



# AUCKLAND REGION

# ALCOHOL RELATED DROWNINGS

A study examining the alcohol related drownings  
in the Auckland Region 2004 - 2008

## INTRODUCTION

The Auckland Region is aquatically blessed with numerous aquatic environments on offer. With three harbours, two coastlines, inland waterways and a plethora of community aquatic facilities it is little wonder that aquatic participation is the number one leisure activity for young people aged five to seventeen years (SPARC Facts, 2001), and the second most popular for adults (SPARC Active Survey, 2008). Unfortunately, our high rates of aquatic participation are mirrored in the Regions drowning statistics. Between 2004 and 2008 there were 114 drowning deaths in the Greater Auckland Region.

Our love of aquatic recreational pursuits coupled with New Zealand's systematic drinking culture often leads to fatal consequences. Drinking alcohol is intrinsic to the New Zealand culture, and drinking to the point of intoxication, or 'drinking to get drunk' is an accepted norm for people of all ages in New Zealand (De Bonnaire et al, 2004). Consuming alcohol is an accepted norm, and as such, people expect to drink in a wide array of situations and occasions.

Unfortunately, the consumption of alcohol prior to aquatic activity has been shown to significantly increase the risk of drowning. Alcohol adversely influences a range of physiological and behavioural characteristics which leads to an increase risk of drowning.

Recognition of the role of alcohol as a risk factor for drownings is increasing. Whilst many drowning scenarios i.e. land based fishing and home pool drownings are in decline, it is apparent that alcohol related drowning deaths are increasing, especially within the 15 – 24 year old age group. National and international research indicates that 20 – 25% of adolescent and 25 – 35% of adult drowning deaths involve alcohol.

It is for this reason that WaterSafe Auckland, Alcohol Healthwatch and ALAC have highlighted the need to reduce alcohol related drowning within the Greater Auckland Region.

This position paper presents a statistical overview of the burden of alcohol related drownings in the Greater Auckland Region (Auckland City, North Shore City, Waitakere City, Manukau City, Franklin District, Rodney District and Papakura District) between 2004 and 2008.

## THE EFFECTS OF ALCOHOL

### GREATER RISK TAKING BEHAVIOUR

The consumption of alcohol removes inhibitions, leaving individuals more likely to take greater risks, including life threatening risk situations

### IMPAIRED JUDGEMENT

Alcohol distorts individuals perception of risk and their abilities. Alcohol results in an under-estimation of risk, and an over estimation of abilities which leads to poor decision making processes

### IMPAIRED REACTION TIME

Alcohol is a depressant and as such reduces the rate the brain processes information. Ordinary reactions take longer to processes

### LACK OF COORDINATION

Alcohol numbs the senses, in particular sight, sound and touch. When these senses are impaired or fail, balance, coordination and normal functioning is diminished

### SPASM OF THE VOCAL CORDS

Water in the windpipe triggers a reflex closure of the windpipe. Alcohol increases the chance that a spasm of the vocal chords will occur, closing the airway. The combination of water and alcohol can lock the airway closed

### HYPOTHERMIA

Alcohol increases blood flow to the arms and legs even when the body would normally try to stop this to save heat loss. Fall into the water under the influence of alcohol and hypothermia will occur much earlier

### DISTURBANCE OF THE INNER EAR

The body's balance system is located within the inner ear. Alcohol and a sudden change in temperature leads to this system becoming disorientated. Diving into water often causes disorientation resulting in the individual not knowing which way is up

## METHODS

Information used in this report has been collected using DrownBase™ for the period 1 January 2004 to 30 December 2008. DrownBase™ contains records of all drowning deaths from 1 January 1980. Information is entered into DrownBase™ using official Coroners Reports from the New Zealand Coroners Office. Information provided includes only death by drowning and does not include suicide, homicide, car accidents or deaths due to natural causes (cardiac arrest). Information collected for this positive paper included activity, site of drowning, age and sex.

Population statistics by age, sex and location of residence were collected from Statistics New Zealand's national census data. The drowning rate is calculated by dividing the drowning deaths by the population and multiplying by 100,000. This enables drowning deaths to be examined by the rate per 100,000 people by age, sex and location of residence within the Greater Auckland Region.

