



Ageing boats, many overdue for retirement, can be found in any port

# CREEPING DEATH – OUR DYING FLEET

BY KEITH INGRAM

The Transport Accident Investigation Commission's recent accident report into the loss of the fishing vessel *Kotuku* highlights just how vulnerable our fleet is.

The tragic loss of six lives made this the second largest maritime disaster since the *Wahine* and just ahead of another fishing vessel, the *Maria Luisa*, in which five people lost their lives after she collided with the *Sydney Express* at the entrance to Wellington Harbour in 1996.

Both the *Wahine* grounding and the *Maria Luisa* collision were well-found vessels and clearly the results of the circumstances of the day. But to have a vessel roll over in what can only be described as the average sort of conditions she was built for and would have encountered during her life warrants deeper investigation.

Both the TAIC and Maritime New Zealand did this when they elected to jointly salvage the *Kotuku* from 30m of water, against her owner's wishes. Both agencies believed that if we were to learn the true lessons from this loss we could only do so by recovering the vessel. The TAIC report clearly sets out the investigation, the findings and its recommendations.

See [www.taic.org.nz](http://www.taic.org.nz)

While I was attending the Seafood Industry Council Conference at Te Papa from May 14 to 16 I was confronted by a federation representative who challenged some public comments I had purportedly said.

While I am not for one moment suggesting that I may have been misquoted, the fact remains that I did say that of the 800 fishing vessels currently in use, our industry still has a large

percentage of wooden fishing vessels of under 15m in service. It was conceivable when looking around our waterfronts at the state of the fishing fleet that there could be up to 100 vessels in not too dissimilar condition to the *Kotuku*. I stand by this statement.

The owner of the *Kotuku* and his surveyor are on record as saying, "The vessel was sound, seaworthy and fit for purpose, with no identifiable decay or rot. She was a safe ship!"

While not wishing to question the integrity of the owner or the surveyor, the old adage, "A picture says a thousand words," could never be truer than in this case, as both the report and the summary published in issue 63 of *Professional Skipper* will attest.

Clearly, when the vessel was salvaged, the amount of decay and corrosion of fastenings found did not happen during her last month afloat, or even during the last year of her life. It was an ongoing deterioration over many years that various owners, surveyors and maritime safety inspectors had not picked up. We all know that a lack of ventilation and evaporation from wet bilges creates a haven for fungi and the onset of decay from the inside.

My protagonist claimed that I had little knowledge of wooden vessels. He may well be right, as even though we have owned and operated commercial wooden vessels, one of which was over 70 years of age, for the past 35 years, we are still learning.

Wood was good, and my statement of keeping it painted and protected was incorrect, as the wood was pickled by the salt water and therefore protected, he said.

Unfortunately, our federation man lacks some understanding of the dynamics of timber when wet. If timber was so good when pickled by nature's salts we could build boats from salvaged

swamp kauri. But any boatbuilder will tell you that this timber is no good because of a breakdown in its molecular makeup and cellular structure.

In the *Kotuku's* case, she was made from kahikatea. It has now been determined that much of it could have been sap or in-between wood. Kahikatea, or white pine, is an excellent boatbuilding timber, but care must be taken to ensure that only the heart timber, or "butterwood", is used in the hull.

Unlike kauri, which has a large portion of heartwood surrounded by a smaller portion of sapwood, kahikatea grows faster, has a smaller heart and a large portion of outer sapwood, with an equally large amount of in-between wood, depending on the tree's location. Trees consist of bark, a cambium layer, sapwood, summer growth, winter growth and finally heart, or what is often referred to as butterwood.

Much of this timber in between the sap and the growth can still be attached in part to the outer edges of the heartwood when cut into planks. In this situation when dry, only the experienced eye of a boatbuilder can pick up the tell-tale signs of the lighter, inferior timber when selecting hull planks.

It is no great disaster if some of this in-between or summer growth wood does end up in the hull planking, as long as the timber is protected and kept dry. All timber contains a percentage of moisture to maintain its molecular makeup and tensile strength. However, once any protective paint or coatings deteriorate or wear off, and the timber is allowed to absorb more water, the softer wood will absorb this moisture first.

We know that timber is a natural insulator. It is not normal practice to bond skin fittings or fastenings in a wooden hull. For example, if a high-tension power line was to break and fall onto



The salvage of the *Kotuku* revealed a lot of home truths

the road, you could pick up a dry piece of timber and flick the line aside without fear of getting an electric shock.

However, if you pick up a wet batten, stand by for the lights to come on. The same effect happens in a boat once the timber is wet – it becomes susceptible to stray electrolysis, or "electric mice".

This stray electric current corrodes the metal, and in turn the alkali produced on the metal decays the timber. We have all seen the white, fluffy alkaline salts of corrosion where metal fittings pass through timber, particularly around rudderposts and stern glands.

This is galvanic corrosion at work. As current passed through the electrolyte in the wet timber it destroys the lignin, the natural glue holding the timber fibres together.

As the current from poor mechanical and electrical installations on board destroys the metal, the electrons cause the formation of alkali, which in turn destroys the timber. The first sign is that the wood becomes softer and more porous, or dozy, and more ▶

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water enters, until it is travelling along the length of the planks as more stray electric mice escape.

