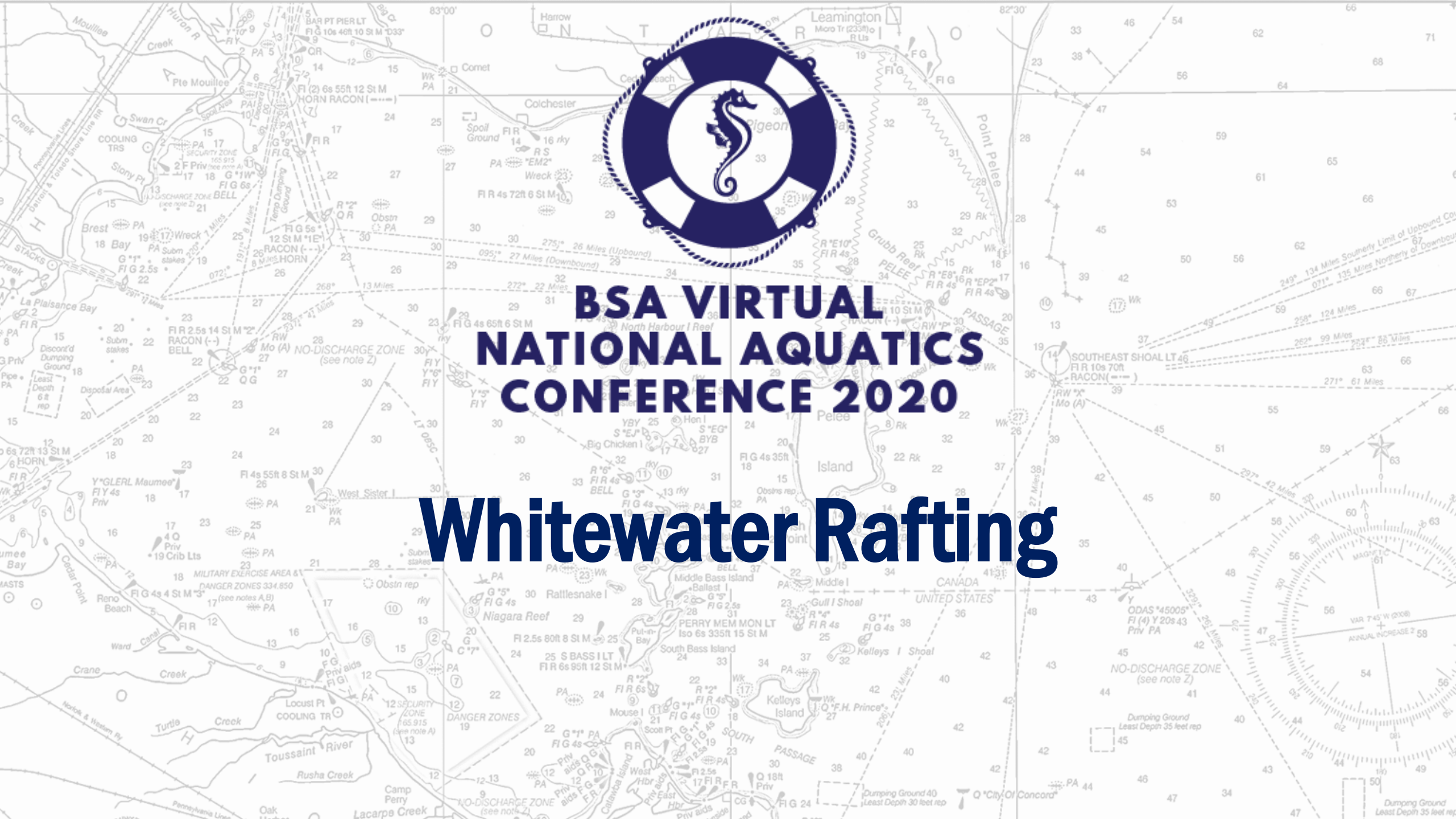




BSA VIRTUAL NATIONAL AQUATICS CONFERENCE 2020

Whitewater Rafting



Whitewater Rafting (etc.)

- Popularity
- Safety
- Policies
- Programs
- Resources



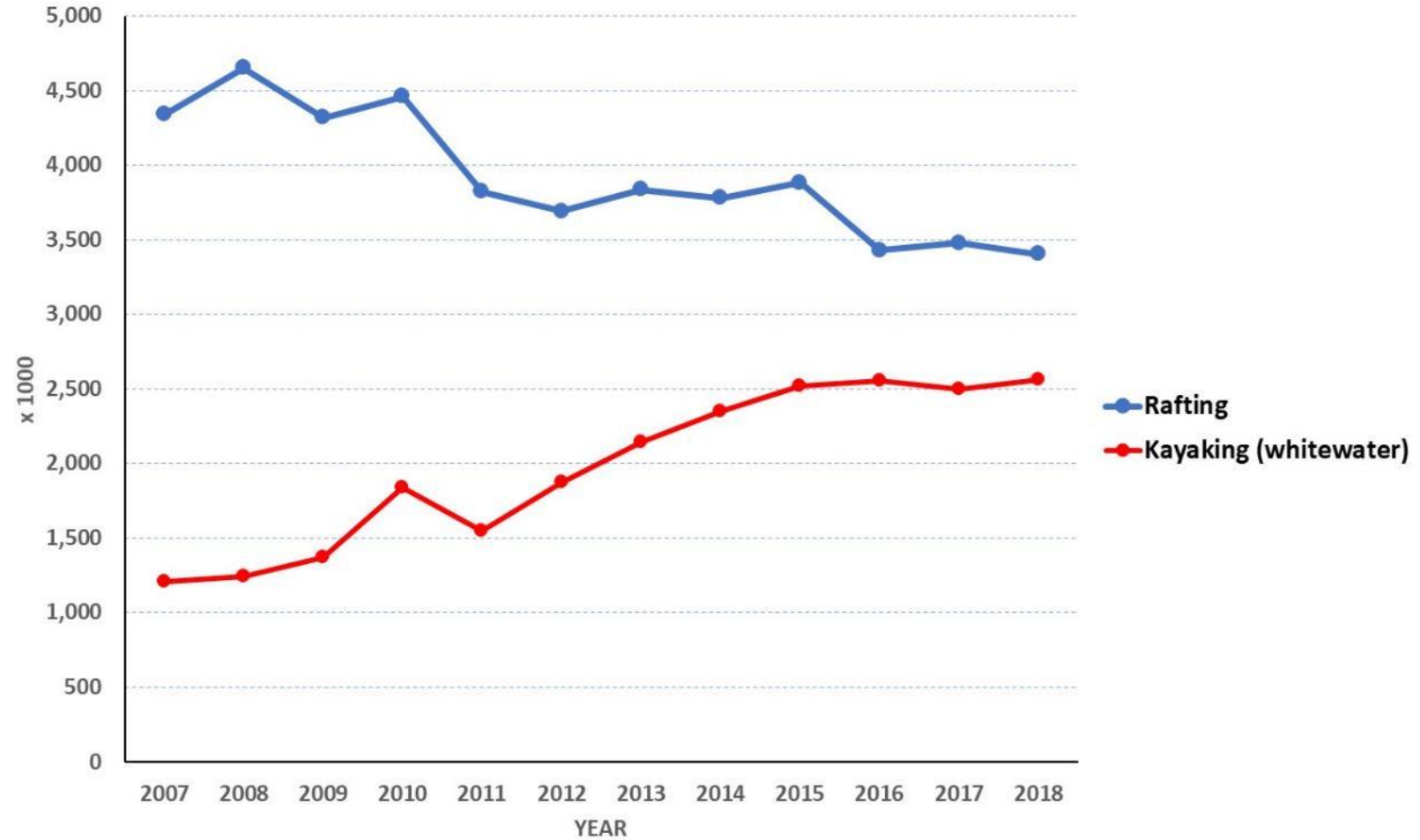
Popularity



Popularity:

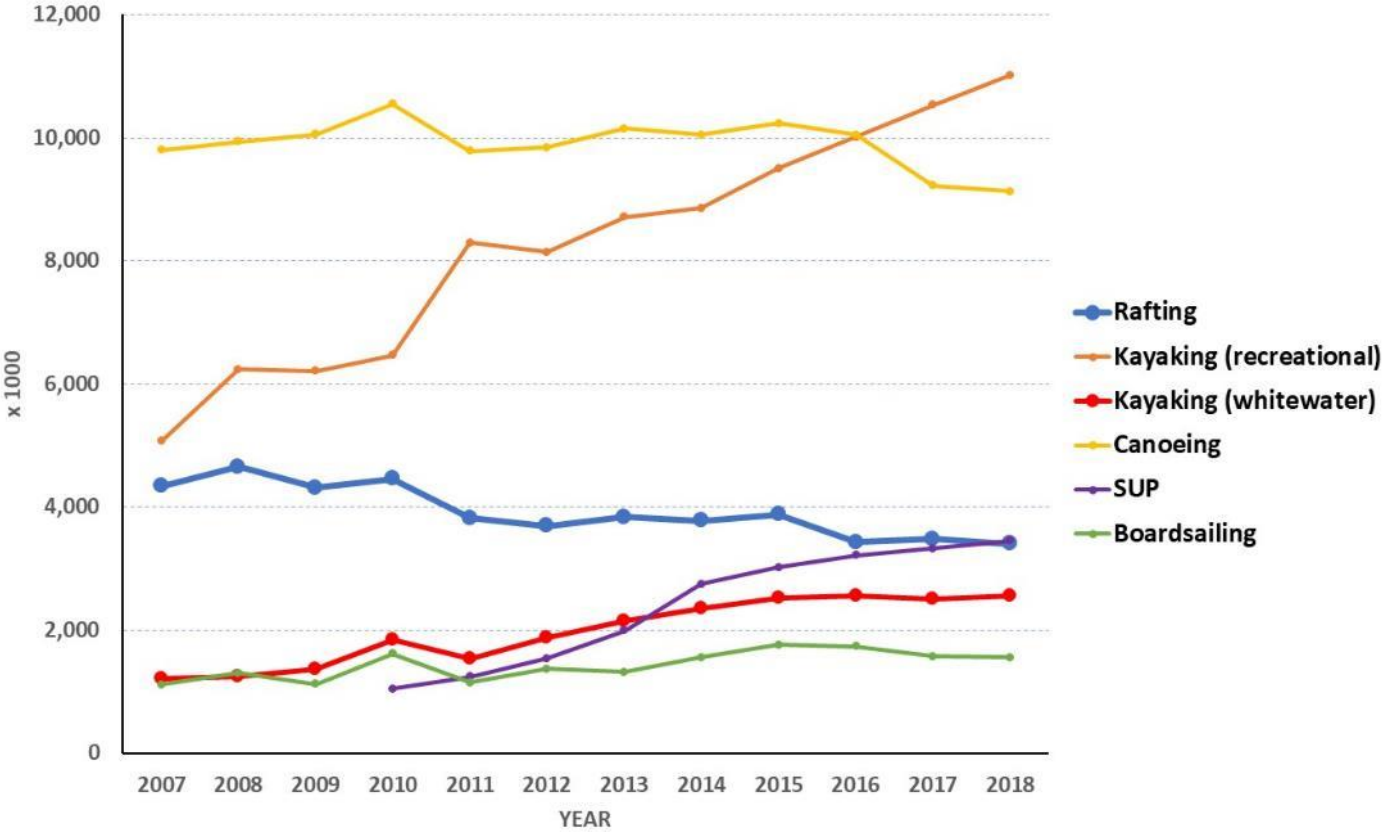


Number ages 6 + years participating at least once

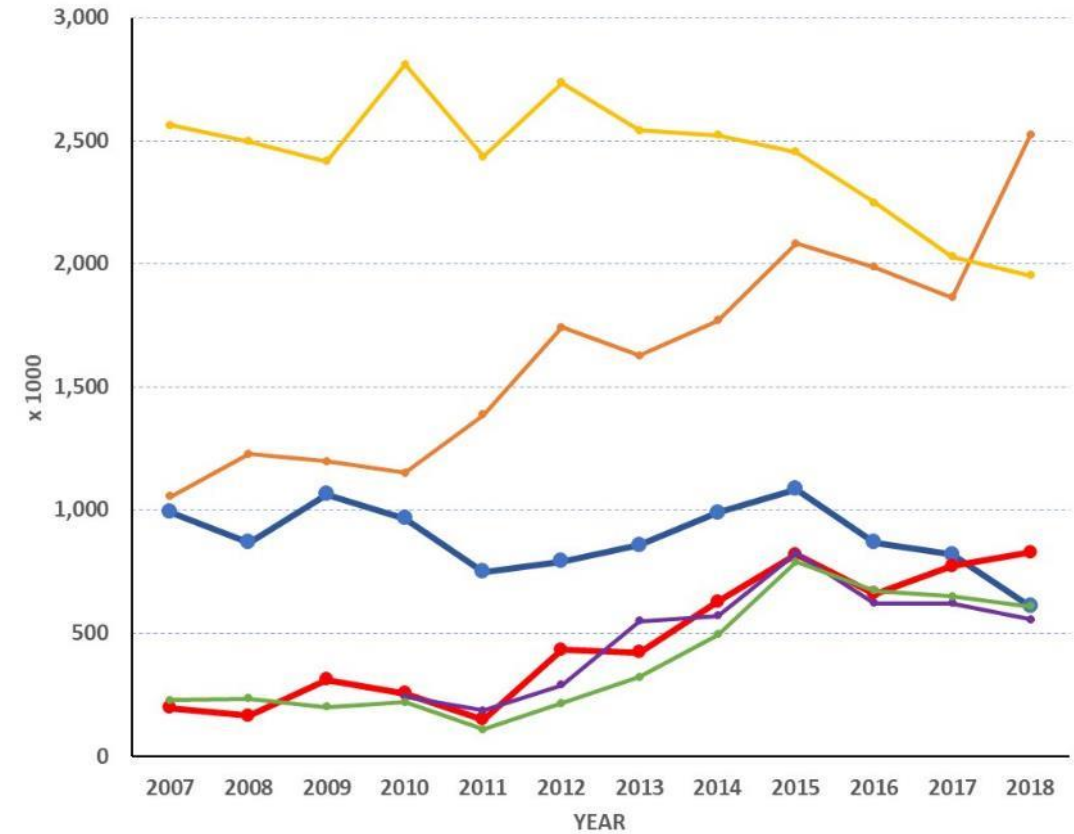


Popularity:

Number ages 6 + years participating at least once



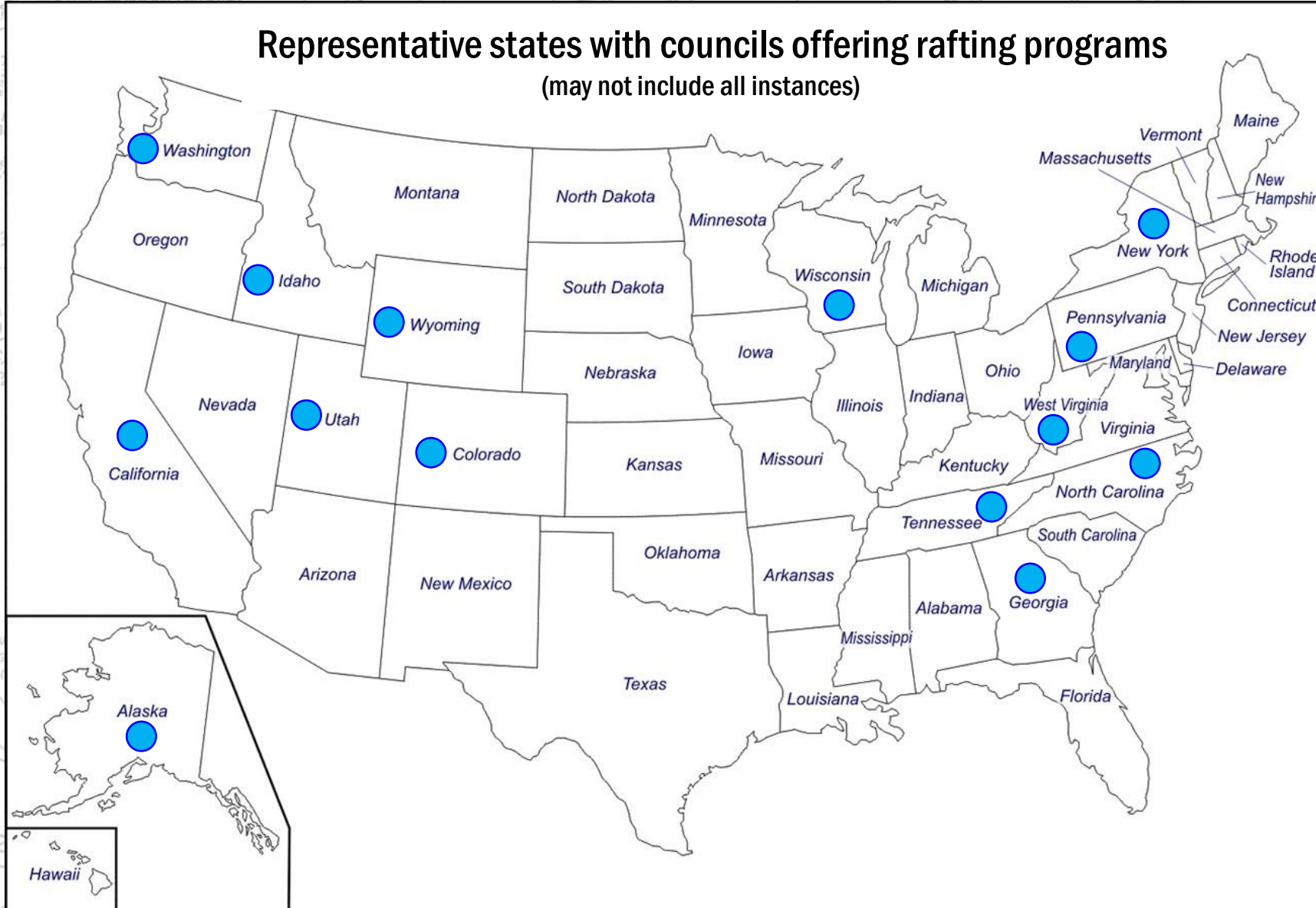
Ages 6 -17 years participating at least once



- 56%** 2018 was the first time participating in **WHITEWATER KAYAKING**
- 53%** 2018 was the first time participating in **SEA OR TOURING KAYAKING**
- 49%** 2018 was the first time participating in **RAFTING**
- 48%** 2018 was the first time participating in **STAND UP PADDLING**
- 31%** 2018 was the first time participating in **CANOEING**
- 29%** 2018 was the first time participating in **RECREATIONAL KAYAKING**

Popularity:

Representative states with councils offering rafting programs
(may not include all instances)



