

# Glasgow Humane Society

## Water Edge Safety handbook<sub>©</sub>

For Architects Planners and designers

9<sup>th</sup> Draft June 2011

**LIFEBOAT GLASGOW HUMANE SOCIETY** Charity number SC001178

Founded in 1790 for the maintenance of a service for the prevention of accidents,

rescue and recovery in the waterways of Glasgow and adjoining areas

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Marine/River Safety Consultants

Ob Civem Cervatum

**“Preventing Accidents.....Saving Lives”**

**[www.glasgowhumanesociety.com](http://www.glasgowhumanesociety.com)**

a charity that's sole aim is the preservation of human life in and around the waterways  
of Glasgow

# Ob Civem Cervatum

In the service of the people  
This booklet has been drawn up by the  
Glasgow Humane Society



## Prevention-Rescue-Recovery

The Glasgow Humane Society is probably the oldest inland lifeboat service in the world dating back to 1790, and archived material relating to incidents on the River Clyde and associated waterways are held in the Society House on Glasgow Green. This material encompasses a wealth of information relating to safety, rescue and recovery of persons from the river, some of which is recounted for illustration in this booklet.

A Society who's aim is the prevention of drownings in the greater Glasgow area

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The views in this document are only the views of the Glasgow Humane Society Officer George Parsonage and are not to be taken as definitive in prevention of accidents along waterways.

They give ideas to be discussed and throw up problems to be solved.

The only thing that the Officer can be exact on is the reasons for accidents happening as documented in the historical minutes of the Glasgow Humane Society.

It is up to architects' town planners' landscape designers and others involved in this type of work, to accept the ideas put forward by the Society or to come up with better answers

We are very grateful to Glasgow City Council departments Architects, Developers, Emergency Services and waterway users who have read the drafts and gave input into this booklet.



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## Introduction

Throughout the World people will be drawn to waterways, for work, for pleasure, for recreation.

People will make mistakes and fall into the water.

Some people will be rescued, some will drown.

Others will drown in rescue attempts

Many waterways and banking/quay walls that were once busy ports have become derelict and are changing to being places for pleasure and recreation.

What can architects; town planners and anyone else involved in these developments do to make the areas surrounding waterways safer?

The obvious answers are to ensure that there is adequate public rescue equipment available.

Less obvious is how the above can be packaged giving the best answer to the problem, and the precautions that we can take to prevent persons falling into the water in the first place.

In this booklet we look at what we can do and are doing inside our own City and hopefully the booklet will become a textbook for other Towns and Cities with similar problems.

In the Glasgow area we have rivers, burns, canals, ponds, and quarries, lochs and other small waterways with each giving their own peculiar problems.

The River Clyde with its many tributaries is the largest waterway in the area, and it is on this River that we shall base most of this booklet.

The River Clyde within the City can be divided into 3 parts.

1. Non tidal upstream of Boggleshole Ford, Cambuslang.
2. The tidal area between the weir at Glasgow Green and Boggleshole Ford Cambuslang
3. The tidal area downstream of the weir at Glasgow Green.

The tributaries of the Clyde are numerous but the main ones are the Rivers Kelvin and Cart.

There are many other waterways around Glasgow and it should be noted that the Clyde forms only approximately 1/10<sup>th</sup> of Glasgow's waterways.

Throughout the city, the River Clyde is mostly fast flowing, narrow, deep in places (over 12 metres), and extremely cold (even in the middle of summer).

There are still areas in the Greater Glasgow area where the provision of lifesaving apparatus is either inadequate or too open to vandalism though on the whole Glasgow sets an excellent example and encourages new build to take cognisance of the views of the Glasgow Humane Society and the Glasgow Water Safety Working Group

There are many faults in the design of protective features along our River that continue to require addressing. Design must make it more difficult for the foolhardy person to access a dangerous position.

Design should allow every citizen and visitor the right to be able to walk our Waterway paths in the knowledge that every reasonable precaution against them inadvertently falling into the River has been taken and that adequate public rescue equipment is in position and readily available should they require to use it.

This booklet does not necessarily give the only safe answer to any given problem it gives some answers to safety problems thought out and talked through by many persons with interests in safety.

The booklet is a guide to much of what will be best practice regarding safety, but there will be other answers to the problems, perhaps better answers, and therefore the booklet must be ongoing, changing as new, better or equally good ideas are arrived at.

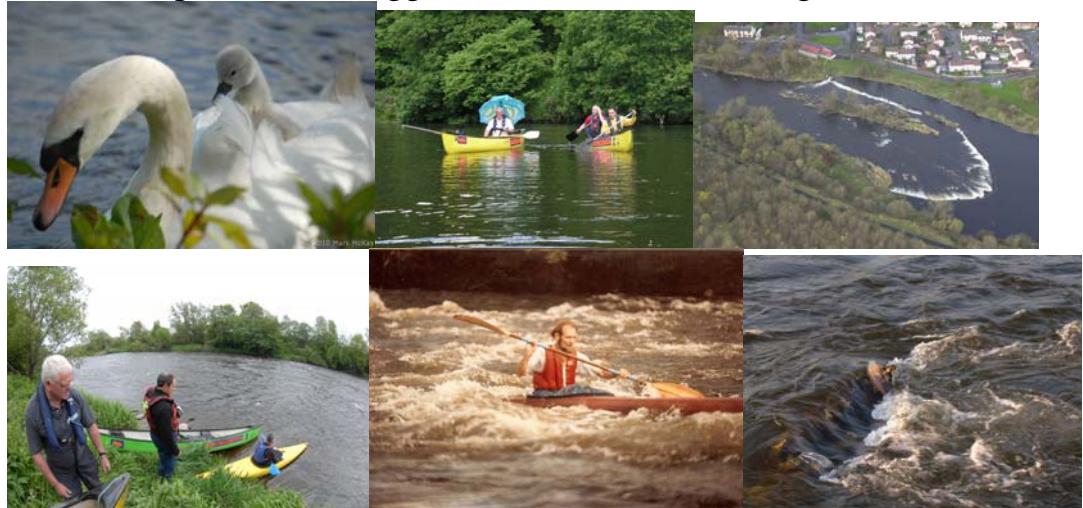
Every suggestion has been listened to carefully and discussed thoroughly.

