

Submission in respect of the Navigation Safety Bylaw – review of clause 2.17 and schedule 7.1.5 under Local Government Act 2202

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I wish to be heard in respect of my submission

Signature: Occupation: Company Director Date: 10 March 2009

This submission relates to Clause 2.17 Visibility of kayaks and paddle craft.

I apologise for the length of this submission, but it deals with safety outcomes that can be fatal so I thought it should be comprehensive.

Appendices:

- 1. Summary of all New Zealand recorded paddle craft collisions 1992 to 2009 (included)*
- 2. KASK kayaker fatality statistic 1983 to 2006 (attached)*
- 3. KASK incident database analysis of incidents 1983 to 2006(funded by Water Safety Council) attached.*

I have kayaked in and around Auckland for over 25 years. I have kayaked solo and in groups down most of the East Coast of the North Island. During the latter 20 years I have been involved in the Auckland Canoe Club, North Shore Canoe Club, Auckland Sea Kayak Network and the Kiwi Association of Sea Kayakers. I have participated in and at times organised the Coastbusters biennial sea kayak forum, a three day event, the primary function of which is kayaker education. I have also participated in many kayaker leadership courses. I also belong to the Milford Cruising Club and have a yacht moored in Milford Marina which I sail around the Hauraki Gulf.

I strongly believe, based on my experience, that visibility of kayaks and paddle craft should be improved through public education, through a voluntary code of good practice developed by kayaking organisations, and through recommendations by maritime safety authorities.

I do not support regulation via a bylaw. Part 1 of this submission explains why.

However, a bylaw has been made and in part 2 of this submission I will suggest changes to the current bylaw which may help to make the bylaw more acceptable and practicable for paddlers should the Council continue with changing the Bylaw.

Part 1.

The reasons I do not support addressing the issue of paddle craft visibility via a bylaw.

Firstly, I would like to address why this part is relevant to this submission.

Despite the Safety Bylaw 2008 Review Statement of Proposal stating that this is a minor change to a current bylaw and therefore a bylaw is the best way to achieve this, I believe the current bylaw review must accept submissions on the need for the Bylaw and that the ARC show good reason for a rule to address a perceived need (paddle craft visibility) before proceeding with a bylaw as required by section 155 of the Local Government Act.

This is because there was no chance for submission on this before the Bylaw was passed, due to the rule 2.17 of the Bylaw being inserted after the Bylaw submissions closed last time.

The perceived need referred to in the Statement of Proposal is paddle craft visibility. I have assumed the required reason for the paddle craft visibility is to prevent collisions; rather than addressing a public perception of increasing collision risk which I will also show not to be based on evidence.

To address the need for a bylaw it must be shown that

- (1) there is evidence that supports the premise that collisions are now a problem or
- (2) there is evidence for an increase in collisions occurring in the future and;
- (3) paddle craft visibility will prevent collisions and
- (4) a bylaw is the best method for preventing collisions from occurring.

(1) Evidence of incidents throughout New Zealand involving collisions with paddle craft shows

- paddle craft collisions are not a significant problem in New Zealand and
- a bylaw is ineffective as a means to alter the rate of collisions

Incident records have been kept on all known paddle craft collisions since 1992. In the 13 years till now there have been only 7 recorded collisions for the whole of New Zealand (including sea, lakes and rivers)

The average collision rate in New Zealand is about 1 each 2 years

The average collision rate in ARC controlled waters is about 1 each 5 years

In New Zealand in the last 13 years there have been 2 fatalities, in 1997 and 2004. When compared with drowning or fatalities on roads the number of fatalities from collisions is very minor indeed. However it should be noted that almost one third of paddle craft collisions result in fatality.

Note: APPENDIX 1 has a summary of all incidents from all known sources.

**Three sources of recorded incidents have been used (i) Maritime New Zealand incident database with reports of incidents from 2004 to the present and (ii) Kiwi Association of Sea Kayakers (KASK) incident database with reports of incidents from 1992 through 2005 with analysis funded by the New Zealand Water Safety Council, and (iii) the ARC Harbourmaster's office verbal reports.*

(2) Evidence for a perceived likelihood in the increase in collisions.

