Irish Water Safety

Sábháilteacht Uisce na hÉireann

A Report on drowning in the Republic of Ireland

1988 – 2012

Irish Water Safety is the statutory and voluntary body established to promote water safety in Ireland.

Tá Sábháilteacht Uisce na hÉireann ina bhord deonach reachtúil a bunaíodh le sábháilteacht uisce a chothú in Éireann.

Irish Water Safety data report on drowning in the Republic of Ireland

1988 – 2012

Irish Water Safety – Promoting Water Safety To Reduce Drownings – ***"KNOW WHAT YOU'RE GETTING INTO".***

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Report prepared by Patrick Keegan BA, PGD, MA.

Introduction

This report is a result of a data management project at Irish Water Safety. The purpose of this project was to achieve a profile on drowning nationally, ultimately leading to a better understanding on drowning in Ireland where greater consideration could be given to cause and related or contributory factors such as swim ability or intoxication. It was also envisioned that an evaluation on actual drowning incident recording could be employed leading to suggestions on improvement in this area. Essentially a greater understanding on drowning in Ireland was identified as a prime return from such a project. To be informed is to be effective.

A large corpus of paper records on drowning fatalities in Ireland over a 25 year period was entered into the database in an effort to employ best practice record keeping, where data is to be recorded accurately, and left accessible for search and retrieval purposes and optimal database utilisation.

An average of 140 people a year dies by drowning in Ireland. In short, drowning in Ireland is prevalent. Such a figure also underlines the importance of accurate drowning incident recording in Ireland. It is critical that every effort is made to best record drowning so that information may continue to be collated and inform on drowning causes and trends.

As the ultimate goal of Irish Water Safety is the prevention of drowning, it is planned that the information provided in this report will inform our future strategy on drowning prevention and public water safety awareness promotion.

