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WYPADKI NURKOWE ZE SKUTKIEM ŚMIERTELNYM W POLSCE

W artykule przedstawiono ogólną charakterystykę śmiertelnych wypadków nurkowych w Polsce, które wydarzyły się w latach 1999-2007. Dokonano porównania z liczbami śmiertelnych wypadków nurkowych które miały miejsce na świecie oraz przedstawiono ryzyko wystąpienia śmiertelnych wypadków nurkowych podczas nurkowania.

Słowa kluczowe: nurkowanie, wypadek

FATAL DIVING ACCIDENTS IN POLAND

In this article general characteristic of fatal diving accidents in Poland that occurred between 1999-2007 was described. It was compared with fatal accidents worldwide and the risk of occurring fatal diving accidents was presented.

Keywords: diving, accident

INTRODUCTION

In the every kind of human activity under water – during technical, military and recreation diving – diving accidents are happen with death result. It is very hard to find how many fatal diving accidents we have during per annum, because not in all countries we can find statistics respecting these incidents.

1. THE OVERALL PROFILE OF FATAL DIVING ACCIDENTS IN POLAND

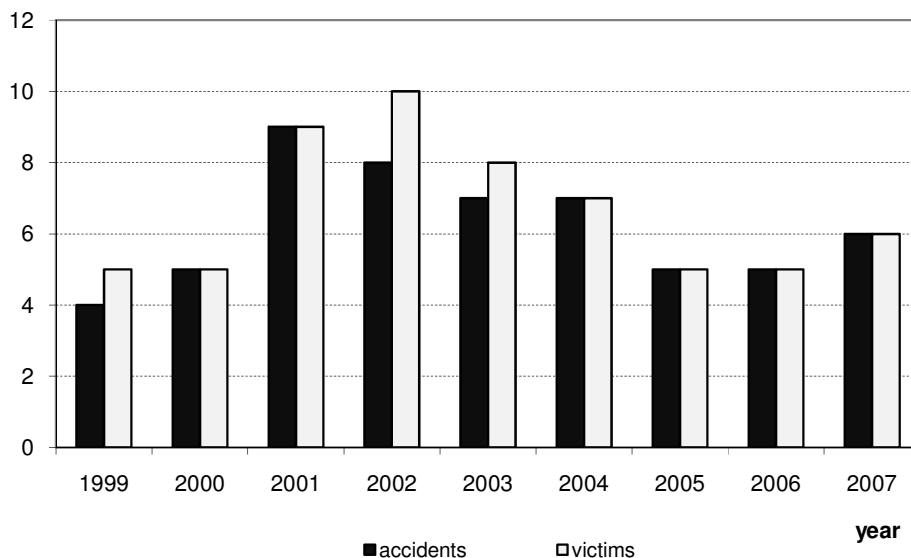
In the support of the author data we can consider that in Poland during a year we have approximately five to ten fatal diving accidents. Between year 1999 and 2007 in Poland there were 56 death diving accidents and 60 divers have died in this accidents. Four of these fatal diving accidents we can define as "group decease

during diving” which is 7% of the all death diving accident. All these data are presented in the table and on the graph below.

Table 1.

Fatal diving accidents in Poland between year 1999 and 2007.

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	Razem
Quantity of fatal diving accidents	4	5	9	8	7	7	5	5	6	56
Quantity victims of fatal diving accidents	5	5	9	10	8	7	5	5	6	60



Graph 1. Fatal diving accidents in Poland between 1999 and 2007

Most of death diving accidents which occurred in Poland between year 1999 and 2007 had connected with recreational diving. But there were also some accidents with professional divers which have fatal result.