(a) There is no evidence at all to support a perceived increase of kayaker collisions, despite the increase in kayakers in the Auckland region.

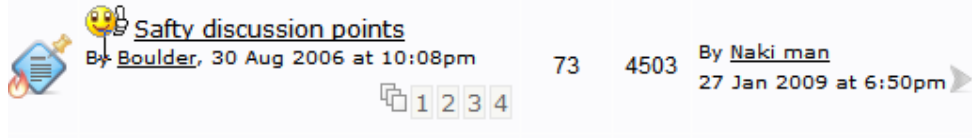
The only recorded incidents of collision in Auckland were in the Auckland Inner Harbour in 2008. The previous 12 years had no recorded collisions in any ARC controlled waters. During the last 10 years the numbers of kayakers and paddle craft have been rapidly increasing without any corresponding increase in collisions. Three incidents in one year out of 13 cannot be perceived to be a trend.

The Harbourmaster has already taken action to reduce the speed limit in the inner Auckland Harbour to 12 knots where all three of the incidents occurred. This is more likely to reduce the potential for collision in future as well as mitigating possible consequences.

(b) Paddler education is growing at the fastest rate ever. Kayak and paddle craft training has increased from almost nothing 10 years ago to now many organisations providing training courses, education and guidelines. These include Coastguard, kayak retail stores, commercially run paddle clubs, traditional kayaking clubs, universities and technical training organisations. More recently kayak fishing clubs and fishing yak retailers are training as well.

(c) Increasingly, during the last few years, paddle craft owners are getting much of their information from the web. For example, in the biggest New Zealand fishing forum http://www.fishing.net.nz/asp_forums/, the kayak fishing forum called Yak Yak Yak had 22,493 posts from online users, as at 11/3/09. One safety topic alone has had 4,503 viewers and this is just one example of many, where kayakers are educating themselves.

Yak Yak Yak kayak fishing forum safety topics showing 73 posts and 4,503 readers.



(d) There is however an increase in anecdotal reports from other vessels about close encounters with paddle craft. The reasons for this are conjecture but may include the following:

(i) With the increase in the number of kayaks, other vessels are now taking more notice of them. This includes the knowledge of the risk of collision which translates into a more informed attitude and hence more anecdotal reports.

(ii) Over the last few years vessel skippers have become more fearful of the consequences of a collision with a paddle craft resulting in a shift of perceived potential responsibility to the other paddle-craft party. This is especially relevant after the recent prosecution in Auckland.

(iii) However, the increase of anecdotal reports does not bear any relationship to actual collisions based on evidence.

(3) That paddle craft visibility will prevent collisions

To be able to determine this, the reported incidents need to be analysed. Incidents are rarely caused by one factor but the primary cause factors are shown below.

Table of major contributing factors in all known paddle craft collision incidents

Note this column indicates whether the application of requirements of Rule 2.17 (current or proposed) would likely change the outcome of the collision occurring*

Inc. No.	Sunstrike	Inattention by other party	Dangerous driving, too fast or out of control	* Rule 2.17 Probably would have made a difference	More than 200m from shore	Comment Probable cause
1	✓		✓	✗	?	Pleaded guilty to dangerous driving Sec 65 MSTA
2		✓	✓	✗	✗	Out of control immature driver Fatality
3		✓		✗	✗	No one in vessel looking ahead
4		✓		✗		Waka with 6 people on board

					X	waving oars
5		✓	✓	X	✓	Auckland Paddler waving bright yellow paddle above head failed to attract attention of driver at 0m ahead
6	✓			? Not enough info	? Not enough info	Auckland Power boat did not stop in Inner harbour Not investigated
7	✓ Probable	✓ Probable		X Probably no one on watch	?	Auckland Hit by fishing boat, "probably short handed" Not investigated

In almost half the incidents **Sunstrike** was stated as the main contributing factor. This occurs when the sun is low to the horizon and the paddle craft is between the sun and the other vessel. If the paddle craft could be seen, it would appear as a dark object against the intense glare of the sun. Because of the glare, the eye adjusts to let less light in and consequently less image resolution so that even objects quite close are not seen. Usually there are no reflections from the paddle craft because the sun is behind it, unless the sun hits a feathered paddle (paddle blades that are offset at about 45% to one another common to sea kayaks, but not other paddle craft).

