable through the twin-winch systems. The cable is fed through fairleads that are welded to the top of the semi u blade of the dozers. Newton emphasized that the ROB system is not a prototype. “It’s proven equipment technology. Lars is a logging contractor like we are, but he’s also an entrepreneur. He’s one of those guys who can build logging equipment and make it work—and he’s done all that with this system.” Rosewarne’s approach with the ROB system would be close to any logger’s heart—he keeps it simple.

“That way, it can be easily run in any logging operation,” says Newton. “And I don’t know what you could do differently to make it any better. At Island Pacific Logging, we rebuild a lot of equipment, and we can’t pick anything apart on the ROB system—Lars has done it all.”

To get Island Pacific Logging going with its own ROB system, operator Scott Ringrose came over from New Zealand, to bring them up to speed on how to work the equipment. Ringrose has thousands of hours of operating experience on the ROB system at Rosewarne and May Logging. The company has well developed Standard Operating Procedures for the ROB system—and the machine itself is well engineered.

“It’s all certified and ready to go,” says Newton. No changes or tweaking were required for B.C. or Canadian conditions. They run the same size wire rope and the same size rigging, with the system.

They’ve trained several operators on the equipment, and it’s so far, so good. There is some adjustment to working on steeper sidehills. “But once the operator is used to being in a tethered machine, he always wants to be tethered,” says Newton. “Our first operator’s training went really well. He is one of our processor operators, and he caught on pretty quick.”

Operators use hand-held remote systems in their cab to control the winch assist systems on the dozers, which are located on road, at the top of a hillside.

With training on the ROB, the operators start out doing low elevation right of way logging, and gradually move into steeper ground. “It’s a process, to get them comfortable with the system. We wanted to make sure we introduced the system at the right pace, so our people were comfortable with it.”

Ringrose was helpful in doing that, Newton says. “Having someone who was very experienced helped with training, and built the operator’s confidence,” he says. “They were taught to do it safely and to assess each situation.”

And once the training is completed, operators can—and do—ask questions about the equipment from Ringrose or other ROB operators in New Zealand, often in real time, by text messaging. Though the response is not always immediate, because of the time difference between B.C. and New Zealand, operators often get back a quick reply to any question via text.



Newton said it is important to select the right people to operate the system. “It’s like any logging operation. There are some operators who can cut in steep ground, and some operators who can’t. There are logging truck drivers who can work in really steep ground, and those that can’t. It’s our job to manage that, and put the right people in the right situation.”

Although it has already achieved Canadian certification, they had a one-day session with the B.C. safety authority, WorkSafe BC, to get them up to speed on what the ROB system is all about.

Iain May, who handles the engineering side of operations for the New Zealand company, has also visited B.C. to assist Island Pacific Logging in setting things up on the equipment and in the shop. May notes that they are consistently working in very steep ground in New Zealand, and they need reliable, safe—and efficient—logging equipment. In fact, the ground there tends to be more slippery, and steeper, than the B.C. Coast, he says, and the ROB system has proven its stuff over there, day-in, day-out.

Island Pacific has been using the equipment in second growth, so there are old growth stumps to work with, and benches, making logging on steep slopes here perhaps a bit easier for operators vs. their New Zealand counterparts.

Like all coastal loggers, Island Pacific is working in steeper ground these days on the B.C. Coast. “The flat valley bottoms are gone—we are working up the slopes now, and the bunchers and hoe chucks are at their maximum capability,” says Newton. “We felt it was time to look at other systems.”

Tethered systems such as the ROB are the next evolution in equipment for the B.C. coast, he feels. “The more we work with it, the more applications we find we can use it to minimize hazards, and it helps with the environment and productivity.” In terms of benefits, number one is safety, number two is environmental, and number three is productivity, he says.

“Anytime you can put a person in a machine vs. having them on the ground, you’ve made the job safer,” he says. “There will be areas where the steep hill assist is not safe to use, so we will still need to have hand fallers, but if we can get guys off the ground and into equipment, it minimizes the hazards. It’s the right thing to do.”

The environmental benefits are easy to see.

“On steep ground, without being tethered, there can be site degradation, as you’re trying to get around on the hill in a tracked machine. But being tethered, if you want to move forward an inch, you move forward an inch. If you want to go down a foot, you go down a foot. Any site degradation is very minimal.”

Newton emphasizes that the system is winch-assist—the wire rope does not hold the equipment in place at any time.