It is hoped that the ideas highlighted in this booklet will be put into practice and safety will prevail.



Observations and additions are welcome  
The following pages describe various dangers, give examples and  
describe how the danger can best be lessened or eliminated.

## Non tidal upstream of Boggleshole Ford, Cambuslang



## The tidal area between the weir at Glasgow Green and Boggleshole Ford



## The tidal area downstream of the weir at Glasgow Green



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## (1) Description of danger

### Inadequate or absence of quay wall ladders

Quay wall ladders serve the purpose of allowing persons to climb down to or up from craft in the water. They also allow someone who has fallen into the water a means of getting out and to allow a rescuer to reach water level to render assistance to someone in the water or to enter the water.

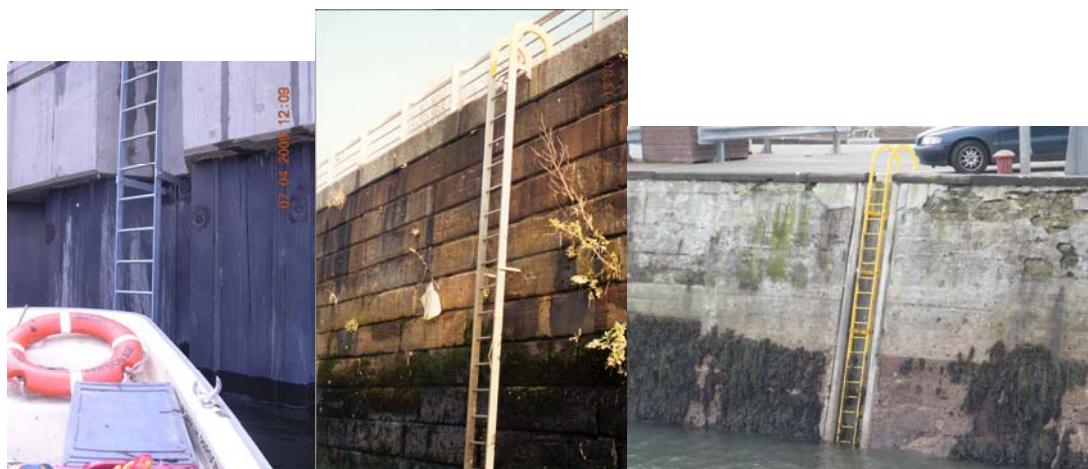


- |             |  |
|-------------|--|
| Left        | Recessed ladder reaching to river bed                                  |
| Second Left | ladder recessed by quay wall   |
| Third left  | Ladder recessed but difficult access at top to quay                    |
| Right       | Ladder recessed, not easily seen, does not reach the water at low tide |

### Steps to eliminate danger

The ladders must be constructed and protected in a manner that allows them to function best.

This means that they should be either recessed into the quay wall or protected on either side by upright beams. This ensures that they are not damaged by craft coming alongside or by trees etc. catching on the protruding ladder.

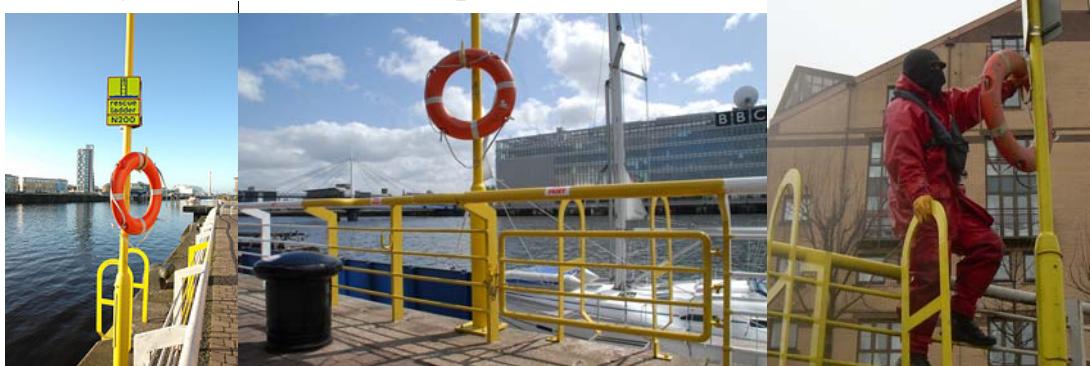


- |        |  |
|--------|--|
| Left   | Lower part not protected                                     |
| Centre | No protection/fendering                                      |
| Right  | Ladder painted yellow—north of England—copied Glasgow's idea |
- The ladders must of course reach 2 meters below the water level at low tide.



The above ladders are not acceptable

Ladders should be painted or powder coated in bright fluorescent/reflective colours preferably yellow or orange to give high visibility to both rescuers and persons in the water needing assistance.



There should be a pole erected at the top of the ladders to enable its immediate location by persons on the quay wall. This pole should be painted/powder coated the same as the ladder and have a hook attached to hold a lifebelt.



This pole should have a diffused light, which would shine down onto the lifebelt and ladder. This lighting could be part of the quay wall lighting system or by solar panels.



Global Satellite Positioning Signage should be attached to this pole.



Left

The preferred ladder sign to date

Left centre

An earlier ladder sign

Right centre

The original lifebelt sign

Right

The preferred lifebelt sign to date

It is possible that if a lifebelt were to be removed from its stance a buzzer would sound in a CCTV monitoring station, allowing immediate viewing of either vandalism or of an emergency situation.

Ladders should be available at an acceptable distance apart on all quay walls and of course when working this distance out it is always advisable to err on the side of safety.