As every vessel owner knows, sunstrike can obliterate all objects on land when looking to the west setting sun. It is notable that, where sunstrike was quoted as the major contributing factor, inattention was not. This is probably because the vessel skipper would have known there was a condition of reduced visibility - and paid particular attention to what was in front - yet still did not see the paddle craft ahead. There is very little a paddle craft may do to avoid the problem except stay out of the path of all vessels and not depend on the other vessel seeing them.

The most prominent cause is skipper **inattention** and in all 4 cases investigated - and possibly the one that was not - the skipper did not know until after the collision there was a paddle craft ahead.

This means the skipper could not see an object at least one metre high above sea level and probably very animated (in the Auckland case the kayaker was waving a bright yellow paddle above his head and, similarly, in the case of the 6 person waka, they were also waving oar's above their heads). And this is even at close quarters.

In all inattention cases either the skipper was talking to another person or just plain not keeping a lookout ahead. It is clear, in these cases, that any changes to the paddle craft would not have altered the outcome.

In the case of **dangerous driving, speeding and loss of vessel control**, the maturity, intelligence and experience of the skipper has to be a large factor. No amount of alteration to a paddle craft could affect these outcomes. Again in the case of the Auckland incident, the Judge noted the kayaker had not done anything wrong. The kayaker was waving a bright yellow paddle and had a yellow kayak according to MSA records.

Therefore, despite the perception, in all investigated incidents, increasing the visibility of the paddle craft can not be shown to have changed the outcome of a collision. The perceived need of "paddle craft visibility" to prevent collisions does not hold.

It is worth noting there were no reports of collision at night. This may be due to increased paddler awareness of the risks at night; by paddlers keeping well clear of other traffic; and most paddlers who venture out at night have more experience.

(4) That bylaw is the best method for preventing collisions from occurring.

In none of the recorded instances would the application of the current or proposed bylaw have changed the outcome.

This is because

(i) One third of the collisions occurred within 200m of shore which is outside the scope of the bylaw rule.

(ii) In the cases where sunstrike was identified (already discussed), the only way of improving the image reaching the other skipper would be make the paddle craft appear larger, which is beyond the scope of the bylaw.

(iii) In the incidents where the other vessel was simply not keeping a watch ahead, or distracted, by talking to another person in the boat, a bylaw affecting the paddle craft would be ineffectual. In these cases the only way of avoiding a collision is for a paddler to anticipate a collision and take quick evasive action.

There will always be a small number of collisions involving paddle craft.

(5) Additional reasons I think a bylaw is not a preferred method to make paddlers safer.

A. Kayakers will think that, if they follow this bylaw they will be safer from collision. Experienced kayakers know that, in all cases of an approaching vessel, they need to take quick and definitive action themselves to save them from potential collision and not rely on any other vessel having seen them. This is because of the probability of significant injury or death as above.

B. I strongly believe, based on my experience and that of my peers, that visibility of kayaks and paddle craft should be improved through public education, through a voluntary code of good practice developed by kayaking organisations, and through recommendations by maritime safety authorities.

(6) Need for Harbourmaster to be able to remove dangerous vessels and skippers from putting others at risk

I accept that the Harbourmaster needs a method to remove from the water kayakers and indeed any other vessels that pose unacceptable risks to other water users and I recognise that the ARC believes this Bylaw rule to be a method (as stated by the Harbourmaster in the ARC consultation meeting on the rule 9 March 09); however that is not the need specified in the Statement of Proposal for the bylaw change and is best addressed in other ways.

Part 2 - Changes to the Bylaw Rule 2.17 that will be practical and acceptable for paddles.

However, should the Council not accept the arguments above and pursue changing the rule, I would like to make these suggestions that will help to make this Bylaw more acceptable to paddlers and more practical for both paddlers and the Harbourmaster to enforce.

(7) Large waka, waka ama, and dragon boats should be exempt because their size makes them highly visible.

