

Accident Report

Predator

Capsize & Fatality

29 January 2005

Class A



REPORT NO.: 05 1166

VESSEL NAME: *PREDATOR*

Ship Type:	Recreational Runabout
Built:	December 1989
Construction Material:	Aluminium
Length Overall (m):	6.2
Engine:	Mercury 135 hp Optimax Outboard
Accident Investigators:	Domonic Venz/Andrew Hayton

SUMMARY

At 1312 hours on Saturday 29 January 2005 the recreational runabout **Predator** was launched by its owner at Maraetai Bay (Schoolhouse Bay) near Te Kaha in the eastern Bay of Plenty. As they launched, another recreational vessel, **Zircon II**, made a safe passage out to the open sea through the channel.

The Owner launched the vessel. The vessel was conned by his 13-year-old son in the company of his two 13-year-old friends. They circled around the bay while the Owner parked his vehicle and assisted another vessel to launch.

At about 1327 hours, after picking up the Owner, who was now driving the boat, **Predator** headed out of the bay in company with another vessel.

When **Predator** had partially completed the transit through the rock channel they struck a number of large waves, one of which capsized the vessel, throwing all the occupants into the sea. All but one of the three boys, Steven Robinson, returned to the surface immediately after the capsizing. A lifejacket was seen to float to the surface a short distance away and drift unimpeded to shore. The Owner and various people in other vessels and along the shore immediately carried out a search. Steven's body was recovered by a local diver on 1 February 2005 on rocks on the western side of Maraetai Bay.



Figure 1
Topographic Map of Te Kaha Area

The report's conclusions include:

- The Owner did not personally ensure that all the lifejackets were securely fastened, in breach of **Maritime Rule Part 91.5(6)**.
- The Owner watched the waves as they crossed the entrance before deciding to start his transit of the main channel. However, he failed to assess comprehensively the movements of the waves. After striking larger than average waves he lost his balance momentarily and was unable to fully control the helm. This caused the vessel to alter towards a dangerous shoal area at the eastern side of the entrance where the lack of depth allowed the waves to increase in height and break.
- The Owner was travelling too fast for the prevailing conditions, having regard to the size of the waves and the weight of the vessel.
- After capsizing the vessel was floating bow up with very little of the vessel's hull remaining above the water.

The report makes the following recommendations:

1. That Environment Bay of Plenty review their Bay of Plenty Regional Navigation and Safety Bylaws section 2.1.5, to include the wording 'properly secured' in line with **Maritime Rule Part 91.4(6)**.
2. That Maritime New Zealand, in conjunction with the Marine Industries Association and the boat building industry continue to explore the feasibility of the ways in which level floatation can be achieved for vessels up to 8 metres in length.
3. That the Business Development & Communications Division of Maritime New Zealand continue to promote by all possible means, the wearing and proper securing of lifejackets for recreational boat users.
4. That a copy of this report be forwarded to the Coroner, the Coastguard Federation, the Marine Industries Association, all Harbourmasters and members of the National Pleasure Boat Safety Forum (the Forum).
5. That the Director of Maritime New Zealand consider taking legal action against the Skipper of ***Predator***.

NARRATIVE

Predator

Predator is a 6.2 metre aluminium runabout. She is an 'Admiral' design, built and designed by Ramco Boats in Hamilton in December 1989. Her serial number is 014. The vessel is fitted with an 'after market' aluminium 'targa' canopy. A 135 horse power 'optimax' Mercury outboard engine powered the vessel. Due to its date of manufacture, the vessel was not required to be compliance plate certified.



Photograph 1

Predator at Maraetai Bay while 3 boys circled awaiting owner.

The Owner/Skipper was aged 47. He is a resident of Otorahanga. He bought the vessel second hand in September 2004 from 'Fish City' in Hamilton after selling his previous vessel to a work colleague. He had the vessel fitted with a Mercury 135 hp outboard engine.

The Owner/Skipper holds no maritime qualifications but has a large amount of recreational boating experience. He had boated around the Te Kaha area many times and had launched out of Maraetai Bay over a hundred times in various sea states without incident.

There were three passengers on board *Predator* on 29 January. They were the Owner's 13 year old son and his two friends of the same age.

THE ACCIDENT

At about 1930 hours, on Friday 28 January 2005, the Owner arrived in Mt Maunganui after departing his residence in Otorahanga earlier that day. He was towing his vessel **Predator** in convoy with a work colleague who had purchased the Owner's previous vessel, **Wavecrusher**. The Owner picked up his son and two friends and continued on to Te Kaha.

At approximately 0100 hours on Saturday 29 January, they arrived at Te Kaha and went to a bach near the Te Kaha Holiday Park to sleep for the night.