Grab chains can be used to good effect though as yet have not been utilised in Glasgow





Cut semi circle in stone and recess



Not recessed but shows positions

### Ladder example

A young man leaves a Glasgow nightclub in the early hours of the morning. He decides to climb over the fence and walk along the outside quay wall ledge. The young man slips and falls into the water. It is low tide. The young man cannot see any quay wall ladders, there are no grab chains. Even if he could have seen a quay wall ladder, he would not have been able to reach it, as the ladders at that location do not reach the water level at low tide. His screams grow fainter and fainter and gradually stop. Three weeks later his body is recovered further downriver. Unfortunately the persons who heard the screams were inside their house at 0600hrs and even with the window open could not tell from what direction the screams were coming from.

Portable lights are used at the quay complex to mark quay wall ladders in an emergency situation after dark



These can be attached to the top of ladders when an emergency arises to show both rescuers and person in the water where the ladder is situated

## (2) Description of Danger

### Type of railing



Left--Vertical bar at Glasgow Green has proved excellent  
Centre-horizontal bar –angled uprights allow for holding points to be set back from quay wall edge—good for when the edge is not new build  
Right—Harbour Complex Glasgow-rail curves back from edge-bottom bar could be stronger metal

Various types of railing are used at various waterways. Railings are predominately required at loci where there is a heavy density of population, where there is a steep drop into water whether the water is shallow or deep, where there is any vertical drop however short into deep water, where there are persons moving at right angles to the waterway. The height of the railing is dependant on the risk  
While vertical bar railing is recognised as the most suitable to prevent persons climbing over, there are many ways to use horizontal bar railing regarding safety, for example the type of bar or wire used, the angle/slope of the uprights  
Horizontal bar railing can also be used as an extension to vertical ladders leading up from waterways for example at the edge of quay walls—as per the Harbour Complex Glasgow



Left-rail at Govan which allowed persons to duck under top rail then just step over  
Centre-rail at Govan with extra bar welded which prevents ducking under  
Right-rail at Transport Museum which has no centre bar

### (3) Description of Danger

#### Alignment of safety railing

Railings erected away from water edge leaving areas of quay wall or grassland where public like to sit and picnic etc and watch the water go by, or to walk/run/ along.



- |        |  |
|--------|--|
| Left   | rail at Transport Museum—set back from edge-vertical bars should have been angled outwards so not to leave ledge |
| Centre | rail at Finnieston—again vertical bars should have sloped outwards   |
| Right  | Large area of quayside between railing and edge—including lifebelt stance  |

#### Steps to eliminate danger

Move railing. All railings should be placed as close as possible to the edge, whether this is a grassy slope or a quay wall.

If the railing were to be placed on the sloping banking, this would give the impression/appearance to passers by that there was no fence. It would allow an almost un-obscured view of the River while giving safety.

The fencing on the north bank of the River Clyde between the Albert and Kings Bridges is an excellent example of a railing being realigned to encompass safety and environmental enhancement.

#### Description of Danger-type of fence

Fencing is recommended to be of the vertical bar type. Horizontal bar fencing often just forms a ladder for anyone to climb over easily. Space between the lowest bars or between bars is often wide enough for someone (especially a child) to crawl through.



Fencing should be high enough to make it too difficult for a child to climb but not so high that it becomes obtrusive or too difficult for an adult to climb in an emergency.

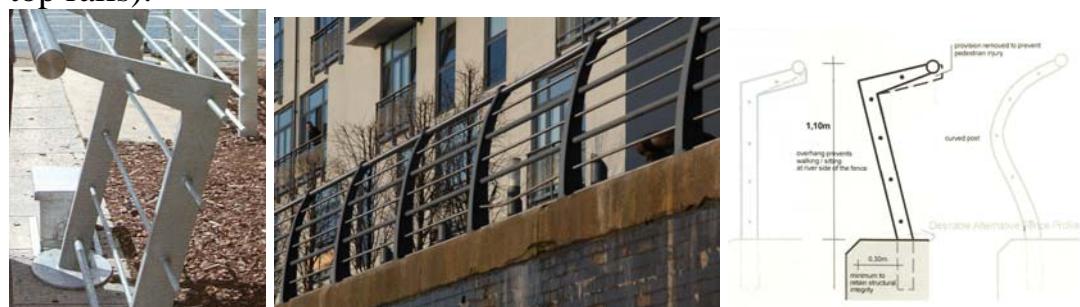
Security railings should be erected at places where total exclusion is necessary.

#### Summary of requirements for quay wall fencing

A railing on a quay wall should form a barrier to prevent persons easily climbing over. It should be erected in such a way that there is no ledge on the riverside for persons to sit on or to walk along.

Children should not be able to crawl under the fencing or to be able to squeeze through any of the bars. The railing height is determined by whether only pedestrians, or pedestrians and cyclists pass along the pathway next to the rail.

Although safety has a preference for vertical bar railings, the DRS department of GCC erected a sample safety fence next to the new pontoon at Brown Street. It is now illustrated in their handbook, "Design Framework/The River, page 37 (note, since the printing of this document, it has been recommended by the Water Safety Working Group that this railing be inclined at a greater angle so as to prevent persons sitting on the top rails).



Left            demo rail at Brown Street

Centre        Harbour Complex

Right         GCCDRS Design Framework the River page 37

Also the Glasgow Harbour development has produced an excellent type of horizontal bar fencing and ladder access.

**Note:** Where the railing is at the top of a sloping banking, a double gate should be included to allow access for a boat in event of an emergency. (See "Gates and locks"). Also allows for maintenance workers access



## Bad examples of railings



Left horizontal bar/climbing frame R. Cart Glasgow-note missing top bar  
Right same horizontal climbing frame-River Kelvin Glasgow



Left Climbing frame-Richmond Park Glasgow  
Right Horizontal climbing frame next to river while behind it is a vertical bar fence on walkway

## (4) Description of danger

### Lack of lifebelt/throw-rope provision

#### Steps to eliminate danger

There always has and always will be problems with vandalism of lifebelts; but we must do whatever possible to provide this method of saving life.

There are some 500-1000 lifebelts thrown into the River in Glasgow every year. These are recovered mostly by the St Mungo EPS craft and the Glasgow Humane Society.