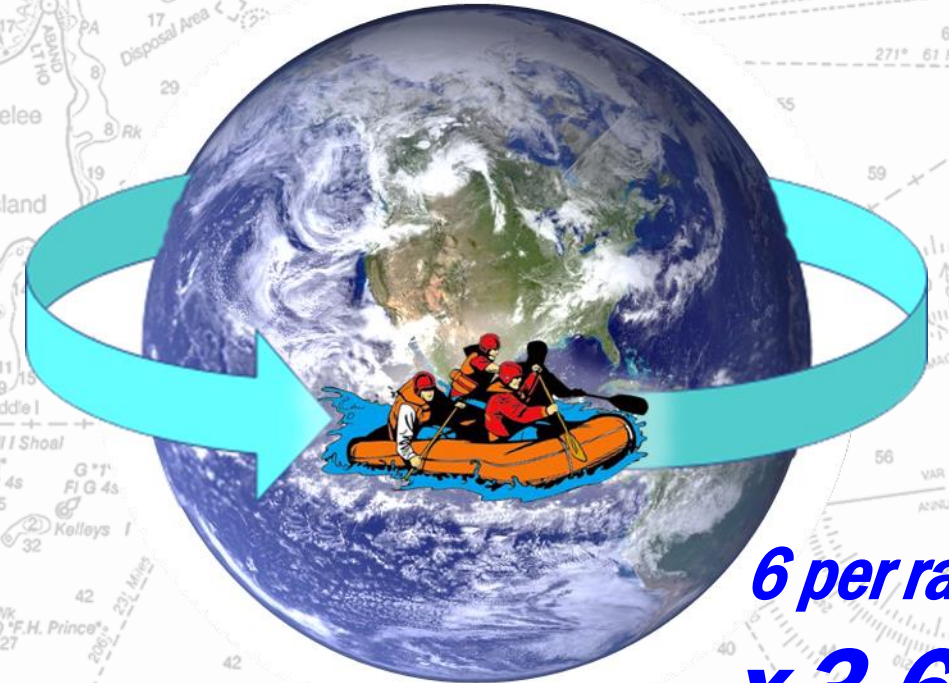
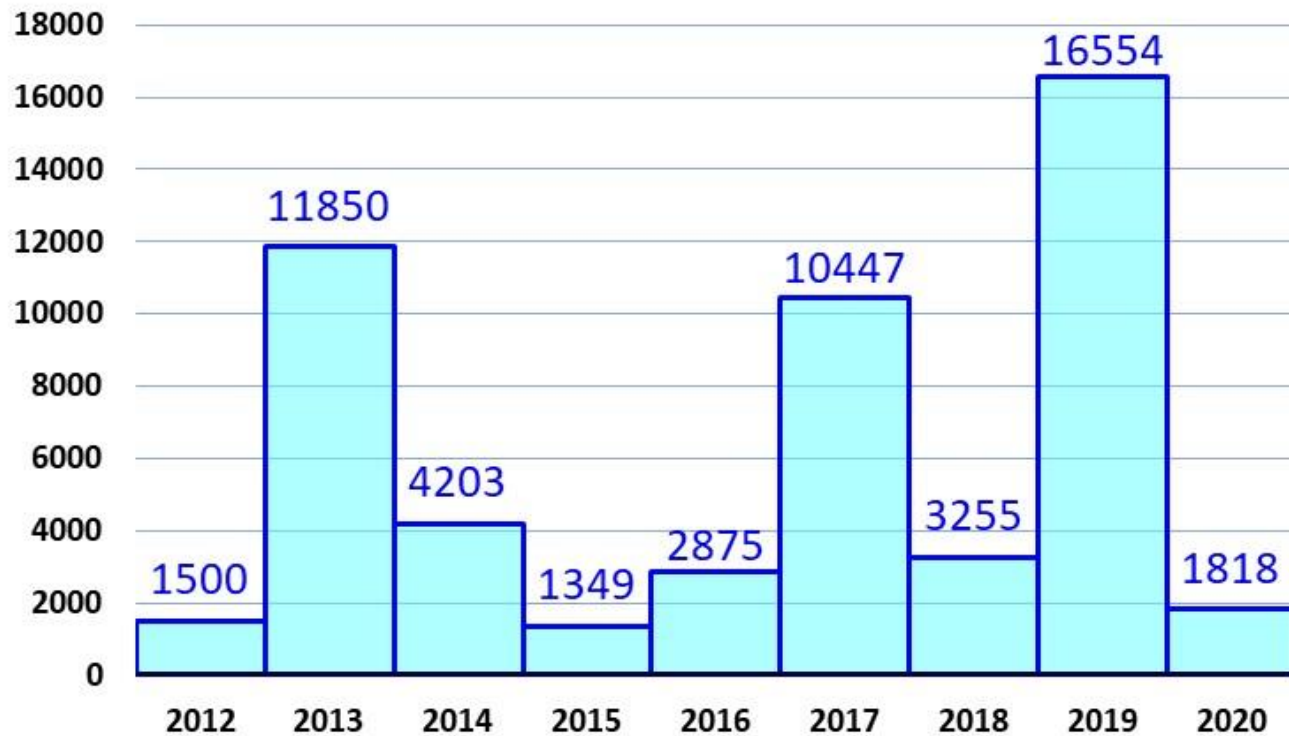


Popularity:

53,851 rafters

544,494 miles

Rafters



**6 per raft
x 3.6**

Safety



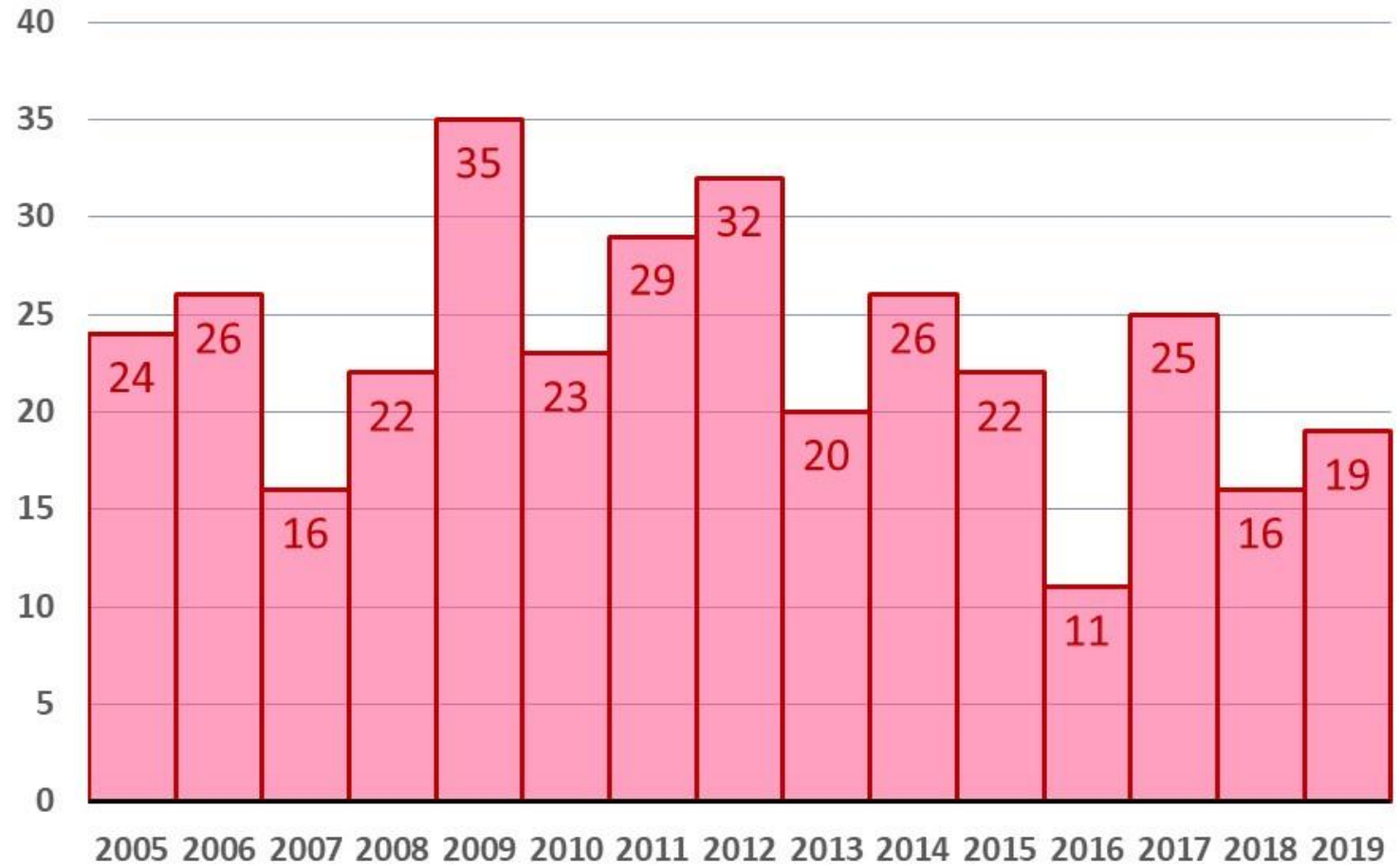
Safety:

2019 RECREATIONAL BOATING STATISTICS

COMDTPUB P16754.33
U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. COAST GUARD
OFFICE OF AUXILIARY AND BOATING SAFETY



Whitewater Deaths

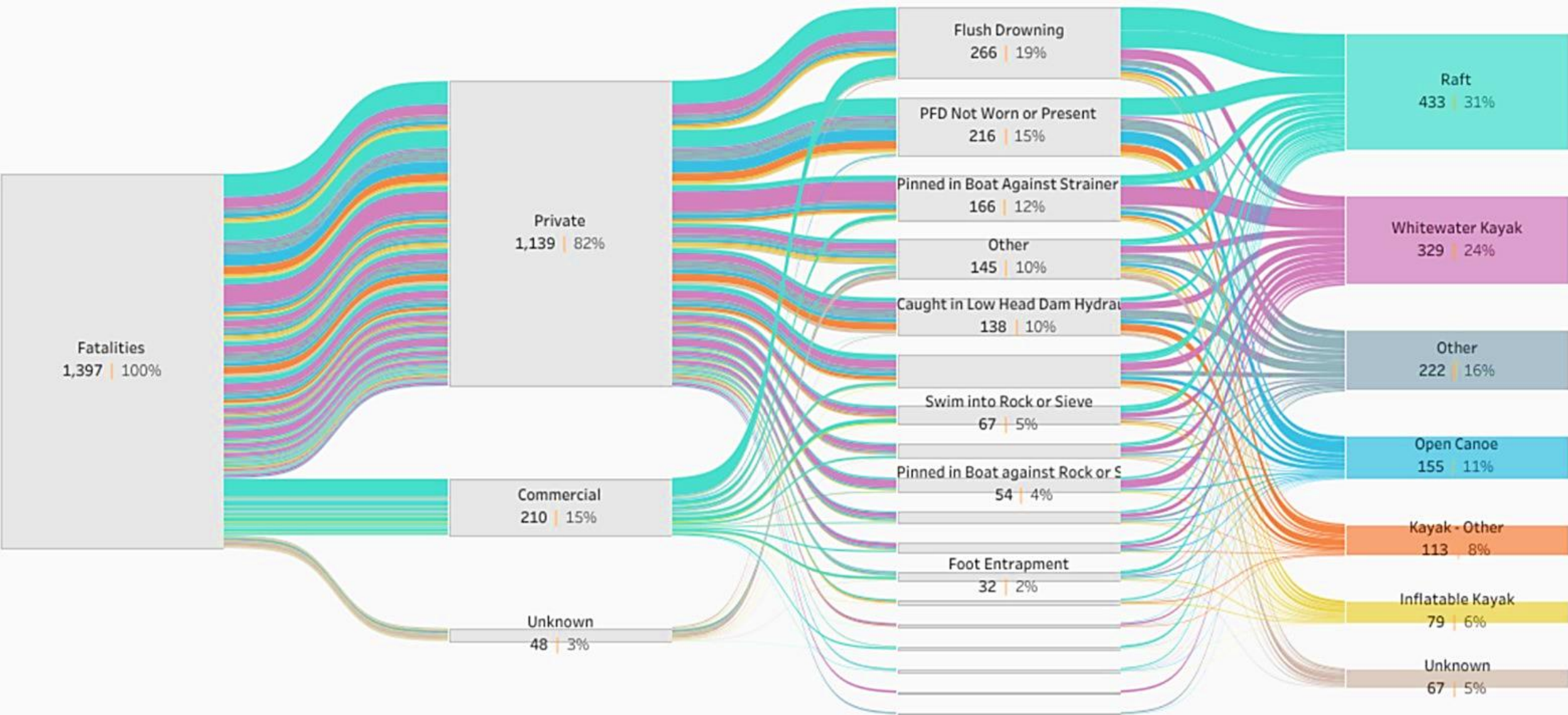


Fatality

Private/Commercial

Causes

BoatType



Safety:

Hazards of Paddling in High Water

A Safety Note from the Outdoor Program and Safe Scouting Teams

Summer 2019



Rivers are running high. Heavy spring rains have led to flooding over large areas of the nation. Record water releases from many full reservoirs will continue even after the rains have passed. In addition, melting snowpacks are adding to the problem in some rivers.