The next morning the three boys went to the rocky beach below the bach and the Owner and his companions drove up and down the immediate coastline to assess the weather and sea conditions.

Evidence of the Owner of *Predator*

He spoke to some boaties who had already been out that morning. Between about 1130 and 1200 hours, he sent his son over to the Te Kaha Holiday Park to purchase two permits needed to cross Iwi land to launch the boats. His son returned with two permits valid up to the evening of Sunday 30 January 2005. They had lunch, readied the boats and then proceeded to Maraetai Bay to launch.

At 1312 hours, they arrived on the beach. The boys donned a lifejacket each and got into the boat. The Owner retrieved two new lifejackets from the vehicle and made two of the boys swap lifejackets, as they appeared to be ill fitting. The Owner then backed the trailed **Predator** down into the water and launched it with his son in control. The Owner then went to park the vehicle while his son circled the inner bay in the boat with his two friends onboard.

After parking his vehicle, the Owner then had to assist the vehicle towing **Wavecrusher**, as it had got stuck while launching.

When this was completed, the Owner climbed aboard **Predator**, took over control of the vessel and motored out to have a look at the channel, through the rocks, to the open water.

He then asked the three boys if their lifejackets were done up. He got an affirmative reply from all three. He did not check their lifejackets himself.

They sat for a time on the shore side of the entrance assessing the conditions and counting the wave sets that were passing over the rocks on each side of the channel. When they launched **Predator** they had seen another vessel transit the entrance to sea without encountering any problems. The Owner's son called **Wavecrusher** on the VHF radio and told them to stay close behind as they had never been to this area before.

At 1325 hours, **Predator**, followed by **Wavecrusher**, departed the bay, bound for the open ocean, via the channel.

When the vessel was about 50 metres out through the channel, two large waves appeared. The vessel rode up the first wave. The Owner then applied more throttle. He started to punch up through the second wave when **Predator** was suddenly flipped over backwards by the force of the wave. The Owner stated in the interview that he does not recall anything after punching through the wave until the boat was upside down in the water.

The next thing the Owner recalled was exiting the upturned hull and surfacing beside the vessel. He found his son sitting on the exposed section of the upturned bow. He then saw a second boy surface near him and reached out and dragged him over to the bow. He then took off his lifejacket and shirt and repeatedly dove under the vessel in an unsuccessful attempt to find Steven.

At this stage the vessel was drifting in a westerly direction towards another set of rocks. The Owner told the two boys to swim back to the beach while he continued looking for Steven.

He continued looking both in and around the vessel until the boat started to get near the second set of rocks. He decided then to swim to shore using a second entrance channel into Maraetai Bay. He was picked up just short of the beach by a kayaker. He was then taken by a commercial fishing vessel to **Wavecrusher** where they continued to search the immediate area and surrounding shoreline from the sea. By this stage the local Police Constable who had been sea fishing, arrived in his vessel. The Constable coordinated a thorough search using locals and Police

The Owner was dropped off near the Te Kaha Hotel, from where he was taken to Hospital and treated for a dislocated shoulder. He returned later to help in the search.

Evidence of the Son of the Owner

After looking at the beach for a time the three boys came back to the beach. The Owner returned from the Holiday Park shop and gave his son \$40. He asked him to go over to the Te Kaha Holiday Park shop and try and buy a permit for each of the boats for that day and the following day. His son returned later with the permit stickers. They had some lunch and readied the two boats. They went down to the beach at Maraetai Bay. The Owner then got two lifejackets out of the vehicle and asked the boys to swap around, as the lifejackets did not fit properly. The son ended up with one of the new yellow adult medium lifejackets, as did the second boy.

The Owner launched the boat. His son was driving with the two other boys as passengers. The son circled the inner bay while the other boats' vehicle was towed off the beach and the Owner returned to the vessel to take over.

They went over to the landward side of the entrance channel and looked at the waves for a while. The Owner asked the boys if the lifejackets were done up and they all said yeah. The Owner's son was then asked to call up **Wavecrusher** on the radio and tell them to stay close to **Predator** while transiting the channel.

Just before they started their run, the Owner told the boys to be quiet until they got out and clear. The Owner was standing on a pedestal looking over the windscreen on the starboard side. The first boy was on the port side seat with the Owner's son standing behind. Steven was standing behind the starboard seat.

