

MARINE OCCURRENCE REPORT

CAPSIZING

**OF FIVE CHARTERED SEA KAYAKS
IN BIC HARBOUR, QUEBEC
20 JUNE 1996**

REPORT NUMBER M96L0059

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

MARINE OCCURRENCE REPORT

Capsizing

of Five Chartered Sea Kayaks
in Bic Harbour, Quebec
20 June 1996

REPORT NUMBER M96L0059

Summary

On 20 June 1996, a group consisting of six inexperienced kayakers in five kayaks and one guide in a sixth kayak set out from the wharf of the Bic marina bound for the beach of Anse aux Bouleaux at the western end of Bic Harbour. The distance to be travelled was approximately 1.5 miles. While the group was en route to its destination, a north-easterly wind came up and capsized all the kayaks except the guide's. The guide managed to reach land to telephone for help, bringing one of the kayakers along with him. Meanwhile, the other kayakers managed to reach the shore on their own before help could arrive. No one was seriously injured as a result of this occurrence.

Ce rapport est également disponible en français.

Other Factual Information

Type	Sea kayaks
Length	5.2 m
Owners	Kayak aventure inc. Bic, Quebec

After checking in at the office of the kayaking company, the six inexperienced kayakers proceeded to the Bic marina with the guide and the company's owner. The guide had one month's river experience and about three weeks' sea kayak experience.

At about 0830, the guide listened to the weather forecast issued by Environment Canada on the very high frequency (VHF) radiotelephone. The forecast for the area was as follows:

Winds east to northeasterly 10 to 20 knots. Sunny. High 14.
Outlook for Friday...Winds east to northeasterly near 10 knots.

At 0835, Environment Canada broadcast an amendment to the marine forecast for the area in which Bic Harbour lies as follows:

Small craft warning in effect. Winds east to northeasterly 15 to 25 knots diminishing to 10 to 20 this evening. Sunny. High 15.
Outlook for Friday...Winds east to northeasterly near 10 knots.

However, at the time of this second broadcast, the guide was no longer listening and did not hear the amended forecast calling for stronger winds. After taking into account the weather conditions originally forecast, the guide and the owner of the company decided to go ahead with the trip. The kayakers were then briefed for about 30 minutes on sea kayak handling and on safety procedures to handle problems such as a capsizing.

The group of kayakers left the marina at about 0900 and made for Anse aux Bouleaux. During their crossing of Bic Harbour, the waves quickly increased in amplitude and became increasingly steep. The guide decided to cancel the trip and return to land when one of the kayakers capsized. The guide went to help him, but the waves were so large and steep that the kayaker was unable to climb back into his craft. The guide then realized that all the other kayaks had also capsized. He therefore undertook to assemble them into two groups so that they could hang on to two of the overturned kayaks. Even though such equipment is not mandatory, the guide carried a portable VHF and distress flares; however, they were inside his kayak. Given the state of the sea, he was unable to remove the skirt from his kayak without water pouring in and possibly capsizing his craft.

¹

All times are EST (Coordinated Universal time (UTC) minus four hours) unless otherwise stated.

He therefore decided to make for land and telephone for help. As one of the kayakers seemed to be beginning to suffer from hypothermia, he asked him to hang on to the stern of his kayak and took him with him. Once ashore, the guide proceeded to a house and telephoned for help. He then went to the Bic marina to borrow a boat, but none was available. The kayaking company does not own a boat which could be used to recover persons in the water.

Meanwhile, the five kayakers who were still in the water drifted toward Île à d'Amours where they managed to land. They were picked up and taken to hospital in Rimouski where they were treated for mild hypothermia.

Analysis

In the Environment Canada publication entitled *The Secrets of the St. Lawrence: Marine Weather Guide*, it is indicated that, during ebb tides with north-easterly winds, there are high waves in the channel between the island (Bic) and shore due to the opposing wind and current.

These conditions were present on the morning of the occurrence. At 0900, the automatic weather observation station at Île Bicquette recorded winds from the north-east at 18 to 24 knots. At that time, the tide was at its lowest ebb.

Further, when the depth of water decreases to half the length of the waves, the wave characteristics begin to be affected. As the depth of water decreases past that point, the length and speed of the wave decreases, and the wave becomes steeper. The height of the waves remains unchanged, but they become increasingly steep. This effect is more pronounced if the depth of water decreases slowly.

The kayakers capsized where the already low depth of water was slowly decreasing. This effect, combined with the falling tide, the strong north-easterly winds and the contour of the sea-bed, contributed to rapid deterioration of the state of the sea.

The guide had three weeks' sea kayak experience and this was his eighth trip in Bic Harbour. He had never before encountered north-easterly winds.

The fact that the guide could not get his VHF radiotelephone out of his kayak to call for help did not cause any undue delay; ambulances arrived on the scene before the kayakers were pushed ashore by the wind.

Findings

1. None of the inexperienced kayakers had any sea kayak experience.
2. The guide had never before encountered north-easterly winds in Bic Harbour.
3. The guide did not hear the updated weather forecast calling for stronger winds.
4. The combined effect of the falling tide, the strong north-easterly wind and the contour of the sea-bed contributed to the rapid deterioration of the state of the sea.
5. The inexperienced kayakers all capsized almost at the same time. The guide assembled them and went to get help, taking one of the kayakers with him.
6. The kayaking company does not own a boat which could be used to recover persons in the water, and no other boat was readily available at the marina.

Causes and Contributing Factors

The group of inexperienced kayakers undertook a trip in Bic Harbour as they believed that the state of the sea would be favourable. Because of the sudden changes in weather conditions and the contour of the sea-bed, the waves became increasingly steep and capsized the kayakers' craft. As no boat was available to recover the kayakers, they stayed in the water longer, and they suffered from mild hypothermia.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 30 May 1997.