This is also the season that many Scouts head to rivers for canoeing, kayaking, and whitewater rafting, either under their own leadership, assisted by a whitewater outfitter, as part of a BSA high adventure trek, or during an excursion at summer camp.

High water increases the risk of river paddling. Fatalities attributed to higher than normal water levels are being reported in the media. Checking water level should be a standard procedure in advance of any float trip. If the flow is high, it is likely prudent to delay or cancel the activity.

Various state and federal agencies provide online flow information for rivers. A good resource for that data is the American Canoe Association [Paddle Ready](#) app available for free download. [American Whitewater](#) also publishes details for individual rapids for many rivers.



Resources: In addition to the websites listed above, Scouts and leaders may learn more about paddling on moving water by consulting BSA references.

[Aquatics Supervision](#) is the manual for the [Paddle Craft Safety](#) courses that supplement [Safety Afloat](#) knowledge with skill instruction. [Reading the Rhythms of Rivers and Rapids](#) is a joint BSA and American Canoe Association DVD used with the Paddle Craft Safety river modules. The video may be viewed [here](#). The [Whitewater Rafting BSA](#) brochure is available for free download from the Aquatics tab under Outdoor Programs at www.scouting.org. (Click menu on the main page.) [River Paddling](#) incident reviews cover actual cases of injuries and fatalities.



Resources: In addition to the websites listed above, Scouts and leaders may learn more about paddling on moving water by consulting BSA references.

[Aquatics Supervision](#) is the manual for the [Paddle Craft Safety](#) courses that supplement [Safety Afloat](#) knowledge with skill instruction. [Reading the Rhythms of Rivers and Rapids](#) is a joint BSA and American Canoe Association DVD used with the Paddle Craft Safety river modules. The video may be viewed [here](#). The [Whitewater Rafting BSA](#) brochure is available for free download from the Aquatics tab under Outdoor Programs at www.scouting.org. (Click menu on the main page.) [River Paddling](#) incident reviews cover actual cases of injuries and fatalities.

Safety:



Scouting Safely

Guide to Safe Scouting

Safety Moments

SAFE Scouting

Health & Safety Forms

Incident Reporting

Incident Reviews

Policies, Guidelines, and Model Plans

Emergency Preparedness Award

Training – Health & Safety

Wilderness First Aid

Home > Scouting Safely > Incident Reporting > Incident Reviews

Incident Reviews

One of the benefits of reporting incidents is so they can be used to help prevent similar occurrences. While rare, serious and even fatal incidents have impacted the Scouting family. Each incident described in this incident review series has actually occurred. Please help us prevent future occurrences by having a discussion about these incidents and how you can execute the Scouting program safely as designed.

Please download and review these sheets prior to using each incident review. Begin by clicking on the How-To sheet on the right, which will instruct you on how to use these resources.

If you have questions or comments, please submit them [here](#).



BOY SCOUTS OF AMERICA



[Swimming](#)



[Scuba Diving and Open-Water Snorkeling](#)



[Boating](#)



[River Paddling](#)



Home > Scouting Safely > Incident Reporting > Incident Reviews > River Paddling

River Paddling



Download PDF ↓

Rivers can be fluid pathways into unspoiled country. Features ranging from small ripples to demanding rapids challenge river runners of various skill levels. However, safe fun on the river demands respect for the challenges involved, preparation, and skill.

Injuries and fatalities, while rare, have occurred during river treks by Scouts, and there are lessons to be learned that can protect lives in the future.

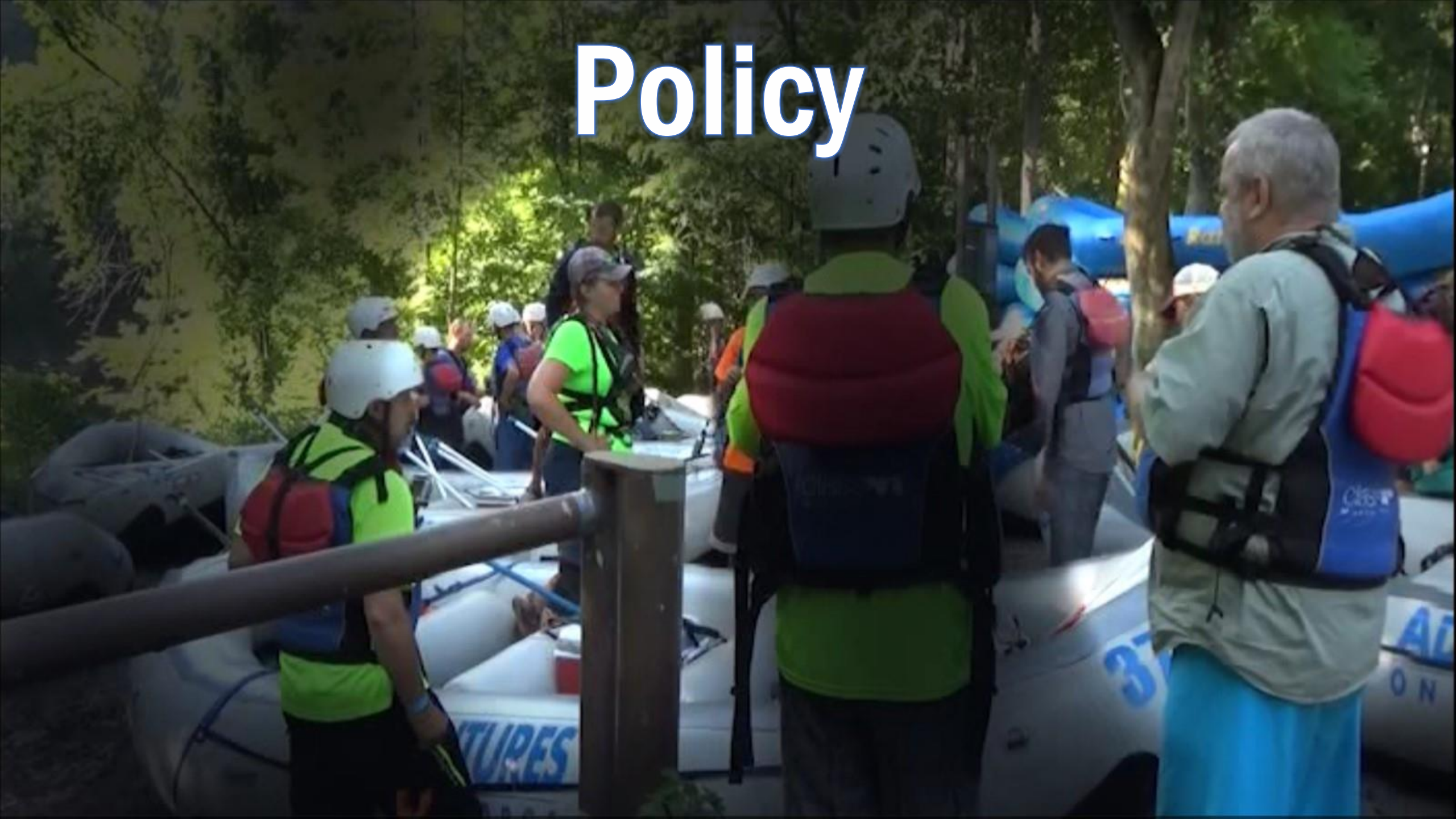
Incident Review #1

A 14-year-old Scout drowned after becoming pinned under 3.5 feet of moving water when his canoe swamped broadside against a fallen tree blocking a river. Both the Scout and his buddy, who was swept clear, were wearing life jackets. Other participants had decided to carry their canoes around the obstructed area. Four leaders were unable to quickly free the youth, who was underwater for five to six minutes.

Key Points

- River hazards can be anticipated by consulting guide books, keeping a sharp lookout, and stopping to scout ahead.

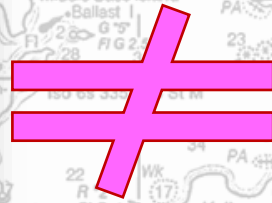
Policy



Policy:



Cub Scout activities afloat are limited to council, district, pack, or den events that do not include moving water or float trips (expeditions).



Policy:



Operation of any boat on a float trip is limited to youth and adults who have completed the BSA swimmer classification test.



Policy:



Qualified Supervision

Personal Health Review

Swimming Ability

Life Jackets

Buddy System

Skill Proficiency

Planning

Equipment

Discipline

Everyone in an activity afloat must have sufficient knowledge and skill to participate safely. Passengers should know how their movement affects boat stability and have a basic understanding of self-rescue. Boat operators must meet government requirements, be able to maintain control of their craft, know how changes in the environment influence that control, and undertake activities only that are within their personal and group capabilities.

Policy:



Up to Class II
Class III
Class IV
Class V (+)

Self-guided unit trips on Class III whitewater may only be done after all participants have received American Canoe Association or equivalent training for the class of water and type of craft involved. Unit trips on whitewater sections of rivers rated Class IV are only allowed in rafts with a professionally trained guide in each raft. Trips above Class IV are not allowed.



Injuries while swimming are rare; self-rescue is usually easy but group assistance may be required to avoid long swims.



Risk of injury to swimmers is moderate to high, and water conditions may make self-rescue difficult. Group assistance for rescue is often essential but requires practiced skills.



Swims are dangerous, and rescue is often difficult even for experts.