(8) The requirement that kayaks and paddle craft shall ensure they are highly visible to other vessels will often be impossible to meet, for example in sunstrike conditions when a small vessel low to the water will be difficult to see no matter what clothing or equipment is carried, in fog conditions where sound and radar is the most effective measure. The wording shall ensure leaves no room for any defence at all in differing conditions.

It should be replaced with, "...shall take steps to enhance their visibility to other vessels," which is always achievable. This is the approach used in many Government Acts, for example in the Health and Safety in Employment Act 1992 Act, where interpretation improves over time, based on decisions.

(9) The requirement that, by day kayakers shall wear "highly visible clothing or a highly visible PFD suitable for contrasting with the visibility conditions at the time," should be replaced with a range of alternatives which incorporate the actions that many paddlers are already taking to improve their visibility. This part of the bylaw could read:

"By Day. Taking at least one of the following actions:

- a) paddling a brightly-coloured kayak or paddle craft
- b) wearing a brightly-coloured PFD or paddle jacket
- c) exhibiting a brightly-coloured flag on a small mast"

My reasons why the wording needs to be changed here are:

(i) The proposed wording is not possible without increasing the safety risk to a kayaker. Kayakers only carry one PFD so the proposed wording requires changing upper body clothing.

When I go out on the water I select the most appropriate clothing and personal protective equipment including my only kayaking PFD for the expected weather and sea conditions. The order of dressing in clothing and donning equipment is very important for safety reasons so that access is available to emergency gear carried on the person and so that the PFD (same as Coastguard wear) may be inflated when needed.

Changing clothing and equipment whilst in a single kayak is difficult, prone to unbalancing the kayak, leading to capsize, and is impossible in some sea conditions. Sea kayakers have a neoprene spray skirt which seals the kayaker to the kayak to prevent water from entering the cockpit since freeboard is only 10 to 20cm above sea level. In single kayaks, to successfully change any clothing except for PFD the spray skirt must be removed leading to the potential of water flowing into the kayak cockpit and capsize. During this entire manoeuvre the kayaker is in an unbalanced position, has no PFD and does not have their paddle for support. This is a very unsafe act at sea.

(iii) A kayaker has no control over weather and sea conditions and, like all other vessel skippers, takes what is required for expected conditions. The words shall ensure they are highly visible does not allow for unexpected conditions where the rule may not be complied with.

(10) Replace the phrase "highly visible" with "brightly coloured" to recognise the fact that fabrics in "high-visibility" colours (fluorescent pink, orange, yellow etc) fade very rapidly. For that reason

they are seldom used in outdoor clothing which is expected to have a long life in the sun. Bright standard colours such as red, orange and yellow are durable and readily available.

High-visibility vests cannot be worn over an inflatable PFD making the high-visibility requirement redundant. A PFD or life jacket's primary use is when the kayaker is separated from the kayak. Sea kayakers who venture off shore often choose inflatable PFDs which provide more head support in the case of unconsciousness (as does Coastguard). Also high-visibility vests (like those worn by cyclists and road-workers) should not be mandatory because they obstruct access to the VHF radio and cell-phone which many paddlers wear clipped to the front of their PFD, and to a tow-rope which is sometimes carried in a pocket on the back of the non-inflatable PFD. If a vest is loose enough to get on and off easily, then in the water it may float up over the kayaker's face.

(11) I agree that at night kayakers should carry a strong torch which can be used to warn approaching vessels at long range.

I also agree that in areas where there is an expectation of meeting other traffic or kayakers are travelling in a group, the additional all-round white light required by the proposed bylaw will be used to indicate the kayak's position at much closer range while the kayaker continues paddling.

However any proposed rule to use an all round light must be flexible. Where a solo kayaker is travelling at night in areas where no traffic is expected and in swell or wave sea conditions an all round white light reduces a kayaker's safety considerably. The kayaker has to weigh up the risk of collision against the risk of capsize and being separated from the kayak. An all round light (of intensity that others may see other than a red light which is not legal) will completely destroy the kayaker's night vision (black and white vision allowing a kayaker to see in almost complete darkness using the rods in the eye). Night vision is essential in these conditions to be able to detect oncoming swells and waves and take balancing paddle stroke action when they arrive.