They started out towards the channel. When they had transited some distance along the channel they saw a large wave breaking ahead of them. The Owner told them to hold on as they were about to go over the wave. As they were coming down the back of the wave, the son slipped up the canopy support pole and struck his head on the aluminium canopy. He immediately let go of the pole and fell down onto the deck behind the port seat. He crawled back to the pole stood up and hung on again, feeling dizzy. As he grabbed the pole he saw the Owner lurch and hit his head on the windscreen and then move over to port, away from the wheel. The son said the Owner pushed down on the engine throttle and veered the wheel over to the right a bit as he tried to recover his position. The Owner then stood up again started to alter course back to the left. At this point he yelled out to hold on saying "this could be it". Shortly after, the boat broke through the wave and was flipped over backwards.

The son came up and grabbed the upturned hull section whilst waiting for the Owner and the others to surface. He saw the Owner and the first boy surface and come over to the bow. The Owner then started to dive under the vessel to look for Steven. The son saw a yellow lifejacket similar to one worn by the second boy, come to the surface and float towards the shore.

The Owner then told them to swim into shore and raise the alarm. They swam and surfed their way to shore shortly after.

Evidence of the First Boy

They went to the beach with **Predator** on the trailer. All the boys put on a lifejacket. He put on one that was too small. Steven put one on that was too big so the Owner made them swap. He saw that Steven had his yellow lifejacket zipped up but not clipped and secured.

The Owner launched the boat. His son drove around in circles until the Owner was ready to be picked up. After the Owner was on board, **Predator** and **Wavecrusher** went over and waited near the channel entrance to watch the waves.

After a while the Owner started to head the vessel out to sea. He said he was “going for it”. They went over a large wave and they went faster. He heard the engine give a loud noise like it was out of the water. He then saw the Owner slip sideways off the steering position and land between the seats.

After the wave had passed, he saw the Owner get back to the steering position. He then heard the engine revolutions increase just as they went into a second large breaking wave. He heard a loud engine noise again and then the boat was upside down.

He popped up beside the upturned boat that was floating in a bow up position. He swam to the Owner’s son and Owner who were on the bow section and held on. They all yelled out for Steven, but could not see him. The Owner started diving under the boat looking for Steven. They saw a yellow lifejacket pop up to the surface off to the right of their position, but there was no sign of the wearer.

The Owner told them to swim to shore while he carried on searching for Steven.

Evidence of the Owner of the Te Kaha Holiday Park

He has been the owner of the Park for three years and had seen the Owner of **Predator** every year. He served the Owner at 1100 hours, on 29 January at the Te Kaha Holiday Park. He was with some other adults at the time who were trying to buy a permit to launch that day. He said that they would not be issuing any permits due to the rough sea conditions at Maraetai Bay. The Owner said that he thought conditions would abate later in the day but the Park owner disagreed. The Park owner suggested that the Owner talk to another boatie about conditions down at the beach.

At about 1200 hours, he saw the Owner’s son come across the road and asked if he could buy two permits for two days. The park owner sold him the permits which were valid until the evening of 30 January 2005.

At about 1230 hours, he saw the Owner tow his boat toward Maraetai Bay for launching.

Evidence of the Owner of *Zircon II*

On the morning of 29 January, the Skipper went to a vantage point to look at the waves at Maraetai Bay. He decided he would come back later because the wave conditions seemed too rough at that time.

Later that morning he drove down to Maraetai Bay for a second look at the conditions. He thought they looked okay, so decided to go fishing.

Shortly before 1300 hours, he launched his vessel, **Zircon II**, off the beach at Maraetai Bay.

Zircon II is just under 7 metres in length and is powered by a 135 hp Volvo inboard diesel engine via a duo prop stern leg.

After parking his tractor, and returning to his boat, the Skipper moved out to the inshore side of the channel and watched the wave breaks, while he and his companion donned their lifejackets. He saw ***Predator*** and ***Wavecrusher*** arrive at the beach and start to launch. He thought conditions were pretty good overall but there were some 3 metre waves coming through the channel from time to time.

After the engine was warmed up sufficiently, the Skipper coned the vessel at about half speed through the channel and out into the open sea. He had no problem with any waves he encountered during the transit.

COMMENT & ANALYSIS

Evidence

On 7 February 2005, a Maritime Accident Investigator from Maritime New Zealand attended the scene at Maraetai Bay. The Skipper of **Zircon II**, several witnesses on the beach, the Owner of Te Kaha Holiday Park and the local Police Constable were interviewed. A detailed survey of the Bay and its entrance was undertaken both from the shore and from the sea.

Extensive analysis has been undertaken of an eyewitness video recording of the capsizing. This was acquired on 7 February 2005 and the camera operator interviewed.

On 8 February, the Owner's son and the first boy were interviewed at their respective homes in Mt Maunganui.

