VIRISTAR

AORE

The Role of Standards in Outdoor Safety

Association of Outdoor Education & Recreation webinar

January 9, 2024

Jeff Baierlein, Director, Viristar

viristar.com

viristar.com/aore-standards

Principal Concepts

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Outdoor safety standards:

Support good safety outcomes, reliable access to outdoor spaces, sustainability of outdoor rec/ed sector

Help clarify safety expectations

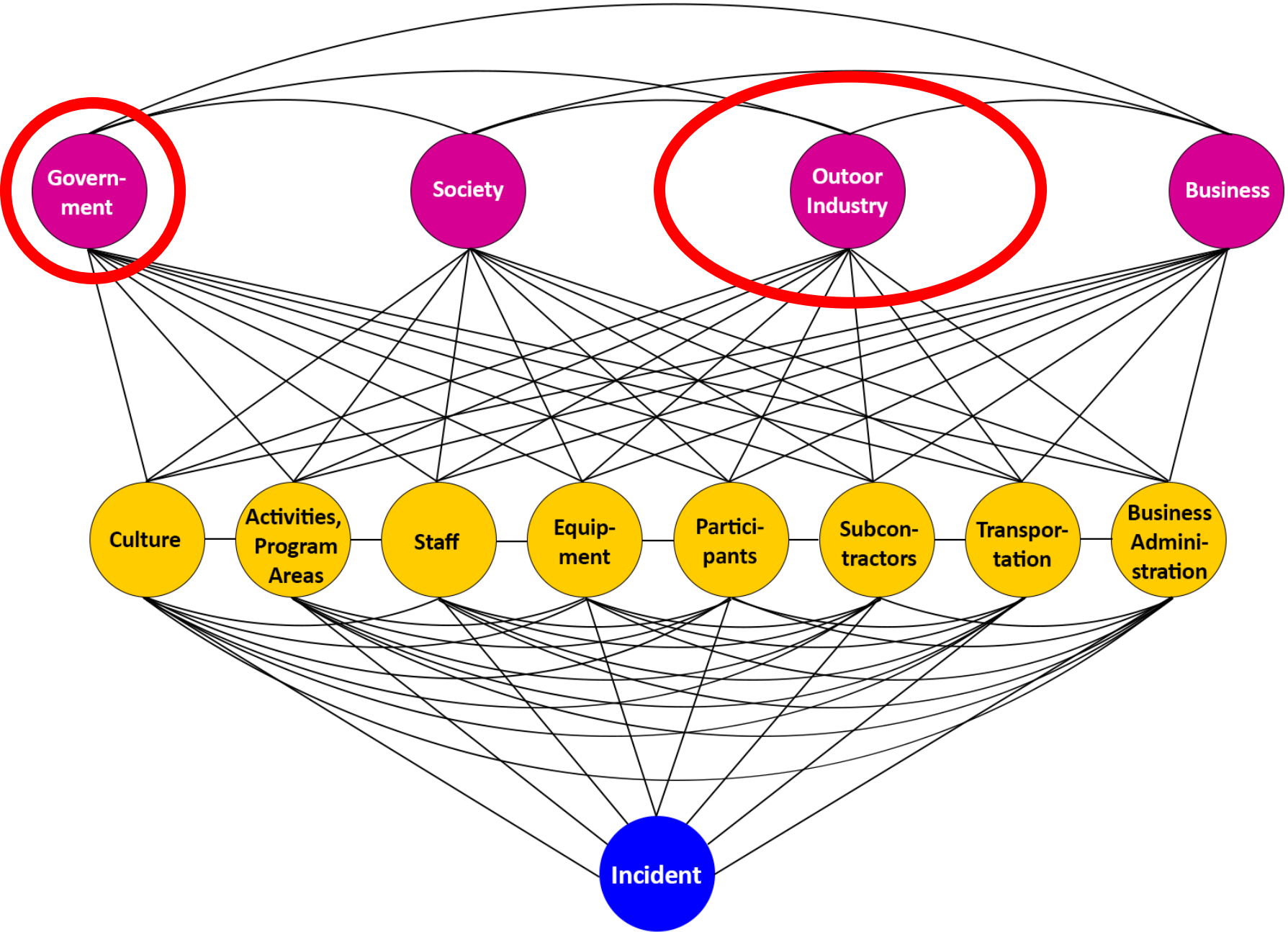
Are set by outdoor sector associations, standards bodies, and others

Are activity-specific or apply to industry segments

Can be voluntary (usually) or required

Are relatively undeveloped in the USA; you can help

How Do Incidents Occur?



Outdoor industry can establish safety standards:

- Organizational good practices
- Individual activity leader training/qualifications

(Government can establish compulsory standards/regulations)

How Safe Is Safe Enough?

VIRISTAR

An outdoor program should be able to provide convincing evidence that it:

- Take reasonable precautions against reasonably foreseeable harms
- Reduce risks so far as is reasonably practicable (SFAIRP)

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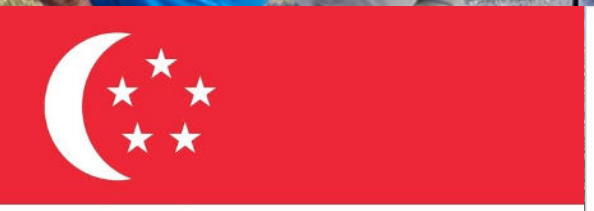
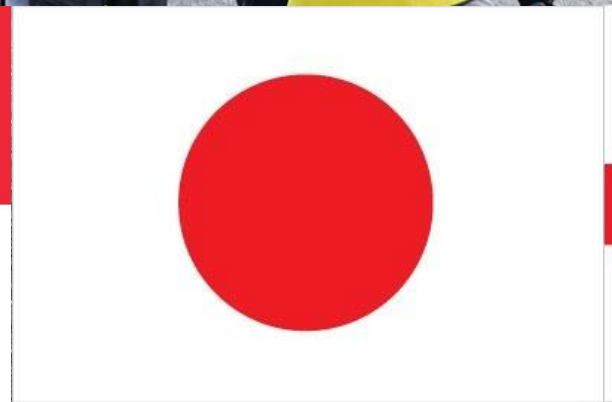
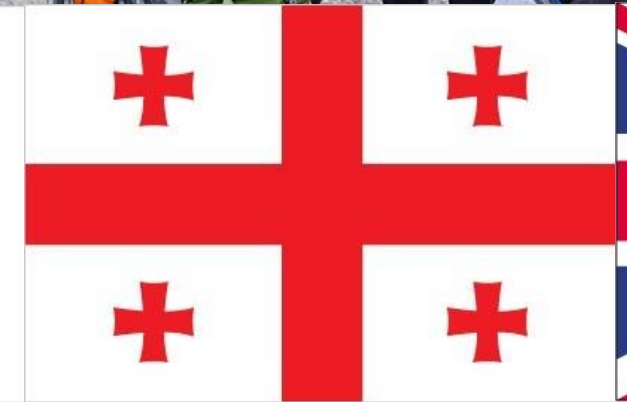
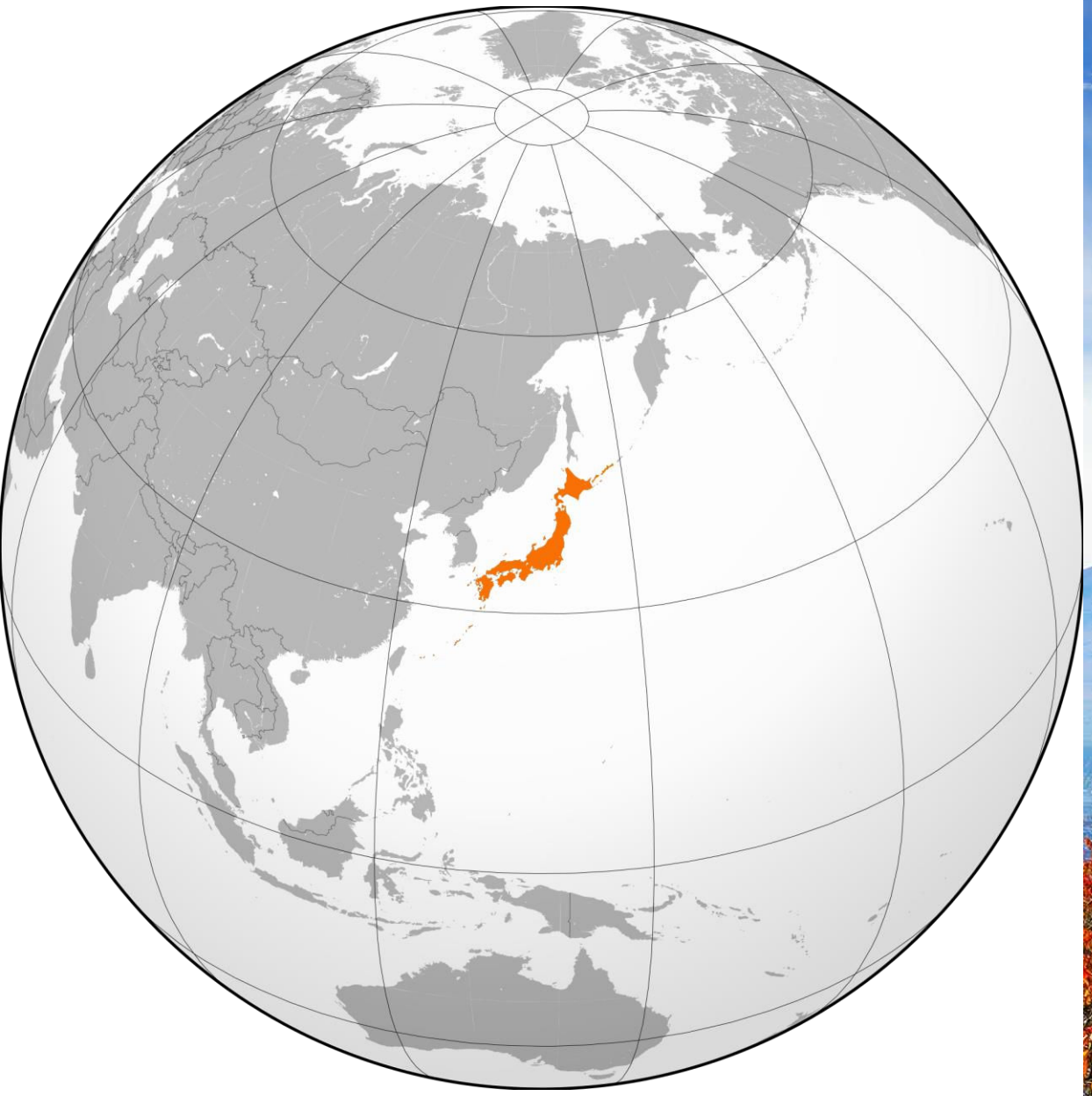







LAOS
THAILAND
CAMBODIA
PHILIPPINES
MALAYSIA
BRUNEI
SINGAPORE
INDONESIA

- February 2021, 15 year old Jethro Puah, on a school trip, fell from a ropes course, losing his life
- High elements across the country suspended for 2 years
- Facilitator facing 5 years in prison; company criminally charged
- Now, challenge course operators must every be accredited by Association for Challenge Course Technology
- Facilitators must be qualified by ERCA, ACCT or equivalent
- Gov't & private sector developing national safety standards for all adventure activities



Japan

- March 2017, seven Japanese high school students and their teacher died in avalanche at ski resort in Tochigi prefecture, 120 km north of Tokyo. Forty others hurt.

- During a mountaineering safety training program organized by local high school athletics federation.

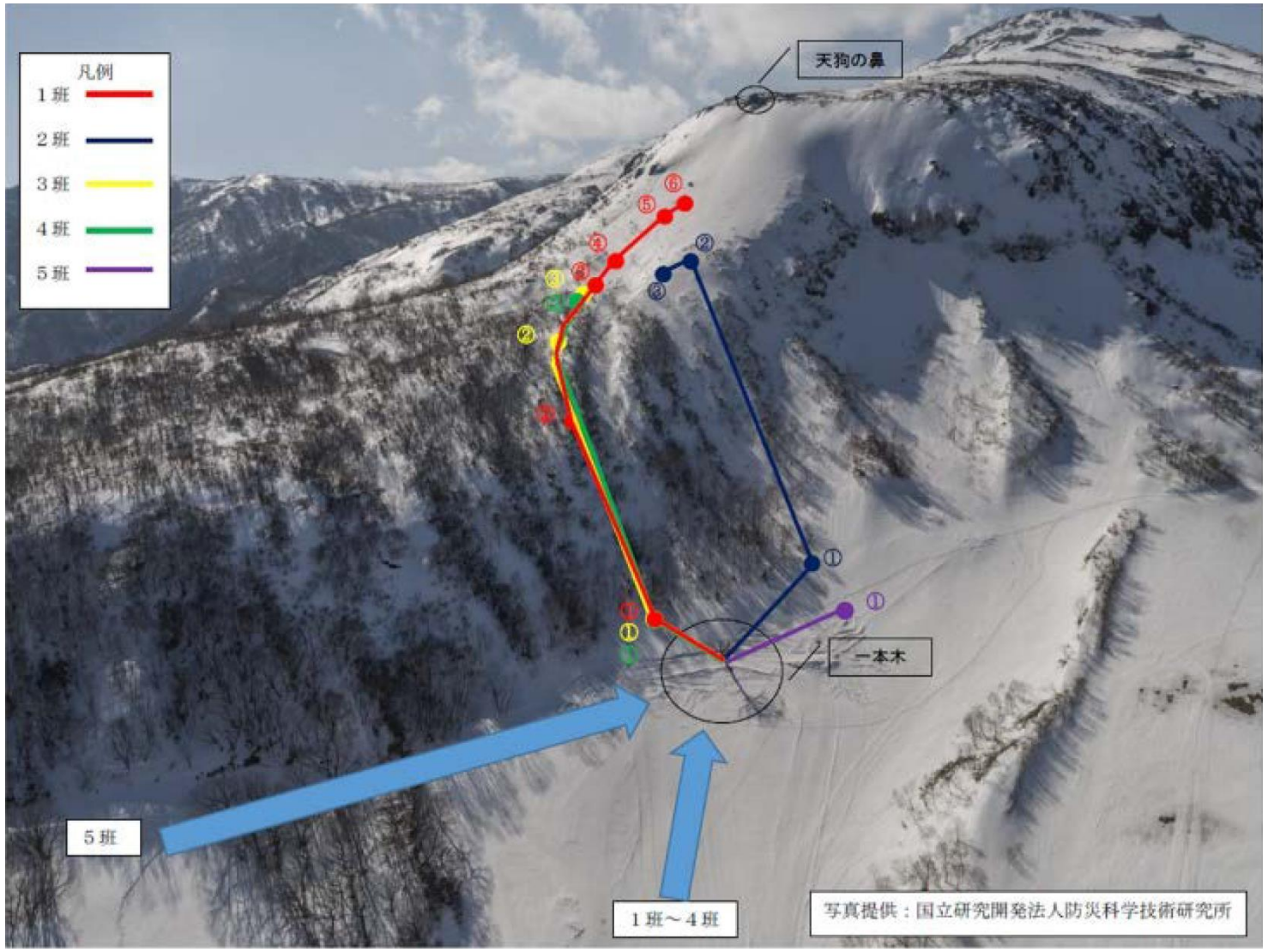
Japan

- The region had received heavy snow over the past two days and avalanche warnings had been in effect.