So I propose a change to the wording

'(b) Showing a continuous white light visible in all directions and of suitable intensity to avoid collision at all time where there is an expectation of encountering other vessels or when the paddle craft is anchored; and;'

I urge the council not to specify a 2-nautical-mile range for the all-round white light because such a light is bright enough to destroy the night vision of one's fellow-paddlers; the batteries required make it heavy and prohibitively expensive (in comparison to other kayak safety equipment except EPIRBs); oncoming vessels can be warned much more effectively, and at far greater range, with a torch such as a Dolphin torch, as indicated by the Harbourmaster's visibility trials last year with kayaks.

Other factors to be considered

(12) Paddle craft under sail

Many kayakers carry and use one or more sails, to enhance paddling, or replace paddling with sailing as a means of propulsion. The International Collision Regulations [COLREGs] allows for this distinction but the Bylaw is unclear. This needs to be clarified.

(13) Kayak being rowed

Because Kayak is not defined in the Bylaw definitions, which talks about Kayaks and paddlecraft, if a kayak is rowed rather than paddled, which is an option with some kayaks being produced; there is confusion about whether the rowed kayak is covered in the Bylaw.

(14) Anchored paddle craft and kayaks (eg: while fishing)

It is unclear whether the bylaw applies to anchored paddle craft. These have no manoeuvrability and are perhaps the most likely target for collisions. The statistics will not have included this category of paddle craft because in past years fishing yaks have not been used extensively for fishing. The suggested change to the lighting wording above takes care of the situation.

(15) Reference to clothing colour vs New Zealand Bill of Rights Act.

The proposed Bylaw wording refers to "Wearing highly visible clothing or a highly visible PFD suitable for contrasting with the visibility conditions at the time" which may contravene the Local Bodies Act Section 155 as follows. Whereas a PDF is "personal protective equipment", clothing is personal preference and the wearing (or not) of such clothing and the colour of clothing (if worn) is "an expression of opinion of any kind or in any form" as referred to in The New Zealand Bill of Rights Act 1990 Part 2 - Section 14 Freedom of expression which states "Everyone has the right to freedom of expression, including the freedom to seek, receive, and impart information and opinions of any kind in any form". The Local Bodies Act Section 155 under which this Bylaw Review is being conducted states " No bylaw may be made which is inconsistent with the New Zealand Bill of Rights Act 1990."

I would also suggest that

- (a) Kayak racing events and training for kayak racing events be separated from general kayak and paddle craft in this bylaw and;
- (b) kayaks and paddle craft in racing events or training for racing events wear either a high visibility vest and carry a PDF or wear a high visibility PFD and
- (c) all other paddle craft wear a high visibility PFD; or wet suit with sufficient bounciness and high visibility at all times beyond 200m of shore.

This wording avoids problems with the BOR Act because all references to colour or brightness are to personal protective equipment rather than clothing.

Thank you

This submission **must be received** by the ARC before 4.30pm on Monday 16 March. It may be posted to the Harbourmaster's Office, Auckland Regional Council, Private Bag 92 012, Auckland; or delivered to the Auckland Regional Council, 21 Pitt St, Newton.

APPENDIX 1

Table of collisions in New Zealand involving paddle craft during the last 13 years