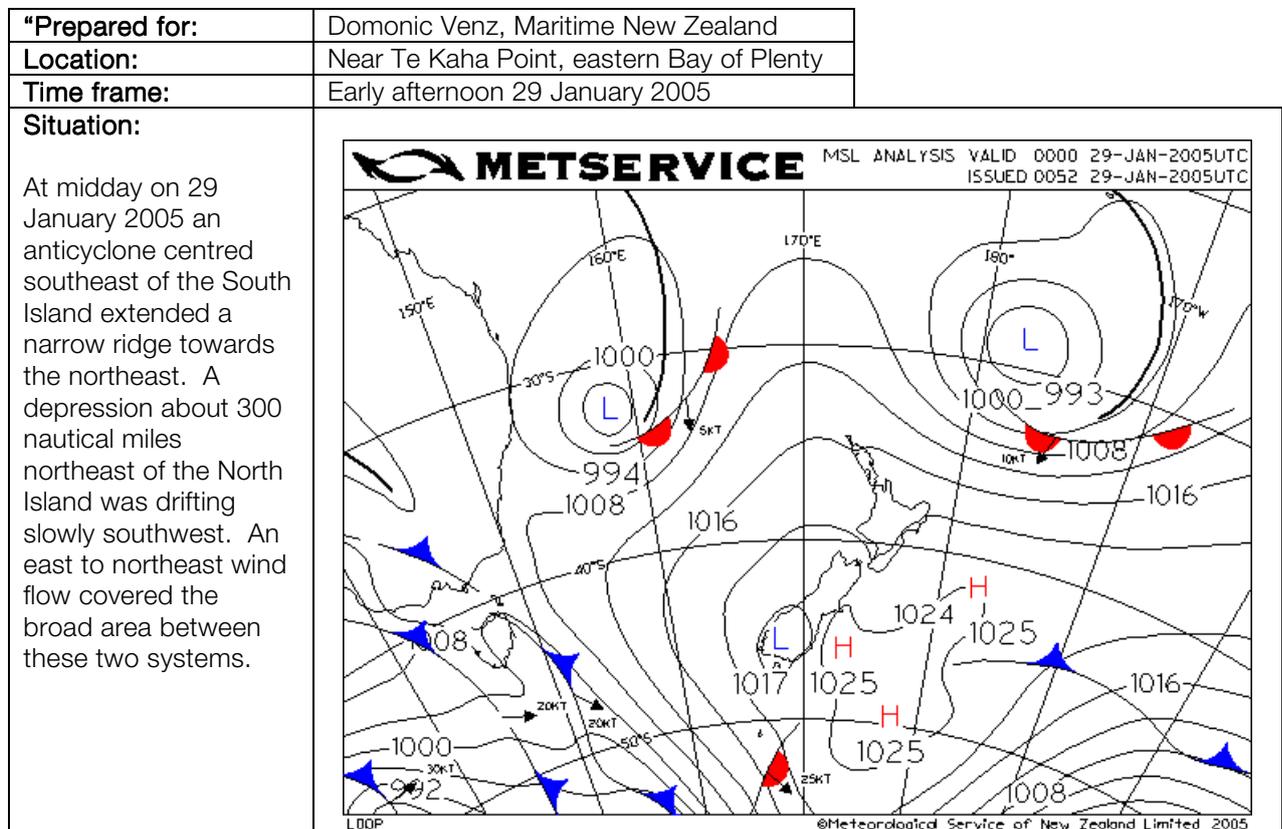
On 15 February the Owner's of **Wavecrusher** and **Predator** were interviewed in Otorahunga.

Various other evidence was gathered from Ramco boats, Fish City Hamilton, New Zealand MetService, the Police dive squad, the Marine Industries Association, Environment Bay of Plenty and two commercial fisherman operating out of Maraetai Bay.

Analysis

Environmental Details

Maritime New Zealand (formerly the Maritime Safety Authority at the time of the accident) commissioned a MetService report into the likely atmospheric and sea conditions that would have been encountered on 29 January 2005. This is set out below: -



Lifejacket Details

The Owner made some of the boys swap lifejackets because they did not fit correctly due to their difference in body size and mass. He obtained two new lifejackets from his vehicle and his son and Steven donned these.

Steven was wearing a 'Hutchwilco Mariner Plus' adult medium size lifejacket.

This jacket is designed for persons with a chest of between 85 and 110 centimetres, and a body weight exceeding 40 kilograms. Steven was described as slim to average build weighing 52 kilograms and a height of 150 centimetres. This would put him in the correct size range to wear this size lifejacket.

