A retrospective study of all Canadian military aircraft has been conducted. There have been 55 aircraft accidents where, through some form of aircraft mishap, aircrew or passengers have landed in the sea. The F-86 Sabre, now out of service, had the highest incidence with 13 cases and now the Sea King helicopter currently in service has the highest incidence with 10 cases. One hundred and fifty-eight personnel have been involved with 88 fatalities, an overall survival rate of 57%. Accidents have occurred randomly in the North Sea, the Irish Sea, the Mediterranean Sea, the Atlantic and Pacific Oceans. Survivors were rescued in under 15 minutes in 40% of cases and, remarkably, the remainder were rescued in under three hours. The longest time spent in a life raft was 2 hours and 45 minutes. A more rapid response would not have changed the survival rate. Seventy percent of aircrew had less than 15 seconds' warning of impending water immersion. There were five cases where crew and passengers probably died from a combination of cold, drowning and cardiac arrhythmias. Difficulty with locating and grasping the toggles of the manual activation device of the life preserver has been experienced in four cases; it contributed to drowning in one case, near-drowning in one case, and severe injury in one case. Overall, the life preserver was of benefit in 18 cases and life saving in four. Immersion suits were worn in only six of the 55 accidents and in two of these, leakage was reported. Aircrew who have received training in water survival, underwater escape trainers, who are strong swimmers or sports divers, have a better chance of survival. Therefore, it is strongly recommended that Sea King aircrew should receive underwater escape training.