- An avalanche during a similar training occurred seven years earlier; students were swept up to 60 meters away. Was not reported to athletics group.

Japan

- Japan Avalanche Network report cited problems in how club activities are organized.
- The local government and athletics group accepted liability. Superintendent said incident due in part to lack of a system for supporting safe extracurricular club activities.
- Development of adventure safety regulations in Japan under way.



Levels of Standards

Levels

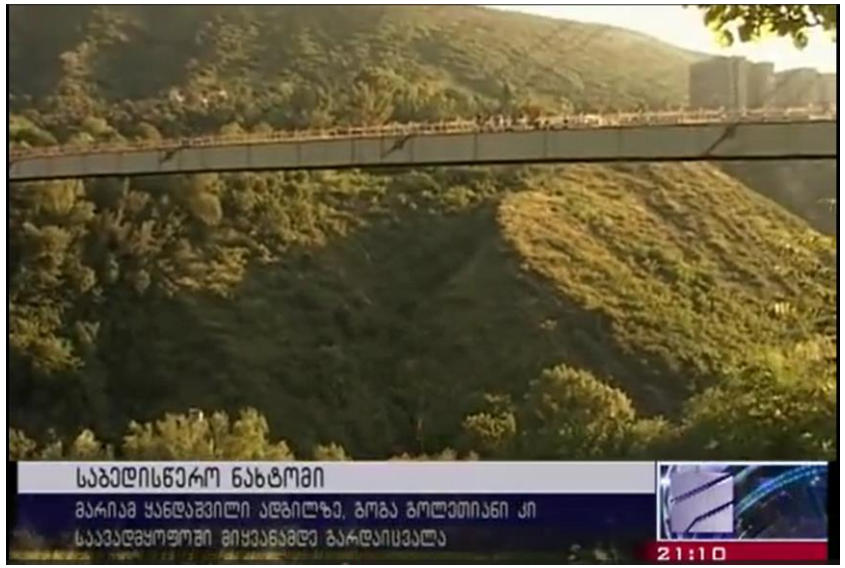
1. Law
2. Regulation
3. Compulsory standards
4. Voluntary codes/guidelines


Russia
Georgia
Türkiye
Armenia
Azerbaijan

Georgia

- Mountaineering
- Skiing
- Parasailing
- Canyoning
- Rafting
- Caving
- Ziplining


ტენდერები | ახალი ამბები | ბოლო ამბები | გამოკითხვები | ქვიზები | ბლოგები | ყველა სტატია | ყველა ვიდეო
In Aragvi, 1 tourist died during rafting
POLICE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საავადმყოფოში მიყვანამდე გარდაიცვალა
21:10


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21:09


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18.07.12


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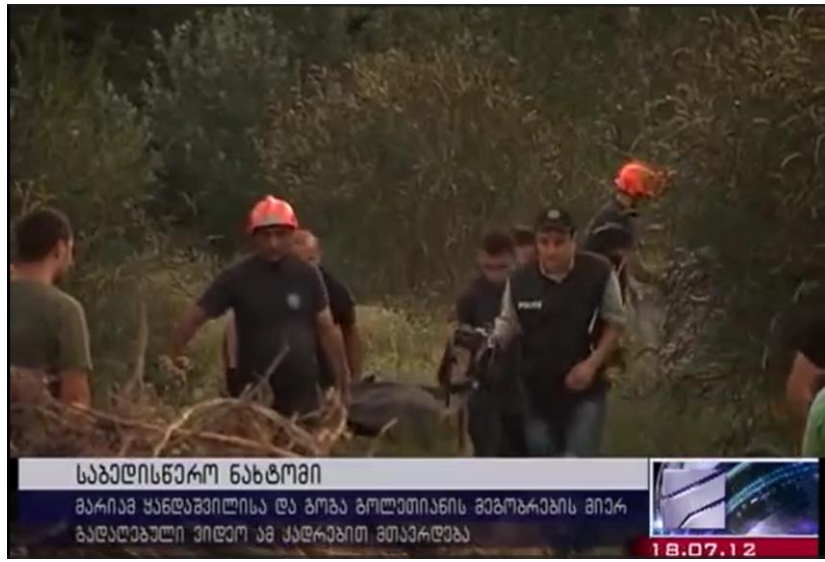
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გადაღებული ვიდეო ამ კადრებით მთავრდება
18.07.12


ველი
RESCUE HELICOPTER CRASH
IN GEORGIA 🇬🇪 . 29.07.2022
სამაშ
ბაგირ


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RESCUE HELICOPTER CRASH
IN GEORGIA 🇬🇪 . 29.07.2022

National Outdoor Adventure Safety Law

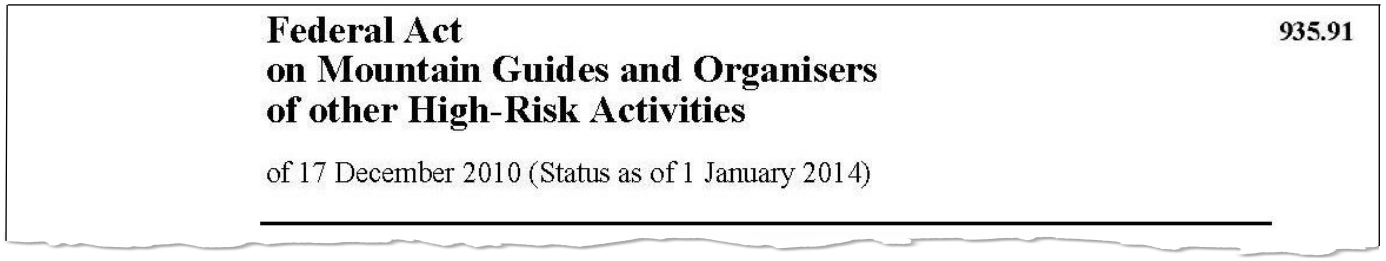
Little exists:

United Kingdom

Activity Centres (Young Persons' Safety) Act 1995

1995 CHAPTER 15

Switzerland



Federal Act on Mountain Guides and Organisers of other High-Risk Activities 935.91

of 17 December 2010 (Status as of 1 January 2014)

Outdoor Adventure Safety Regulations

United Kingdom

STATUTORY INSTRUMENTS

2004 No. 1309
HEALTH AND SAFETY

The Adventure Activities Licensing Regulations 2004

Switzerland

Ordinance **935.911**
on Mountain Guides and Organisers
of other High-Risk Activities
(High-Risk Activities Ordinance)
of 30 January 2019 (Status as of 7 April 2020)

Finland

SUOMEN SÄÄDÖSKOKOELMA
Julkaistu Helsingissä 7 päivänä marraskuuta 2011

1110/2011
Valtioneuvoston asetus
eräitä kuluttajapalveluja koskevasta turvallisuusasiakirjasta
Annettu Helsingissä 3 päivänä marraskuuta 2011

New Zealand

2016/19

Health and Safety at Work (Adventure Activities)
Regulations 2016

Jerry Mateparae, Governor-General
Order in Council

Maharashtra India

महाराष्ट्र शासन
पर्यटन व सांस्कृतिक कार्य विभाग
शासन निर्णय क्रमांक : टिडीएस २०२०/०९/प्र.क्र.४९०/पर्यटन,
मादाम कामा रोड, हुतात्मा राजगुरु चौक, मंत्रालय, मुंबई-४०० ०३२.
दिनांक : २४ ऑगस्ट, २०२१.

राज्याच्या साहसी पर्यटन उपक्रम
धोरणास मान्यता देण्याबाबत.

Compulsory Standards

SAFETY AUDIT STANDARD

HSWA

Safety Audit Standard for Adventure Activities

REQUIREMENTS FOR A SAFETY AUDIT OF OPERATORS

March 2017 VERSION 1.1

New Zealand Government

WORKSAFE NEW ZEALAND

TABLE OF CONTENTS

Voluntary codes/guidelines

Approved Codes of Practice

HSE

Health and Safety Executive

Guidance from the Licensing Authority on the Adventure Activities Licensing Regulations 2004

The Activity Centres (Young Persons' Safety) Act 1995

This is a free-to-download, web-friendly version of L77 (second edition, published 2007). This version has been adapted for online use from HSE's current printed version.

You can buy the book at www.hsebooks.co.uk and most good bookshops.

ISBN 978 0 7176 6243 2
Price £11.50

This book outlines the adventure activities licensing scheme, gives guidance on safety standards and on the licensing authority's functions and the approaches it will adopt in its dealings with providers and the public.

The aim of the licensing scheme is to give assurance that good safety management practice is being followed so that young people can continue to have opportunities to experience exciting and stimulating activities outdoors.

Much of the material in this book was issued in 1996 but the legal position changed when the Health and Safety Executive (HSE) was designated as Adventure Activities Licensing Authority (AALA) from 1 April 2007. Other changes include adopting the lessons learned in the previous years of operation; and clarifying areas that have caused confusion. The technical content has been fully updated where required.

The following activities are within the scope of the scheme:

- **caving** (underground exploration in natural caves and mines including potholing, cave diving and mine exploration, but not in those principally used as show-places open to the public);
- **climbing** (climbing, traversing, abseiling and scrambling activities except on purpose-designed climbing walls or abseiling towers);
- **trekking** (walking, running, pony trekking, mountain biking, off-piste skiing and related activities when done in moor- or mountain-country above 600 metres and which is remote, ie over 30 minutes travelling time from the nearest road or refuge);
- **watersports** (canoeing, rafting, sailing and related activities when done on the sea, tidal waters or larger non-placid inland waters).

HSE Books

Page 1 of 47

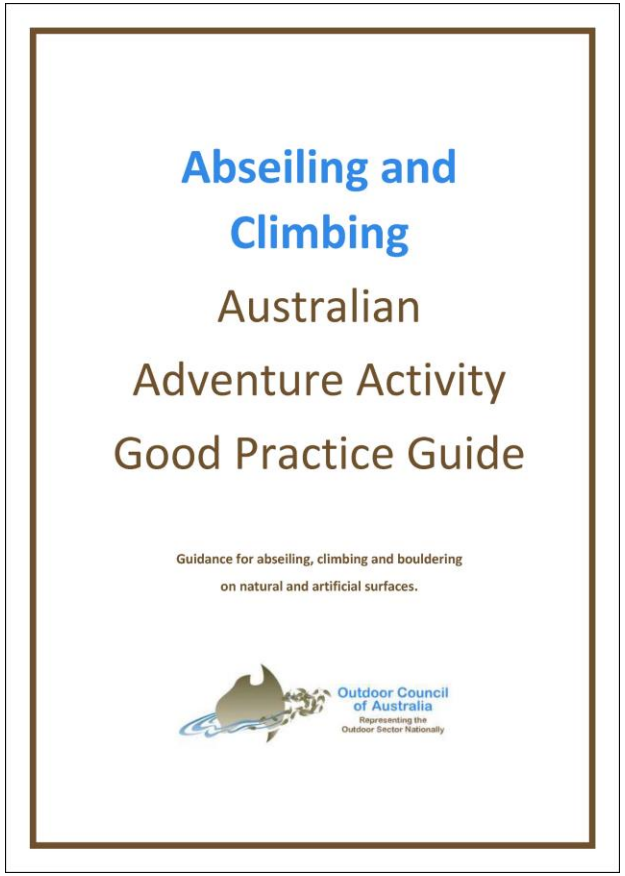
Code of Practice on
Workplace Safety and Health (WSH) Risk Management