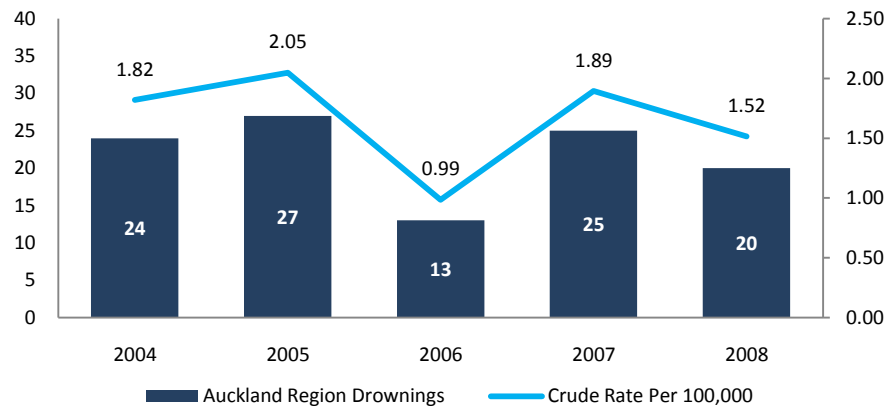
### *Limitations*

As a number of cases are open and still being investigated by the coroner a guarantee of the correctness of the information provided can not be made. DrownBase™ does not record the blood alcohol level of the deceased individual therefore comparisons on blood alcohol concentration levels can not be made.

## RESULTS

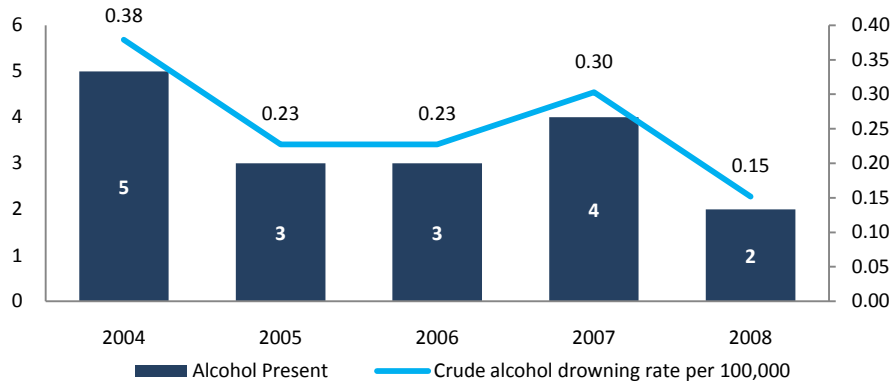
There were 114 people who drowned in the Greater Auckland Region over the five year period 1 January 2004 to 30 December 2008. On average there were 23 drowning deaths per annum (range 13 to 30) between this five year period. The crude rate per 100,000 people per annum ranged from 0.99 in 2006 to 2.05 in 2005.

**Figure 2:** Overall drowning deaths in Auckland Region 2004 - 2008



Just over one-seventh (14.8%) of all drowning deaths in the Region involved alcohol consumption.

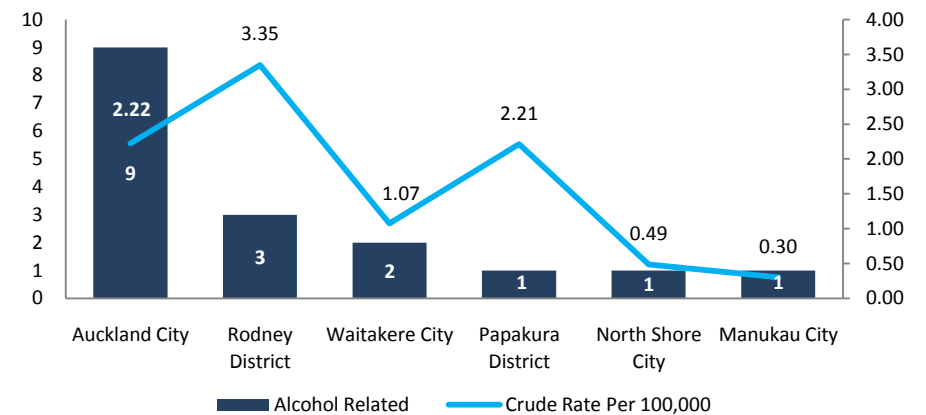
**Figure 3:** Drowning deaths involving alcohol consumption in Auckland Region 2004 - 2008