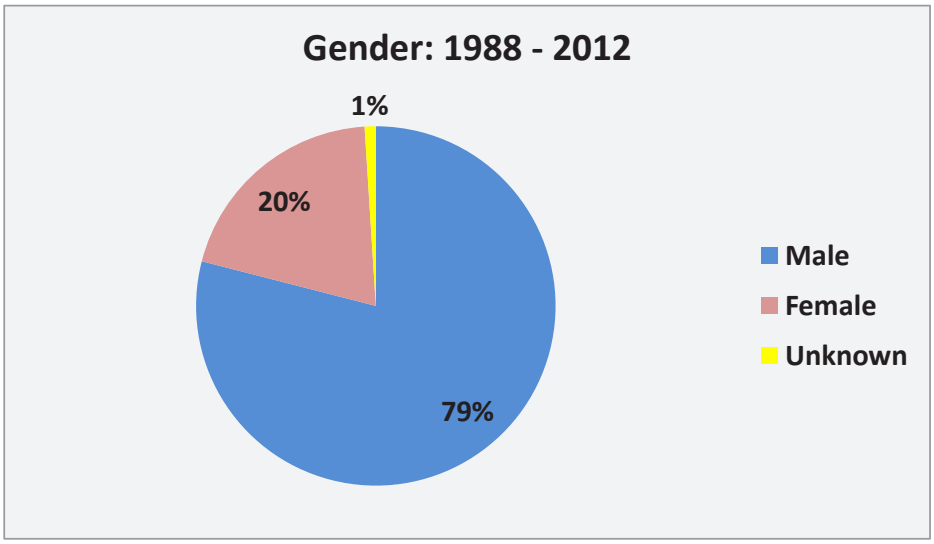
Breda Collins

Breda Collins
Chairman
Irish Water Safety

A note on C67 reportage, report limitations and database

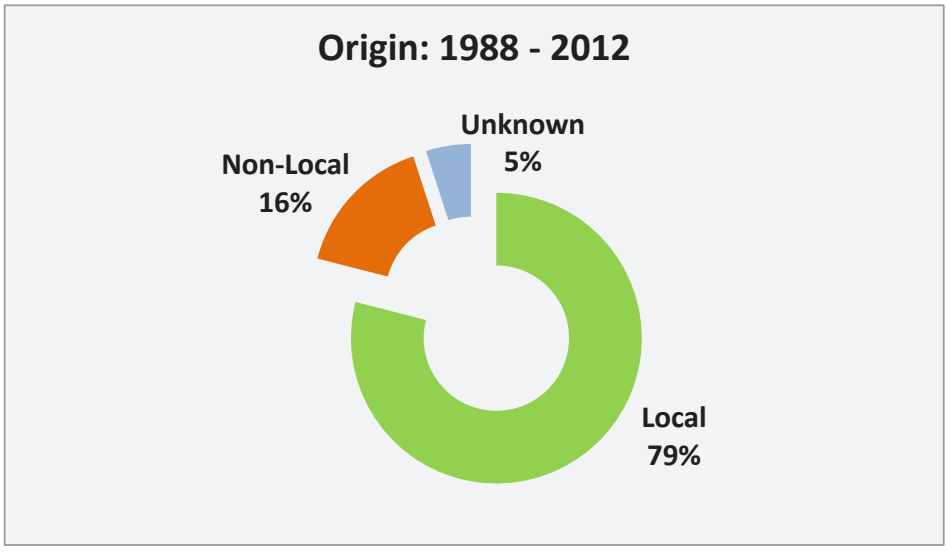
The profile in this report is subject to IWS access to drowning incident data records. Ideally each drowning incident in Ireland is recorded individually on a C67 form and forwarded to IWS Headquarters by the appropriate *An Garda Síochána* jurisdiction. The completed C67 form details all known and relevant aspects of the drowning incident (i.e., victim name, gender, drowning location) and thus aids in profiling a given incident. It has come to the attention of IWS that in practice the return of said forms fluctuates on a yearly basis, a fluctuation that has lead to an issue of data comprehensiveness. In a direct yearly comparison on drowning figures between IWS (based upon C67 records) and the same figures from the Central Statistics Office (CSO) it is apparent that the IWS database consists of approximately 65% of the records on drowning nationally. IWS data on drowning is dependent on the return of C67 forms and thus a consistency of return is both essential and urged. Let it be stated, however, that acknowledgement of data incomprehensiveness withstanding, the IWS profile of the average drowning victim compares agreeably with that of the CSO (outlined within the report).

A new "D4H" database was employed which is an award winning Emergency Response Team Management software, developed in the Republic of Ireland and designed for optimal record keeping and analysis on emergency incidents, training, equipment and related factors.



Results on Gender & Age

- An overwhelming male drowning majority exists at **79%.**
- Data also yields a victim age range of 1 – 99 years with an average victim age of 42 years.
- Accurate data on age recorded in **91%** of incidents overall.
- Drowning may befall those of *all* ages; however the initial victim profile thus far is, perhaps unsurprisingly, that of a male victim, aged 42.



Origin & Nationality

A victim's origin may indicate potential familiarity with drowning venue. See above chart outlining an overall victim profile of local origin in **79%** of drowning incidents.

Local: Defined as victim having a listed residential address within a relatable distance of drowning venue/location, usually within the same county; therefore a *potential* familiarity between the victim and the drowning venue exists.