Left            One day haul in 2011

Centre        Nothing knew, Ben Parsonage with lifebelts damaged and thrown into the river circa 1970

Lifebelts should now have a City Council mark on them “Safe Glasgow” and a number to contact



On bridges, lifebelts should be placed close to the centre of the bridge.



It is worth noting that when ropes were placed on these lifebelts, the retrieval rate was only about 1%.

No one could afford to place ropes on lifebelts at that loss rate.

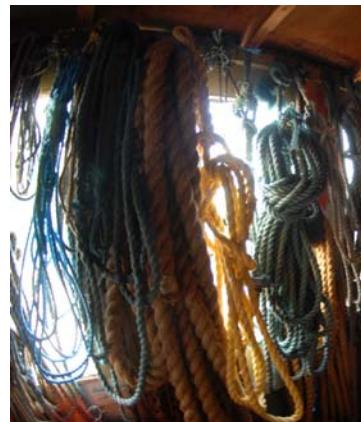
This seems to be mainly because the type of rope used at present on a lifebelt can be used for many other purposes.

For example, as a tow-rope, for tying items onto car roofs, tying items onto Lorries, swings, pulleys, etc.

What is needed is a type of rope that is of use solely for lifebelts.

In the past this was found to be a “Tarry” rope. This was a thin rope coated to make it waterproof, but in fact the “tar” stopped persons wishing to touch this rope except in an emergency.

If we could get councils throughout the country to work together a manufacturer could produce a rope with strands of colours that would only be available to City councils. This would make stolen ropes easily identifiable.



Lifebelts should not be placed in boxes. Boxes give in many cases a false sense of security to the public as they believe that there are always lifebelts in the boxes. In reality there are many instances where the boxes have not contained lifebelts. At a glance or from a distance a member of the public cannot tell if or not there is a lifebelt in the box. Boxes can be an unnecessary expense.



Left

There was no lifebelt in this box

Right

Lifebelt on hook easily seen

As well as having lifebelts situated at appropriate locations along the banks of our rivers other precautions should be taken.

Park rangers and security firm vehicles could carry a lifebelt and ropes. Police cars operating in area where there is open water should carry at least a throw rope and a lifejacket.

Persons going onto the river banks for such purposes as fishing should wear a lifejacket/buoyancy aid and carry at least a throw rope and could have, if travelling by car (as many do), a lifebelt in their boot.

Walkers and cyclists who frequent riverbanks could carry a throw rope. Shops, factories, restaurants, public houses, hotels, garages, private housing indeed any building near a waterway should be encouraged to keep at least one lifebelt and throw rope in their premises.

These above suggestions could be important in the saving of the life of the person/persons attempting to carry out the rescue as this equipment may enable them to save someone without endangering their own life. Where possible persons should receive training in the use of throw ropes and lifebelts

Rowing, canoe, cruising clubs on the rivers should have lifebelts at their premises and where possible carry lifejackets and throw ropes.



#### Note

After a lifebelt has been thrown to someone especially if it is off a quay wall, both the person in the water and the person holding the rope must know where to head for in order to come out of the water. This means that all quay wall ladders must be kept in good condition and be clearly visible both from the water and from the quay side. Ladders must reach two metres below the water at low tide. They must be kept in good condition. They should be painted with bright yellow paint including the area of quay wall and section of railing beside the ladder. They should be lit with diffused lighting (so as not to blind anyone).

Lifebelts should have reflective sections incorporated in their manufacture making them visible at night.

## Lifebelt box example

If a lifebelt is placed in a box, one cannot see in an emergency (without actually going up and opening the box) whether or not there is a lifebelt in the box (or whether it has been removed or vandalised.)

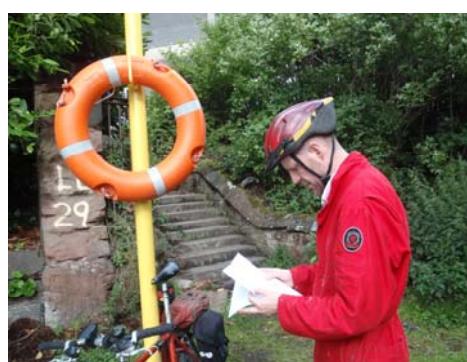
For example;

A man is standing 50 metres away from one box and 200 metres away from another. He sees someone in the water so he runs to the closest box. There is no lifebelt in the box. There is a lifebelt in the box 200 metres away but by the time he runs 250 meters and back the person in the river has disappeared. And of course there may not have been a lifebelt in the second box.

There are many areas in Great Britain and abroad where the practice of using boxes for lifebelts is prevalent.



A lifebelt box costs as much and sometimes more than a lifebelt, so this can be an immense saving.



## (5) Description of danger

Persons sitting on, standing on or walking along bridge parapets and falling/jumping off

Steps to eliminate danger

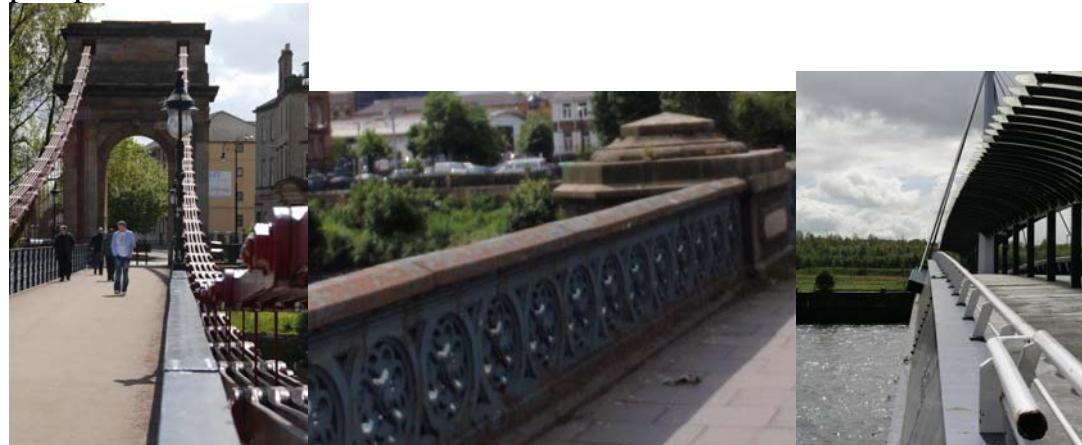
The designing of bridge parapets to ensure that there is no flat structure that persons could easily sit on or walk on.