Use of the ROB system is, of course, site specific. At Island Pacific Logging, they are working the equipment in a variety of sites, though. “As we move into it, we’ll get more comfortable with it,” says Newton. The company harvests a million cubic metres a year, and Newton figures they will be able to do about 60 per cent of that mechanically, between bunchers and the ROB system with steep hill harvesters.

Island Pacific introduced the first machine harvesting on private land for Island Timberlands. “They have been great to work with—Island Timberlands have given us lots of flexibility to try the new equipment.

“The next step for us is to work with Island Timberlands on the way we engineer for steep hill assist logging.”

Newton notes that in terms of sales and service support for the ROB system, Island Pacific Logging is well set-up. The company has a shop in Chemainus, on Vancouver Island, with very experienced crews.

They are routinely doing repairs and rebuilds on grapple yarders, log loaders and trucks—they know logging equipment, inside and out.

“Our shop crews are a big part of this—they do the fabrication on the equipment to make the systems work—and they are very excited about the new equipment.”

Island Pacific is also pumped about being the North American distributor for the equipment. “We’re very excited about this,” says Newton.

And it’s appropriate that the company is introducing a new system to the B.C. Coast, says Newton, since they have been pioneers with other equipment. “We’ve been in business for 30 years, and we were one of the first companies to work processors with top saws, and we were the first to do hoe chucking in Haida Gwaii back in the mid-1980s.”

Newton notes that marketing the ROB system represents a business opportunity— but importantly, it is also a way for the industry to operate more safely. “Our number one goal with the system is the safety aspect. Going to tethered steep slope systems is a big change for the industry.”

Newton noted that it might be difficult to quantify exactly how much tethered systems improve safety in the bush. ‘We strive for zero incidences in our operations. We find that in the past, whenever we can take a man off the ground and put him in a machine, we have just improved safety by 95 per cent because the hazards are a lot less. Anytime, you can improve safety, it’s the right thing to do.’



Getting help from the Kiwi's on steep slope logging

All along the process of introducing the Remote Operated Bulldozer (ROB) steep slope winch assist system equipment to B.C., Island Pacific Logging has received great help and support from the New Zealand developers of the system.

Most recently, Iain May, who was involved with developing the first ROB winch assist system with logging contractor Lars Rosewarne in New Zealand four years ago, was in the shop at Chemainus, helping the crew with machines #2 and #3 in B.C.

The system certainly works well in New Zealand, he says, and it looks to be working well, in B.C.

“We were having situations in New Zealand where logging operations might get into steep areas, and they would get into trouble—and the next minute, you have a machine on its side,” said May, explaining the steep slope challenges they were dealing with—and are now successfully tackling.

May said one of the challenges they initially faced with their ROB system was using radio and remote control equipment in remote and hilly country—an issue B.C. loggers can certainly relate to.

“We had some signal problems, but we changed to a different brand of radio built to our specs, and there have been no problems since.”

Reflecting where the equipment is used, it is built rugged, and to operate in tough conditions. “We overspec and overbuild everything,” May says. “Everything on those winches has a large safety margin.” There are both solidly engineered and solidly built, he said.

Both May and Lyle Newton of Island Pacific Logging said one of the attractions of the ROB system is the flexibility and multi-use capability of the equipment.

“If you dedicate a winch set to a machine, you are limited to that machine,” says May. “If that machine breaks down, you are out of action. But with the ROB system, if a steep hill harvester breaks down, you just put the dozer with the winches on another machine—and away you go.”

He noted that in New Zealand, a single winch assist dozer works three different hillsides.

Newton notes that unlike purpose-built winch assist systems, the dozers with the ROB system can be used for other purposes. They have used their dozer to ballast road and push snow on Vancouver Island. “We’ve used them for pretty much anything you’d use a dozer for,” he says.



Similar to other logging equipment, there are daily checks with the ROB system and dozer.

When it comes to maintenance, May says they have worked hard to keep it straightforward. “We want to keep it simple to operate and work on—when you build a machine, you want people to be able to work on it easily, when they need to.”

And when the machine is out there, it performs, and does not require any tinkering, he says. “To me, the sign of a good machine is when you turn it on in the morning, and shut it off at the end of the day—and in between, you don’t have to touch it,” says May.

With equipment developments such as the ROB system, says May, New Zealand loggers, like their Canadian cousins, have proven to be resourceful and creative. “I think New Zealand is pretty good in that area,” he says. “We tend to step outside the box and try different things.”

He noted New Zealand has been the home to other significant logging equipment developments, such as the Waratah and Southstar processing heads.