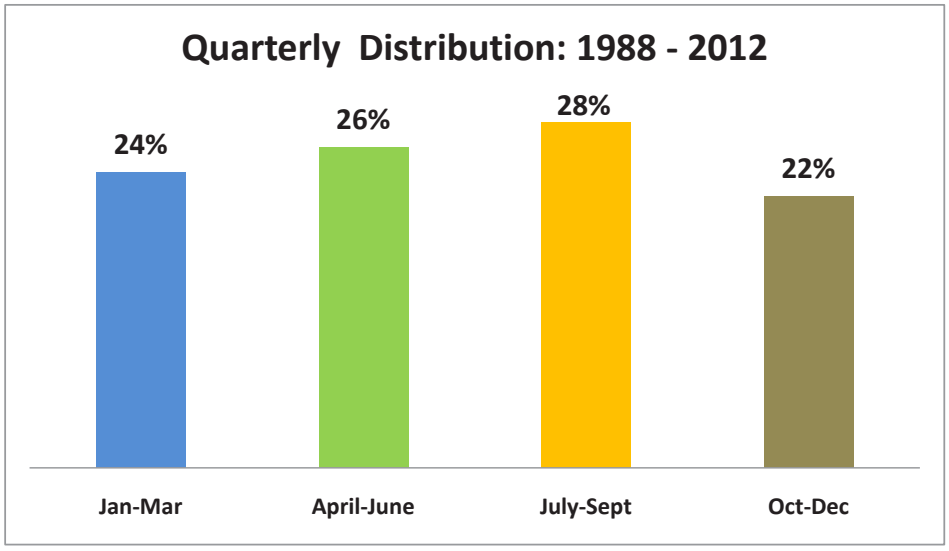
Non-Local: Victim addressed outside of county indicating a potential lack of familiarity with drowning venue.

Unknown: No data on origin.

Nationality: 97% majority Irish nationality followed by multiple European nationalities.

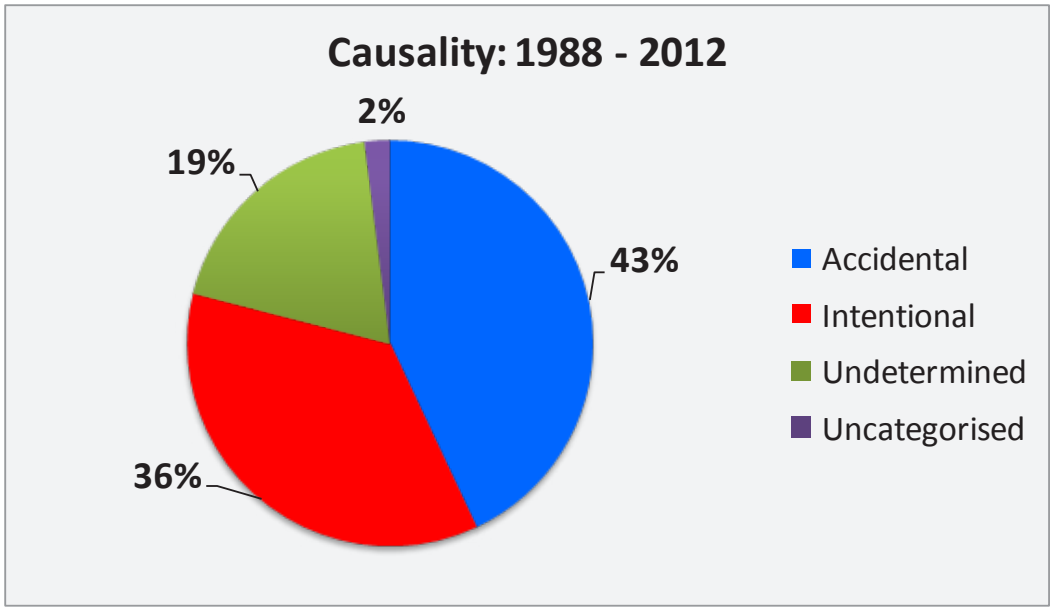
Interpretation of Origin

It appears there may be a relation between drowning victims of 'local' origin and drowning venue. What may be supposed of this relation? Firstly, it is a fact that drowning may occur at any water feature. However, drowning most commonly befalls victims at venues and/or locations familiar to said victim, *or* in other terms, within an environment frequented by the victim (i.e., popular water features or nearby community landmarks). This can help highlight the importance of a consistency of water safety awareness and associated promotion. The same may be said for suicide and location: Victims of suicide by drowning tend towards familiar, accessible, or commonly frequented water features within their locality.