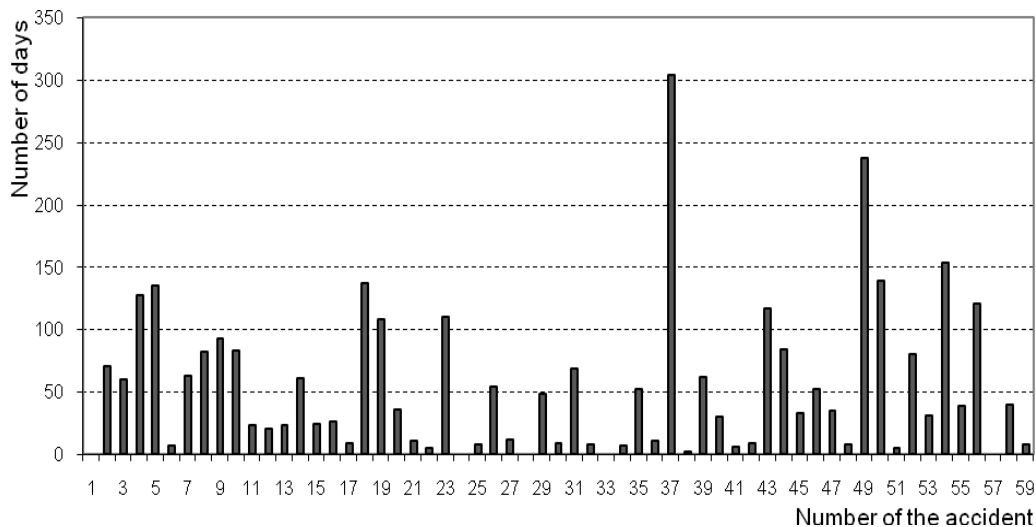
During all these nine years presented above, there was no fatal accident with military divers or during training and competitions for divers.

The analysis of accumulated data can affirm that typical victim of death diving accident - which happened in Poland between year 1999 and 2007 – is a man 31 – 40 years old, having the higher level of diving certificate.

Typical fatal diving accident was happened in Polish lake or in the sea beyond borders of Poland in April or in July. Diving have started from entering into the water from coast during Sunday or Monday between 1200 and 1800 hours. It was

recreational with open-circuit scuba set diving without any gas mixtures. Diver has started with a partner and the maximum depth of diving was no more than 30 meters.

The time between fatal diving accidents presented in the article was inconstant. The shortest break between accidents was the 0 days and the longest was 304 days. The average time between fatal diving was 54 days. On the graph below there are data with number of days between fatal diving accidents in 1999 - 2007 year.



Graph 2. Number of days between fatal diving accidents in 1999 – 2007 year

2. THE OVERALL PROFILE OF FATAL DIVING ACCIDENTS IN THE WORLD

In the European literature we can find existing analyses of diving accidents. The president of Divers Alert Network dr Alessandro Marroni present reports about diving accidents which has happened during recreational diving which were notified to their alarm centre of informing and present them on scientific conferences for the experts. This reports shows only medical standpoint of diving accidents, so they will not show the organizational or technical problems of diving.

Since 1994 Mr. Brian Cumming represent British Sub – Aqua Club collect data and every year he publish reports on accidents in recreational diving, which has happened in Great Britain or have affect to British citizens beyond the borders of the country.

In his last publication „NDC Diving Incidents Report 2005” inclusive dates since October 2004 to September 2005, he analyzed 499 diving accidents. In this number there were 17 fatal diving accidents. The author also collected data of fatal diving accidents for the period of last 40 years. Since 1965 to 2005 under water died 538 recreational divers in the Great Britain.

More divers died in Australia. Since 1972 to 1993 there were 301 fatal accidents. But the most divers die under water of the United States and Canada – because there is the lion’s share of all divers and also in the Egypt – there is the largest number of dives. In the year 1996 Mr. Webster published statistics of diving accidents in the United States and from 1970 Mr. McAniff carry on the National Underwater Accident Data Center.

Mr. McAniff in the report „United States Underwater Diving fatalysty Statistics,1989” and dr Bennett in compilation „DAN, sports diving accidents and fatalis in the USA” shows that number of fatal diving accidents in the USA and Canada is between 66 and 114 persons during each year and since 1970 to 2000 died under water 3107 recreational divers.