No.	Date	Place	Conclusion / Reason	Comments
1	4/6/1991	Lake Tarawera, North Island	Power boat collision with double kayak due to sun strike	Power boat driver pleaded guilty to a charge of dangerous driving under section 65 of the Maritime Safety Transport Act. His lawyer said due to glare from the sun, he failed to see the kayaks.
2	14/3/1997	Porirua Harbour, Wellington	Kayak struck by jet ski showing off and inattention - one paddler killed	18 year on a rented jet ski, was showing off, doing doughnuts (tight circles). The rental operator/ jet ski instructor went out on another jet ski and told the driver his ride was over, pointed to shore and told him to return. The driver headed towards a jetty at such speed that the renter thought he would collide with it. He swerved around the jetty, and went directly for the kayak. 'Just before he hit, the older girl grabbed the little girl from the front of the kayak. She could see him coming. Then I saw her fly into the air.
3	4/1/204	Okiwi Bay, south of French Pass; South Island	Sea kayaker killed by power boat Failure to keep a proper lookout by the boat driver and observers About 200m from shore	A British tourist paddling some 200m offshore was struck by a powerboat towing a sea biscuit. As well as the driver, there were two observers on the boat, which was turning to pick up the person who had fallen off the biscuit. The people on the boat were 'unaware of the collision until they saw a body in the water.' He died when being loaded onto the rescue helicopter. The collision occurred about 5pm. Sunset that day in Nelson was 9.03pm. Conditions were calm when the accident occurred. An observer was in a car on shore at the time of the accident. She said the bright yellow kayak stood out clearly on the water. The sea was calm, & the kayak was not in the ski lane.
4	2007	Reported by Maritime Safety -	A speed boat ploughed into an outrigger canoe with 6 POB (waka) that had six people on board The collision took place within 200 m of the shore. Speeding, inattention and Sunstrike	One crewmember on the waka suffered severe injuries including a collapsed lung, fractured ribs, spinal fractures and lacerations to the knee. Other crewmembers suffered severe bruising. The speed boat hit the waka at high speed despite being restricted to 5 knots by local bylaws. The collision took place within 200 m of the shore. The helmsman had just increased

				<p>power to get up to planing speed. He claimed he did not see the waka because of sunstrike. The skipper of the waka said she saw the speed boat heading toward her vessel when it was 50 m away. She raised her oar and tried to attract the attention of the speed boat's skipper. She said the skipper did not see the waka because he was in conversation with another crewmember and not keeping a proper lookout ahead.</p>
5	Sept 2008	Westhaven, Auckland Harbour	<p>Failure of power boat owner to keep proper lookout.</p> <p>Paddler in yellow kayak, waving bright yellow paddle 60m before collision not seen by Power Boat.</p>	<p><i>At approximately 0840 hours New Zealand Standard Time on 9 September 2006. the Royal New Zealand Yacht Squadron vessel Squadron 2 [8m vessel powerboat] departed the western entrance of Westhaven Marina and proceeded on an easterly course down Auckland Harbour at a speed of 30 kmph. At the same time a kayak was crossing the Harbour on a southerly course from Ngataringa Bay towards the eastern entrance of Westhaven Marina. The Skipper of Squadron 2 failed to see the kayak and ran his vessel over it.</i></p> <p><i>- Report from Maritime New Zealand</i></p> <p><i>Other facts from summary of facts from court case</i></p> <ul style="list-style-type: none"> - Vessel about 60m away from the yellow kayak when the kayaker waved his bright yellow paddle and shouted a warning. - The defendant did not see the kayaker or the kayak and ran over the kayak just behind the seat - Pleaded guilty to failing to keep a proper lookout, and failing to consider the obligations of the vessel he was in charge of. - The Judge said the kayaker had done "nothing wrong". It was the responsibility of the power boat owner, in the more powerful vessel, to avoid crashing. The judge said "Everyone is entitled to use the water. The court cannot let this incident pass." The incident was investigated by Maritime New Zealand. Auckland's Harbourmaster at the time, Jim Dilley, said the court action was a wake-up call for boaters.
6	2008	Auckland Inner Harbour	Reported by ARC Harbourmaster	Only brief details known by Harbourmaster. Incident not fully

			Sunstrike	investigated. Kayaker hit by power boat which did not stop. Occurred late in afternoon when sun setting.
7	2008	Auckland Inner Harbour	Reported by ARC Harbourmaster Sunstrike suspected	Kayak hit by fishing boat in inner Auckland Harbour. Not investigated but Sunstrike suspected.

Notes

1. There was also one near miss reported recently in Auckland. A kayaker reported a near collision with a Ferry travelling at about 20K off the Container terminal in the Inner harbour. There are insufficient details only that it was possibly sunstrike.
2. Detailed KASK reports of every incident, collision related and others, are available but not included in this public submission because they identify individual people involved. ARC is welcome to view this information on request.