- As is apparent from the above chart, drowning incident distribution is fairly consistent throughout with a peak during the months of July – September (3rd quarter), a peak that may be assigned to a general increase in bathing and water related recreation during the summer period.

Causality



Accidental	Accidental in nature, under varied circumstances
Intentional	Suicide
Intentional (by another)	A small number of incidents involve victim drowning at another's hands (foul play). Such incidents form less than 1% of recorded drowning overall
Undetermined	Inconclusive as to whether accident, intentional or foul play
Uncategorised	Little or no data recorded on incident

Interpretation

Accidental drowning takes the lead at close to half of all drowning overall followed with suicide by drowning at over a third.

Undetermined means the incident has been listed neither as accident nor suicide as it was not possible to draw a *definite* conclusion based on information available. If we combine the statistical rate for Undetermined drowning to the rate of Intentional and/or Accidental drowning, we may say that we have a potential percentage **range** for both. Why? Consider that drowning deemed of Undetermined status are possible suicides *or* accidents. Although it is highly unlikely that such drowning is wholly Accidental or Intentional it is certain that

the percentage rate of database Accidental or Intentional drowning is in fact higher than evident. For instance, in line with this we can say that a **third to over a half of all drowning in Ireland is as a result of suicide. See** table below.

Causality rate	Plus Undetermined %	Potential causality range
Accidental at 43%	**+ 19%**	**43 – 62%**
Intentional (suicide) at 36%	**+ 19%**	**36 – 55%**

This exercise employs the statistical rate of undetermined status drowning in better understanding causality.

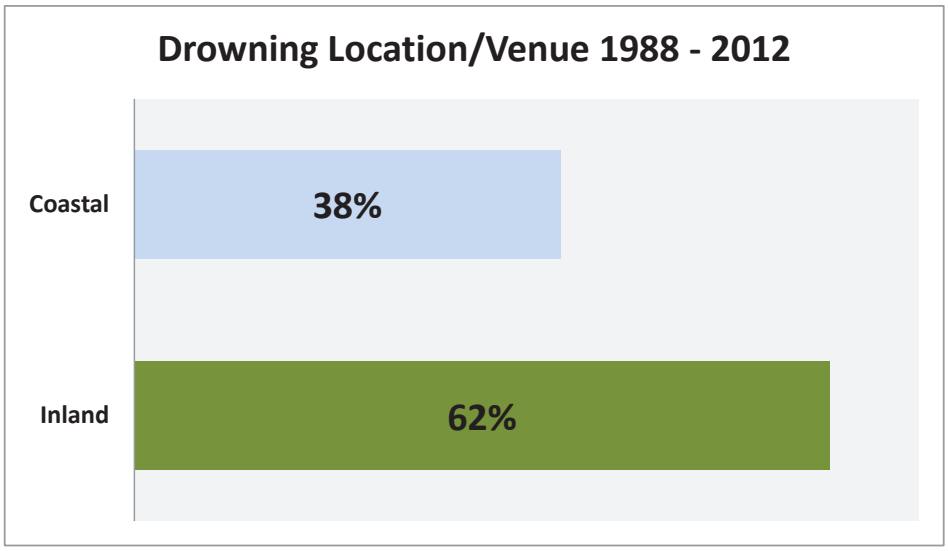
A note on causality and gender investigations*

A snapshot of the decade to 2011 reveals that of all male drownings, 53% were Accidental, 24% Intentional and 23% Undetermined/Uncategorised. Proportionally, of all female drownings, 33% were Accidental, 54% Intentional and 13% Undetermined/Uncategorised.

Twice as many females died by Intentional drowning as males. It must be kept in mind that due to the presence of Undetermined status drowning, rates for Accidental and Intentional drowning are potentially higher. Regardless of this, based upon the available data we can understand that:

- More men die from Accidental drowning than suicide
- More females die from Intentional (suicide) drowning than Accidental.

*At time of going to print.



