



National drowning research project in Finland

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Southern Finland, February 2011



AIBF investigates

- Aviation accidents (15/year)
 - Railway accidents (15/year)
 - Marine accidents (15/year)
 - Any other serious accidents and incidents (5/year)
- Theme studies
- Short occurrence reports

3.6.2011





Safety/accident investigation

Purpose

- to learn from the accidents
- improve the general safety
- not to determine liability or apportion blame

AIBF is independent, impartial, public and the work is transparent

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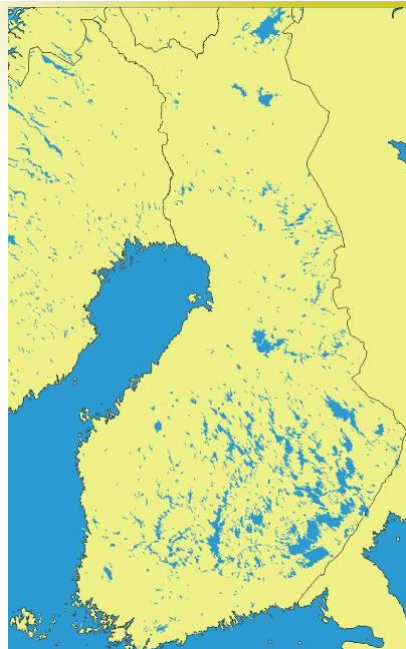


Conditions in Finland

- Population 5.4 million
- Coastline about 1.250 km (781 miles)
- "Thousand lakes" and many summer cottages by the water
- Located in northern Europe (four seasons, cold in the winter)



Typical view of lake area (summer cottages)



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Some accident data

Accidental deaths at home or elsewhere at free time: 3,000 annually

- Downfalls +1,000
- Intoxication 800 (mainly alcohol)
- Road traffic 300 (all are investigated)
- Drowning accidents 200 (3.8/100.000/year)
- Fatal fires 100

As a reference, number of fatal accidents at work: 30



Safety study of fatal fires 2003

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Safety study: Drowning accidents 1 April 2010 – 31 March 2011

AIBF nominated an investigation commission:

	Name	Expertise
Chair	Kai Valonen	Safety investigation
Members	Tom Hanén	Sea rescue
	Kati Hernetkoski	Human behaviour
	Janne Ollikainen	Water safety
	Markku Tuominen	Police investigation
Experts	Minna Laukka	Police investigation
	Philippe Lunetta	PM analysis
Technical issues	Timo Naskali	

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Sources of information

All ca 300 cases

1. Police's declaration of the incident
2. Database of fire departments (rescue service)
3. Autopsy diagnosis including forensic toxicology
4. A special form filled in by the Police (some shortcomings)
5. Photos (not from all cases)

+ in 10 example cases

6. Visit in the accident site
7. Interviews of relatives and possible eyewitnesses
- +
8. Boat and life-saving equipment tests in a training pool
9. Review of statistics

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Some numbers about bodies found in water

So far analyzed: 278 (total number will be +300)

Male 80 %, women 20 %

60 % in June-August (warmest 3 months)

65 % Under influence of alcohol (Men 70 %, women 50 %)

Suicides	20 %
Related to swimming	25 %
Related to boats	25 %
Falling into water	20 %
Falling through ice	5 %

Age:	0-12 years	2,5 %
	13-17 years	1,1 %
	18-64 years	61,9 %
	+65 years	34,5 %

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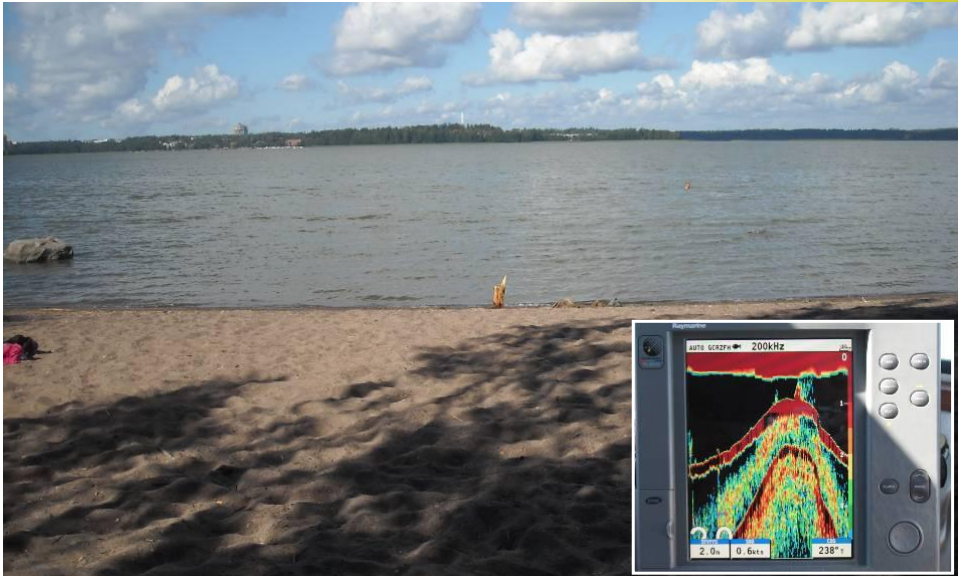
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Example case 1/4

**Middle-aged man drowning in the city beach
(no ability to swim)**



Example case 2/4

**A nine-year-old boy drowning in a pool
(shortcomings in lifeguarding conditions)**





Example case 3/4

A man drowning with a boat in summer cottage
(boat upside down, the incident unclear)



Example case 4/4

4 persons driving with 2 skidoos (1 was drown)





As a summary: Contents of the report

1. Bodies found in water during the period of one year
2. In-depth investigation of 10 example cases
3. Statistic information available from the past
4. Tests and reconstructions in a testing pool
5. Safety work done by different organisations
6. Conclusions
7. Safety recommendations

Appendix A short description of the each case