



NZ Farmer, New Zealand

30 Nov 2015, by Rob Tipa

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Crayfish flourish among the pines

A slump in log prices led a forestry company to look for alternative income. It came up with crayfish, reports

Rob Tipa.

ONE of New Zealand's largest forestry companies has lifted the concept of sustainable harvests and diversification to new levels by stocking its fire-fighting ponds with freshwater crayfish, a species on the Department of Conservation's threatened species list.

Ernslaw One is the fourth-largest forest owner in New Zealand, a Malaysian and Chinese-owned specialist softwood producer with extensive forests in the Coromandel, Gisborne, Ruapehu, Manawatu-Rangitikei regions and 10 forests in Otago and Southland.

After a slump in world log prices several years ago, the company investigated alternative revenue streams, including farming freshwater crayfish.

Aquaculture manager John Hollows says a lot of people probably don't even know the crayfish – or koura – exist. Their distribution is shrinking through loss of habitat and they are listed by the Department of Conservation as a threatened species.

"It's a really unique opportunity to farm a native species and sell them," he says. "I can't think of any other species worldwide in that same position."

Ernslaw's stocks of crayfish could help in habitat restoration work in future or in conservation of wild stocks if the species was ever threatened with extinction.

The commercial market for freshwater crayfish is still in its infancy in New Zealand with only 300kg of fish sold annually.

Seventeen permits to farm them commercially have been allowed and most operators are still in the early stages of development. Only four farmers have stock for sale, all in the South Island.

Most operators have adopted the Australian model where crayfish are intensively managed and fed to grow fish to a saleable size in one year, a system that carries associated costs.

"Our product has a really good story behind it," Hollows says.

Ernslaw One was initially granted permits by the Ministry for Primary Industries to collect wild stocks from local rivers and streams but actually sourced most of its stock from its own forests.

The company has stocked 400 ponds spread through 11 of its forests in the Otago and Southland region. Ponds are dug and left for a few years to stabilise before seed stock of the local species is introduced.

"At the moment our focus is on building ponds and stocking them. One of the things we identified early on was not to put all our eggs in one basket. They are spread far and wide at the moment and we haven't had any problems."

"We'll probably stock well over 100 new ponds this summer but it will probably be two or three years before we see a return for that."

Ernslaw One uses natural materials from the forest like broom and bracken to create habitat for crayfish to settle in and has established native aquatic plants like watercress for cover and as a food source as the population increases.

Otherwise, the fish are left to fend for themselves with no artificial feed supplements provided.

Crayfish are an aggressive predator. "There is nothing they won't eat," he says. "I've seen a trout swim past with a crayfish latched on to its fin."

While they are a tough, long-lived species they are sensitive to pollutants, herbicides and insecticides. Ernslaw's ponds are spring or rain-fed ponds so are not

affected by any pollutants carried in waterways and therefore act as a barometer of environmental health of the company's forest.

Last year it harvested its first crayfish at three to four years of age, a saleable weight of 50 grams and received great feedback from restaurant chefs and food critics.

Hollows says in Australia "yabbies" are harvested annually and "with apologies to our Aussie cousins, taste like mud. Our's have a sweet flavour and I think that reflects the environment they grow in."

Ernslaw One's project has had a positive response from many organisations, including Ngai Tahu, Fish and Game and the Ministry for Primary Industries. The latter has contributed funding through the Sustainable Farming Fund for more research into replicating natural habitat.

One of the outcomes of that research will be an updated guide on how to farm freshwater crayfish in New Zealand so interested parties can make informed choices without having to reinvent the wheel.

"People have been really helpful," Hollows says. "They really like the idea and want to see us succeed so they help us get permits and get paperwork through."

Selling the Kiwi-grown delicacy, which fetches prices of \$80-\$90 a kilogram in New Zealand, was a marketer's dream, he said.

"We're fielding inquiries every week and it's just a shame we can't fill these orders. There would be no problem filling demand for 10 tonnes of crayfish if we had it."

"We're still building up biomass



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so we can supply markets consistently. That has been the thing that has probably held the industry back a bit. No-one has been able to supply markets consistently and restaurants need a stable supply.”

He believes producers need to focus on supplying New Zealand markets first before even thinking about exporting.

With only 19ha of farmed freshwater crayfish in permitted ponds in New Zealand at present, the potential for development is huge, particularly with the expansion plans of irrigation schemes, storage ponds and canals in the South Island.

“We realised we’re never going to saturate the market so there may be some benefits in more large-scale farmers in the industry looking at a collective to supply export markets.”



Aquaculture manager John Hollows, who has established populations of endangered freshwater crayfish in 11 forests in Otago and Southland owned by Emslaw One.



The female freshwater crayfish carries developing young under its tail until they are big enough to fend for themselves.



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A series of linked ponds in one of Ernslaw One's forests in Southland.