The Owner asked if all the boys had done up their lifejacket but did not check this for himself. Steven was seen to have zipped his lifejacket up but had not secured the two securing clips. This jacket was seen shortly after the capsizing floating away. Without the two clips secured and pulled tight, the lifejacket would have floated clear of the wearer.



Photograph 2
Label of the Lifejacket that Steven was wearing before capsizing

The Owner had responsibilities under **Maritime Rule Part 91.4 - Personal Floatation Devices**:

- (1) *No person in charge of a recreational craft may use it unless there are on board at the time of use, and in a readily accessible location, sufficient personal floatation devices of an appropriate size for each person on board”.*
- (6) *...”no person in charge of a recreational craft may use that craft in circumstances where tides, river flows, visibility, rough seas, adverse weather, emergencies or other situations cause danger or a risk to the safety of persons on board, unless every person on board is wearing a properly secured (Maritime NZ emphasis) personal floatation device of an appropriate size for that person”.*

The Owner as the person in charge of a recreational craft met **Maritime Rule Part 91.4(1)** but did not meet **91.4(6)** - being properly secured.

The Bay of Plenty Regional Navigation and Safety Bylaws 2004 that were created by Environment Bay of Plenty Regional Council also refer to lifejacket usage. Under section **2.1.5** it states: -

No person in charge of a pleasure craft may use that craft or allow it to be used in circumstances where:

- (a) *tides, river flows, rough seas or*
- (b) *adverse weather, adverse visibility or emergencies cause a danger or a risk to the safety of persons on board unless each person on board is wearing a lifejacket of an appropriate size.*

The Bylaw does not state that the lifejacket should be properly secured.

Predator Loading Details

Predator was a 6.2 metre aluminium Ramco ‘Admiral’. She was powered by a 135 hp Optimax Mercury outboard motor. This model has been discontinued, but a similar type of vessel, listed on the Ramco Boats website, had a hull weight, including standard options, of 900 kilograms. The Mercury website lists that an Optimax 135 hp outboard motor weighs 195 kilograms plus lubricants.

Based on the above weights and a miscellaneous addition of approximately 200 kilograms for gear and fuel the total weight of the boat was approximately 1 295 kilograms.

Zircon II, is a 7 metre plywood vessel with an inboard Volvo diesel engine, driving a stern leg. This vessel weighs about 1 900 kilograms in total. **Zircon II** transited the channel about 15 minutes before **Predator** without incident.

The Owner was standing on a pedestal at the helm station on the starboard side of the vessel. The first boy was seated on the port side, and Steven was standing behind the helm station seat on the starboard side. The Owner’s son was standing behind the port side seat.