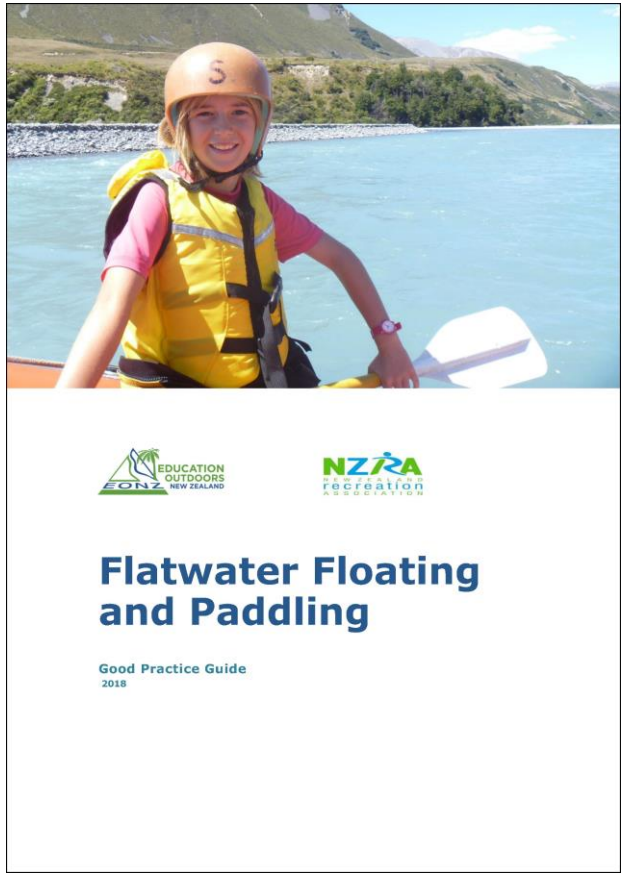
WSHCOUNCIL

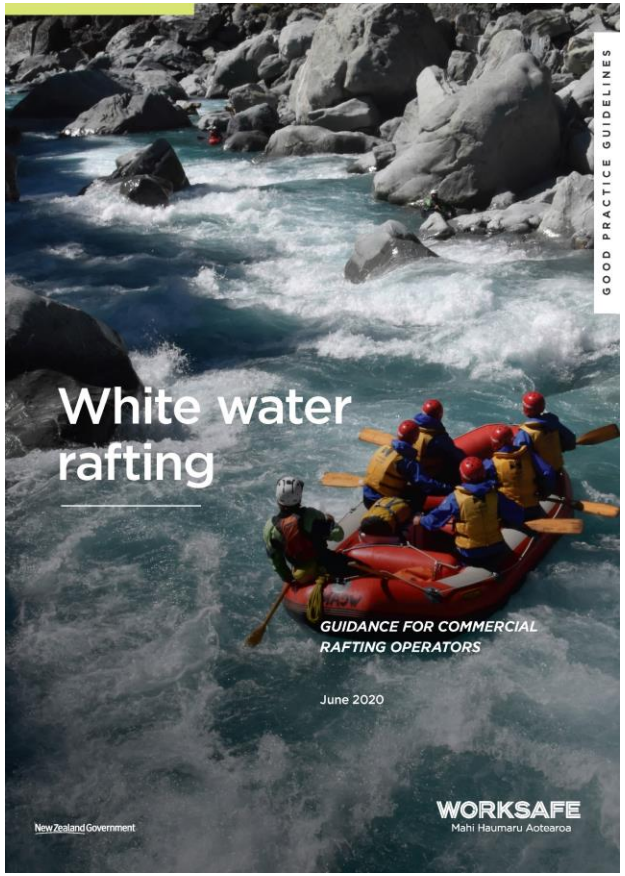
Tripartite Alliance for Workplace Safety and Health

Voluntary codes/guidelines

Outdoor/Experiential/Adventure industry association activity standards:

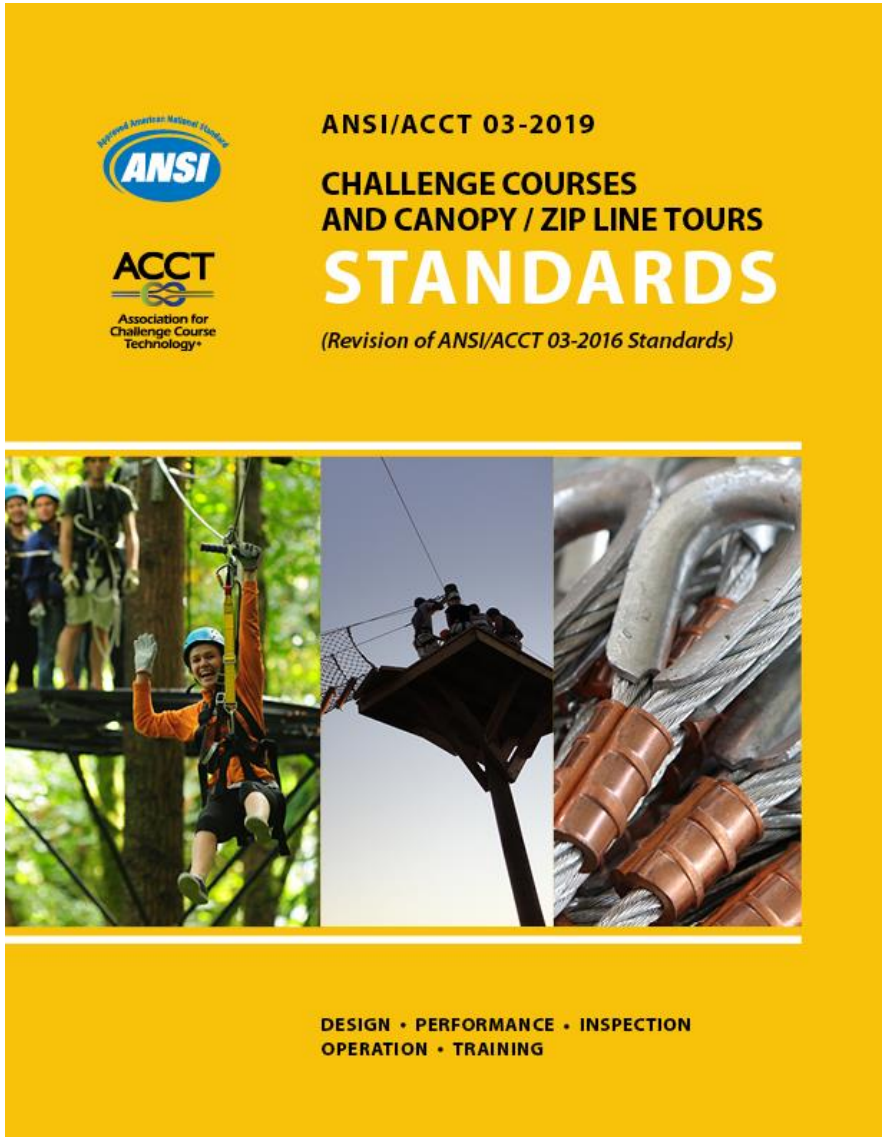


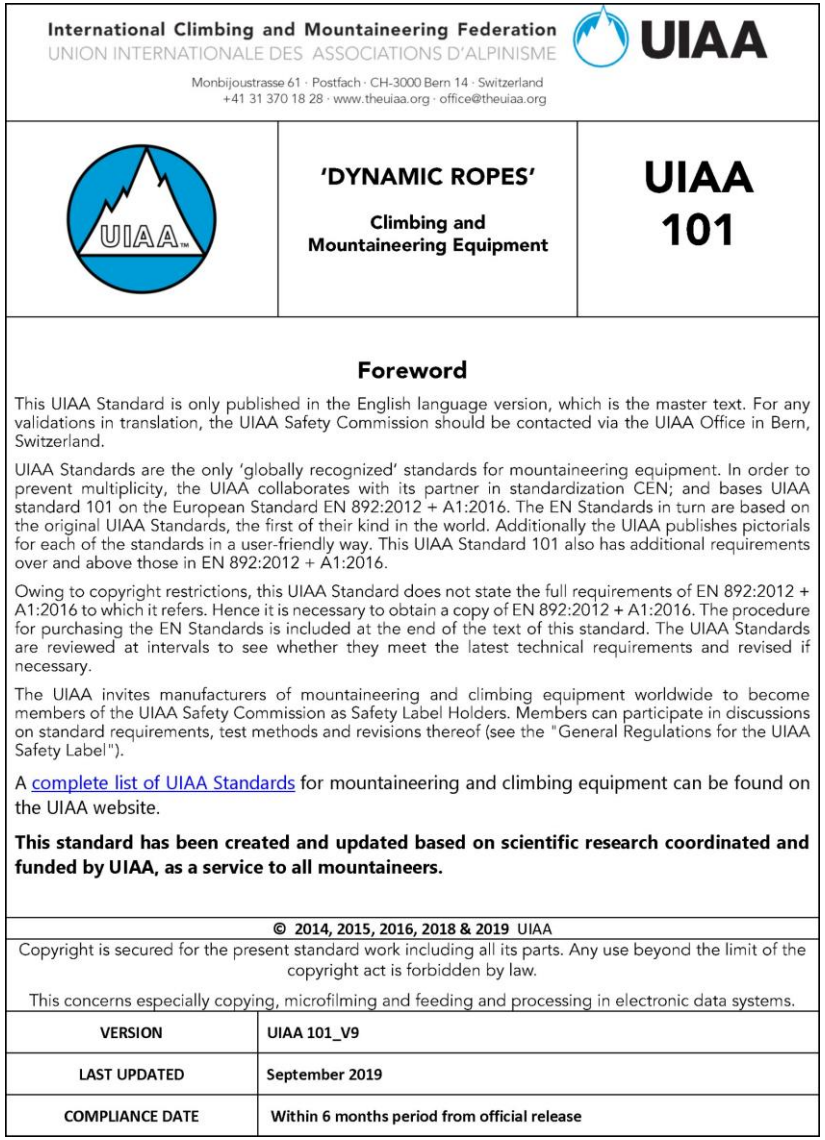




Voluntary codes/guidelines

Activity-specific standards





International Climbing and Mountaineering Federation
UNION INTERNATIONALE DES ASSOCIATIONS D'ALPINISME
UIAA

Monbijoustrasse 61 · Postfach · CH-3000 Bern 14 · Switzerland
+41 31 370 18 28 · www.theuiaa.org · office@theuiaa.org

UIAA	'DYNAMIC ROPES' Climbing and Mountaineering Equipment	UIAA 101

Foreword

This UIAA Standard is only published in the English language version, which is the master text. For any validations in translation, the UIAA Safety Commission should be contacted via the UIAA Office in Bern, Switzerland.

UIAA Standards are the only 'globally recognized' standards for mountaineering equipment. In order to prevent multiplicity, the UIAA collaborates with its partner in standardization CEN; and bases UIAA standard 101 on the European Standard EN 892:2012 + A1:2016. The EN Standards in turn are based on the original UIAA Standards, the first of their kind in the world. Additionally the UIAA publishes pictorials for each of the standards in a user-friendly way. This UIAA Standard 101 also has additional requirements over and above those in EN 892:2012 + A1:2016.

Owing to copyright restrictions, this UIAA Standard does not state the full requirements of EN 892:2012 + A1:2016 to which it refers. Hence it is necessary to obtain a copy of EN 892:2012 + A1:2016. The procedure for purchasing the EN Standards is included at the end of the text of this standard. The UIAA Standards are reviewed at intervals to see whether they meet the latest technical requirements and revised if necessary.

The UIAA invites manufacturers of mountaineering and climbing equipment worldwide to become members of the UIAA Safety Commission as Safety Label Holders. Members can participate in discussions on standard requirements, test methods and revisions thereof (see the "General Regulations for the UIAA Safety Label").

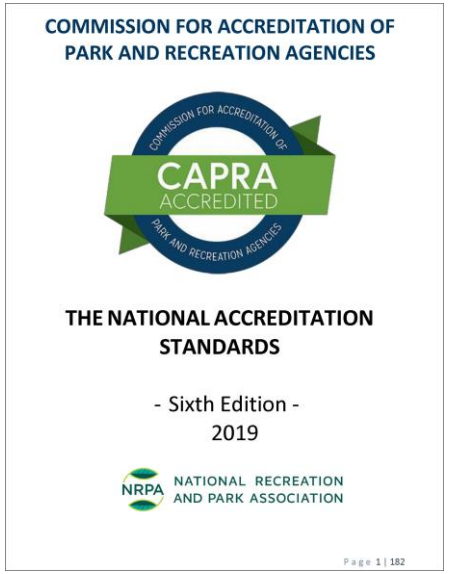
A complete list of UIAA Standards for mountaineering and climbing equipment can be found on the UIAA website.

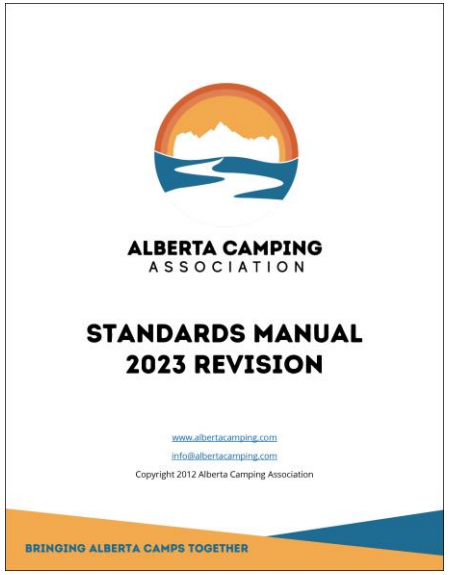
This standard has been created and updated based on scientific research coordinated and funded by UIAA, as a service to all mountaineers.

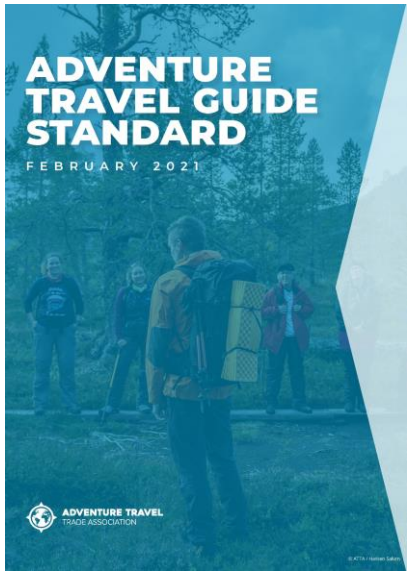
VERSION	UIAA 101_V9
LAST UPDATED	September 2019
COMPLIANCE DATE	Within 6 months period from official release

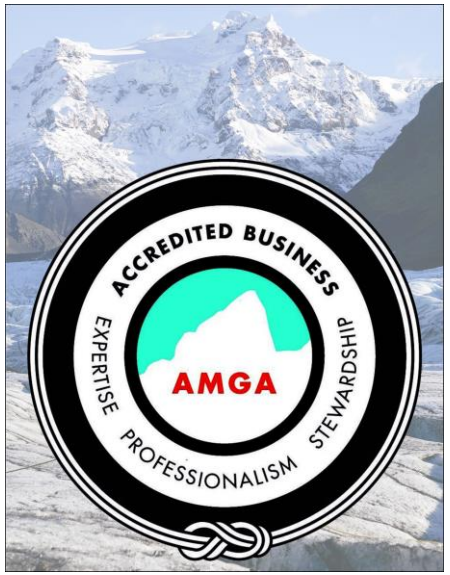
Voluntary codes/guidelines

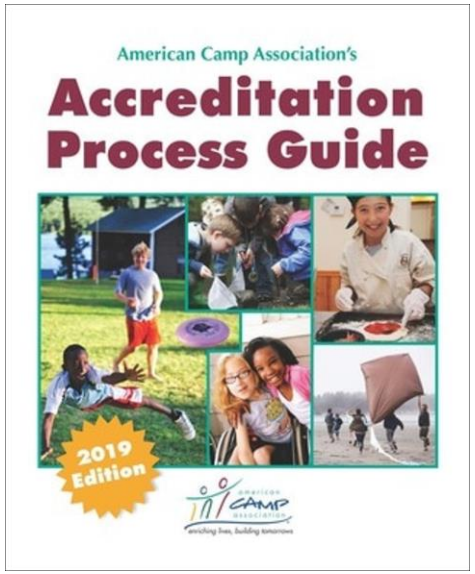
Outdoor/Experiential/Travel/ Adventure industry association operational standards:











Voluntary codes/guidelines

Standards from standards-publishing bodies

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 15567-1:2015+A1

February 2020

ICS 97.220.10

Supersedes EN 15567-1:2015

English Version

Sports and recreational facilities - Ropes courses - Part 1: Construction and safety requirements

Structures de sport et d'activités de plein air - Parcours acrobatiques en hauteur - Partie 1 : Exigences de construction et de sécurité

Sport- und Freizeitanlagen - Seilgärten - Teil 1: Konstruktion und sicherheitstechnische Anforderungen

This European Standard was approved by CEN on 12 March 2015 and includes Amendment 1 approved by CEN on 11 November 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 15567-1:2015+A1:2020 E

BS 8848:2014

BSI Standards Publication

Specification for the provision of visits, fieldwork, expeditions and adventurous activities outside the United Kingdom

bsi.

...making excellence a habit.™

INTERNATIONAL STANDARD

ISO 21101

First edition
2014-04-01

Adventure tourism — Safety management systems — Requirements

Tourisme d'aventure — Systèmes de management de la sécurité — Exigences

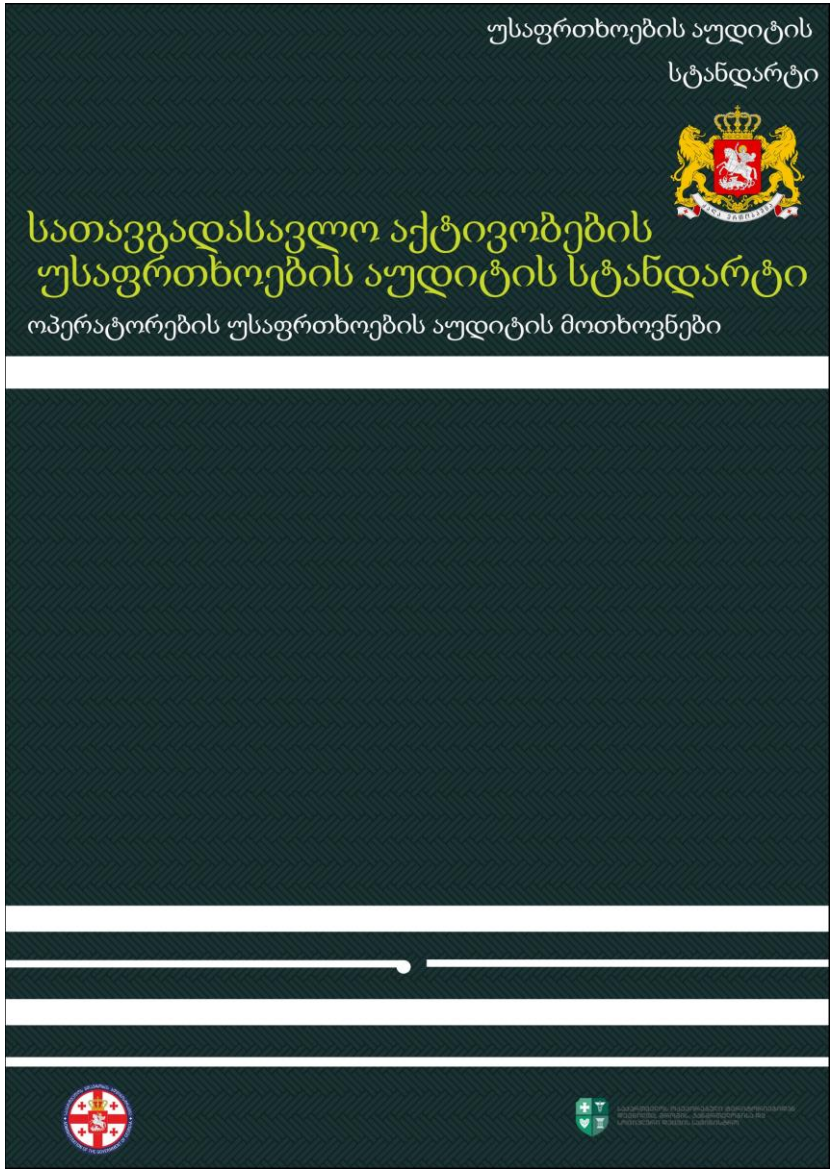
Reference number
ISO 21101:2014(E)

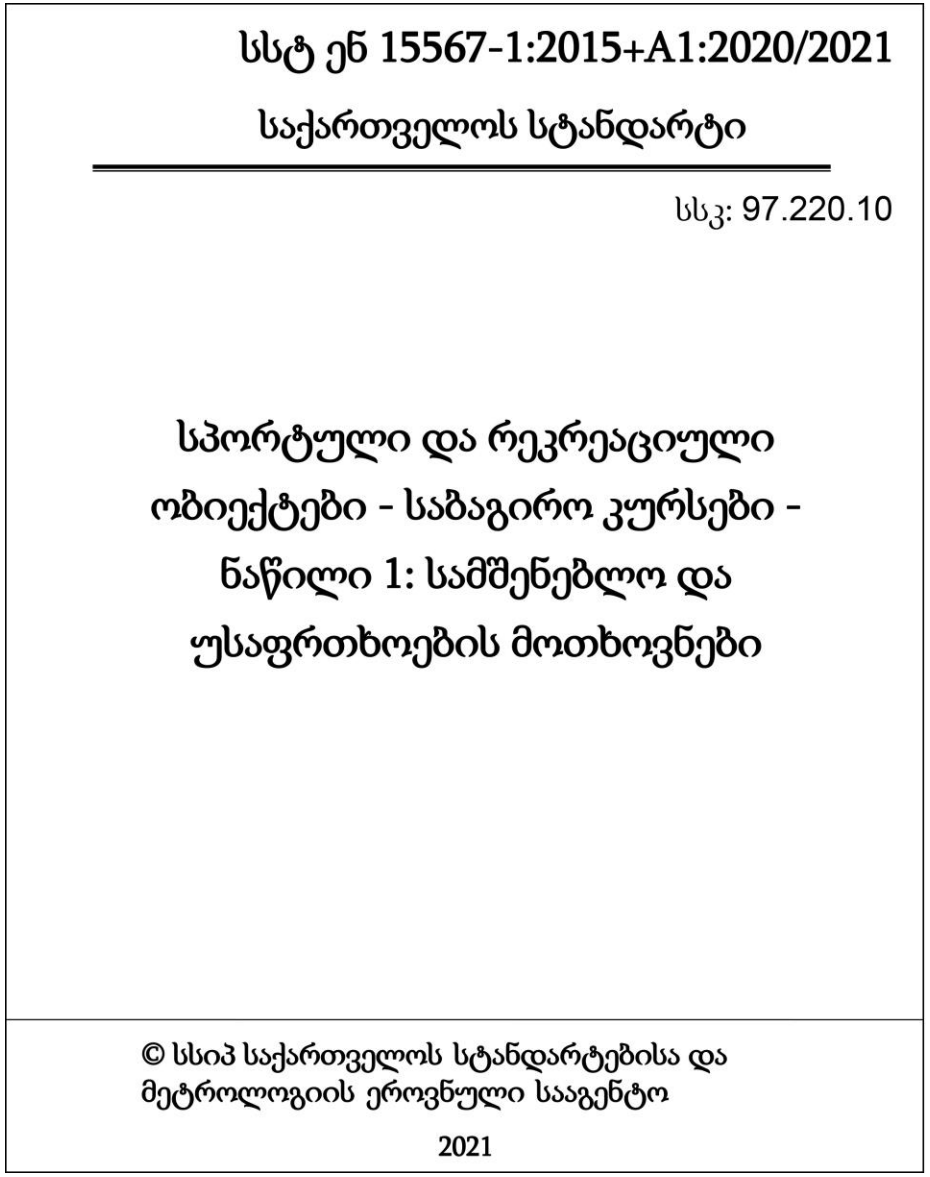
Activity leader qualifications/certifications

Can be compulsory or voluntary

Activity leader awards but one of many components of a comprehensive risk management system

Georgia Response





სსტ ენ 15567-1:2015+A1:2020/2021

საქართველოს სტანდარტი

სსკ: 97.220.10

სპორტული და რეკრეაციული ობიექტები - საბაგირო კურსები - ნაწილი 1: სამშენებლო და უსაფრთხოების მოთხოვნები