As these currents pass through the wet timber, which has become an electrolyte, they then attack any metal fastenings, such as copper nails and bronze bolts and skin fittings, as galvanic corrosion continues.

In the *Kotuku's* case she was a plank boat fastened by copper nails, bronze bolts and the like. The net result of stray current on these fastenings was corrosion, deterioration, wasting and weakening of the fittings. As we said, this does not happen overnight or even over a year or three, but the investigation report suggests that it should have been picked up. I will leave the reader to decide why it was never picked up or missed. We do know that it undoubtedly contributed to the loss of the *Kotuku* and why.

What can we learn? I have talked to a lot of people and gained a reasonable understanding of what is happening in the industry. We know seafarers all have strong views. Sometimes they or we may get it wrong, but in most cases they are right on the button. Waterfront scuttlebutt and anecdotal evidence is seldom wrong, for where there is smoke there is invariably fire.

When I wander the waterfront and see many fine fishing boats being retired and converted into pleasure boats, or come across some once-proud wooden vessels of yesteryear and find them either still struggling in work or lying derelict, it begs the question, "What has gone wrong in our inshore fishing industry?"

The answer becomes fundamentally clear when you sit and walk the economic talk with these fishermen. Why aren't they looking after their boats? Where is the boat pride, and the ships' husbands? Some are still well looked after. I point to a good-looking small ship, similar to many which are approaching 50 years of age or more, and are no different from the *Kotuku*.

Some have been sold for conversion as pleasure craft because they no longer meet stability or freeboard requirements, but many are just dying and we still take them to sea. Creeping death, I call it, and you can bet your life that when it stops creeping you are



in deep trouble. So, why do we do it?

The voices on the waterfront tell me that unless you own quota it's hard to make a buck. Small fishermen are struggling to make ends meet, and as a result that they are only carrying out essential maintenance. Cosmetics are the first item to go. If the paint wears off it's only timber; it's not like steel. It won't rust, but they forget that it will decay, and fresh rainwater will penetrate the deck around the deckhouses and fittings and the hull above the waterline, resulting in fungi, rot and decay.

Covering the hull soft spots with copper tangles or plywood does not fix the problem, it only hides it. What's the problem? Access to quota, or rather the cost

of it, is a statement rather than an explanation.

"You lease quota, ACE (annual catch entitlement), don't you?" I ask.

"Yeah, but it's the quota owners who keep screwing us."

This led us to an interesting discussion about who's getting fat and who's not, which has, on my enquiries, produced two scenarios.

First I spoke to a respected company in Motueka, and the fleet manager told me that yes, they use many independent owner-operated vessels to fish their quota. These boats make an important contribution to their fleet and harvesting strategy, he said.

How much do you charge them? Because this company recognises the importance of keeping small owner-operators profitable, while maintaining a constant throughput of fish product to the factory, they only charge them five percent and levies. These are sound, practical commercial decisions where the company is using its significant investment in quota to maintain factory throughput, profitability and obviously jobs in a small community, while not sending their small owner-operators broke.

On the other hand, we have others, "the fat cats", I am told. These are quota owners, many of whom are companies out to maximise their return, or retired fishermen whose only major investment in the fishing industry now is their quota portfolio or

their retirement fund. They want the best return from their quota holding to fund a lifestyle and are quick to capitalise on market fluctuations.

So I kept an eye on the market and noted in January that the wharf price for bulk green snapper in Auckland was around \$4 to \$4.20 per kilo. The ACE price was \$2 to \$2.20 per kilo, effectively giving the fisherman \$2, out of which he had to go and catch the fish, pay his crew, pay fuel at \$1.26 per litre, and repair and maintain his boat. No, it did not compute. And yet the housewife was paying nearly \$30 a kilo for skinned and boned snapper in the shops. How can this be?

The boat is the first to suffer. I checked the markets again in mid-April and found that the wharf price for green snapper was now \$7.50 per kilo. Yey, the fishermen are making a quid! Humps and hollows, things are looking up.

But no, for some unknown reason, instead of the ACE price of \$2 per kilo, which the quota owner was happy to get in January/February, he was now charging \$5.50 per kilo.

Diesel has gone up to \$1.56 per litre, and there is no way a fisherman is going to make any money at this rate. Unless quota owners ease up on their purse strings and allow these smaller owner-operators to make money so they can repair or maintain their vessels, or even replace them, in five years time their quota won't be worth a fish's fart, because they will have no fishing vessels or fishermen to fish it.

Hence my statement. We have a deteriorating and decaying fleet, and we have to include many steel boats in this argument as well. The unfortunate tragedy of the *Kotuku* is only the tip of the iceberg, in my view. Our fishermen must start making some real money so they can not only feed and clothe their families but also maintain their vessels and be a responsible ship's husband.



No-one wants to go to sea in an unsafe boat, and you can bet your last quota dollar that our women will be starting to realise the dangers that are creeping into the poor seaworthiness of our inshore vessels and start to anchor their man ashore.

The most important person in the fishing industry now and in the future is the fisherman. If we do not encourage our young people into the industry, pay them well and keep them safe, we won't have a commercial inshore fishing industry.

Unless you can catch it, quota will be valueless, so you may as well give it to the amateur fishers. Now there's a thought...!

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