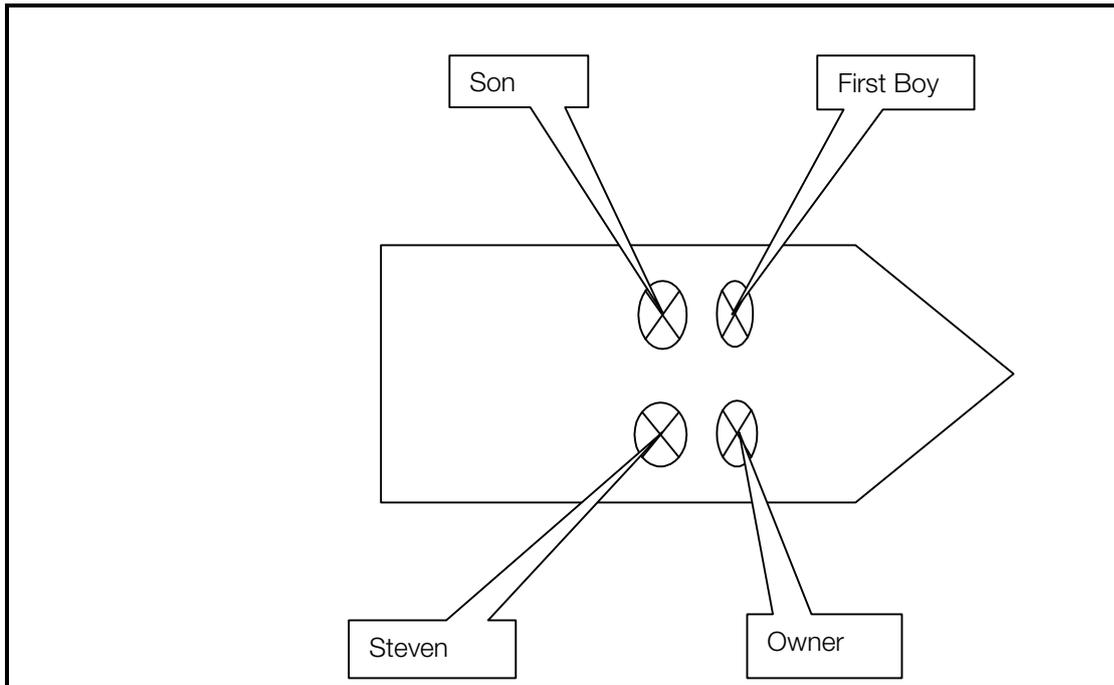


Figure 2
Plan of vessel before capsizing

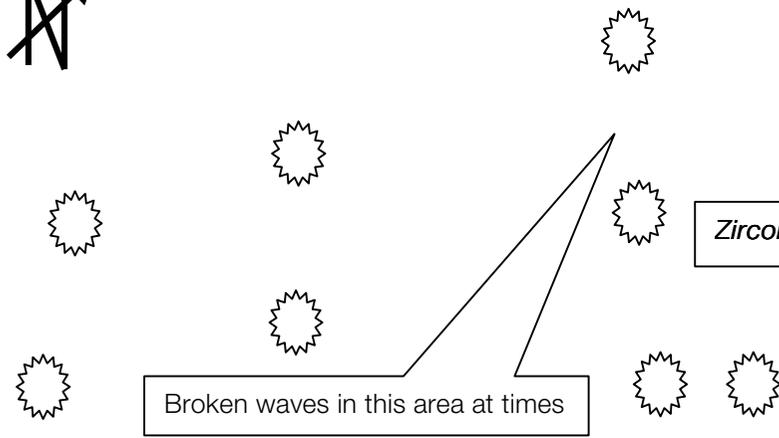
Passage & Capsize Details

Maraetai Bay (See *Photograph 3*) has transit marks which are used as a guide to indicate the entrance of the main navigable channel. A second unmarked channel is situated to the west of the main channel.

Zircon II departed Maraetai Bay at 1310 hours. The Skipper had watched the waves across the entrance for some time before attempting to go out. He decided that conditions were sufficiently rough to warrant the use of lifejackets before continuing.

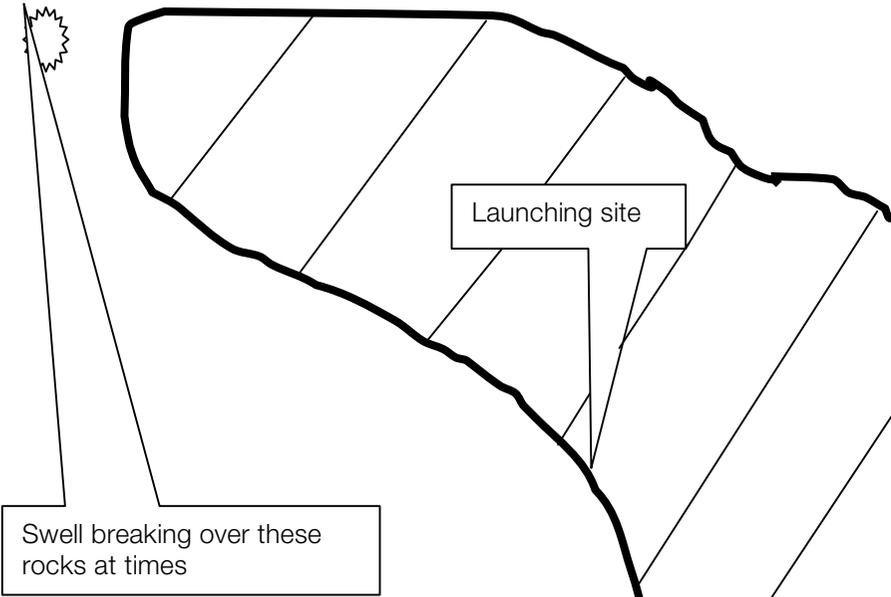
They stayed at a speed suitable to the conditions. The Skipper kept the vessel centred in the entrance channel.