## RESULTS

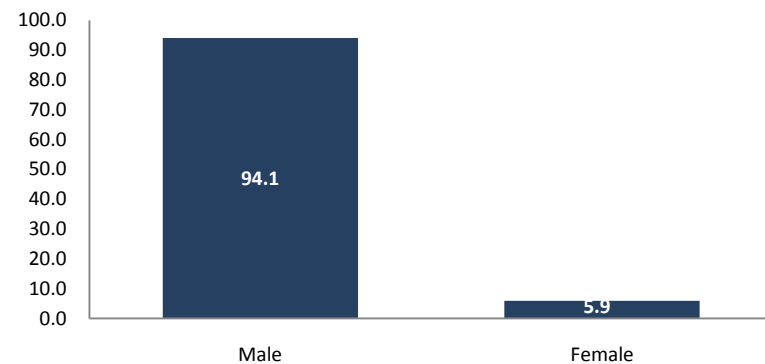
With the exception of the Franklin District Council, all territorial authorities reported having at least one alcohol related drowning death. Auckland City Council had the highest number of alcohol related drowning deaths with nine, while Manukau City Council, North Shore City Council and the Papakura District Council had one.

**Figure 3:** Alcohol related drownings by Council 2004 - 2008



Of the 17 alcohol related drowning deaths between 2004 and 2008, 16 (94.1%) were males. Only one (5.9%) female alcohol related drowning occurred during this time.

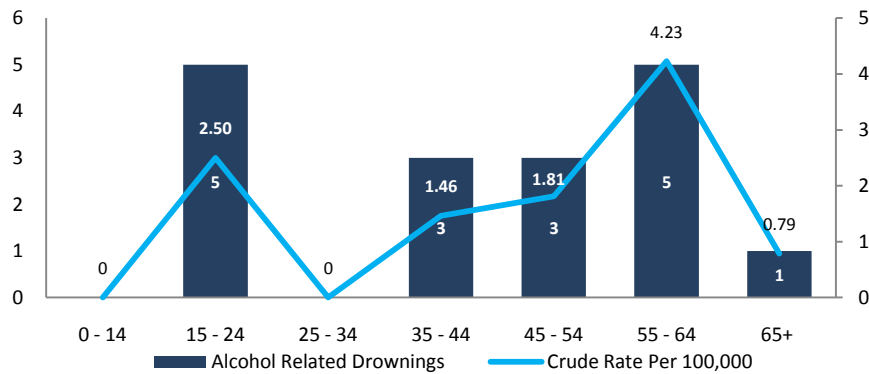
**Figure 4:** Alcohol related drowning deaths by gender in Auckland Region 2004 - 2008



## RESULTS

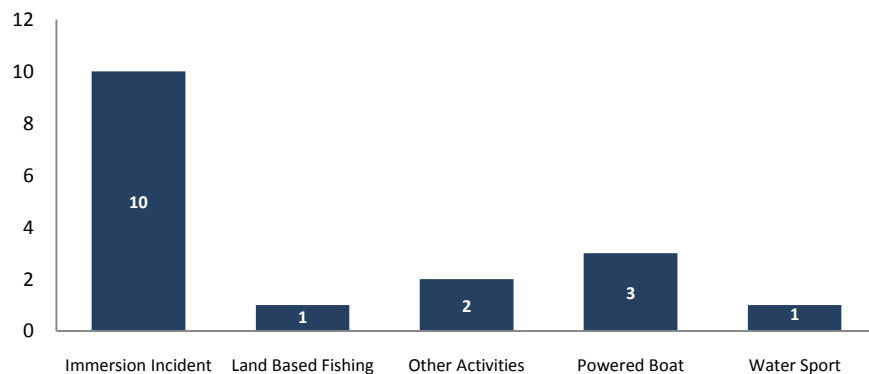
The 15 – 24 and 55 – 64 year old age group shared the highest number of alcohol related drownings within the Region between 2004 and 2008. However, when looked at at a per capita rate, the 55 – 64 year old age group had the highest alcohol related drownings based on their population size.