Coastal & Inland Drowning

Coastal	Includes all **sea water or coastal locations** such as Open Sea, Sea Cliff, Rocks, Beach, Dock areas and Estuaries.
Inland	Consists of **fresh water:** Rivers, Canals, Lakes, Ponds and Quarries, and also those venues listed under **Other Inland**, that of Bog hole, Drain, Slurry pit and Well/ Tank or Reservoir. Swim pools (domestic, hotel, public, school and sports centre) also feature in this category (at less than 1% of drowning overall).

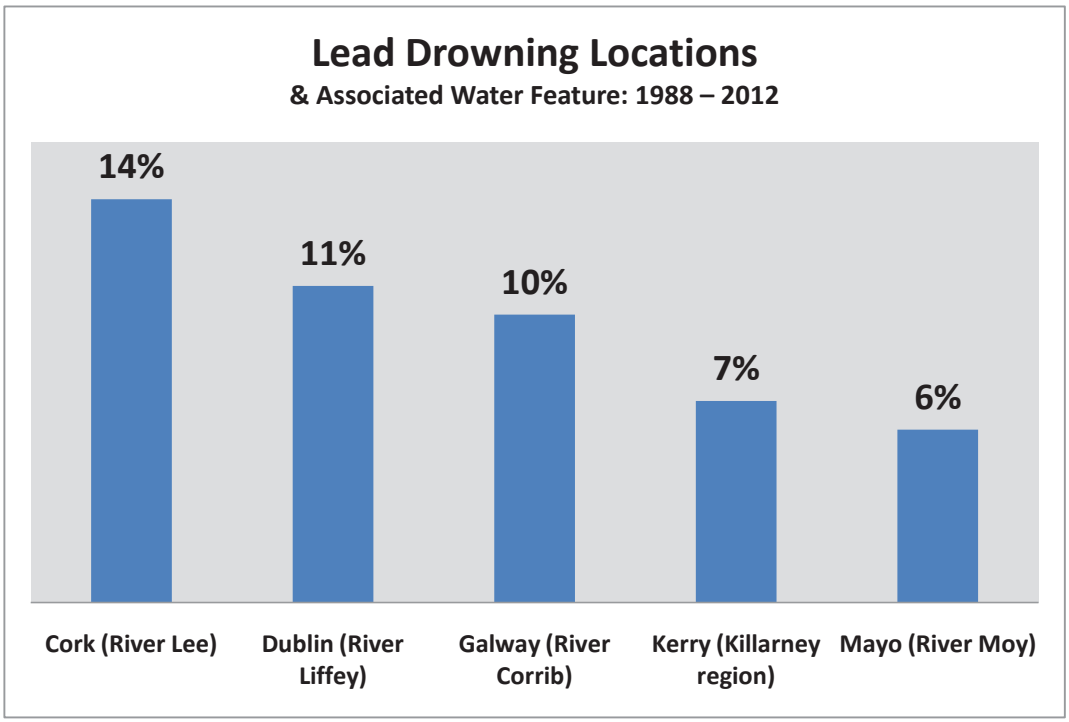
Interpretation

It is apparent that inland waterway drowning is the most prominent category of drowning in Ireland resting at **62%** of all those incidents recorded on the IWS database; therefore a continual push for promotion of water safety surrounding inland waterways is critical. Consider that the general public on a national level are more likely to come into contact

with inland water features such as ponds, rivers, lakes etc., on a more regular basis than in comparison to beach, sea, or coastal features and indeed database statistics appear to confirm this. Of inland water features, rivers figure as the most prominent drowning venue, open sea being the most common of coastal water features. There is a fairly equal dispersion of drowning throughout dock areas, beach, estuary and sea rocks, with sea cliff having only a minor presence.