Figure 3
Sketch of Maraetai Bay



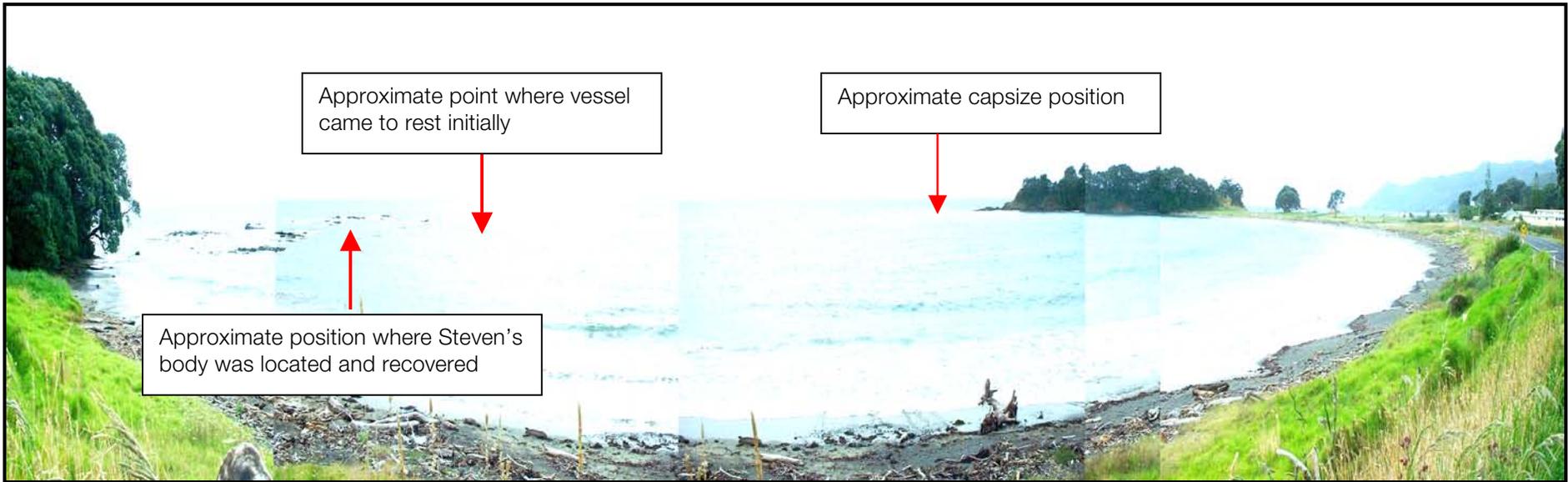
Approximate *Predator* track and capsize position

Swell direction



Transit markers





Photograph 3
Te Kaha (Maraetai Bay)



Once at sea, the Skipper of *Zircon II* stated that the average swell height was about 2 metres with an occasional 3 metre ground swell.

Predator departed 15 minutes after *Zircon II*, but encountered very different sea conditions. The video evidence would suggest that initially, *Predator* was travelling faster than *Zircon II*. Evidence from the first boy and the owner's son confirmed that the vessel increased speed shortly before punching into the wave that caused her to capsize.

Both the Owner's son and the first boy state that the Owner was knocked off or slipped off his pedestal helm position, after cresting the first large wave. When this occurred, the Owner inadvertently put the helm to starboard causing the vessel to alter towards a more dangerous area of the entrance. This is because the rocks to the east of the bay shoal and allow the swells to increase in height in that area. Further west, in the channel proper, the water is deeper and so less wave height. At the same time, the engine throttles were unintentionally knocked by the Owner increasing the speed of the vessel.

Sequence of Capsize Events



Photograph 4a
Predator emerging from wave



Photograph 4b
Predator is partially rolled over backwards



Photograph 4c
Predator falling over to upturned position

Damage Details

Predator sustained severe damage due to the fact that after it capsized, it drifted over a number of rocks and reefs before reaching the shore. It is difficult to determine what damage the vessel sustained as a result of capsizing. However, the hull of the vessel was apparently intact when the survivors exited the upturned vessel.



Photograph 5
Predator after recovery

Launching Permit Details

All users of Maraetai Bay are required to purchase a launching permit from 'Te Ehutu Iwi Authority'. This is done through their agent at the Te Kaha Holiday Park. The permits can be bought daily, weekly or yearly. They are used to enable access to be gained across Maori land for the purpose of being able to launch a boat.



Photograph 6
Permit on the trailer of *Predator*

The Owner of the Park stated that he declined to sell permits during the morning of Saturday 29 January due to the rough sea condition at the entrance. He stated he had no “authority” to decline the sale of permits, but did so from a common sense perspective. He does not have vast boating experience and nor is he there to police permit use or abuse. There is an alternative launching area about 5 minutes drive away near the Te Kaha Hotel which does not require the use of a permit. He sold two permits to the Owner’s son that day, one for **Wavecrusher** and one for **Predator**. He assumed they would be used later that day if the sea conditions abated, or the next day as the permit was valid until Sunday 30 January.

When the Owner of the park saw **Predator** being launched, he told the Investigator that he could not believe it and that it was totally out of character, given the prevailing conditions at that time.

Ancillary Legislation

Minimum Age

Maritime Rule part 91.5(1) states:

No person under the age of 15 years shall be in charge of, or propel or navigate, a power driven vessel that is capable of a proper speed exceeding 10 knots unless he or she is under direct supervision of a person over the age of 15 years who is in immediate reach of the controls.