**Figure 5:** Alcohol related drownings by age group in Auckland Region 2004 – 2008



Immersion incidents, or not intending to be in the water (58.2%) was the most common activity undertaken before alcohol related drownings in the Region. The next most common activity being undertaken was operating and being onboard a power boat (17.7%)

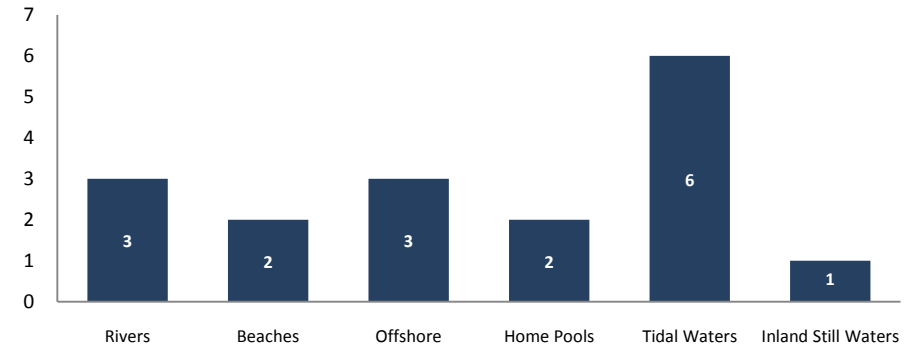
**Figure 6:** Alcohol related drownings by activity in Auckland Region 2004 – 2008



## RESULTS

The three most common sites where alcohol related drowning took place were tidal waters (35.3%) such as estuaries, rivers (17.6%) and offshore (17.6%). Beaches and home pools (11.8% respectively) were the next most common sites for alcohol related drownings.

**Figure 7:** Alcohol related drownings by site in Auckland Region 2004 – 2008



## CONCLUSION

While the associated risks of excessive alcohol consumption on health are well documented, this study has shown that the consumption of alcohol prior to aquatic recreation is also a significant risk factor. The effect alcohol has on individual's physical and behavioral characteristics leads to an increased risk of drowning and aquatic injury.

Encouragingly alcohol related drownings in the Region have remained stable if not had a slight decline over the past five years. However, programmes and strategies must be implemented to continue this trend, with particular emphasis around Auckland City, which has bar far the most alcohol related drownings.

Results reveal that the 15 – 24 and 55 – 64 year old age groups have the highest number of drowning deaths. It is not surprising that the 15 – 24 year old age group featured so heavily given their new found independence, ability to legally purchase alcohol and their natural tendencies to engage in risk taking behaviour during this life stage. It is imperative that specific programmes targeting this group are made, with a particular focus on males who are at an increased drowning risk.

Surprisingly however the 55 – 64 year old age group had the highest per capita drowning rate based on population. One possible explanation for this finding is that this group would be more likely to partake in power boating, which was the second highest site for alcohol related drownings. Further investigation would be required to confirm this.

Reflecting the easy access to a number of aquatic environments across the Auckland Region, the site of alcohol related drownings were spread across a number of different sites. Programmes and campaigns may be better placed to focus of alcohol consumption and aquatic activity, rather than alcohol consumption and aquatic activity at particular sites. The high numbers of drownings in tidal waters and rivers may reflect an incorrect perception that still water environments are a safer place to swim. These sites pose as much danger as other high energy environments, especially when coupled with alcohol consumption.

Unintended falls and using power boats were the activities that provided the highest number of alcohol related drownings. It is therefore important to educate people that consuming alcohol around aquatic environments can be potentially fatal even if they do not intend to enter the water.

## QUICK FACTS

- For the period 2004 – 2008 there was 17 alcohol related drownings in the Greater Auckland Region
- Auckland City Council had the highest number of alcohol related drownings with nine, followed by Rodney District Council with three
- 16 of the 17 alcohol related drownings were male
- Of the 17 alcohol related drownings, 10 were accidental immersion incidents.
- Operating a power boat was the second highest alcohol related drowning activity
- Tidal waters were the most common site of alcohol related drownings, followed by rivers and offshore
- The 15 – 24 and 55 – 64 year old age groups shared the highest numbers of alcohol related drownings