Level Legend

Low

Running

High

Unknown

New [WV]

09. Glen Lyn, VA to Bull Falls
Camping Area, WV

I-III

4.93ft
-0.02ft/hr

New [WV]

10. Bluestone Dam to
Sandstone

I-III(IV)

3.06ft
-0.01ft/hr

New [WV]

11. Sandstone to McCreery

I-III

10300cfs
-301cfs/hr

New [WV]

12. McCreery to Thurmond

II-III

7.83ft
-0.15ft/hr

New [WV]

13. Thurmond to Cunard

I-III

7.83ft
-0.15ft/hr

New [WV]

14. New River Gorge: Cunard
to Fayette Station

III-IV(V)

10300cfs
-301cfs/hr

New [WV]

15. New River Dries: Hawks
Nest Dam to Gauley Bridge

III-IV(V)

11.31ft
-0.01ft/hr



-

- General
- Flow
- Map
- Gallery
- News
- Accidents
- Contributors

Date	Flow	Result	Cause	
Jul 16, 2011	2400 approx	Injury	- Pinned in Boat Against Strainer	Full Report
Jul 16, 2011	2400 approx	Injury	- Pinned in Boat Against Strainer	Full Report
May 20, 2008	8800	Injury	- Other	Full Report
May 20, 2008	8800 cfs	Fatality	- Flush Drowning	Full Report
Jun 29, 2004	8000 cfs	Fatality	- Swim into Rock or Sieve	Full Report
Aug 13, 1999		Fatality	- Swim into Rock or Sieve	Full Report



Lower Keeney

Class: IV Distance: 3.2 mi



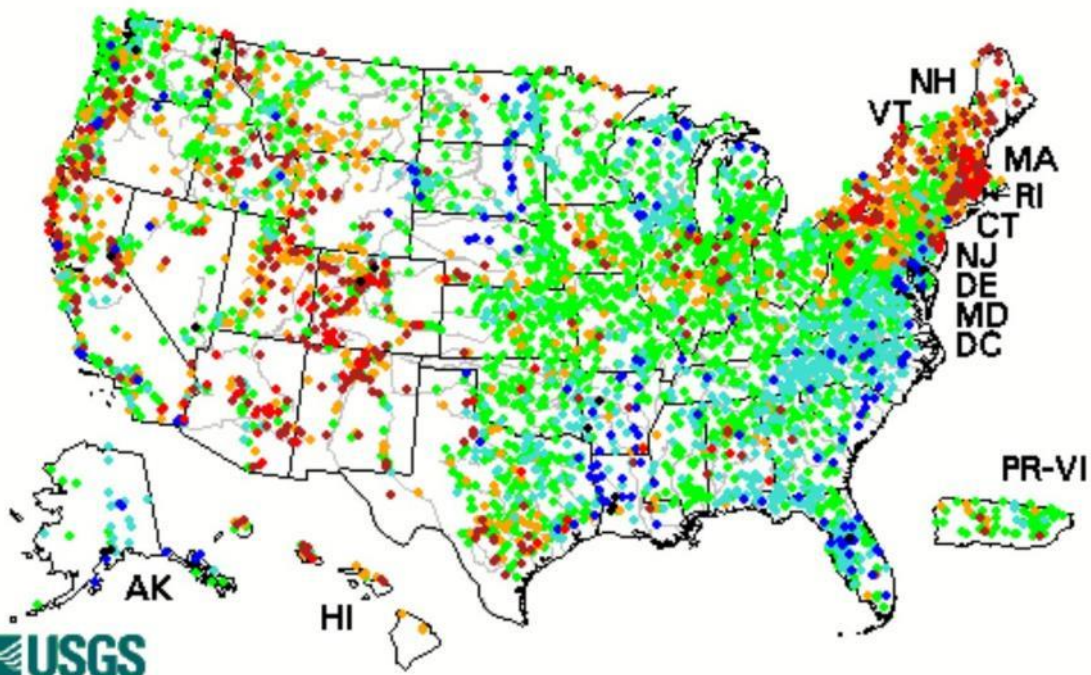
This rapid can be a bit difficult to scout, but it can be done. The best line is to stay in the flow that is going down the left hand side. Stay in the middle of that flow and float along with right-hand boat angle. As soon as you can see down the rapid you will see a large curler wave that breaks to the left. You do NOT want this wave to take you that direction, as it takes you to a large rock called *Washup Rock* and a seive called *The Juicer* -- a bad place to be! Paddle hard to the right and punch the breaking wave, then ride the rollercoaster to the bottom. Catch the large eddy on the right to set up for surfing at *Lollygag*!



United States Geologic Survey

Daily Streamflow Conditions

Tuesday, October 06, 2020 12:30ET



Policy:



... Properly designed and fitted helmets must be worn when running rapids rated Class II and above...

- Qualified Supervision
- Personal Health Review
- Swimming Ability
- Life Jackets
- Buddy System
- Skill Proficiency
- Planning
- Equipment
- Discipline



Programs & Training



RAFT RESCUE
Instructor's Manual

ventures
KING

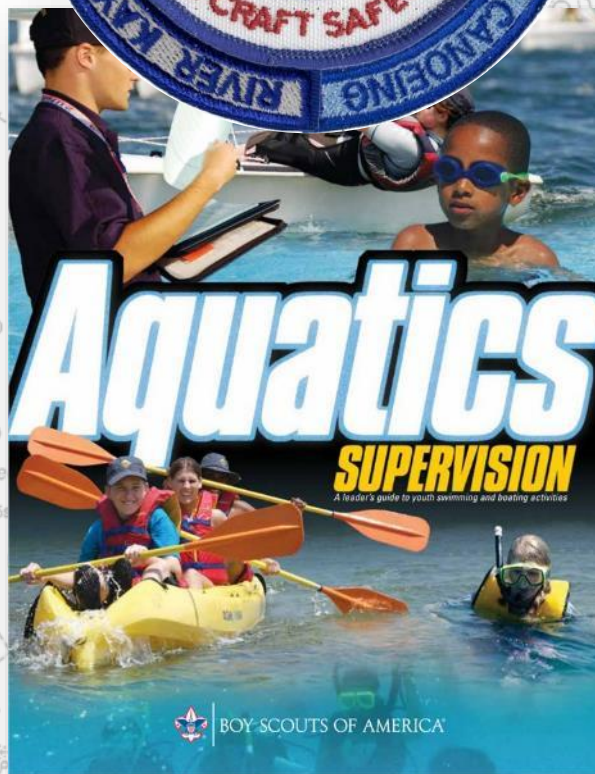
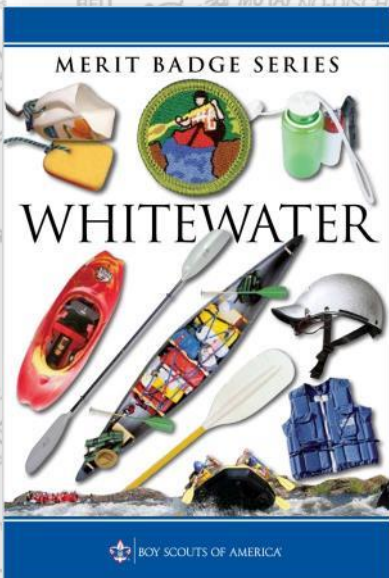
Quick Start Your
CANOE
DVD
AMERICAN CANOE ASSOCIATION
ACA

Quick Start Your
KAYAK
DVD
34 minutes
HUMAN KINETICS
P.O. Box 5070
Champaign, IL 61824-5070
800-747-4477
www.HumanKinetics.com

Safety Afloat and
Aquatics Supervision:
Paddle Craft Safety
Training for Volunteer Leaders and Parents
English/Spanish
Prepared For Life™
BOY SCOUTS OF AMERICA

MERIT BADGE SERIES
CANOEING
MERIT BADGE SERIES
WHITEWATER
BOY SCOUTS OF AMERICA

Programs & Training:



Whitewater Rafting BSA

Introduction

Many Scouting units participate in rafting trips conducted by outfitters or councils. *Whitewater Rafting* BSA recognizes the challenge and adventure of such activities. The award is available to BSA youth and adults who are members of Scouts BSA (Boy Scouts until 2019), Venturing, or Sea Scout units. Requirements for the award focus on safety and basic paddling skills on whitewater up to Class III. All instruction and skill completions are directly supervised by a professionally trained or licensed rafting guide. A qualified raft captain must be in each raft during the required trip. Participants help power and control the raft with paddles – simply riding in a raft rowed by a guide is not sufficient.

Acknowledgement



The American Canoe Association assisted with program development.

Programs & Training:

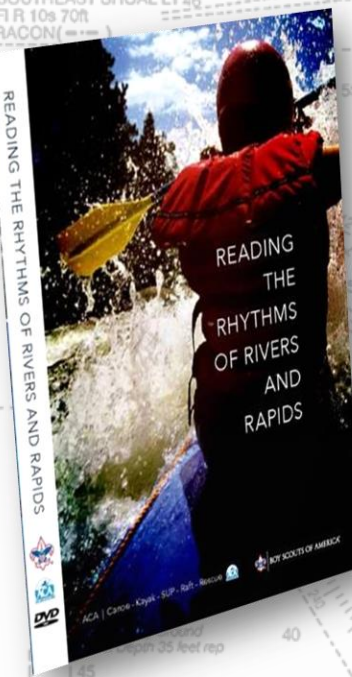
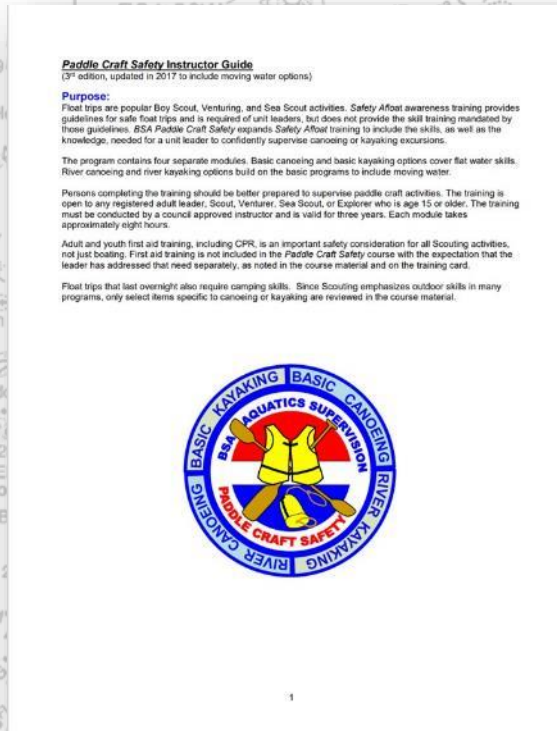
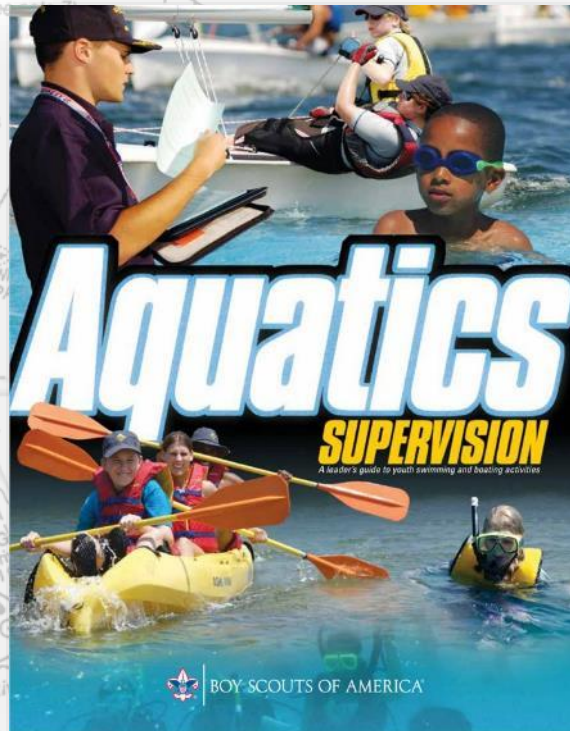
- Limited to Class II or less