Environment Bay of Plenty has a similar bylaw stating that no person under 15 years may operate a vessel capable of exceeding 10 knots.

The Owner allowed the son to operate **Predator** while he parked his vehicle and assisted with launching **Wavecrusher**.

Radio Operations

Radiocommunications Regulations 2003 section entitled ‘Radiocommunications Regulations (General User Radio Licence for maritime Mobil Notice) 2003 states under part 9 of Terms, Conditions and Restrictions:

Except in an emergency, only a person who is the holder of a valid Certificate of Competency granted under the Regulations may operate a transmitter to which this licence applies.

The Owner allowed the son to operate the VHF radio on **Predator** in a non-emergency situation.

CONCLUSIONS

N.B. These are not listed in order of importance

- Steven had zipped up his lifejacket but did not use the clips to secure the lifejacket across his chest.
- The Owner did not personally ensure that all the lifejackets were securely fastened, in breach of **Maritime Rule Part 91.5(6)**.
- The Owner was an experienced recreational boatie who had launched boats at Maraetai Bay many times before.
- **Predator** was a well-found vessel which was suitable for most conditions that a prudent boatie would operate in.
- **Zircon II** and a commercial crayfishing vessel both exited Maraetai Bay that morning. The Crayfisherman stated that when he launched at 0930 hours, that conditions at the entrance were quite rough. When he returned to the Bay shortly after the capsize, he said the swell had abated and there were longer periods between wave sets compared to when he launched. But he still considered conditions to be rough at times.
- The Owner watched the waves as they crossed the entrance before deciding to start his transit of the main channel. However, he failed to assess comprehensively the movements of the waves. After striking larger than average waves he lost his balance momentarily and was unable to fully control the helm. This caused the vessel to alter towards a dangerous shoal area at the eastern side of the entrance where the reduction in depth allowed the waves to increase in height and break.
- The Owner was travelling too fast for the prevailing conditions, having regard to the size of the waves and the weight of the vessel.
- After capsizing the vessel floated bow up with very little of the vessel's hull remaining above the water.
- **Predator** was designed with its reserve buoyancy situated in the floors below the water line, with the result that, in conjunction with a heavy outboard motor at the stern, it adopted a "bow up" attitude following the capsize.
- The Marine Industries Association/Coastguard Compliance Plate Certified (CPC Plate) requires positive buoyancy to be fitted in all new craft from 3.5 to 8 metres in length. This voluntary code came into effect in 2003 and has been adopted by the manufacturers of 75% of small craft built in New Zealand. New boats that comply with the CPC code have positive reserve buoyancy and will therefore remain afloat in the event of a capsize. However, there is no requirement for level floatation and almost invariably, as in this case, boats will adopt a "bow up" attitude following a capsize due to the weight of the outboard motor at the stern.
- Following the foundering of the vessel **Time Out** on 11 May 2003, with the loss of three lives, it was recommended in the Maritime Safety Authority (MSA) report that the MSA, in conjunction with the Marine Industries Association (MIA) and Coastguard investigate with the boat building industry, the feasibility of ensuring that positive buoyancy is fitted to all new vessels under 8 metres in length and that buoyancy be placed to ensure level floatation after a capsize or swamping. Since that recommendation was made, all new dinghies manufactured by Fyran have been constructed so as to float level in the event of a capsize/swamping.

SAFETY RECOMMENDATIONS

1. That Environment Bay of Plenty review their Bay of Plenty Regional Navigation and Safety Bylaws section 2.1.5, to include the wording 'properly secured' in line with **Maritime Rule Part 91.4(6)**.
2. That Maritime New Zealand, in conjunction with the Marine Industries Association and the boat building industry continue to explore the feasibility of the ways in which level floatation can be achieved for vessels up to 8 metres in length.
3. That the Business Development & Communications Division of Maritime New Zealand continue to promote by all possible means, the wearing and proper securing of lifejackets for recreational boat users.
4. That a copy of this report be forwarded to the Coroner, the Coastguard Federation, the Marine Industries Association, all Harbourmasters and members of the National Pleasure Boat Safety Forum (the Forum).
5. That the Director of Maritime New Zealand consider taking legal action against the Skipper of ***Predator***.

ACTION TAKEN

Maritime New Zealand prosecuted the Skipper/Owner of ***Predator*** of two charges under section 65(1) of the Maritime Transport Act 1994. On 9 February 2006, the Skipper/Owner was convicted following a defended hearing. He was sentenced to 150 hours community service on each section 65 charge, to be served concurrently