Dublin Bridges—well thought out—not easy to climb, sit on or walk on

Do not leave any structures i.e. ledges on the outside, which could be sat on or stood on even walked along, keeping the rail (or otherwise) as close to the edge as possible.

Make it as difficult as possible for persons to climb onto or over the parapet.



Left            Lower Suspension Bridge Glasgow  
Center        Albert Bridge Glasgow  
Right         Bells Bridge Glasgow

There is also the possibility of certain bridges being complete oval or round tubes (as with the “caterpillar” at the Exhibition and Conference Centre in Glasgow. This would eliminate certain bridges being used for jumping off and could eliminate the throwing of items from bridges.

## Example of danger --- bridge parapets

It is a nice sunny but windy day. A man, his wife and 14yr old daughter are crossing the South Portland Street Suspension Bridge after a family lunch in a nearby restaurant. The man has had a drink. The bridge has a nice wide flat parapet with trellis fencing below forming an easy ladder to climb. The man tells his little girl to watch how clever daddy is, and climbs onto the parapet and with arms outstretched commences walking along the ledge. A gust of wind catches him off balance and he falls into the river below. His wife and daughter can do nothing as they watch him sink. His body was recovered a short time later.

This type of incident has unfortunately occurred many times.



## (6) Description of danger

Places where there is at times isolation from other members of the public

Steps to eliminate danger

All new buildings being erected along waterways should consider having CCTV installed in the interest of the safety of the general public or the safety of any staff that could be called upon for emergency assistance.

The Glasgow Humane Society has developed a system where signage containing a number which will relate to a Global Satellite Position will be placed on lifebelt holders in isolated places. These signs are to be viewed at Glasgow Green between the tidal weir and Rutherglen Bridge on the north bank. These signs were paid for by Glasgow City Council. When someone contacts an emergency call centre and quotes the given number they emergency services will know exactly the locus of the person calling and of how to reach the locus



## (7) Description of danger

Being unable to gain access to River banking with emergency vehicles

This would be mainly Police Ambulance and Lifeboat.

Steps to eliminate danger

Where possible Paths along river banks should be wide enough to allow access for emergency vehicles

This could entail erecting some kind of barrier along the water edge of the pathway, in the form of a low fence or a mound of earth to prevent “joy riders” from driving cars into the water (example no 6.).

Public access by vehicles will also have to be prevented in most cases while still allowing the emergency (and Direct Works) access. This could be achieved by the use of gates, barriers, bollards etc. Zap cards or other electronic means of opening barriers.

Whatever is used would have to be kept well serviced as experience has shown that locks near water which are seldom used are prone to seizure. Where possible a “*pass*” type lock should be used on River banking and emergency barriers with all emergency services carrying keys.

Locks should be on a chain system to allow for use of bolt cutters in the event of key breakage or rusting etc

The chain system also allows several locks to be used on the one chain. This is required where more than one group require access through the gate/barrier

Gates are forever being left open/unlocked by persons using them. The chain system allows each user to have a separate lock and in the event of a gate/barrier being left open blame can be appropriated

Open/unlocked gates cost lives



Bollards preventing access



Boom gate for access



Boom has to be closed

## (8) Description of danger

### Overhanging ledges

Overhanging ledges allow for persons to sit on them, to walk along them, to fall off them. They prevent someone being lifted from the water say on a rope or on a lifebelt as the person gets stuck below the ledge. Ledges prevent quay wall ladders being positioned at that locus.

#### Steps to eliminate danger

Do not have overhanging or cantilevered ledges.



### Examples of overhanging ledges

A 30yr old man leaves a bar at 0400hrs with his girlfriend. They walk along the river pathway. The man climbs the railing and walks along the outside ledge holding his girlfriend's hand across the railing. The man stumbles and falls into the water. The girlfriend runs for a lifebelt. She can hear her boyfriend shouting but cannot see him as he is under the overhanging ledge, which is at this location. She throws the lifebelt anyway. The man is under the overhang in almost complete darkness. He does not see the lifebelt. Even if he had seen it there was no rope attached. Even if there had been a rope, no one could be lifted out at that locus, as they would have just been stuck under the overhanging ledge. There can be no quay wall ladders where there is an overhanging ledge. There were no grab chains. The man gradually stopped trying to keep himself afloat, and his body drifted off just below the surface and sunk some distance downriver. It was recovered some weeks later.

A young lad from a country village “dogs” school on a hot summer day, and comes to Glasgow with some pals. They purchase a “carry out”. They go to the Custom House Quay area where they climb the fence and sit with their legs over the quay wall and have their drink. The 14yr old youth is not used to drinking and after a couple of cans he is feeling the effect of the alcohol. He stands up, staggers, and falls into the water sinking immediately. The youth’s body was recovered after a short search. Later on that evening the youth’s heartbroken father had to be prevented from entering the River also.

## (9) Description of danger

### Existing overgrowth on River banking

#### Steps to eliminate danger

Much of the overgrowth on river banking can be Giant Hogweed and Japanese Knotweed, which are listed dangerous plants and are meant to be eradicated.

Every Hogweed plant has about 5000 seeds, which scatter and are washed down rivers and end up with the hogweed growing in profusion downriver of the seeding plant. Therefore eradication of this plant must start upstream.



Many trees are dead and lying at the water edge. These should be removed before they are washed away with the winter floods and end up forming a "beaver" dam against for example a bridge. It costs less to remove before they end up in the river.



Beaver dams have an effect on the land upstream and they can build up easily. Many areas are flooded due to watercourses being blocked

Many trees are ready to fall down and should also be removed. Overgrowth encourages rubbish tipping. Persons dump their rubbish onto the river banking because it will not be seen for the overgrowth.

Where riverbanks are man made with stone, tree roots break up the stonework and cause failures of the banking.