Table 2.

Fatal diving accidents In the Great Britain, United States and Canada Since 1970 to 2000

Quantity of fatal diving accidents	1970	1975	1980	1985	1990	1995	2000
Great Britain	8	2	13	14	9	18	17
United States And Canada	110	131	109	87	92	104	91

3. THE RISK OF FATAL DIVING ACCIDENT

Many world's specialists could not exactly qualify the risk of fatal diving accident. Nobody could answer for these questions:

- how many persons have diving certificate,
- how many active divers is around the world,
- how many dives each diver effectuate during a year.

We can estimate that the whole world over there are 15 millions recreational divers which effectuate over 250 millions of dives.

Doctor Larry Taylor basis of his own studies, estimates that 1% all citizens of the United States are divers, so it allows to qualification number of divers to 2 668 481 persons. „Skin Diver” magazine basis of his own studies, estimates that every diver makes about 12 dives. These all data above shows that in the United States every year we have about 32 millions of scuba dives.

Doctor Taylor in his researches accepted that the risk of fatal diving accident in the United States is on the level – 1 accident per 200 000 scuba dives. More rigorously – on the level between 2 and 4 deaths on 100 000 dives – this is estimated risk by doctor Elliot and doctor Bennet. Mr. Santoro says that authorities of Australia estimated risk of fatal diving accident on the level 1 accident per 120 000 dives for Australia, 1 accident per 100 000 dives for the USA and for the Japan 6,5 accidents per 100 000 dives.

Doctor Hans Ornhagen from Swedish Defence Research Institute in the article: „A suggestion for improved statistics regarding diving accidents” which was presented on „Sports medicine” conference in Kiel, Germany in 2001, showed the statistics of fatal diving accidents in North Europe countries (Sweden, Norway, Finland, Denmark). Author of the article noted that number of diving accidents increasing but after collate this data to number of diver – which were doubled during last ten years – he suggest that the average quantity of incidents decrease.

In Poland it is hard to unambiguously qualify what is the risk of fatal diving accident. We could accept that in our country divers carry out 4 million scuba-dives annually and it gives 1 fatal diving accident for 667 000 scuba-dives in our period of time (1999 – 2007). However this value is too optimistic in the author opinion. It could depends from two causes:

- number of scuba-dives in Poland is too high and this cause is more probably,
- weak information about fatal diving accidents and this cause is less probably.

In the analysed period of time there were no less than 60 divers. Police statistics said that this is about 1,16% of all drownings. Comparing, the risk of fatal accident in gliding was on the level 1 accident per 27 thousand flights and in parachuting 1 accident per 19 thousand jumps. In the table below there is number of fatal accidents in diving, gliding and parachuting.

Table 3.

Number of fatal accidents in diving, gliding and parachuting									
Rodzaj działalności	1999	2000	2001	2002	2003	2004	2005	2006	2007
Gliders	0	0	0	3	2	0	1	1	2
Parachutes	3	0	2	3	1	1	1	2	2
Diving	5	5	9	10	8	7	5	5	6

As compared with other activities of humans, diving is safety activity. In spite the larger number of diving incidents with the deadly result than you should affirm in the different forms of the man activity that the risk of the pronouncement of the deadly incident is considerably lower.

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kmdr por. mgr inż. Stanisław Poleszak – jest pracownikiem naukowo – dydaktycznym Akademii Marynarki Wojennej w Gdyni. Pracuje jako starszy wykładowca w Zakładzie Technologii Prac Podwodnych. Obszar jego zainteresowań naukowych obejmuje eksploatację sprzętu nurkowego oraz technologie prac podwodnych. Jest biegłym sądowym w zakresie bezpieczeństwa nurkowania i wykonywania robót podwodnych oraz Przewodniczącym Komisji Kwalifikacyjnej ds. Nurków przy Urzędzie Morskim w Gdyni.