

ORIGINAL RESEARCH

# An Analysis of Sea Kayaking Incidents in New Zealand 1992–2005

Iona Bailey, MBChB, FRNZCGP, PGDipTravMed

*The Travel Doctor–Tauranga, CentralMed, Tauranga, New Zealand.*

**Objectives.**—The objective of this study was to investigate trends, medical problems, and contributory factors that occurred in 50 sea kayaking incidents in New Zealand between October 1992 and September 2005. There are currently very limited validated data available worldwide about the epidemiology of sea kayaking incidents. The research will raise awareness of how these events happened and their potential for serious harm. It will assist kayakers to manage their sport safely.

**Methods.**—This was a retrospective epidemiological study of incident reports originally collected by Paul Caffyn for the Kiwi Association of Sea Kayakers (KASK). Variables investigated in this study were geographic location, month, year, participant demographics, incident severity, type of kayak and trip, environmental conditions, safety gear carried, medical problems, cause of deaths, and contributory factors. Tables and graphs were developed to analyze the results.

**Results.**—Incidents occurred around New Zealand throughout the year, often in rough seas in offshore winds. More people were involved in September. Fifty-six percent of incidents involved groups; 20% were overseas tourists and 72% were recreational private trips. Eighty-five percent of participants were male, mostly aged 24 to 39 years old, and 48% had little or no experience. The severity of incidents increased with time. Severity was lower for women. Severity was higher in calm conditions and light winds, when the capsized kayaker became separated from the kayak, and when a personal flotation device (PFD) was not worn. Fishing incidents had a higher severity and involved inexperienced kayakers. Human factors contributed to most if not all incidents and occurred more frequently than physical events. Where medical problems were reported, hypothermia and sprains were common. Collision with a powered vessel was often fatal. The study was limited because it was based on relatively small numbers, was unlikely to capture all incidents in New Zealand, and denominator data were unknown.

**Conclusions.**—All incidents were complex events with many variables interacting in different ways and all had the potential to be serious and life-threatening. Human actions were more important than physical events and young men were most often involved. Staying with the kayak after capsizing and wearing a PFD may have reduced the severity of an incident.

*Key words:* sea kayaking, incident, severity rating, contributory factors, medical problems, New Zealand

## Introduction

There is a scarcity of published research into factors contributing to sea kayaking incidents and associated medical problems. The American Canoe Association published a review of all kayak and canoe fatalities in the United States between 1996 and 2002.<sup>1</sup> However, that

research did not differentiate between types of kayak and was restricted to fatal incidents. Injuries to white-water kayakers in some western US states were studied by Fiore and Houston in 2001,<sup>2</sup> and Fiore subsequently reviewed the demographics of kayaking and rafting white-water injuries in 2003.<sup>3</sup> Maritime New Zealand is the Crown Entity in New Zealand responsible for investigating and analyzing maritime incidents and trends, but few sea kayaking incidents were investigated by them during the years of this study and no other statutory agency or sporting body collected reports. Between Oc-

Corresponding author. Iona Bailey, MBChB, FRNZCGP, PGDipTravMed, The Travel Doctor–Tauranga, CentralMed, 434 Devonport Rd, Tauranga, 3112, New Zealand (email: ionab@centralmed.co.nz).

tober 1992 and September 2005, Paul Caffyn, legendary New Zealand expeditionary sea kayaker, assembled reports into a Kiwi Association of Sea Kayakers (KASK) database about incidents where a rescue had been required. Using the information in the reports variables analysed in this study were: location, month, year, incident severity rating, numbers involved, gender, nationality, age, type of kayak, type of trip, sea state, wind direction, wind strength, medical problems, causes of death, safety gear carried, and contributory factors. The purpose of this research was to analyze the information for trends and insights into how incidents happen and their potential for serious harm. The study aims to raise kayakers' awareness and knowledge to make better safety decisions.

## Methods

Data relating to 50 incidents were collected on an informal retrospective basis either as a result of an eye witness account and/or from media reports between October 1992 and September 2005. All incidents involved rescues. Sea kayakers in New Zealand, knowing of Paul Caffyn's interest in this area, forwarded information to him. Paul himself collected newspaper cuttings and personally investigated many of the incidents. Some additional information was obtained from Maritime New Zealand. Up until December 2002, 27 of 32 reports were sourced from local and/or national newspapers alone. The remaining reports included collateral information from people involved in the incidents and experienced sea kayakers who were asked to investigate the incidents; they talked with individuals such as rescuers, onlookers, and the victims themselves. From May 2004 (5 reports) marine weather forecasts and recordings from the area at the time of the incident were obtained from the New Zealand Meteorological Service. Sea kayak retailers and/or manufacturers were consulted from time to time (and in all incidents from May 2004) regarding specific technical issues. Paul Caffyn gave me his reports to analyze and publish to raise public awareness of how incidents happen and their potential for serious harm. Paul also assisted the author to clarify the variables.

The locations were recognized geographic areas around New Zealand (Figure 1). Age was recorded as a range: <17 years, 17–24 years, 25–39 years, 40–54 years, 55–64 years, and >64 years. The numbers of kayaks and kayakers in each incident were always recorded, as was gender when known. "Nil" experience level involved those kayakers with no experience. People who had kayaked only a few times were termed "novice." Participants with some prior sea kayaking experience were classified as "some experience." "Moderate"



**Figure 1.** Map of New Zealand. Source: [www.wdc.govt.nz/resources/8038/image001.jpg](http://www.wdc.govt.nz/resources/8038/image001.jpg). Accessed July 27, 2009.

meant the kayaker had basic rescue skills and had probably sea kayaked regularly in sheltered conditions. "Advanced" signified that the kayaker was skilled in a variety of conditions. The wind direction was headwind, offshore, onshore, tailwind, or unknown. Wind strength was based on the Beaufort Scale: "light" winds 0–10 knots, "moderate" 11–16 knots, "strong" 17–27 knots, and "gale" above 27 knots. Sea state was estimated using the World Meteorological Organization sea state code.<sup>4</sup> "Calm" ranged from glassy to wavelets (0–0.5 m waves); "choppy" meant 0.5–1.25 m waves, and "rough," 1.25 m or greater waves. Types of kayaks were single sea kayak (closed cockpit), sit-on-top single, sit-on-top double, open canoe, multi-sport, double sea kayak (closed cockpit), river canoe, any other design, and design unknown.

Contributory factors identified were poor judgment, inadequate level of skills (for sea and weather conditions reported), capsizing, having no signalling device, rough sea, unsuitable kayak (for the trip), inadequate clothing (for the weather and sea temperature), strong winds, offshore wind, ignored the marine weather forecast or unsuitable prevailing conditions, river/bar sea state, no personal flotation device (PFD), collision (with powered vessel), becoming separated from the kayak, and other. Hypothermia was both a contributory factor and a type of medical problem. "Poor judgment" included any situation where it appeared from the reports that the participant(s) had made a decision that in hindsight had con-

Download English Version:

<https://daneshyari.com/en/article/2614385>

Download Persian Version:

<https://daneshyari.com/article/2614385>

[Daneshyari.com](https://daneshyari.com)