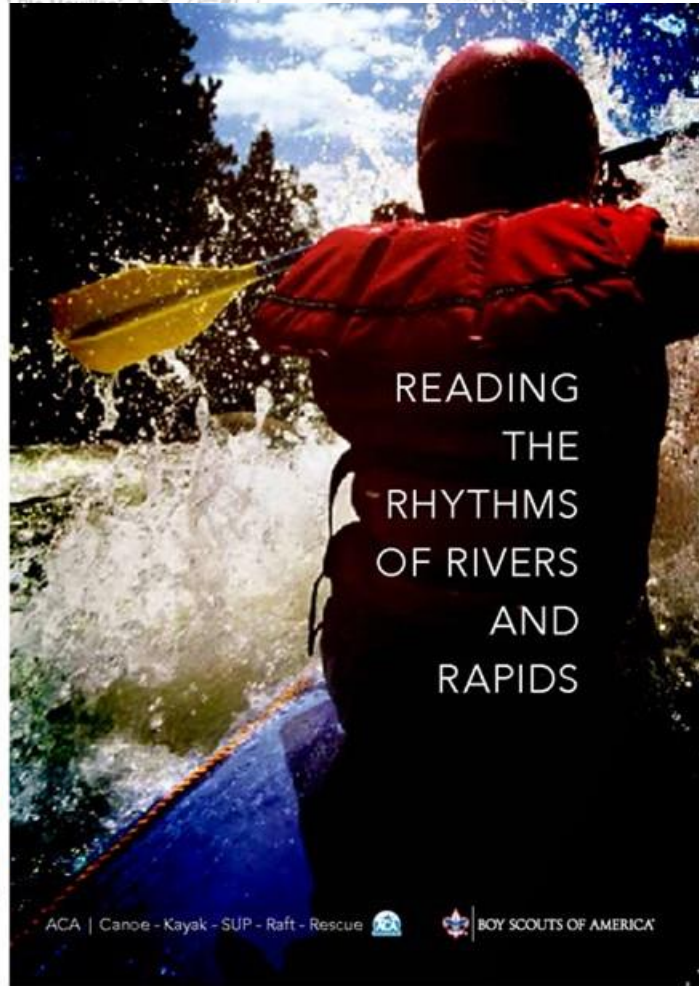


- Limited to canoes or kayaks
- Canoeing or Kayaking MB prerequisite

Programs & Training:

- River modules limited to Class II
- Basic module prerequisite





READING THE RHYTHMS OF RIVERS AND RAPIDS

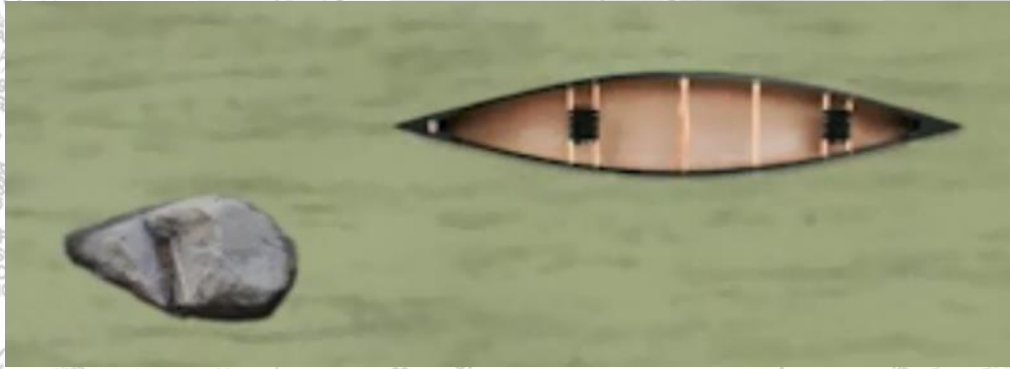
READING
THE
RHYTHMS
OF RIVERS
AND
RAPIDS

ACA | Canoe - Kayak - SUP - Raft - Rescue

BOY SCOUTS OF AMERICA

- Intro
- River primer
- Flow rates
- Flow types
- Paddling in uniform currents
- Going 'round the bend
- Flowing water hazards
- Whitewater features
- Whitewater classifications
- Scouting rapids
- When problems occur
- Trip preparation

<https://vimeo.com/342035469>



• Side slips



• Ferries



• Eddy turns



Float Trips Needs:

- Experience
- Float plan
- Lead boat
 - ✓ Communication
 - ✓ Scouting
 - ✓ Portaging
- Sweep boat



Self-guided unit trips on Class III whitewater may only be done after all participants have received American Canoe Association or equivalent training for the class of water and type of craft involved.





Skills Course	River Rating	Duration	Prerequisites
Level 1 Introduction to Canoeing / Kayaking	Flat water	8 hrs	none
Level 2 Essentials of River Canoeing / Kayaking	Up to Class I	1 + day	none
Level 3 River Canoeing / Kayaking¹	Up to Class II	1 + day	Level 2
Level 4 Whitewater Canoeing / Kayaking	Up to Class III	16 hrs	Level 3
Level 5 Advanced Whitewater Canoe/Kayak	Up to IV	1 + day	Level 4
River Canoe Day Trip Leading	Up to Class I	2 + days	Level 2
Essentials of Kayak Touring Trip Leader	Protected water	1 + day	L2 Kayak Touring Skills Assessment

¹ Spray Skirt required for Level 3 and above

<https://www.americancanoe.org/page/Courses>



CANOE · KAYAK · SUP · RAFT · RESCUE



Level 4: Whitewater Skills

Participant: _____ ACA

Quiet water location and venue: _____

Rating: ✓ - Passing N - Needs more practice.

Participant must be able to perform all strokes, maneuvers, rescues, and the participant must demonstrate the appropriate level of knowledge

STROKES	Bow	Stern	Solo
Forward w/Full Torso Rotation			
Cross Forward			
Forward w/Rudder			
Forward w/Stern Pry			
Forward w/J Stroke			
Forward w/Pitch Stroke			
C Stroke			
Slice			
Back			
Cross Back			
Far Back			
Compound Back			
Reverse J			
Draw (Static/Dynamic)			
Sculling Draw			
Bow Draw (Static/Dynamic)			
Cross Bow Draw (Static/Dynamic)			
Duffek (Onside/Offside)			
Stern Draw			
Pry (Static/Dynamic)			
Righting Pry			
Jam			
Sculling Pry			
Stern Pry			
Sweeps: Forward/Reverse			
Braces: High/Low			

Demonstrate proper balance, posture, full torso rotation and boat lean

FLAT WATER MANEUVERS	Bow	Stern	Solo
Propel the canoe forward in a straight line 15-20 boat lengths			
Move the canoe backwards 3-4 boat lengths			
Stop the canoe within two boat lengths			
Turn the canoe from a stationary position 180° to the right and left			
Move the canoe sideways (abeam) 10 feet (3 meters) to each side			
Propel the canoe in a figure of 8 course around markers 3-4 boat lengths apart			
Turn the canoe while maintaining forward motion 90° to the right and left			
Sideslips (Shift): On/Off Side			
Switch Positions in the canoe on water			

RCC/SEI - 02/2020
© American Canoe Association
www.americancanoe.org



Level 4: Whitewater Skills Assessment

Carving Circle: Onside/Offside				
Launching and Landing: Low dock or bank to enter and exit safely				

Demonstrate proper balance, posture, full torso rotation and boat leans during all m (Solo assessment includes traditional and 2 X 4 methods)

Class II: MANEUVERS	Bow	Stern	Solo
Front Ferries: To a fixed point			
Back Ferries: To a fixed point			
Eddy Turns: w/boat leans into small eddies			
Peel-Outs (Wide & Shallow)			
C-Turns			
S-Turns			
Sideslips (Shifts) Onside/Offside			
Spins (Onside/Offside)			
Bracing (Low/High/Righting Pry)			
Complex Attainments			
Front Surfing			

RESCUE/SAFETY	P & N
Understand the risks and dangers of moving water and how to avoid them	
Signals: Whistle, Paddle and Hand	
Rescue Sequence: (RETHROG)	
Priorities: People, canoe, gear	
Responsibility: Individual, Group, Rescuer, Victim	
Cold Shock, Hypothermia: HELP/HUDDLE, clothing	
Hyperthermia: hydration, clothing	
Emergency Procedures	
Safety Equipment	
Deep water exits: Vault and Slide performed in quiet water	
Controlled Capsize: Performed in Moving Water/Class I	
Self Rescue: Swim 25 FT to shore in Class I-II using defensive and offensive technique	
Towing a swimmer/canoe in Class II	
Swim a canoe 25 FT to shore in Class II	
Empty a canoe full of water at shore line	
Canoe over canoe rescue (T Rescue) on flat water	
Side by side (Parallel) In deep Class II	
Re-entry: Self & Assisted; Heel Hook, Sling	
Throw Rope: Rescuer must be able to throw a throw a rope to a swimmer at 40 ft in one minute or less. Demonstrate proper rope technique as a swimming victim.	
Portaging and lading	
Basic Wading: (1, 2 and 3 person)	
Entrapment: (Prevention and use of a stabilization line)	
Boat Pins: Types of pins and use of strong arm and rope/vector methods	

RCC/SEI - 02/2020
© American Canoe Association
www.americancanoe.org



Level 4: Whitewater Canoeing Skills Assessment

TECHNICAL KNOWLEDGE	P or N	COMMENTS
Environmental Issues: Leave No Trace etc, ecology		
Paddling Environment: 4 W's		
Personal Preparation: Clothing, food and water		
Canoe: types, parts, materials		
Paddle: Types, parts, materials use		
Lifejacket: Types, materials, fit		
Outfitting: (Whitewater)		
Helmets: (Whitewater)		
River Classifications (Understanding of Class I-VI)		
Concepts of Paddling (Class II-III)		
Strategies for river running (Class II-III)		
Canoe Carries: Overhead & Suitcase		
Canoe Trim		
Understand river hydrology, features and hazards (Class II-III)		
Group Organization & Travel		
Posture, Rocking, Balance		
Trip Planning: How to prepare a day trip		
Knots: Figure 8 or bowline, truckers hitch and 2 half hitches		
Federal, State and Local Laws and Regulations		
Car Topping: Loading/Unloading (Use of straps and knots)		

FINAL ASSESSMENT		COMMENTS
PASS	NEEDS MORE WORK	
ASSESSOR		<p>Assessor must be a currently certified ACA Instructor at or above this level.</p> <p>IT or Instructor: _____</p> <p>Signature: _____</p> <p>ACA #: _____ Date: _____</p> <p>Assisting IT or Instructor: _____</p> <p>ACA #: _____</p>

RCC/SEI - 02/2020
© American Canoe Association
www.americancanoe.org



Whitewater Rafting BSA

Introduction

Many Scouting units participate in rafting trips conducted by outfitters or councils. *Whitewater Rafting BSA* recognizes the challenge and adventure of such activities. The award is available to BSA youth and adults who are members of Scouts BSA (Boy Scouts until 2019), Venturing, or Sea Scout units. Requirements for the award focus on safety and basic paddling skills on whitewater up to Class III. All instruction and skill completions are directly supervised by a professionally trained or licensed rafting guide. A qualified raft captain must be in each raft during the required trip. Participants help power and control the raft with paddles – simply riding in a raft rowed by a guide is not sufficient.