## Overgrowth on riverbanks

Banks should be cleared of “scrub” which obstructs view and that trees should be crown lifted.

This would enable people walking/cycling/running along the towpath to see the river.

Glasgow City Council Development and Regeneration Services has given their backing to this idea in the publication of “Design Framework the River”

The overgrowth has obvious safety ramifications for the River users especially Rowing Clubs. At present coaches cycling up the towpath have great difficulty seeing their crews. Emphasis on safety is prevalent in rowing clubs and to this effect coaches and most rowing personnel cycling/running up the towpath, carry throw ropes that would enable them to be of assistance to any river accident.

Note that many council personnel have been trained by the Glasgow Humane Society in the use of throw ropes and carry said throw ropes on their person, on their bicycles or in their vehicles

The overgrowth on the banking hinders the using of these throwing ropes.

Mention should be made of how children are not seen when they go among this overgrowth to play, to build rafts, etc., of how drunks or drug addicts go into the overgrowth to consume more alcohol or inject themselves. Indeed, anyone who does not wish to be seen for many reasons goes into the overgrowth on the banking.

**Persons fishing cannot be seen for overgrowth—safety**

Clean banking can alleviate flood risk and can provide a safer environment

Under correct supervision the above work could be carried out by Community Groups and by Restorative Justice Groups

## (10) Description of danger

Dangerous points on rivers or on river banks

Steps to eliminate dangers

Any dangers on riverbanks or on rivers should be clearly marked.

For example

Weir on river



Steps to eliminate danger

High Visibility Signage

Danger the next bridge e.g. 400metres downstream/upstream is a tidal weir.



Or/and

Boating downstream/upstream of this Bridge should only be undertaken with the greatest caution.



## (11) Description of danger

Vehicles being driven onto River banking or into water

Steps to eliminate danger

The Royal Society for the Prevention of Accidents has stated that they would like to see barriers alongside all unfenced stretches of water bordering roads.

This would certainly stop the problem of stolen cars being driven down river banks and sometimes into the water where they can prove extremely difficult to remove.

The blocking off of pathways/roads to towpaths does not always work as vandals remove the roadblocks and roadblocks prevent emergency vehicles and direct labour vehicles gaining access.

The use of barriers/gates giving emergency access is recommended and where possible barriers (which could just be the trunks of felled trees) should be placed along the edge of towpaths.



## (12) Description of danger

### Planting between walkways and waterways

It has been observed that members of the public wish to walk along waterways and see the water. Where heavy planting has taken place and the public cannot easily see the water, they are prone to climbing fences and making their way to the waters edge thus placing themselves in a dangerous position.

Persons hiding from or not wishing to be seen by the police, hide among the overgrowth on riverbanks. This is especially so for persons “drinking” and drug users, which causes added problems.

Persons wishing to indulge in other activities where they do not wish to be observed by the public or the police are also drawn to the overgrowth on the Riverbanks.

Children hide among the overgrowth.

Children make rafts among the overgrowth and are not seen until they launch onto the river and often then it is too late to prevent an accident.

People are camping among the overgrowth.

The banking of a River should be clear enough for a person to see at a glance whether or not there are children near the water edge.

### Steps to eliminate danger

There should be as little riverbank as practically possible, left between the towpath and the river

This area should have very low shrubs and should be regularly maintained to allow young persons and others to be easily seen if they enter this area.

Trees in this area should be crown topped to allow an unrestricted view from the towpath.



## (13) Description of danger

### Lighting of bridges

#### Steps to eliminate danger

There is a problem with some lighting on bridges.

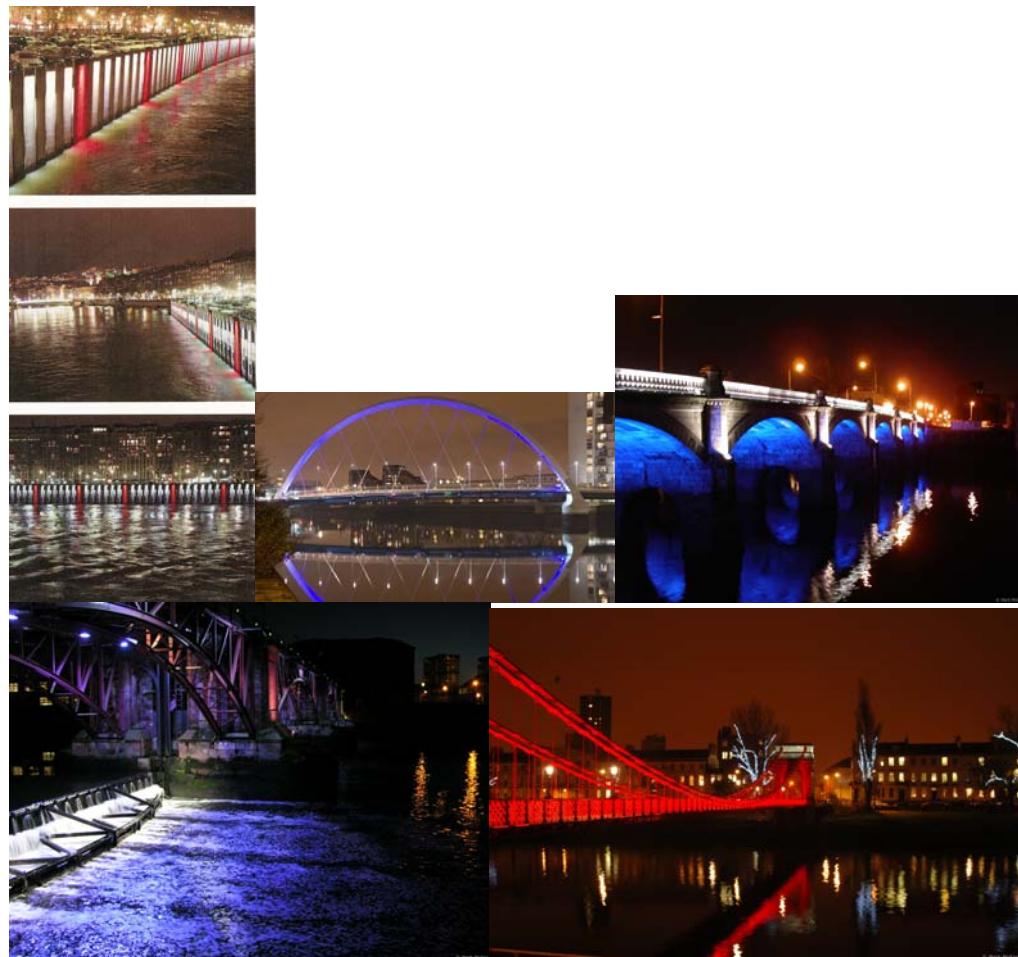
Up lighting from piers or from deck level can blind persons looking over the bridge towards the river in the event of an accident in or on the water.

Down lighting can blind the person in or on the water, so all lighting should be diffused to prevent blinding.

Lighting of arches should where possible be from underneath the bridge.

Lighting of parapets and rails should where possible be downward or horizontal. Lighting could be from the quay walls provided that it is pointed slightly downwards.

Diffused lighting can be an excellent assistance when on the water but we cannot emphasise enough that it must not be so strong that it blinds.

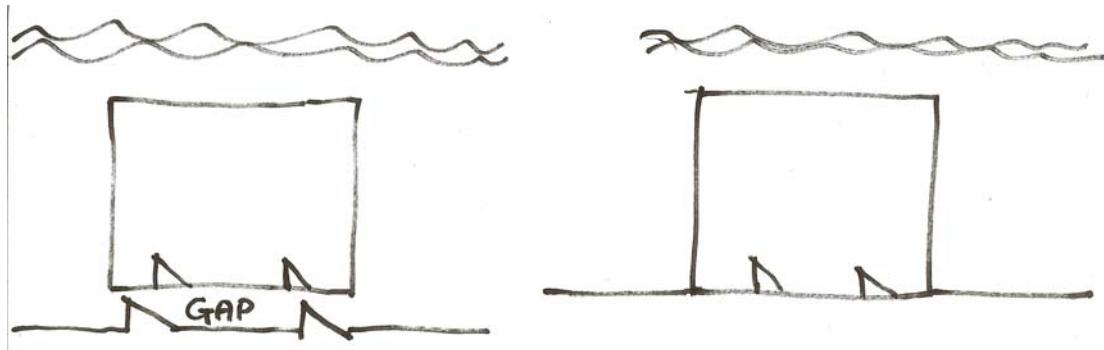


## (14) Description of danger

Access to buildings built on riverbanks

Steps to eliminate danger

Fencing should be attached to either side of any building on a riverbank (where direct access is required from the building to the river e.g. rowing clubhouse). This means that there would be no fence along the front of any building. A fence along the front only provides an extra gate that could be accidentally left open and allow easy access to some dangerous site. This also saves money by having less fencing.



## (15) Description of danger

Locks on gates, etc., onto riverbanks

Steps to eliminate danger

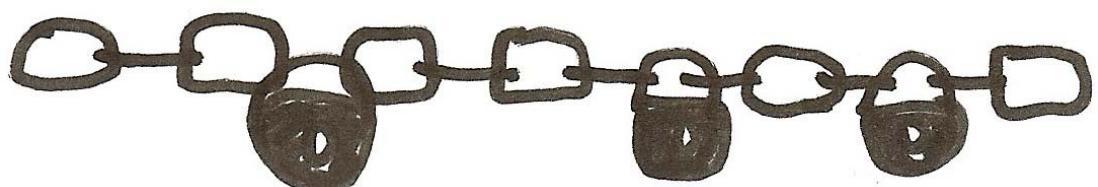
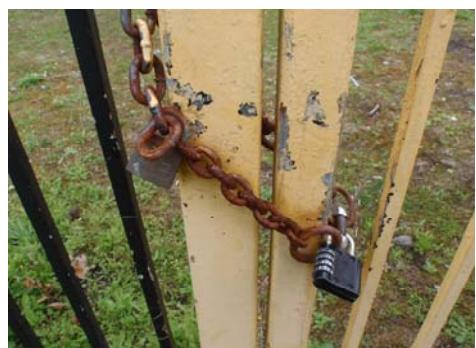
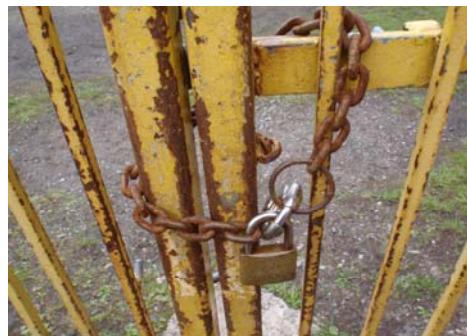
Gates on riverbanks where emergency access is required should be locked using a chain and padlock. The chain should be welded onto the gate.

This is in case the lock has super glue inserted into it or a key broken in the lock or it just rusts up. In any of these scenarios this would enable the chain to be cut with bolt cutters. It would also mean that where required two or more padlocks could be used to close the one gate allowing different persons to use the gate without everyone having access to an emergency lock key.

Gates onto riverbanks should never be left open or unlocked and unattended.

This is when children or others stray through the gate onto the riverbank and an accident occurs.

Having locks for each group requiring access to the banking makes it obvious as to which party has left the gate unlocked or open.



## (16) Description of danger

Different locus with same names

Steps to eliminate danger

All bridges and areas of walkway/towpaths/etc should be clearly named or numbered so that in the event of an emergency and services being required, both the people who contact the emergency services and the services attending know the exact locus.

Bridges should have numbers and large clear nameplates that can be seen both by persons on the bridge, on the embankment and on the water.

Try to avoid having places with the same name

Examples of place names

An example of this in Glasgow was the Renfrew Ferry Nightclub. This is an old ferry that used to ply its way across the river from Renfrew to Yoker and it was/is known as the Renfrew ferry.

There is a new ferry operating at Renfrew/Yoker.

When emergency services received a call from the Renfrew Ferry, they immediately set out for Renfrew/Yoker when sometimes the incident was at the Renfrew Ferry NIGHTCLUB.

The Nightclub name has been changed to just the Ferry Nightclub and this has alleviated the problem.

A second example is the bridge across the Clyde at Oswald Street.

This bridge is the George 5<sup>th</sup> Bridge. Unfortunately some people refer to it as the *King* George Fifth which is the Dock at Shieldhall some miles downriver.

In river jargon one is known as the KG5th and the other the G5.

Obviously in an emergency you have to get it right.

There is a bridge in Glasgow with no name-

It is a suspension bridge between South Portland Street and Clyde Street.

Depending on what you have heard it called the name you will use varies as follows:

South Portland Street Bridge

The Lower Suspension Bridge

Carlton Place Bridge

Dixon Street Bridge

Clyde Street Bridge

Emergency services have to recognise all of these names.  
It would be easier if someone would just name the bridge.

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Left-Renfrew Ferry –Yoker to Renfrew



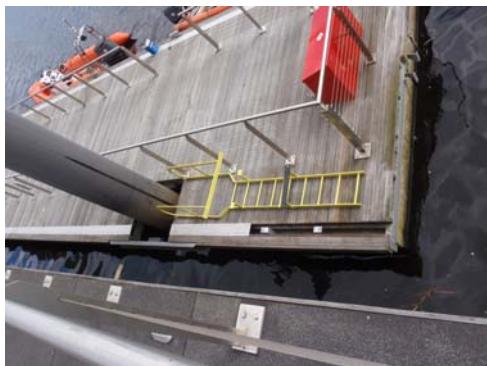
Right-Old Renfrew Ferry-now the Ferry Nightclub or The Ferry

## 17 Description of Danger

### Pontoon design and access

Pontoon design is a fairly new thing on the Clyde and we are working in close co operation with the designers

Obviously from what we have seen so far we have a long way to go before we can say all our pontoons are safe and secure



## (18) Training

Training should be given to all personnel working in close proximity with a waterway

Strathclyde Police give training to all Officers

So far we have given training to Rowing Clubs, GCC, NLC, Companies, Lifeguards, Bars, Hotels, Complex's, and Casino's, Schools, other groups and individuals



(19) Possible suppliers

Highland Galvanisers and Colour Coaters

G&H Welders

RLSS

STA

Gladstone

## Reasons for drowning giving justification for this booklet

### Evening Times

“The man was fishing from the banking at the tidal weir, slipped on the wet grass and rolled into the water”.

Note. This locus had no fencing at this time. A 1.5-metre vertical bar railing now protects it. Since the erection of this railing there have been no accidents in this area.

“He had climbed onto the parapet to see tyres floating downriver.

“He had climbed over the fencing and had been sitting on the ledge drinking. He then stood up and overbalanced into the river and sunk.

“He toppled into the freezing River Clyde after jumping over railings and walking along a ledge

“The scene of a tragic drowning is to be fenced off.

### Daily Record

“Two friends were plucked from the icy waters of the River Clyde yesterday in a heroic rescue”. Both fell from the ledge at the tidal weir.

“Drowned while tossing sticks into the River to amuse two dogs

“Climbed an overhanging tree lost his grip and fell.

“Passers-by watched helplessly as a woman screamed for help yesterday minutes after her car plunged off a quayside into the Clyde near Glasgow city centre.

### Glasgow Herald

“The young man had been walking along the ledge on the outside of the fencing when he slipped”.

“Prophetic warning on dangers of the Clyde”

A chilling warning was written only days before a five-year-old boy drowned. “If children could see the ducks and swans from the path, they wouldn’t start climbing over railings and going right down to the rivers

edge where they could get into trouble". "They could not be seen for the undergrowth".

"The car went out of control and ran down an embankment into the river.

"The young woman was drowned.

"A sailor dived in and rescued the child after he had crawled under the quayside fence.

Scottish Daily Express

"He had climbed over the fence onto the quay wall ledge".

The Scotsman

"The child was playing with a piece of stick when he toppled over the edge of the embankment into deep water. He had crawled through the fencing.

Sunday Mail

"Pushed him into the river for no apparent reason

The Sun

"A horrified girl yesterday watched her lover plunge to his death---as they kissed and cuddled while watching a romantic sunrise.

The student slipped from her arms while they sat on the edge of a suspension bridge over the River Clyde.

**In an emergency dial 999 and ask for the Police  
Glasgow Humane Society  
"Preventing Accidents.....Saving Lives"  
[www.glasgowhumanesociety.com](http://www.glasgowhumanesociety.com)**

Work and home- 0141 429 2492

The Glasgow Humane Society is a registered charity No. SC001788

Glasgow Humane Society House Glasgow Green G40 1BA

Glasgow - Proud Host City of the 2014 Commonwealth Games

## Appendage (as of June 2011)

At present Glasgow is setting an example to everywhere else

Praise for      New Ladders  
                  New Lifebelt positions  
                  New pontoons  
                  Lighting  
                  Cutting away vegetation/overgrowth  
                  GPS positioning  
                  Signage  
                  New railings

But

River Clyde Many ladders are still proud and unfendered  
Many ladders are incorrect length  
Quay edges require semi circle cut at ladders  
Incorrect fencing-including recent build  
Badly aligned fencing  
Incorrect use of gates  
Lack of gates  
Lack of access/egress barriers  
Lifebelt poles require diffused lights  
Much GPS signage is still required  
Lifebelt positions still does not cover the entire river  
Few lifebelts have ropes  
There are bridges without lifebelts  
Clearing of overgrowth has ceased in the past 4 years

There are no lifebelts on bridges over the Cart or Kelvin (Glasgow)  
Fencing along Cart/Kelvin and other waterways is very poor  
Only 1 of our 70+ ponds has lifebelts/ropes  
Suds Pond are now numerous and all seem to have lifebelt coverage –  
should have rope attached to said lifebelt  
Rivers Burns and streams are blocked by fallen trees causing flooding  
upriver  
The parapets of many old bridges require upgrading re safety