2021

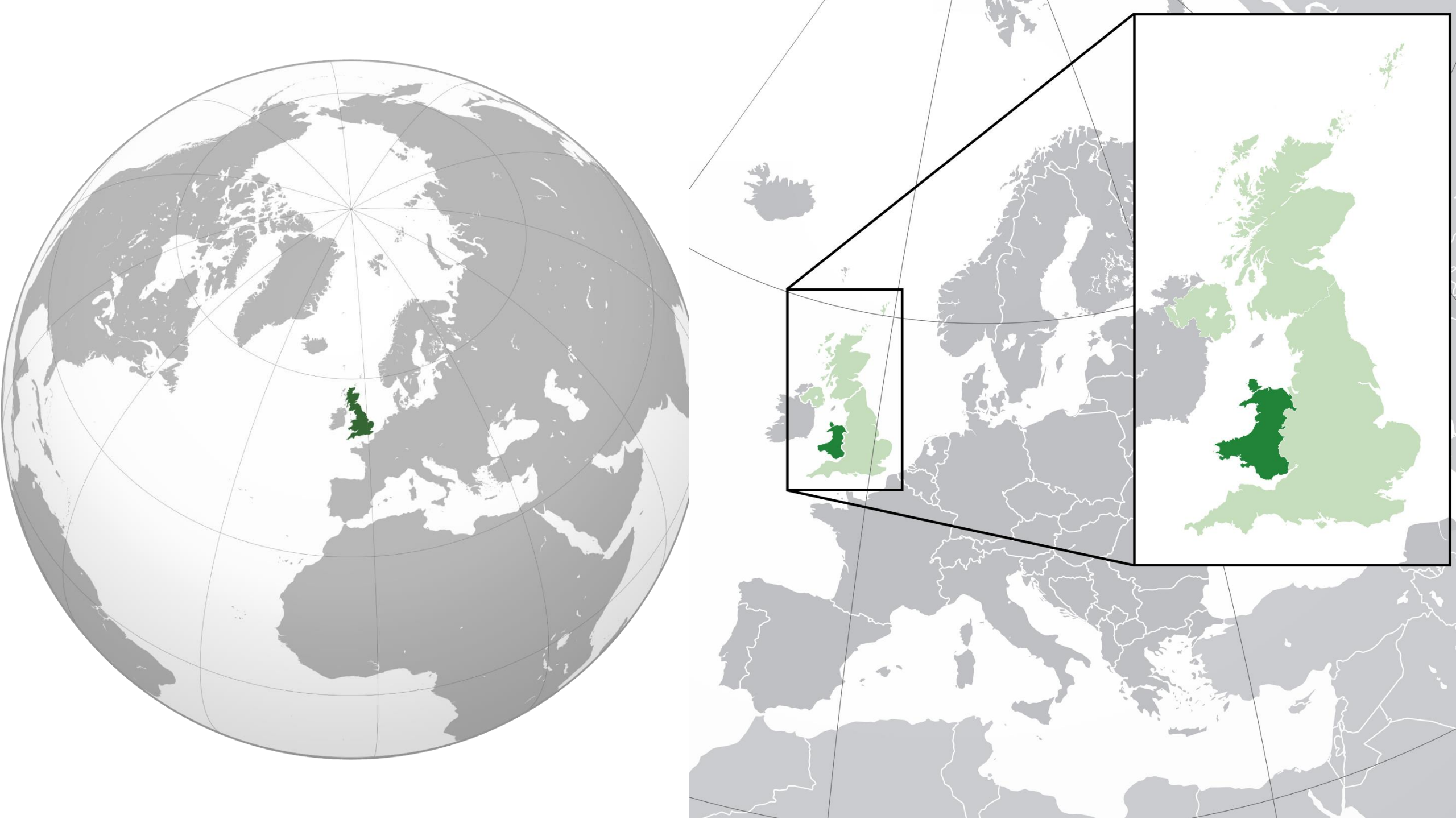
Georgia Response

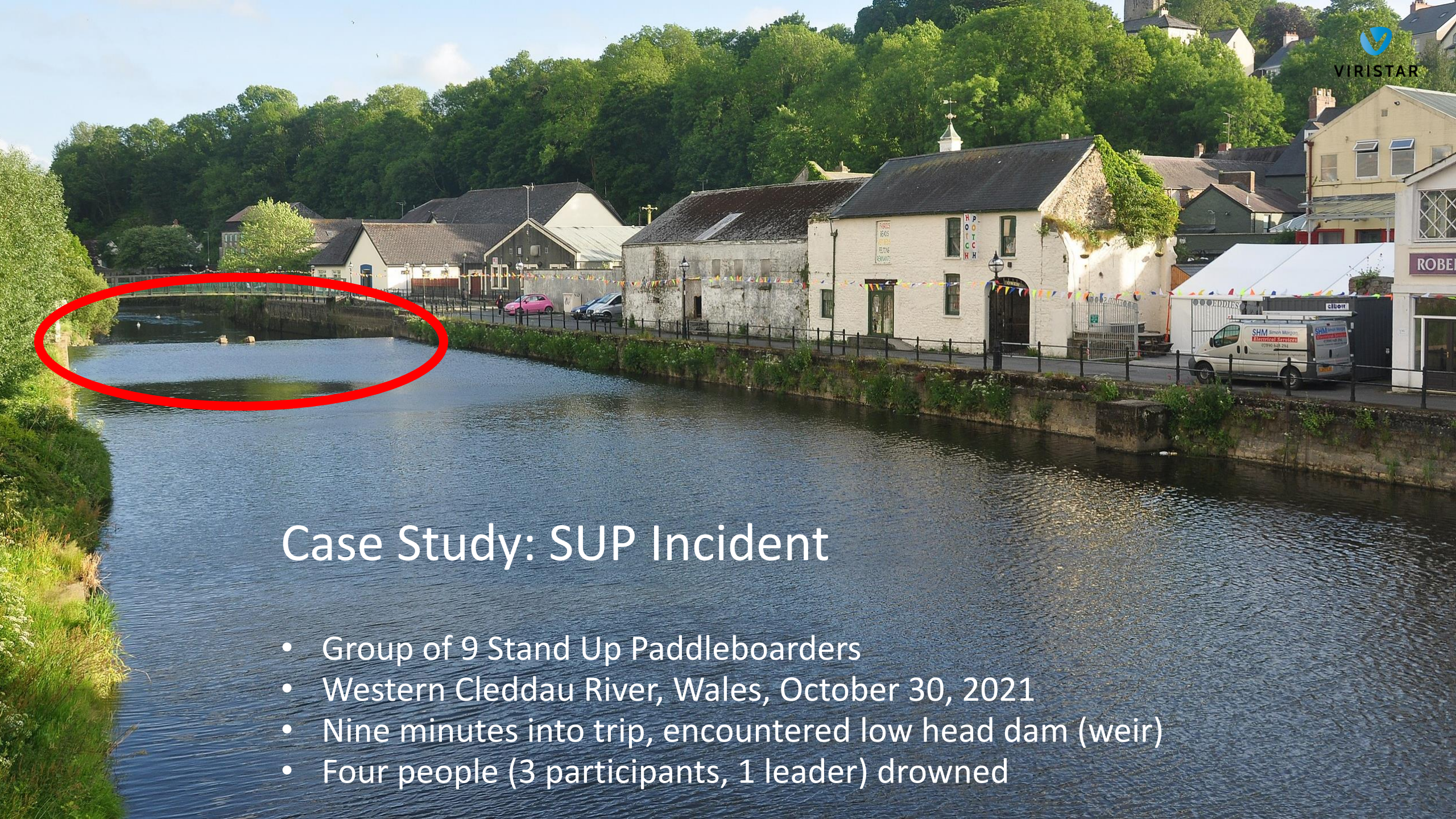
GMGA
Georgian Mountain Guide Association

ZIP-LINE NATIONAL FEDERATION
ზიპლაინის ეროვნული ფედერაცია

GEORGIAN
PARAGLIDING FEDERATION

GEORGIAN NATIONAL
GNRF
RAFTING FEDERATION

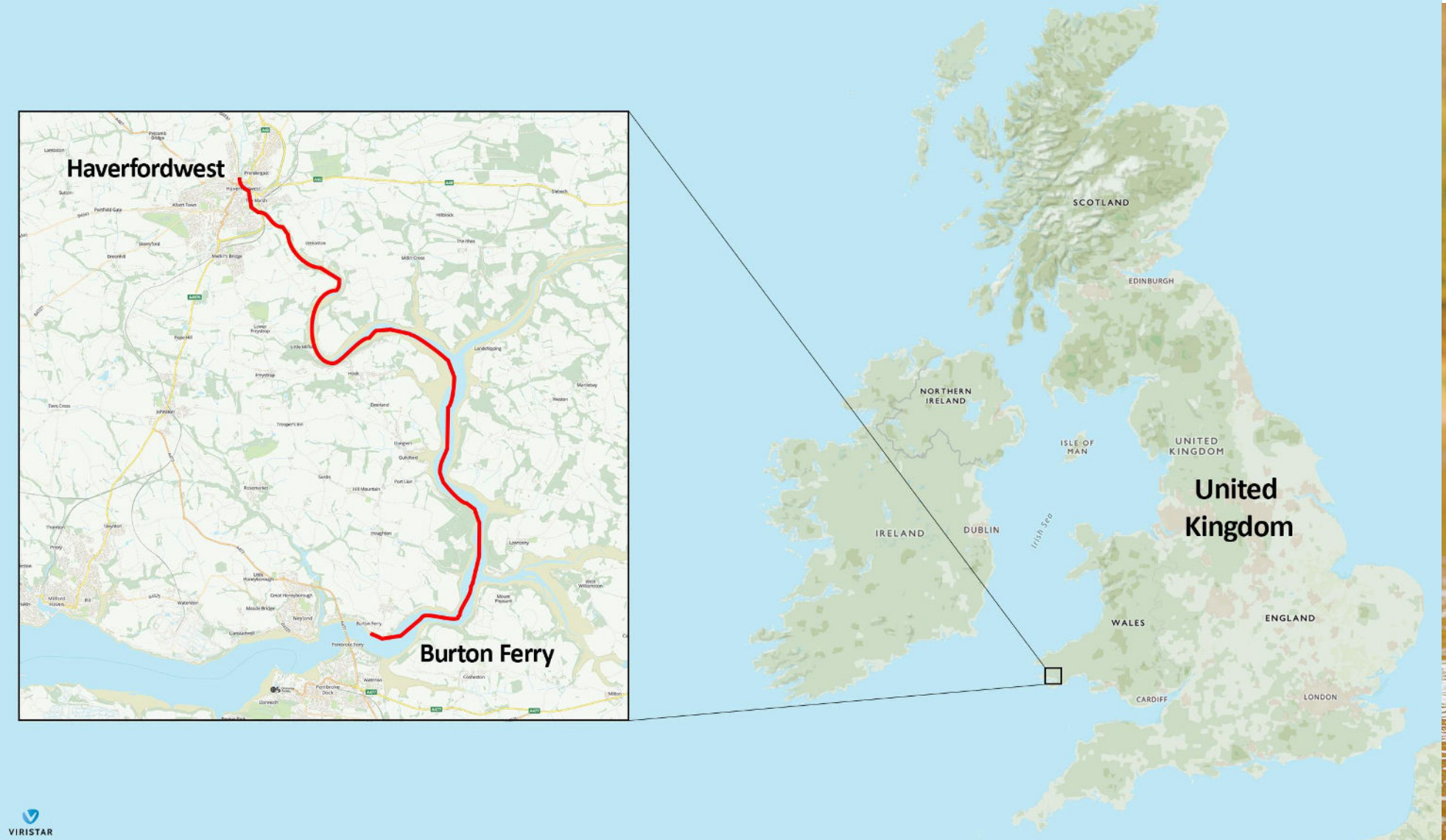


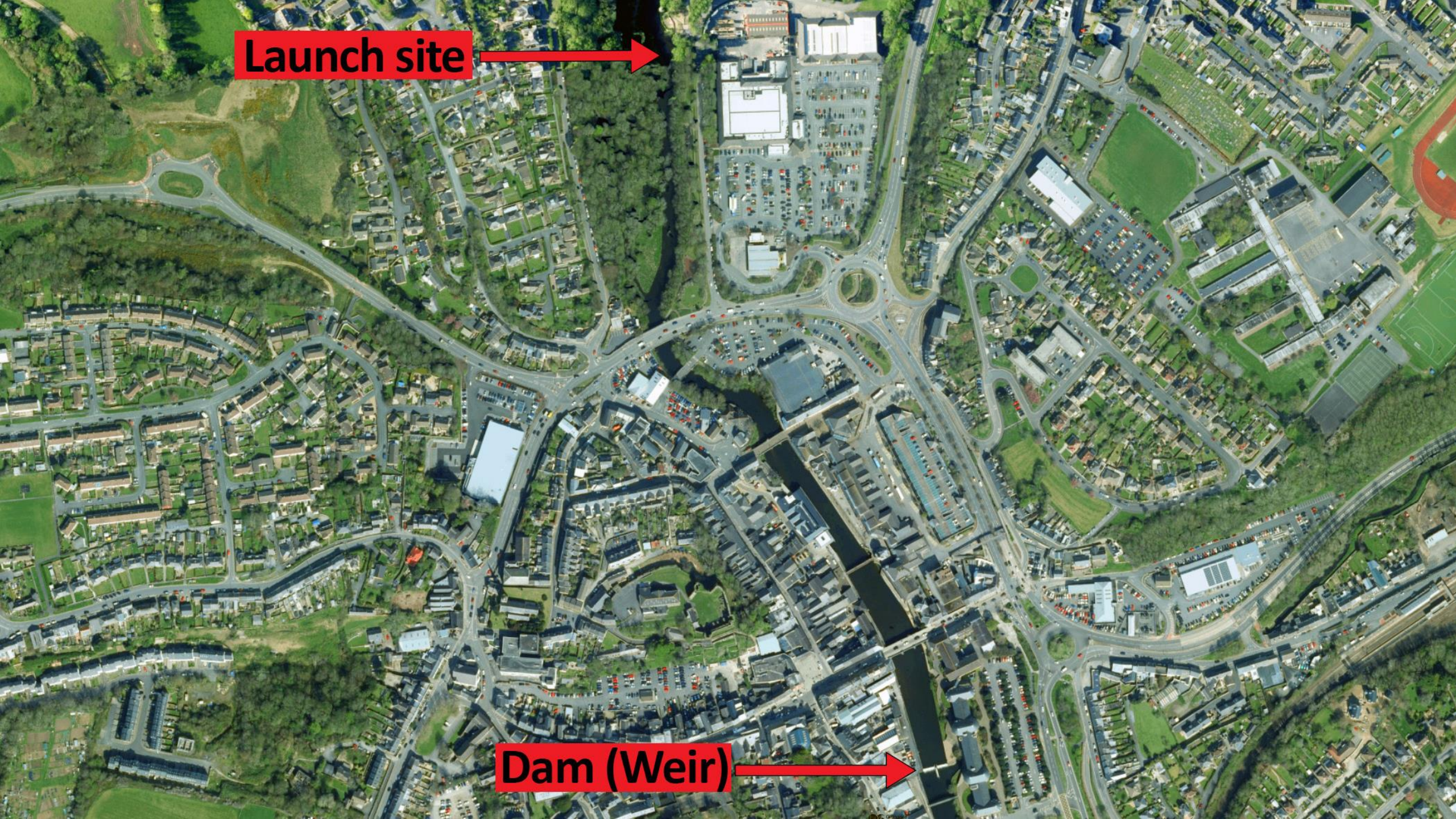


Case Study: SUP Incident

- Group of 9 Stand Up Paddleboarders
- Western Cleddau River, Wales, October 30, 2021
- Nine minutes into trip, encountered low head dam (weir)
- Four people (3 participants, 1 leader) drowned

- Plan was for a two-day trip down estuarine waters, to pub at Burton Ferry
- Encountered weir 750 meters in




Launch site
Dam (Weir)

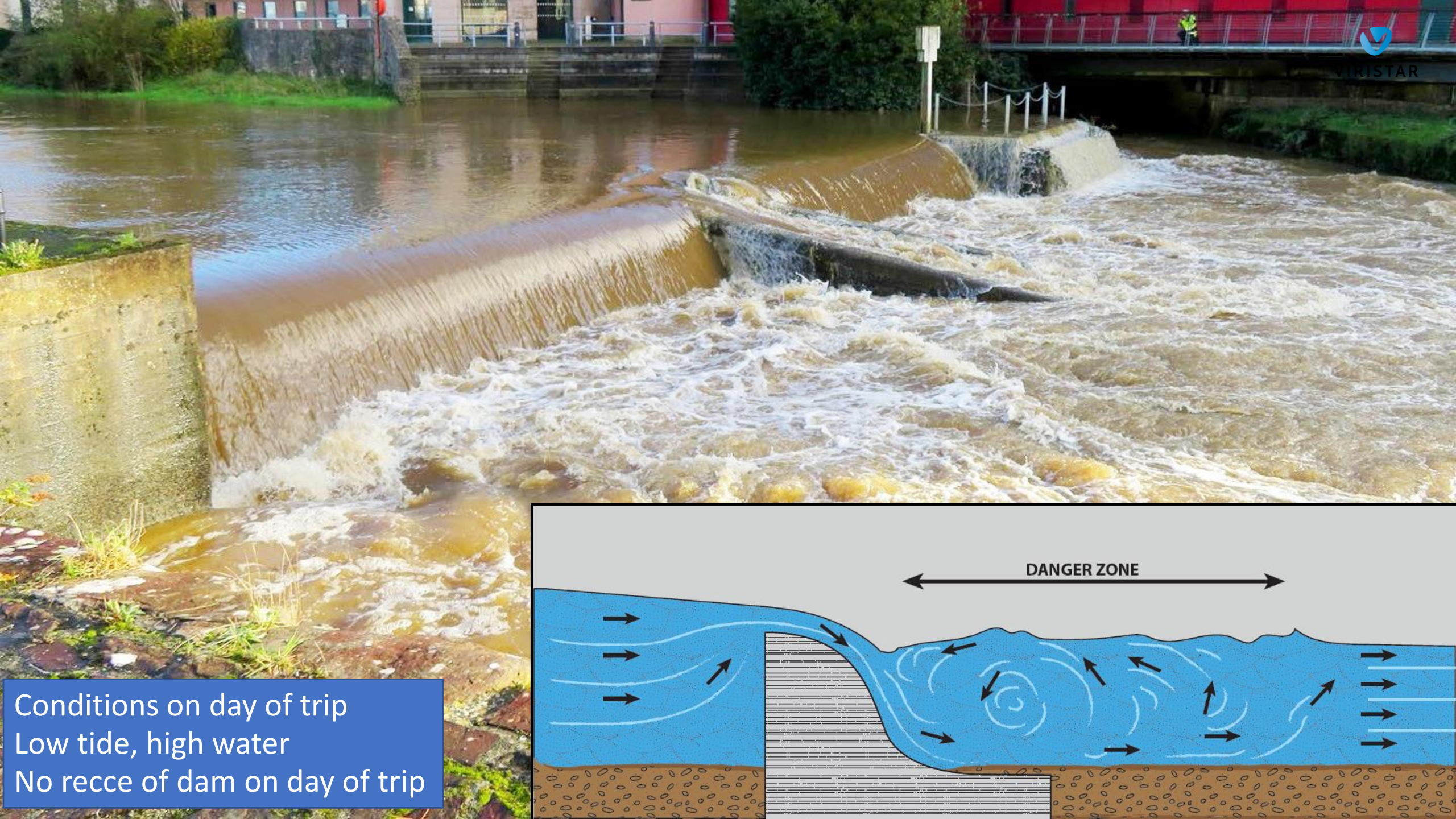
Case Study: SUP Incident

VIRISTAR

Recce: high tide; no significant drop

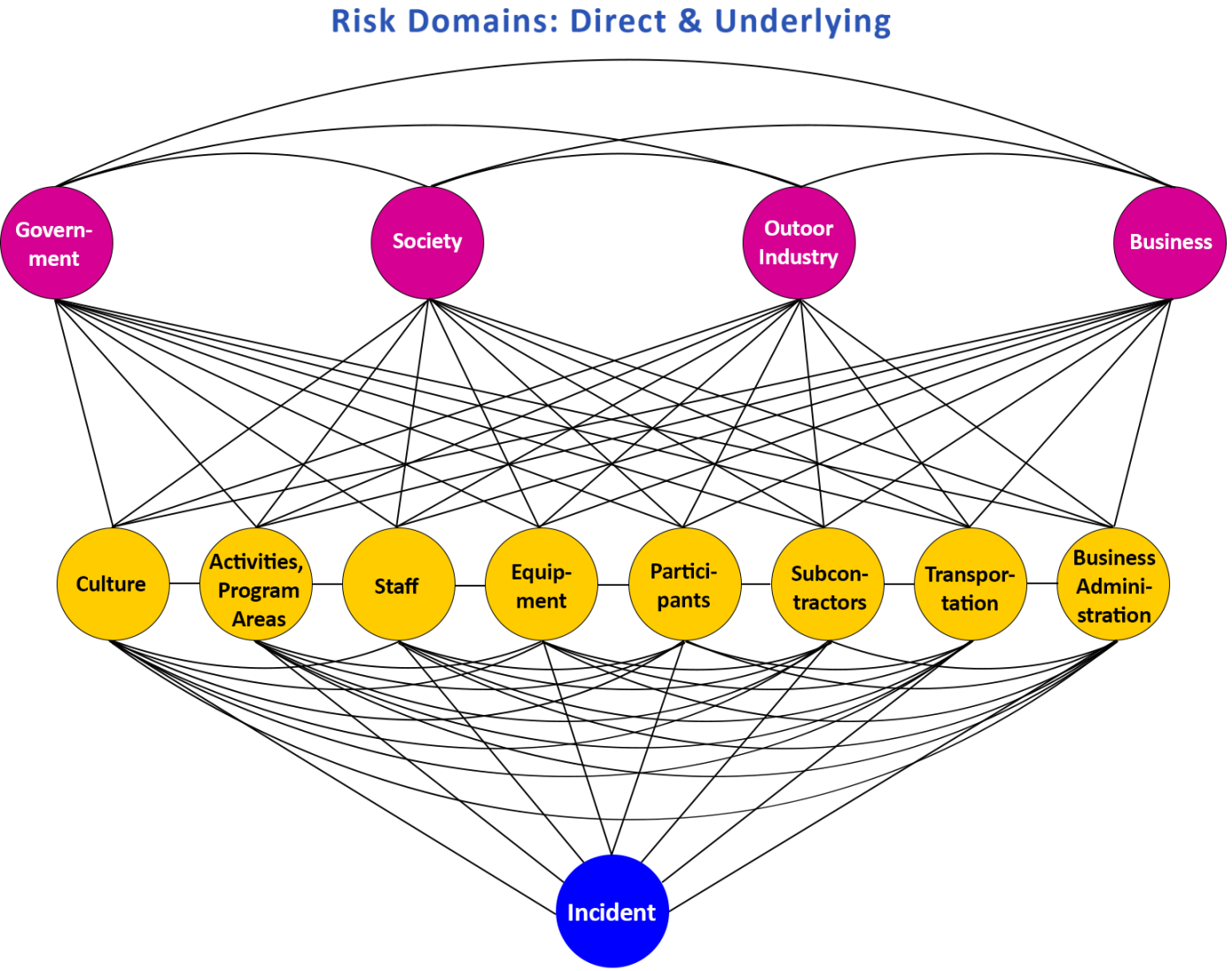
Low water: minimal recirculation

Conditions on day of trip



Conditions on day of trip
Low tide, high water
No recce of dam on day of trip

Analysis


Risk Domains: Direct & Underlying
Govern-ment
Society
Outoor Industry
Business
Culture
Activities, Program Areas
Staff
Equip-ment
Partici-pants
Subcon-tractors
Transpor-tation
Business Admini-stration
Incident


Risk Management Instruments
Risk Transfer
Incident Management
Incident Reporting
Incident Reviews
Risk Management Committee
Medical Screening
Risk Management Reviews
Media Relations
Documentation
Accreditation
Seeing Systems

Findings

Risk Domains

Direct Risk Domains

- **Activities and Program Areas**
  - Reconnaissance was inadequate
  - Safety signage near the dam was inadequate
  - Tour leader awareness of the effect of tide on dam hazards appeared to be absent
  - Tour leaders were not aware of a flood alert
  - No New Element Readiness Assessment was conducted by tour company
  - Existing risk assessments for the low head dam were not taken into consideration
  - Tour leader awareness of hazards of low head dams appeared to be absent
- **Staff**
  - Staff were inadequately trained
  - Staff performed high-risk rescue
- **Equipment**
  - PFDs were not worn
  - Quick-release waist leashes were not used
- **Participants**
  - Participants received inadequate safety information from tour provider
- **Business Administration**
  - System for participant release of liability not in place

Underlying Risk Domains

- **Government**
  - Risks associated with the dam were not assessed, and appropriate mitigation measures were not taken
  - It was unclear who owned and was responsible for managing the dam and the hazards it created
  - No national standard to assess and manage low head dam risk is universally instituted
- **Outdoor Industry**
  - Safety requirements specific to SUP tours are not universally enforced
  - Safety training for outdoor program administrators is lacking
  - Outdoor equipment manufacturers and distributors do not universally provide appropriate safety equipment with SUPs
  - National governance of stand up paddleboarding in the UK is unsettled
  - Training practices for teaching SUP classes in the UK are incompletely developed
  - NGBs currently overseeing SUP lack needed expertise
  - A system for ensuring NGBs in the UK have quality safety standards does not exist

Risk Management Instruments

- **Risk Transfer**
  - No liability release documentation was provided or completed
- **Risk Management Committee**
  - The tour company appeared to have no Risk Management Committee
- **Medical Screening**
  - Medical screening was not conducted
- **Documentation**
  - Emergency contact details for participants were not requested or collected
- **Seeing Systems**
  - Systems-informed safety practices were not in place

Inadequate recce

- Original recce 2 months earlier at low water, high tide
- Recce day of was of river, but not at weir site
- Sign by launch site warned of weir; advised to portage, but was not heeded

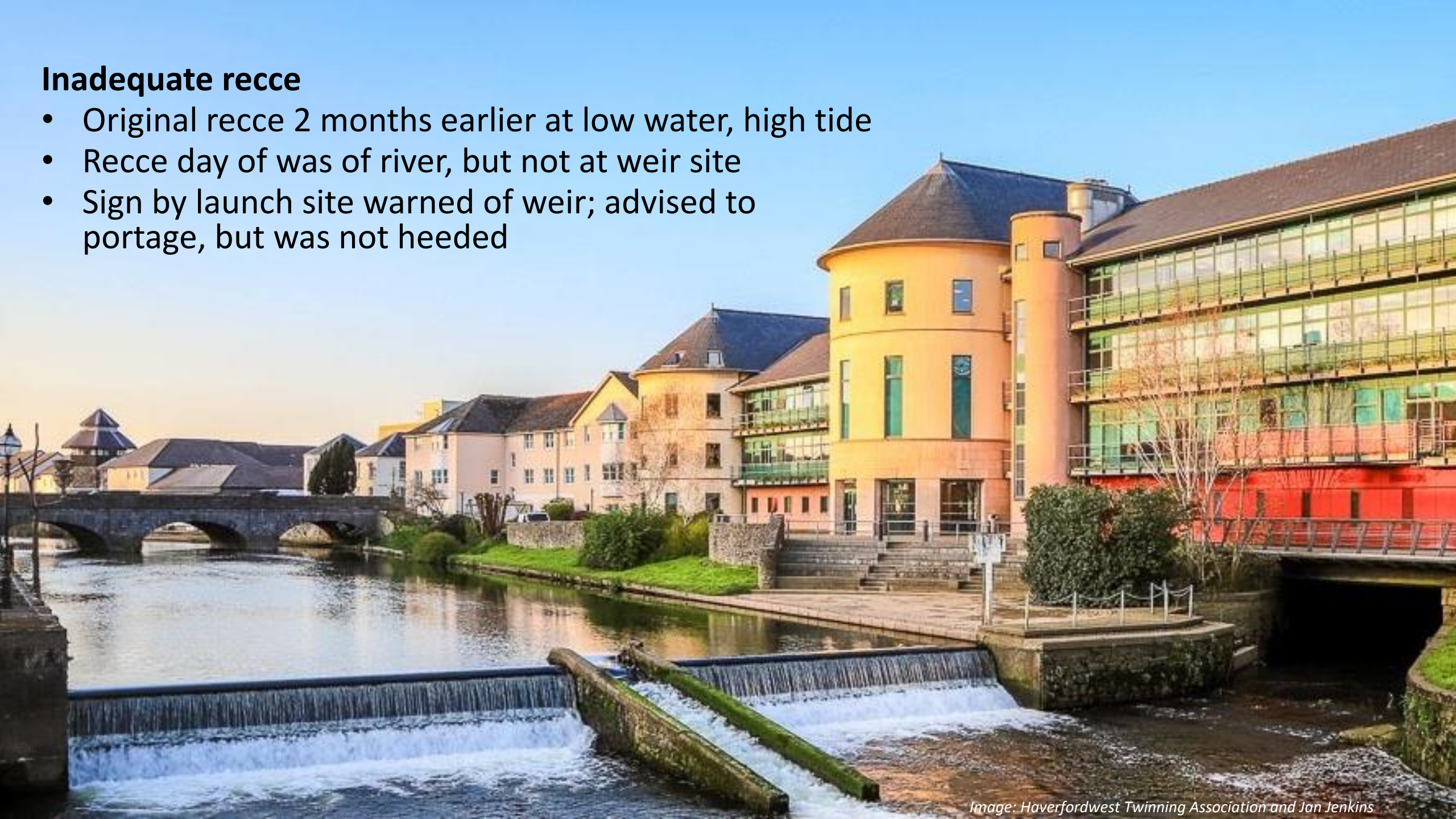
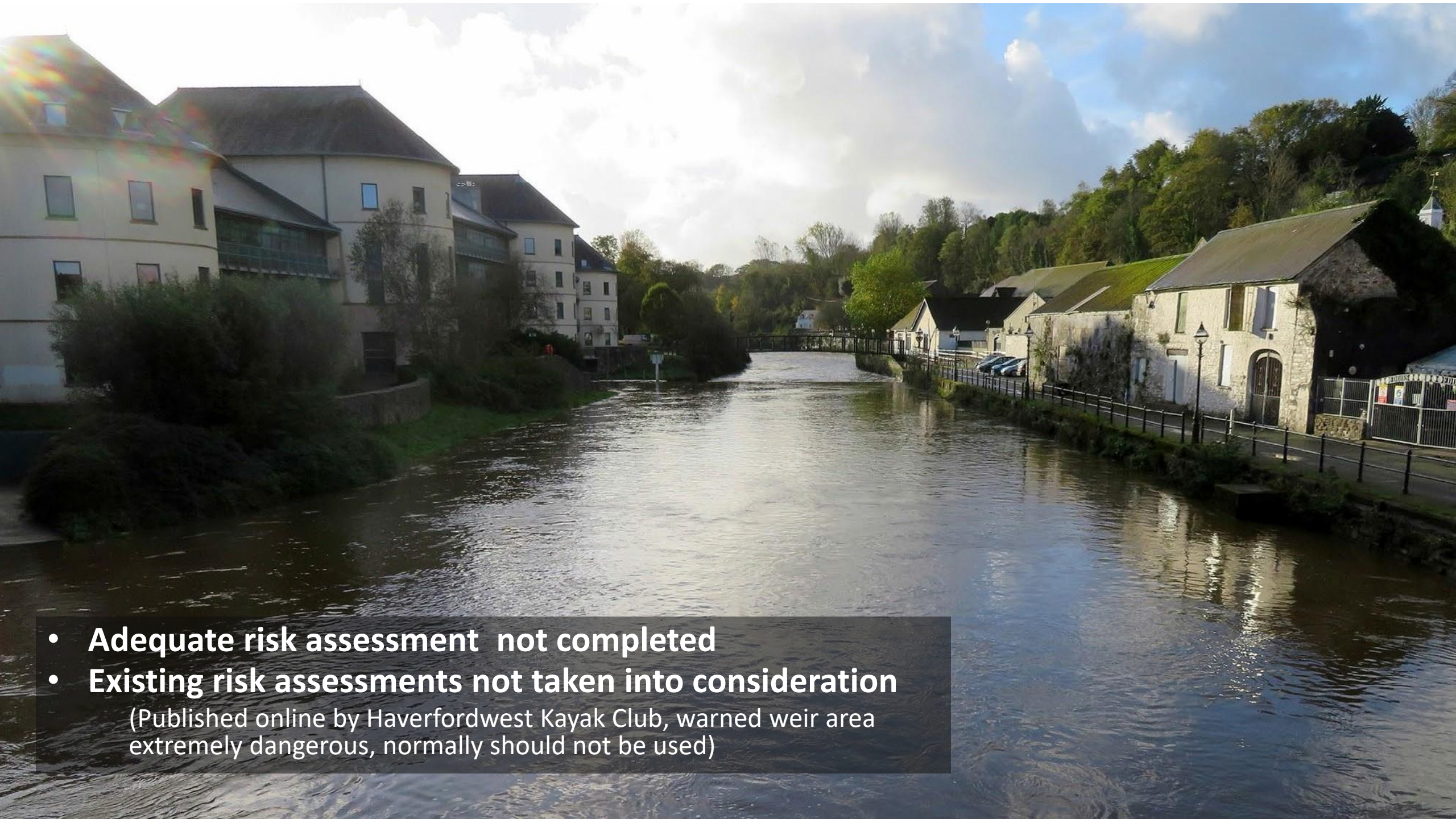


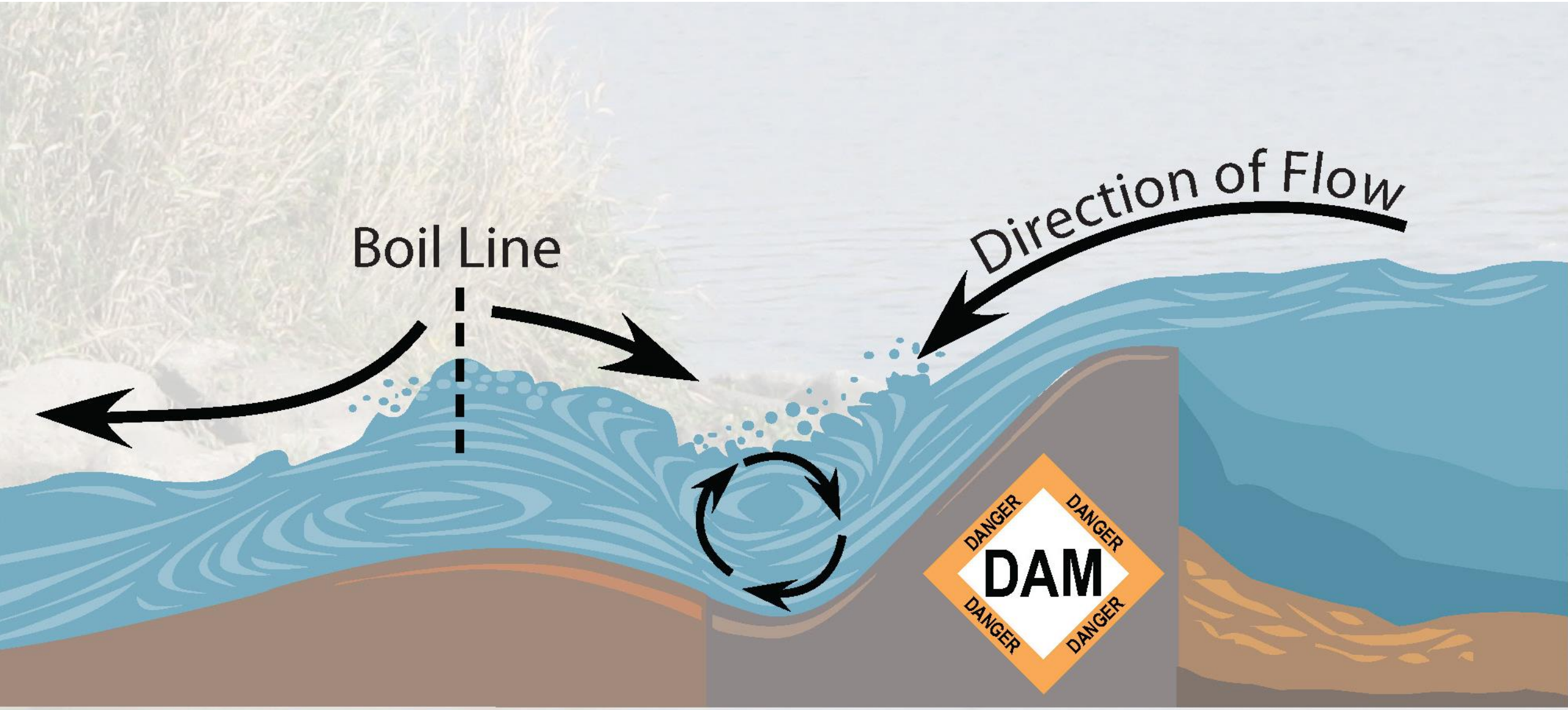
Image: Haverfordwest Twinning Association and Jan Jenkins



- **Adequate risk assessment not completed**
- **Existing risk assessments not taken into consideration**

  (Published online by Haverfordwest Kayak Club, warned weir area extremely dangerous, normally should not be used)

Awareness of dam hazards appeared absent



Courtesy of the American Canoe Association

Staff inadequately trained
Staff attempted high-risk rescue (paddling over weir)

Equipment

- Waist leashes not used
- PFDs not worn

Participants received inadequate safety information

- Not briefed on presence of weir
- Unaware they would be descending the weir
- Not briefed on how to descend it
- Not aware intention was to have portage option

Government

Government

- Risk assessment of weir not completed
- Appropriate mitigation measures were not taken

Cyfoeth Naturiol Cymru / Natural Resources Wales

Rescue3 EUROPE

NATURAL RESOURCES WALES / RESCUE 3 EUROPE WEIR ASSESSMENT SYSTEM

Name of assessor: _____

Date of assessment: _____

WEIR INFORMATION

Name of weir / site: _____

Other names weir known as: _____

Weir location and river: _____

Grid reference: _____

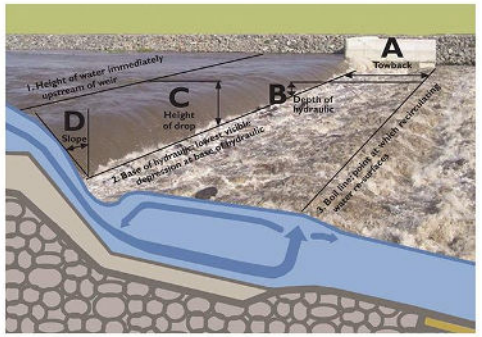
RIVER FLOW INFORMATION

Reference Gauge Location: _____

	River level (m)	Flow range (m^3/s)
Low		
Medium		
High		
Flood stage		

River level on day of assessment - level (m) & flow (m^3/s) _____ L / M / H / VH

WEIR FEATURES AND HAZARDS



FEATURES/HAZARDS

A. Towback:
The distance from the base of the hydraulic/stopper (2) to the boil line (3)

B. Depth of hydraulic/stopper:
Vertical distance from top of boil line (3) to base of hydraulic (2)

C. Height of drop:
Vertical distance between water level immediately upstream of weir (1) and base of hydraulic/stopper (2)

D. Slope:
Angle of water flowing over face from vertical

1. WEIR HAZARD

How to use this table:
For each hazard, select one description and circle the corresponding score. Add up the circled scores, write the total in the Weir Hazard Score box and assign the corresponding Weir Hazard Level.

	SCORE
A. TOWBACK	
No visible towback	0
< 1m	1
1 - 2m	2
2 - 3m	3
3 - 4m	4
> 4m	5
B. DEPTH OF HYDRAULIC/STOPPER	
No visible hydraulic/stopper	0
< 0.3m	1
0.3 - 1m	2
> 1m	3
C. HEIGHT OF DROP OVER WEIR	
No visible drop	0
< 0.3m	1
0.3 - 1m	2
1 - 2.5m	3
> 2.5m	4
D. SLOPE OF WEIR FACE (see fig 1)	
Structure drowned out - no weir face present	0
> 60°	1
45° - 60°	2
30° - 45°	3
< 30°	4
E. FLOATING DEBRIS IN HYDRAULIC/STOPPER	
No floating debris	0
Up to 10% of hole contains debris	2
10 - 25% of hole contains debris	3
> 25% of hole contains debris	4
F. UNIFORMITY OF HYDRAULIC/STOPPER	
No visible hydraulic/stopper	0
Broken feature with multiple flush points or 1 main flush point	1
One or two small flush points in the hydraulic/stopper	2
Totally uniform with no breaks and flush points	5
G. SIDES OF HYDRAULIC/STOPPER	
Both open	0
One side open/one side closed	2
Both closed	4
H. ORIENTATION OF HYDRAULIC/STOPPER TO FLOW (see fig 2)	
No hydraulic/stopper present	0
< 30° to current	1
> 30 but < 90° to current	2
90° to current	3
I. ADDITIONAL HAZARDS IN OR DOWNSTREAM OF WEIR (eg strainers, weirs or significant rapids)	
No additional hazards	0
Hazard present but not in main flow	1
Hazard present in main flow	5
J. COMPOSITION OF RIVER BED AT THE BASE OF WEIR	
Structure drowned out/non-modular	0
Concrete	1
Sand or gravel	2
Rock or debris	3

Figure 1: Slope of weir face

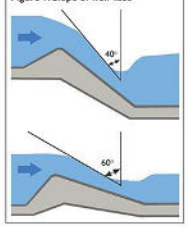
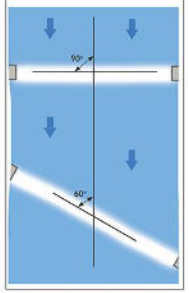


Figure 2: Orientation of hydraulic/stopper to flow



WEIR HAZARD SCORE: _____
Sum of scores selected for each hazard

WEIR HAZARD LEVEL: ( )
Corresponding Hazard Level from table below

Weir Hazard Level:

Hazard Score	>0-10	11-15	16-20	21-30	31-40
Hazard Level	V Low (1)	Low (2)	Mod (3)	High (4)	V High (5)

2. LIKELIHOOD OF WEIR TO CAUSE HARM

How to use this table:
For each consideration, select one description and circle the corresponding score. Add up the circled scores and write the total in the Likelihood of Weir to Cause Harm box.

		SCORE
PUBLIC ACCESS		
Public access from land and water – is the structure in a publicly accessed location?		
Land upstream river right	no public access from land/bank	0
	public access from land/bank	0.25
Land upstream river left	no public access from land/bank	0
	public access from land/bank	0.25
Land downstream river right	no public access from land/bank	0
	public access from land/bank	0.25
Land downstream river left	no public access from land/bank	0
	public access from land/bank	0.25
Water upstream	no access to weir from upstream	0
	access to weir from upstream	0.5
Water downstream	no access to weir from downstream	0
	access to weir from downstream	0.5
CONTROL MEASURES		
Are there control measures in place, eg fences or booms, to prevent people from entering the weir?		
Land:		
Upstream river left	adequate control measures in place	0
	inadequate control measures in place	0.25
Upstream river right	adequate control measures in place	0
	inadequate control measures in place	0.25
Downstream river left	adequate control measures in place	0
	inadequate control measures in place	0.25
Downstream river right	adequate control measures in place	0
	inadequate control measures in place	0.25
Water:		
Upstream	Structure not in main channel/boom present	0
	Structure in main channel/no boom present	0.5
Downstream	Controlled by boom or by high speed of water	0
	No downstream control measures	0.5
ABILITY TO SELF-RESCUE		
Taking into account the existing control measures, if a person were to fall into the water above/beyond/outside the existing control measures can they self rescue before entering the weir?		
Upstream river left	can self-rescue	0
	can't self rescue	0.25
Upstream river right	can self-rescue	0
	can't self rescue	0.25
Downstream river left	can self-rescue	0
	can't self rescue	0.25
Downstream river right	can self-rescue	0
	can't self rescue	0.25

LIKELIHOOD OF WEIR TO CAUSE HARM _____
Sum of scores selected for each consideration

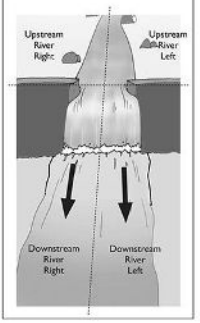
LIKELIHOOD OF WEIR TO CAUSE HARM LEVEL: ( )
Corresponding Likelihood Level from table below

Likelihood Level:

Likelihood Score	0-1	>1-2	>2-3	>3-4	>4-5
Likelihood Level	V Unlikely (1)	Unlikely (2)	Likely (3)	V Likely (4)	Almost certain (5)

SECTIONS OF A RIVER

The river/waterway can be divided into four sections for ease of identification: upstream and downstream of the weir/hazard and river left and river right. This is always done from the perspective of looking downstream.