Inland Venue	**Percentage of overall 62%**
River	37%
Lake	10%
Canal	6%
Well/Tank or Reservoir	3%
Pond & Quarry water	2%
Drain	2%
Slurry pit	1%
Bog hole & Domestic Bath & Swim pool	1%
Coastal Venue	**Percentage of overall 38%**
Open sea	12%
Dock area	8%
Beach	7%
Estuary	6%
Rocks	4.5%
Sea cliff	0.5%

Location Breakdown by County & Associated Water Feature: 1988 – 2012



- Lead five counties in relation to drowning figures 1988 – 2012: Cork, Dublin and Galway cities feature as drowning region concentrations along with their respective rivers (Rivers Lee, Liffey and Corrib).
- In County Kerry the Killarney town and region (with the Killarney Lakes and a number of rivers) feature as region concentrations, as do both the towns of Ballina (River Moy) and Westport (Coastal drowning) in County Mayo.
- Above counties combined constitute **48% of drowning overall in Ireland for the years 1988 – 2012 inclusive.**

Further Breakdown by County, County Region & Associated Water Feature(s)

County	% overall	Region Concentration	Associated Feature(s)
Donegal	**5%**	**No town* (see p. 13)** Followed by Bundoran	Varied rural water features Coastal
Clare	**5%**	No town Followed by Ennis	Varied rural water features River Fergus
Waterford	**5%**	Waterford city	River Suir
Wexford	**4%**	Wexford town	River Slaney
Kildare	**3%**	Athy town	River Barrow
Westmeath	**3%**	Athlone town	River Shannon
Limerick	**3%**	Limerick city	Shannon River & Estuary
Louth	**3%**	Drogheda town	Boyne River
Wicklow	**3%**	Bray town	Dargle River
Cavan	**2%**	No town Followed by Cavan town	Varied rural water features Annalee River
Kilkenny	**2%**	Kilkenny town	River Nore
Sligo	**2%**	Sligo town	Garavogue River
Monaghan	**2%**	Monaghan town	Ulster Canal
Tipperary	**2%**	No town Followed by Clonmel	Varied rural water features River Suir
Roscommon	**2%**	No town Followed by Boyle	Varied rural water features River Boyle
Carlow	**1%**	Carlow town	River Barrow
Meath	**1%**	No town Followed by Kells	Varied rural water features River Blackwater
Offaly	**1%**	Tullamore	Tullamore River (Also the Grand Canal)
Longford	**1%**	No town Followed by Ballinalee	Varied rural water features Camlin River
Leitrim	**1%**	No town Followed by Carrick-on-Shannon	Varied rural water features River Shannon
Laois	**< 1%**	No town Followed by Port Laoise	Varied rural water features River Triogue

Interpretation of Drowning Locations

Drowning peaks or concentrations in towns and cities may be understood as a result of denser populations in urban areas coupled with major rivers and waterways located locally, i.e., an increased potential for drowning in these areas.

Rural drowning may be interpreted as drowning occurrences at varied rural water features located at, or surrounding villages and town lands within a parent county. While such rural drowning presents as principal region in nine counties, the majority of drowning incidents appear to happen in or surrounding urban settlement areas.

***No Town: Understood as dispersed rural water features (e.g., river, stream, drain etc.) located outside of town or village settlement within a given county.**

Circumstances

Details and circumstances of a given drowning are mapped according to a **tag system** under the IWS database. **Tags** are descriptive terms assigned to each and every drowning incident to accurately record incident data. For example the tag 'bathing' is assigned to those drowning incidents involving bathing and swimming. What follows is an overview of tags detailing drowning circumstances for 1988 - 2012. It is worth noting that not all drowning comes under or is related to the below tagged circumstances, for instance drowning by suicide or freak accident.

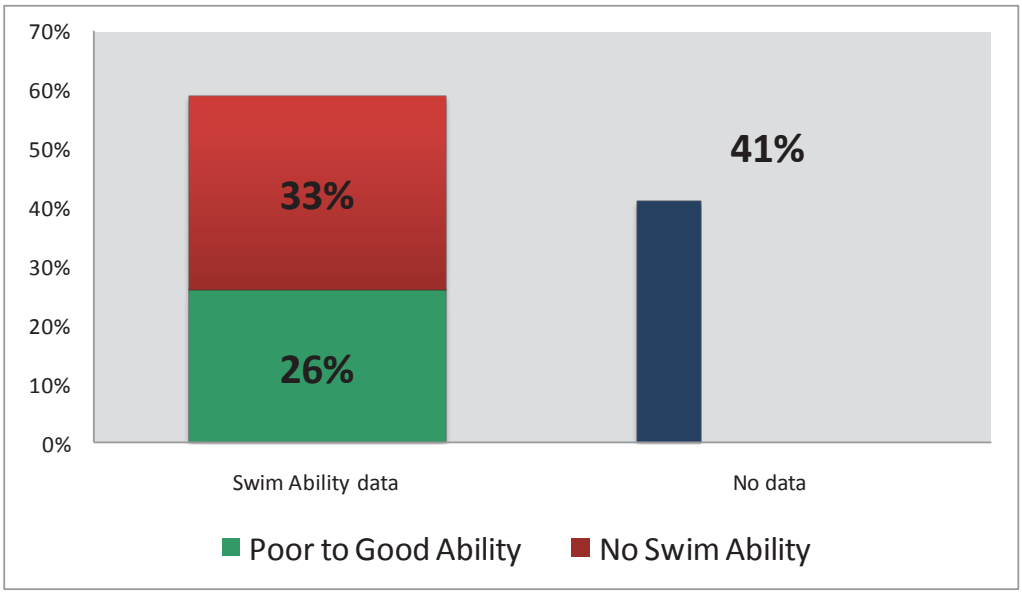
Tagged circumstances:	Bathing (any water submersion) Boating (as leisure pursuit) Walk (River or Coastal) Fishing (Commercial & Leisure, from Boat, & from Shore) Road Traffic Accident

Circumstances	Total database % of drowning
Bathing	**10%**
Walk	**10%** (River 7% and coastal 3%)
Boating	**7%**
Fishing	**6%** (Commercial/Trawler/Boat 4%)
Fishing from Shore	**4%**
Road Traffic Accident	**3%**
	40% of all drowning involved above circumstances

Interpretation

- As is apparent many drowning incidents occur in relation to leisure pursuits, chiefly that of bathing, walking, boating and some fishing.
- A continual push for water safety awareness particularly in the above water related circumstances is surely necessary.
- A large proportion of incidents have no data recorded on circumstances due to a lack of direct evidence or testimony.

Data on Swim Ability



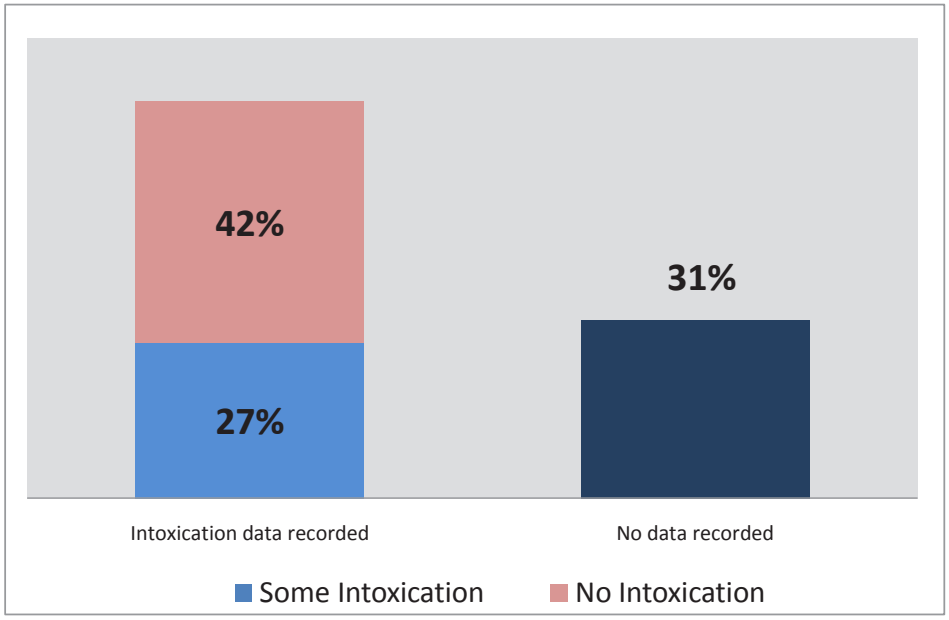
Interpretation on Swim Ability 1988 – 2012

In 59% of cases some data on swim ability exists; thus in 41% of cases **no such data** on the victim was recorded. This is an area that may be greatly improved upon as data on swim ability aids in profiling drowning.

As is apparent many drowning victims were logged as having *some* swim ability.

- Nearly two thirds (62%) of these particular victims died under accidental circumstances indicating that accidental drowning strikes the experienced and novice swimmer alike.
- 23% died from suicide.
- 12% are logged as of Undetermined status, thus Accidental and Intentional rates may be higher.
- 3% Uncategorised. As above.

Data on Intoxication Level



Interpretation on Intoxication Level 1988 - 2012

A considerable 27% of drowning for the period 1988 – 2012 involved some level of intoxication (light to heavy), however as in nearly a third (31%) of cases **no data** on intoxication was recorded this level is likely to be in fact higher; nevertheless clearly intoxication and drowning remains prevalent.

- It is known that intoxication in proximity to water leads to increased potential or likelihood for accident and drowning. Of those incidents having involved intoxication (27%) a **half** were deemed accidental, perhaps indicating judgement impairment as a root cause of accident.
- Nearly a third (30%) were deemed intentional or suicide.
- Again the combined rate and presence for Undetermined and Uncategorised drowning (20%) likely mean that the above rates are indeed higher than is apparent.

Summary

The current Irish Water Safety national drowning profile is based on 25 years of collated data (1988 – 2011). Admittedly there is an issue of data comprehensiveness: IWS house approximately 65% of data records on national drowning in comparison to the corresponding Central Statistic Office (CSO) figures.

Nevertheless the profile of the average victim of drowning remains true, typically that of an Irish male aged 42, normally resident neighbouring to venue of drowning and with a potential familiarity to said venue. This venue is most likely to be a **river** located close to a town or village settlement. Indeed the majority of drowning in Ireland occurs at inland waterways or features (62% overall, see p. 9). Regarding a male victim of drowning, the cause is more likely to be accidental in nature, while in the case of a female victim the cause is more likely to be suicide.

Unfortunately intoxication is prevalent in close to a third of drowning within the period 1988 – 2012. Of this third 50% were deemed accidental in nature, a fact specifying a need for a consistency of water safety awareness, but particularly surrounding alcohol consumption. Such victims of drowning appear to take unnecessary risks due to inhibited safety awareness as a result of alcohol consumption. Of course intoxication is also present as a likely contributory factor in many cases of suicide also - 30% in the same time period.

It must be reiterated that the highlighted **Accidental (43%)** and **Intentional (36%)** drowning rates are certain to be higher than is apparent due to the presence of **Undetermined** and **Uncategorised** status drowning (see p. 8 for discussion on range). It is most likely however, that accidental drowning is still more prevalent than drowning by suicide.

Finally, a push for uniformity on drowning incident recording may be necessary to ensure reliability of data and thus better drowning profiling. A dearth in data recording on Swim and Intoxication levels has been highlighted. These are fields in which improvements can be sought.

MEMBER MEMBER MEMBER

Irish Water Safety
The Long Walk
Galway

Tel: 091 564400
LoCall: 1890 420 202
Fax: 091 564700

info@iws.ie
www.iws.ie

www.aquaattack.ie
www.ringbuoys.ie