Acknowledgement



CANOE · KAYAK · SUP · RAFT · RESCUE

The American Canoe Association assisted with program development.



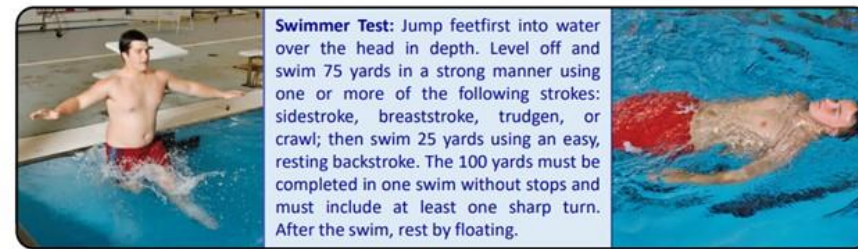
BOY SCOUTS OF AMERICA®

Preparation:



Rafting Company Selection

BSA Safety Afloat Policy requires leaders and participants to have experience appropriate for safe boating activities. Most units lack the training necessary for treks on whitewater. The BSA Whitewater Rafting award recognizes that units with limited experience can safely participate in whitewater rafting under the direct supervision of professionally trained paddle captains in each raft. Those guides, backed by their employer, provide the supervision, equipment, planning, and emergency response required by Safety Afloat. Therefore, the first step to earn the BSA Whitewater Rafting award is selection of an appropriate service provider. Units may utilize programs at council and National High Adventure bases, such as the Summit, that have already done that groundwork. Otherwise, unit leaders are responsible for screening raft outfitters based on their guide training programs, quality of equipment, and safety policies. Guidance may be found in the *BSA Aquatics Supervision* manual. Leaders should inquire about guide training in swift water rescue and first aid as well as paddling, what rescue and first aid equipment is carried down river, and how guides contact emergency services.



Swimmer Test: Jump feetfirst into water over the head in depth. Level off and swim 75 yards in a strong manner using one or more of the following strokes: sidestroke, breaststroke, trudgen, or crawl; then swim 25 yards using an easy, resting backstroke. The 100 yards must be completed in one swim without stops and must include at least one sharp turn. After the swim, rest by floating.

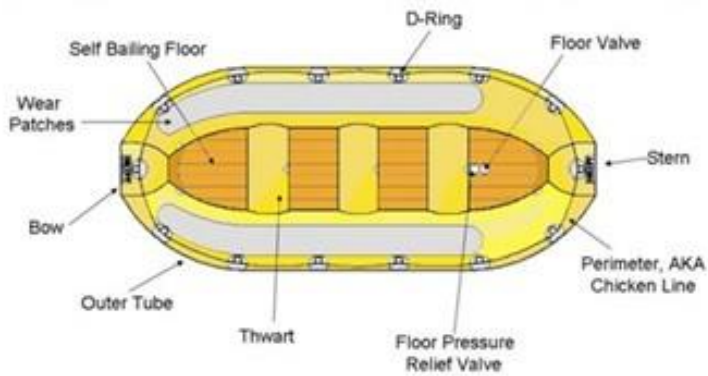
Swimming Ability

Even though the outfitter is primarily responsible for the safe conduct of a whitewater excursion, unit leaders are still required to have BSA Safety Afloat training. Guides may not be familiar with some aspects of Safety Afloat such as medical reviews, the buddy system, or swimming ability. In particular, unit leaders should pre-screen applicants for the BSA Whitewater Rafting award to meet the prerequisite requirement for BSA swimmer classification. Information on Safety Afloat may be found in the online version of the *Guide to Safe Scouting* at www.scouting.org/health-and-safety/gss/.

Rafts:



There are various types of inflatable whitewater rafts. Cataracts have pontoons separated by a metal or inflatable frame, but oval forms are more common. Propulsion is provided by oars, paddles, or occasionally motors. Oars and paddles are similar, but different. Paddles are held vertically with two hands: one just above the blade and the other hand at the upper end of the paddle. An oar is supported horizontally by a pivot point fixed to the boat and held by the rower at the end opposite the blade. Oared rafts typically have a rigid frame to which the pivots, called oarlocks, are attached. A single rower, who usually faces forward, is sufficient to control a raft carrying inactive passengers. In some rafts, a rower is assisted by paddlers. In paddle rafts, a captain in the stern with a paddle directs a team of 2 to 10+ paddlers. Applicants for the Whitewater Rafting BSA award must assist in moving the boat under instruction from a captain with either oars or a paddle. Parts of a raft are shown below. Note the perimeter line which rafters may grasp if they fall out and use to get back in. Perimeter lines need to be properly installed to prevent entrapment hazards.



3

Individual Equipment:



Lifejacket - Lifejackets provided by the outfitter must be Coast Guard approved, rated for whitewater and properly sized to each participant. The label will indicate intended use and specify sizes in various ways, including ranges for the user's chest size and weight. All fastenings must be functional and should be pulled snug. The paddle captain, unit leaders, and buddies should all check the fit. Shoulder straps should not rise to ear level when lifted.

Whistle - A whistle attached to the lifejacket is a good option.

Helmet - The outfitter should provide helmets designed for whitewater use, that is, waterproof and able to withstand multiple impacts. To test the fit, put on the helmet with the chin strap initially unbuckled. It should feel comfortable and stay in place when you shake your head. Then fasten the strap. If unsure of the fit, ask your guide to check.

Paddle - Paddles for the rafting team are typically 60 inches long whereas the paddle captain's "stick" is longer. A paddle that reaches from the floor to the paddler's chin is about right. The guide may suggest a different length depending on the height of the raft and the paddler's size.

Attire - Before the trip, check with the outfitter for recommendations on clothing and footwear appropriate for air and water temperatures. Multiple layers offer flexibility. The outfitter may suggest or require wetsuits or dry suits for some conditions.

Personal Items - Also follow outfitter recommendations for other items to bring (or leave at home). Essential medications, water bottles, sunscreen, and eyeglasses with a strap are common needs. Check on dry storage options for phones, wallets, and keys.



4

Getting to the Water:



There are several ways to carry a raft. Your guide will select one appropriate for the group and the terrain. A few launch sites will have special ramps to slide the raft down a steep slope, but dragging a raft is not a good option.

Side or Briefcase Carry – The team is spaced on both sides of the raft facing the same direction. They grasp handles or the perimeter line with the hand closest to the raft and lift on command by bending at the knees while keeping backs straight. They then carry the raft at a slow pace as directed.

Shoulder Carry - This lift starts similar to the briefcase carry, but the lifters face inward and grasp with both hands. At the count of three, everyone lifts the raft to the inside shoulder while turning to face in the same direction.

Overhead Carry - This lift begins the same as the shoulder carry and is used when the trail is too narrow for everyone to walk to the sides of the raft. After the raft is lifted, the carriers move towards the center of the raft, supporting it on their heads while steadying it with their hands. They may form a single line if needed. The raft is lowered after first returning to the shoulder carry.

Sitting in the raft:

Members of the paddle team sit on the side tube and hold themselves in place by wedging their feet under a thwart, the outer tube, or in foot cups. They must be able to fall free in a mishap and should not wrap their legs in sidelines or otherwise entangle themselves.



5

Basic Strokes & Commands:

Hold – A “hold” or “stop” command by the paddle captain alerts team members to stop paddling, not to stop the raft. It may be used to rest while drifting with the current. Paddlers should lower their grip hand to hold the paddle across their lap, ready for the next command.

Forward - “All forward”, or just “forward”, alerts paddlers to move the raft in the direction it is pointing. Each paddler leans forwards from the hips to CATCH the water near the side of the raft. POWER is transferred to the raft by pulling it toward the paddle. When the hips reach the paddle, RECOVER the paddle for another stroke. Everyone should stroke in unison, with those in the bow setting the pace.

Back - To move in the opposite direction, all paddlers should do a backstroke in unison, planting the blade in the water just behind the hip. The lower hand holds the paddle to pry off the hip as the grip hand pulls back.

Turns – “Left turn” or “left back” alerts paddlers on the left side to paddle back while those on the right paddle forward. A right turn results when paddlers on the right paddle back while those on the left paddle forward. The paddle captain will assist with sweep, draw, or pry strokes, which are not used by the paddle team.

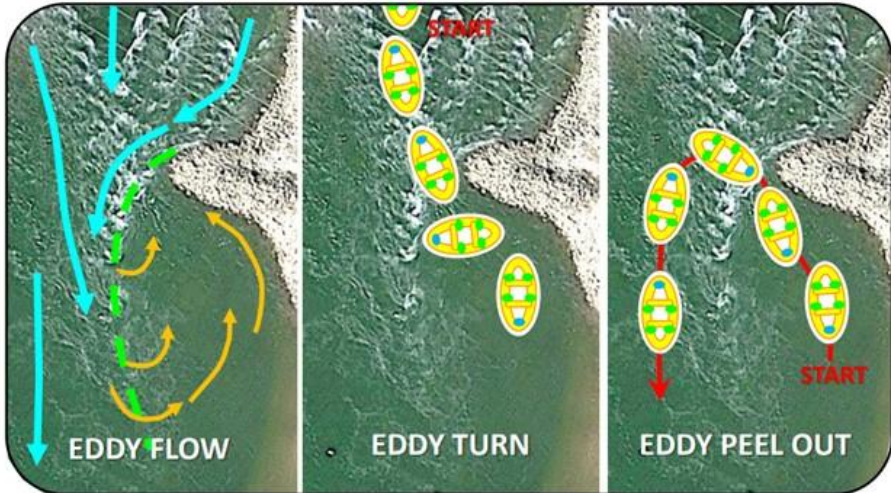
Safety Note: Try to keep both hands on the paddle with the blade outside the raft at all times. Being struck by an out-of-control paddle is no fun.