3. WEIR RISK RATING

Risk = Hazard x Likelihood

The Hazard and the Likelihood have been calculated in the previous tables.

Using these results, the Weir Risk Rating Score can be calculated:

WEIR HAZARD LEVEL: _____
Level of 1-5 taken from Table 1 (page 3)

LIKELIHOOD OF WEIR TO CAUSE HARM LEVEL: _____
Level of 1-5 taken from Table 2 (opposite)

WEIR RISK RATING SCORE: _____
Multiply Hazard Level by Likelihood Level (from above)

WEIR RISK RATING LEVEL: _____
Corresponding description from table below i.e. Low

Likelihood \ Hazard	1 Very Low	2 Low	3 Medium	4 High	5 Very High
1 Very Unlikely	1	2	3	4	5
2 Unlikely	2	4	6	8	10
3 Likely	3	6	9	12	15
4 Very Likely	4	8	12	16	20
5 Almost Certain	5	10	15	20	25

Score	Risk Level	Action
1 - 5	LOW	Action required to reduce the risk, although low priority. Time, effort and cost should be proportional to the risk.
6 - 10	MEDIUM	Action required soon to control. Interim measures may be necessary in the short term.
12 - 25	HIGH	Action required urgently to control the risks. Further resources may be needed.

4. WEIR RESCUE

How to use this table:
For each rescue consideration, select one description and circle the corresponding score.
Add up the circled scores and write the total in the Weir Rescue Difficulty box.

	SCORE
A. DISTANCE ACROSS WEIR/RIVER	
< 10m	1
10 - 30m	2
31 - 50m	3
51 - 75m	4
> 75m	5
B. ACCESS TO BOTH BANKS	
Easy access to both banks for people & vehicles	0
Easy access to both banks for people only	1
Easy access to only 1 bank for vehicles & people	2
Easy access to only one bank for people	3
Difficult / restricted access to both banks for people & vehicles	4
No access to either bank	5
C. SHAPE OF WEIR	
Straight	1
Curved/multi-d rectional/compound structure	3
D. TOWBACK	
No visible towback	0
< 1m	1
1 - 2m	2
2 - 3m	3
3 - 4m	4
> 4m	5
E. REMOTENESS	
Urban	1
Rural/semi-urban	2
Remote	4
F. NATURE OF RIVER DOWNSTREAM OF WEIR (see opposite)	
Up to Class I	1
Class II	2
Class III	3
> Class III	4
Additional downstream weirs	5
G. WORKING AREA ON BANKS	
Good working areas on both banks	1
Good working areas on one bank only	2
Limited or restricted working areas on both banks	3
No working areas on either bank	4
H. ANCHORS FOR ROPE SYSTEM	
Good anchor points on both banks	1
Good anchor points on one bank only	2
Limited anchor points on both banks	3
I. AVAILABLE RESCUE TECHNIQUES	
Full range of single and twin bank methods with easy ability to cross channel with ropes, eg bridge, short throw or shallow crossing	0
Full range of single and twin bank methods but difficult to cross channel with ropes, eg bridge, short throw or shallow crossing	1
Limited to single bank methods or use of paddle boat	2
Limited to single bank methods or use of motorised boat	3
No bank-based options available	4
Helicopter only	5
Helicopter not possible (overhead wires etc)	6
J. HEIGHT OF BANKS ABOVE BASE OF HYDRAULIC/STOPPER	
< 1m	1
1 - 3m	2
> 3m	3

WEIR RESCUE DIFFICULTY SCORE: _____
Sum of scores selected for each rescue

WEIR RESCUE DIFFICULTY LEVEL: ( )
Corresponding Difficulty Level from table below

Weir Rescue Difficulty Level:

Difficulty Score	< 20	20-25	> 25
Difficulty Level	Low (1)	Medium (2)	High (3)

International River Grading System

Class I
Clear section of moving water or simple rapid which may contain low waves and few or no obstructions. Clear route through section of river.

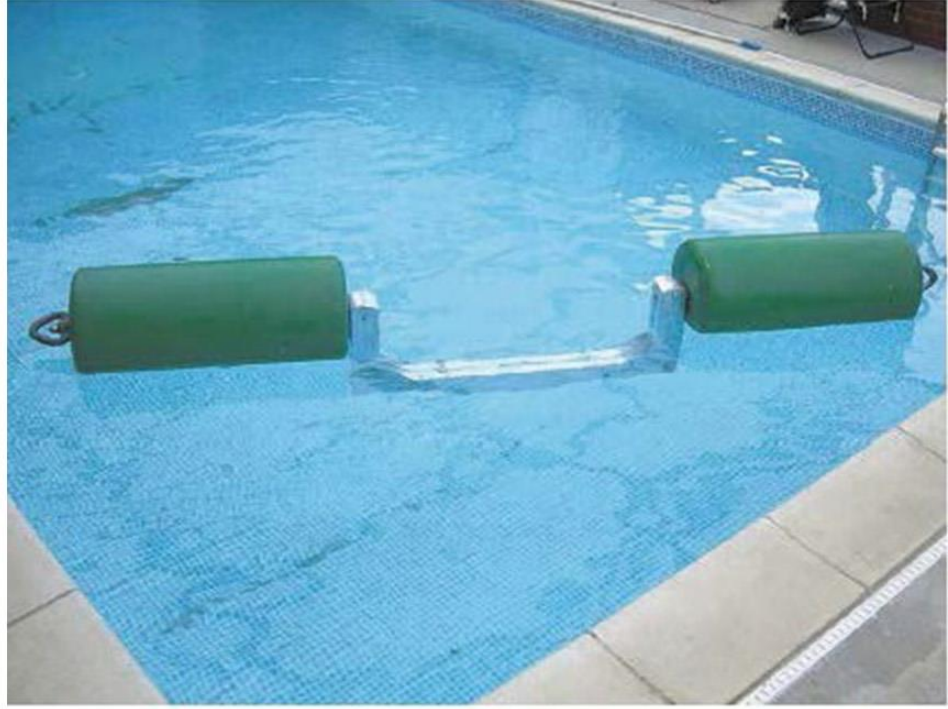
Class II
Medium rapid which may contain irregular waves, small stoppers and simple obstructions. Clear route through section of river.

Class III
Larger rapid which may contain medium, irregular waves, medium stoppers and multiple obstructions. Recognisable route between obstructions/features.

> Class III
Heavy rapid which may contain high, irregular waves, large stoppers and numerous obstructions. No easily recognisable route between obstructions/features.

NOTES

Dam ownership unclear: no agency or group initially claimed ownership



No national standard to assess and manage low head dam risk

Image: Haverfordwest Twinning Association and Jan Jenkins

Outdoor Industry

- Safety requirements specific to SUP tours not universally enforced
- Accreditation: optional for SUP tour providers
- Safety training for outdoor program administrators lacking

Outdoor Industry

- National governance of SUP is unsettled
  - Unclear who is NGB for SUP
  - NGBs not required to have safety systems
  - No unified SUP safety standards
  - NGBs did not keep up with evolution in SUP

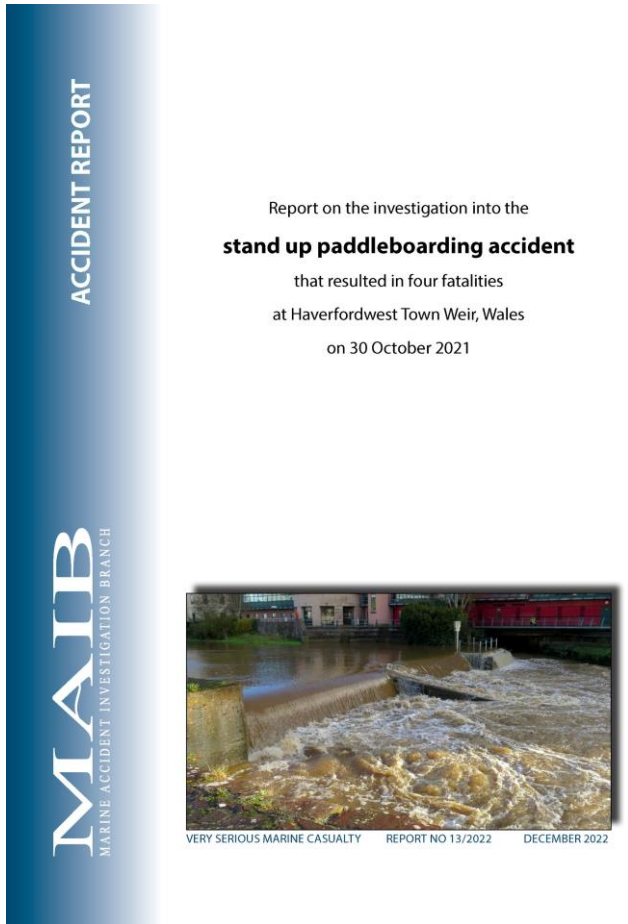
- Training practices for SUP classes incompletely developed
- NGBs overseeing SUP lack needed expertise
- No system to ensure NGBs have quality safety standards

Risk Management Instruments

- No liability release documentation was provided or completed
- The tour company appeared to have no Risk Management Committee
- Medical screening was not conducted
- Emergency contact details for participants were not requested or collected
- Systems-informed safety practices were not in place

Government response

- Organization was shut down
- Trip organizer reportedly arrested by police, on suspicion of gross negligence manslaughter, and released under investigation


ACCIDENT REPORT

Report on the investigation into the

stand up paddleboarding accident

that resulted in four fatalities

at Haverfordwest Town Weir, Wales

on 30 October 2021

MAIB
MARINE ACCIDENT INVESTIGATION BRANCH

VERY SERIOUS MARINE CASUALTY REPORT NO 13/2022 DECEMBER 2022

Health and Safety Executive

Notices served

Notice 312337497 served against Salty Dog Co Limited on 18/11/2021	
Notice Type	Immediate Prohibition Notice
Description	PNJHET30102021/01 - 312337497 you have failed to implement safe systems of work in accordance with industry standards to minimise the risk of capsize
Breaches involved in this Notice	

Location of Offence			
Address	Port Talbot/Salty Dog Co Limit 55 Jersey Quay PORT TALBOT West Glamorgan SA12 6QN Wales	Region	Wales & South West
		Local Authority	Neath & Port Talbot UA
		Industry	Total service industries
		Main Activity	85510 - SPORTS/RECREATION EDUCATION
		Type of Location	Fixed
HSE Details			
HSE Group	FODOP8GP32	HSE Directorate	Field Operations Division
HSE Area		HSE Division	Wales

Morgan Rogers

- Tour participant, 24 years old
- Strong swimmer
- Paddleboard experience on sea & canals
- Firefighter with South Wales Fire and Rescue Service
- Junior firefighter instructor
- Goal to join water rescue station, be Royal National Lifeboat Institution crew member
- Awarded British Canoeing Paddlesport Performance 1 and 2 Star certificates
- Attained BTEC Level 3 National Diploma in Sport (Outdoor Adventure)--a 975-hour qualification
- In UK, with national outdoor safety legislation
- Drowned
- What is it about the system of trainers, NGBs, standards, and laws that failed to protect her from harm?

USA Context

VIRISTAR

- Little in the way of legal standards specific to outdoor education and recreation
- Some activity-specific standards, like certification for paddling and climbing, but optional
- Some experiential adventure standards, like AEE, but few are accredited. ACA camps an exception.

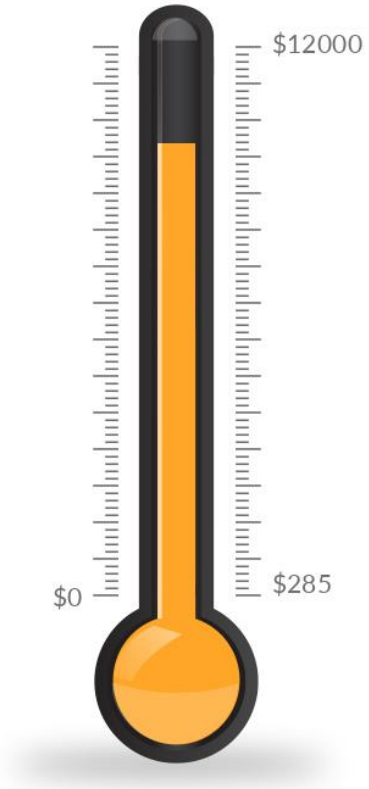
How You Can Be Involved

VIRISTAR

Support your Association

AORE

Donate



Advocacy

JEDI Task Force

TOGETHER OUTDOORS

Standards

Principal Concepts

VIRISTAR

Outdoor safety standards:

Support good safety outcomes, reliable access to outdoor spaces, sustainability of outdoor rec/ed sector

Help clarify safety expectations

Are set by outdoor sector associations, standards bodies, and others

Are activity-specific or apply to industry segments

Can be voluntary (usually) or required

Are relatively undeveloped in the USA; you can help

VIRISTAR

AORE

The Role of Standards in Outdoor Safety

Association of Outdoor Education & Recreation webinar

January 9, 2024

Jeff Baierlein, Director, Viristar

viristar.com

viristar.com/aore-standards