Photos on this page and the upper right of page 9 courtesy of Wilderness Aware, Buena Vista CO, www.inaraft.com



6

Maneuvers:

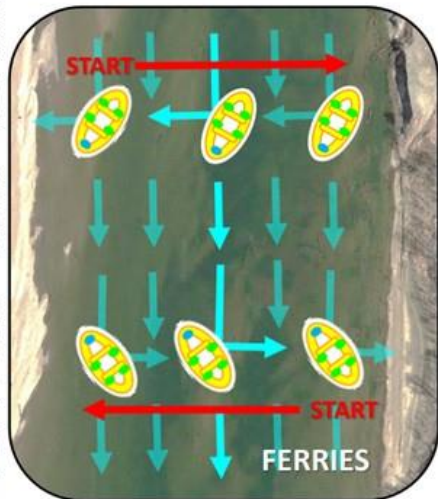


Eddies - Water flowing downstream is diverted by river banks, rocks, and other obstructions. If the area behind an obstacle is wide enough, water pushed to the side will actually flow upstream as it fills in the hole. The area of reverse current is known as an eddy. The boundary between upstream and downstream flow is an eddy line and is often visible. Rafts can pause in eddies to rest and scout ahead. However, getting in or out of an eddy can be challenging due to the abrupt change in current direction.

Eddy Turn - The paddle team will use forward strokes to propel the raft through the eddy line as directed by the paddle captain. The guide will assess the best position, angle, speed, and timing (P.A.S.T.). The entry angle is typically 45 degrees to the eddy line, but the raft will quickly pivot as it hits the reverse current.

Peel Out - Leaving an eddy is typically done at the top rather than the bottom of the feature. A peel out is similar to an eddy turn in reverse. The paddle captain will again direct the crew according to a P.A.S.T. assessment.

Ferries - Current deflected by the raft can be used to move across a river. When the flow hits the side of a raft at an angle, part of the force is directed downstream, but another part of the force pushes the raft sideways as the water moves in the opposite direction. The paddle captain will set the raft at the best angle, typically around 45 degrees, and will direct the crew to paddle either forward or back to keep the raft from moving downstream.



7

River Features & Hazards:



Reading the River - Part of the delight and challenge of whitewater rafting is the ability to determine and execute a course downriver. That skill requires more experience than provided a paddle crew member on one or two excursions. On a guided trip, the paddle captain is responsible for plotting a safe course around hazards. However, alert participants can begin to pick up basic knowledge.

Strainers - River banks are subject to constant erosion. Therefore, trees at the water's edge are often undercut and fall across the water. Trunks can also break free of the side and become lodged between downstream rocks. Such obstacles, known as strainers, must be avoided to prevent danger to rafters.



Hydraulics - Water flowing over a sharp drop tends to curl back into the feature. A person or raft caught in such a hydraulic can be tumbled in place. Isolated "holes" can be avoided. Hydraulics that extend from bank-to-bank can be particularly hazardous. The paddle captain should know which features can be safely run at various water levels and which must be avoided.



Standing Waves - Standing waves form when a fast current hits a slower flow. They are generally safe to engage. However, large waves, known as haystacks, can knock a person out of the raft or even flip the raft if it turns sideways to the current.



8

In the Water:



Upsets – A guided whitewater rafting trip is not the same as an amusement park ride. Significant risks exist which are mitigated by the training and experience of the paddle captain. One of the risks that cannot be completely eliminated is falling from the raft into moving water. If the raft encounters a large wave, an individual may be tossed overboard. If the raft strikes a rock sideways, the raft may **broach** and dump the entire team into the water. In either situation, participants must fend for themselves until assistance is available. That is challenging enough for a good swimmer, but may be particularly difficult for those not used to supporting themselves in deep water, much less water that is rapidly forcing them downstream. That is one reason Whitewater Rafting BSA requires participants to be swimmers, even though everyone is wearing a lifejacket and the outfitter may not have a similar requirement.



DEFENSIVE

AGGRESSIVE

Defensive Swimming – Used to get bearings, conserve energy, and stay calm. Lay on back as shallow as possible with feet downstream. Use legs as bumpers to push off obstacles if needed. With hands outstretched, use back strokes and body angle to move toward the side. Don't try to swim against the current. Breathe right after the peak of a wave, then hold breath through the trough. No need to breathe every wave. Find a safe place to stop downstream, either the bank or an eddy, and aim for it.

Aggressive Swimming – Used when being carried into danger or when the water is very cold. Aim for a safe spot downstream and move across the current: do not swim against it. Sprint on tummy using either a front crawl or breaststroke. A scissor or whip kick will likely provide more thrust than a flutter kick. Try to keep legs from dangling. Cross eddy lines at an aggressive angle.

In the Water:

Re-entry – If you maintain contact with the raft during an upset or swim back to it, grasp the handles or perimeter rope and push down while kicking to reenter the raft. A person in the raft can assist by pulling with two hands on the shoulders of your lifejacket or under your armpits. Persons in the raft can also pull you back to the boat by grasping your paddle extended to them or reaching out to you with their own paddle.

Throw Lines – If you hear the word "rope" while swimming, be alert for a line in a bag thrown by a trained person onshore. Ideally the line will land in front of you within reach. If so, grasp the line and lay on your back with the line over your shoulder. You will swing cross current toward the side. The line tender may also pull you against the current, or move slightly downstream so that you land in a safe location. Throw bags are seldom used from a raft moving in whitewater. However, your paddle captain may confer with other rafts to station a safety person onshore below a difficult rapid where a flip is possible. Use of a throw bag requires communication between rescuer and swimmer, an accurate throw, a good anchor for the rescuer, and a good position to land the swimmer. Poor deployment may increase risk.

Foot Entrapment – Do not attempt to stand in swift water that approaches knee-deep or greater. If your foot becomes wedged under rocks, the force of the current may be great enough to hold you face down regardless of how strong you are.

Hydraulics – As noted earlier, strong hydraulics in holes or beneath ridges are best avoided. If you are swept into a large hole while swimming, the recirculating current will tend to tumble you over and over just beneath the drop. Try to work your way to the side. If the feature is wide and deep, you may also escape by finding a downstream current at the bottom of the hole.



Whitewater Rafting BSA Application



Name of Applicant _____
Address _____
City _____ State _____ Zip _____
Unit type _____ Unit number _____ Council _____
Name of council-approved counselor _____
Address _____
City _____ State _____ Zip _____
Counselor Qualification _____
Signature of counselor signifies applicant has completed all requirements: _____ Date _____

Requirements

- Before doing the following requirements, successfully complete the BSA swimmers test.
- Do the following:
 - Name the parts of a whitewater raft
 - Describe differences between a paddle raft and an oar powered raft.
 - Explain the importance of perimeter lines used on whitewater rafts.
 - Demonstrate how to choose an appropriate size paddle.
 - Demonstrate how to select and properly fit a life jacket.
 - Demonstrate how to select and properly fit a helmet.
 - Discuss the use of throw ropes in rescuing overboard paddlers.
 - Discuss common river hazards including rocks, strainers, broaching, standing waves, hydraulics and foot entrapment.
- Explain the importance of safety equipment used in whitewater rafting including throw ropes, helmets and life jackets. Also discuss appropriate clothing and footwear for a whitewater rafting trip.
- Under proper supervision and appropriate conditions safely do the following:
 - Lift, carry, launch and land an inflatable raft, with help, on calm or slow-moving water.
 - Sit in a raft as a paddler with proper foot position.
 - Swim a Class I rapid while wearing a life jacket, helmet and attire appropriate for the water temperature. Demonstrate defensive and aggressive swimming positions as possible.
 - Re-enter a raft from the water, with assistance if needed.
- While on calm or slow-moving water, demonstrate the following strokes in an inflatable raft with at least one other paddler and on command of a qualified paddle captain:
 - Forward
 - Back
- While on moving water up to Class I, demonstrate the following maneuvers with at least 3 other paddlers in an inflatable raft and on the command of a qualified paddle raft captain:
 - Turn left
 - Turn right
 - Paddle forward in a straight line for 50 feet.
 - Back paddle reasonably straight for 15 feet.
- While on moving water up to Class I, demonstrate the following maneuvers with at least 3 other paddlers in an inflatable raft and on the command of a qualified paddle raft captain:
 - A front or a back ferry.
 - A shallow or a wide eddy turn.
 - A shallow or a wide peel out.

(See Notes to Counselor on the next page.)

Notes to Counselor

This award is available to BSA youth and adults who are members of Scouts BSA (Boy Scouts until 2019), Venturing, or Sea Scout units. Any adult leader, approved by the council, who is trained in Safety Afloat and can personally verify that all instruction and skill completions were directly supervised by a professionally trained or licensed rafting guide may serve as a counselor for this award. Such guides may be employed by council high adventure programs or commercial outfitters. Guidance for selecting a reputable rafting service is provided in the BSA publication Aquatics Supervision No 34346.

Safety Afloat Summary

Complete policy available at:
www.scouting.org/health-and-safety/gss/toc/

- Qualified Supervision** - Skilled in the safe operation of the craft, knowledgeable in accident prevention, prepared for emergencies.
- Personal Health Review** - Activity adjusted to anticipate potential risks associated with health conditions.
- Swimming Ability** - Operation of craft limited to youth and adults who have completed the BSA swimmer classification.
- Lifejackets** - Properly fitted approved lifejackets worn by every boating participant.
- Buddy System** - Every participant is paired with another. Buddies are always aware of each other's situation.
- Skill Proficiency** - Everyone must have sufficient knowledge and skill to participate safely.
- Planning** - Includes Preparation, Float Plan, Notification, Weather, and Contingencies.
- Equipment** - All craft and equipment must meet regulatory standards, be properly sized, and in good repair. Properly designed and fitted helmets must be worn when running rapids rated Class II and above.
- Discipline** - All participants should know, understand, and respect rules and procedures for safe boating.



Float Trip:



- Bus leaves at 11:00 am
- Bring your own parking
- Boat at 1:00 pm
- Bring your own parking



Questions:

