



# Poudre Paddlers & Rocky Mountain Canoe Club Intro to River Safety & Rescue



## Welcome to our 2022 Intro to River Safety and Rescue



Randy Knauff



Debbie Hinde



## Poudre Paddlers & Rocky Mountain Canoe Club Intro to River Safety & Rescue



- QUESTIONS: We'll stop at designated points and at the end to cover questions. You can use the Chat box or we'll take questions verbally.
- MUTE: Please mute yourselves except when asking questions.
- We are not endorsing particular brands of gear. We may share experience with gear or clothing that we have used. Brands shown here are examples only.



# **Poudre Paddlers & Rocky Mountain Canoe Club**

## **Intro to River Safety & Rescue**



# **SAFETY Agenda**

- 1. Definitions**
- 2. Getting to the water safely**
- 3. Choosing the waterway**
- 4. Seeking information**
- 5. Selecting the right gear**
- 6. Paddling partners**
- 6. River signals**
- 7. Scouting**





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## RESCUE Agenda

- Self-Rescue
- Assisted Rescue







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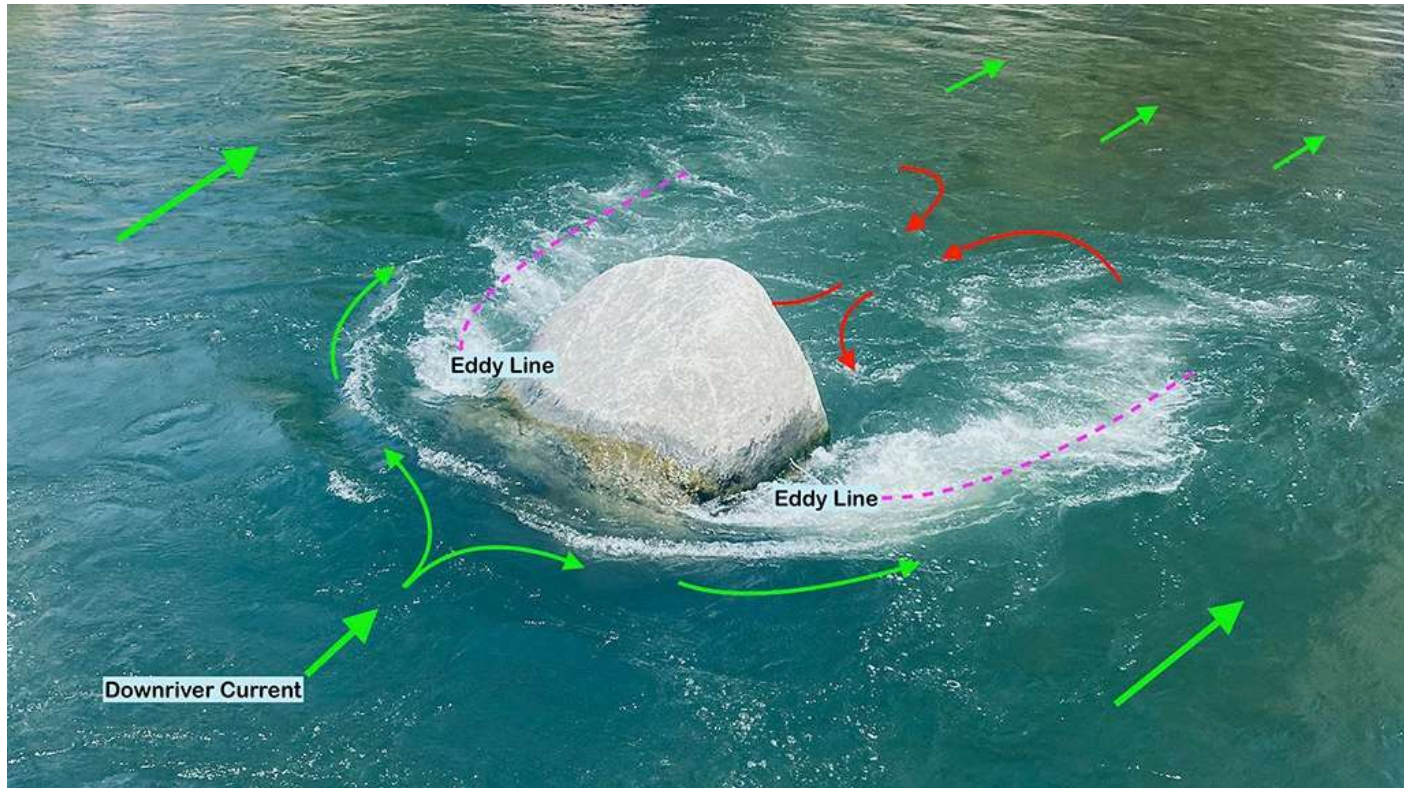
# Definitions





# Definitions

## Mid-River Eddy







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## Definitions

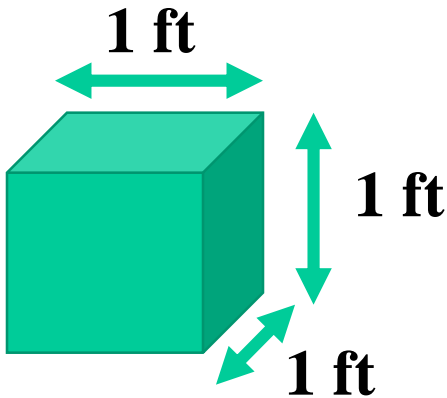
Strainer





# Definitions

CFS: Cubic Foot Per Second,  $\text{Ft}^3/\text{Sec}$







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## River Lingo



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Getting to the  
water  
**SAFELY**

- *Tie center (at racks), front, back.*
- *Check secureness often while traveling*
- *Check older/weathered straps for wear and breakage*
- *Secure loose ends*
- *Watch the Poudre Paddler Video on Knots*



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Smith River, Montana

Choosing the  
waterway

Which River?  
Which Section(s)?





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## Water Classifications

**Flat water**

Riverbend Ponds, Fort Collins, CO



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### American Whitewater International Scale of River Difficulty I - VI

#### Class I, Moving Water

**Easy small waves (if any), little to no maneuvering or obstructions.  
Risk to swimmers is slight. Self-rescue is easy.**



N. Platte, Glendo-to-Guernsey Run  
(Most of it is Class I)



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## Class II Moving Water

N. Platte, Glendo-to-Guernsey Run, 'The Wave Train'

**Straightforward rapids, wide channels, increased water speed, occasional maneuvering, obstacles & waves easily missed by trained paddlers.**

### What Can Affect Classification:

- Low vs. High Flows
- Low Water Temperatures
- Remoteness

“ II - ” or “ II + ”





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“Bridges”  
section of the  
Poudre River

**Class III and Up Moving Water,**

**Take a *Swiftwater* Rescue Class**

**Irregular waves can be difficult to avoid, make complex maneuvers in fast current, good boat control in tight passages or around ledges. Strong eddies...**



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### Seeking Information



**» KNOW  
BEFORE  
YOU GO »**



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- Local Paddling Clubs
- Guide Books / Maps
- Local Outfitters
- Magazines
- Apps, i.e., AWW 
- Mountainbuzz.com
- Facebook Groups
- YouTube

<http://rivermaps.net/>





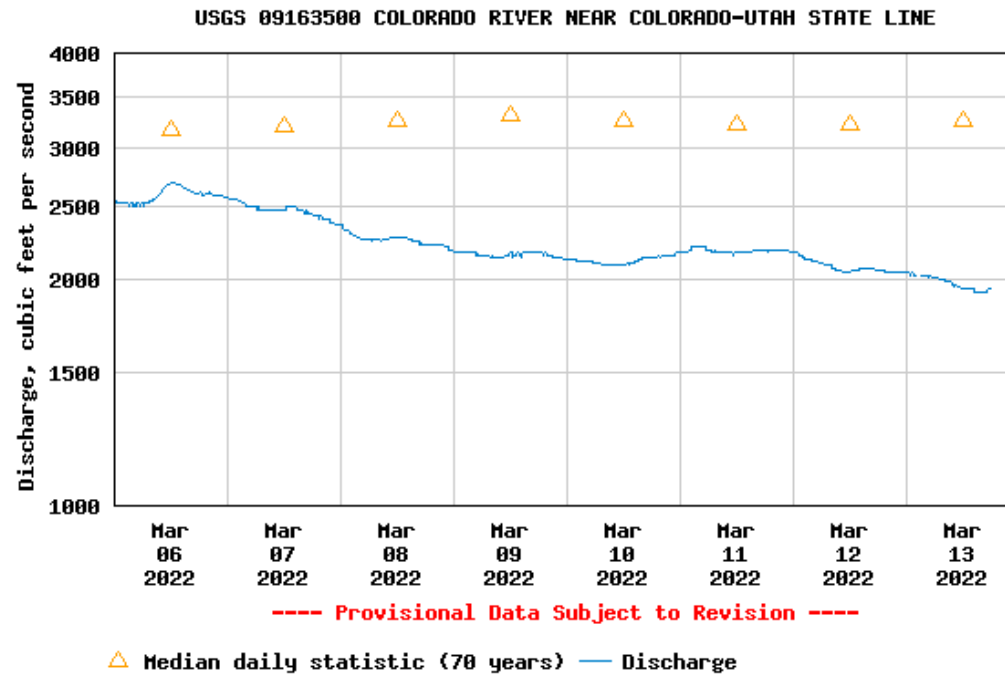
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## USGS 09163500 COLORADO RIVER NEAR COLORADO-UTAH STATE LINE

Discharge, cubic feet per second

Most recent instantaneous value: 1940 03-13-2022 17:45 MDT



Flow Gauges for  
recent & historic  
information

Water temperature is  
often available too.

[Waterdata.usgs.gov](http://Waterdata.usgs.gov), [dwr.state.co.us](http://dwr.state.co.us), etc.



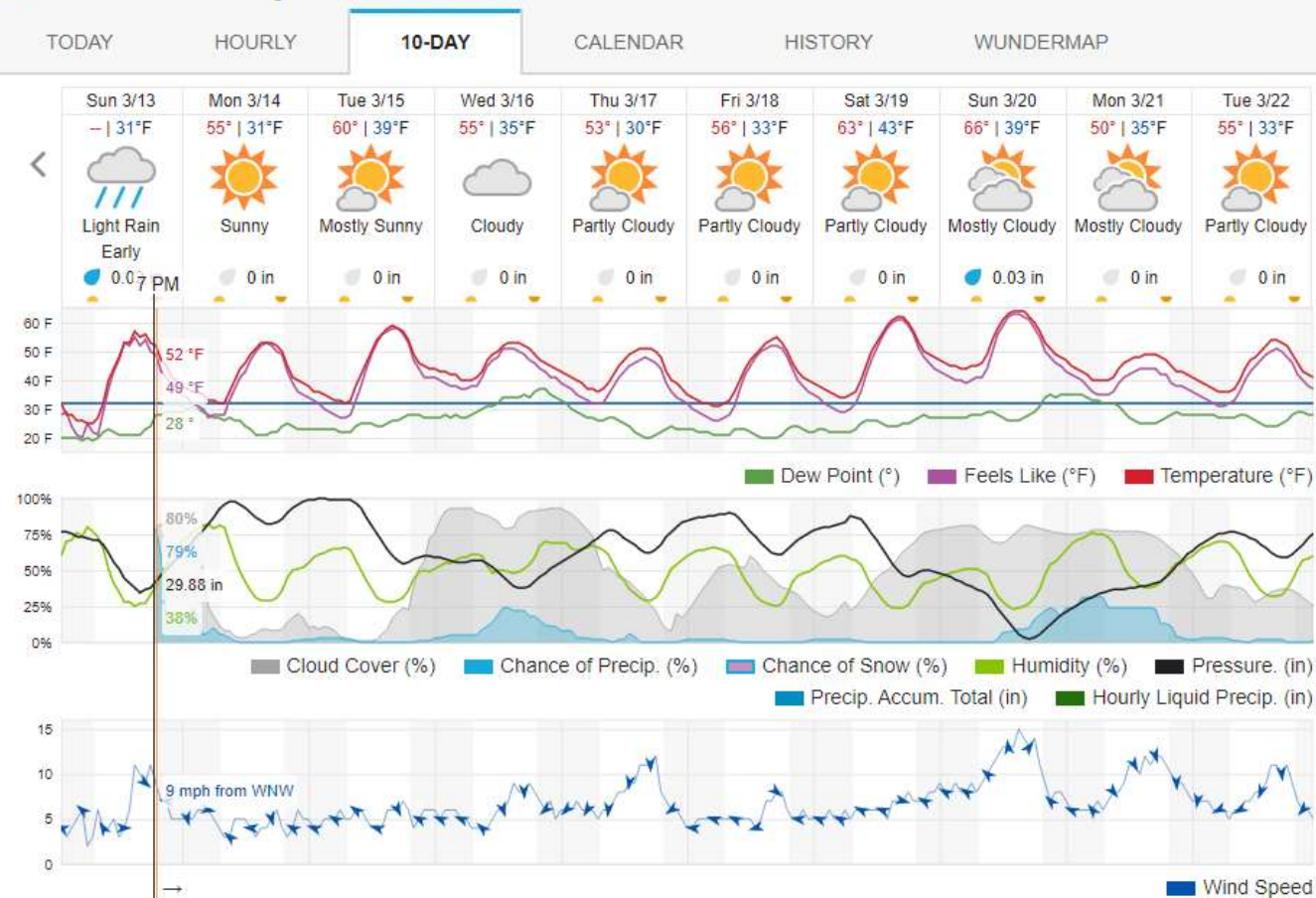
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Elev 4511 ft, 39.16 °N, 108.73 °W

### Fruita, CO 10-Day Weather Forecast



## Weather Forecast



<https://www.wunderground.com>



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*Questions?*





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Selecting the  
right gear



Do you have **G.A.S.**?

Gear Acquisition Syndrome!



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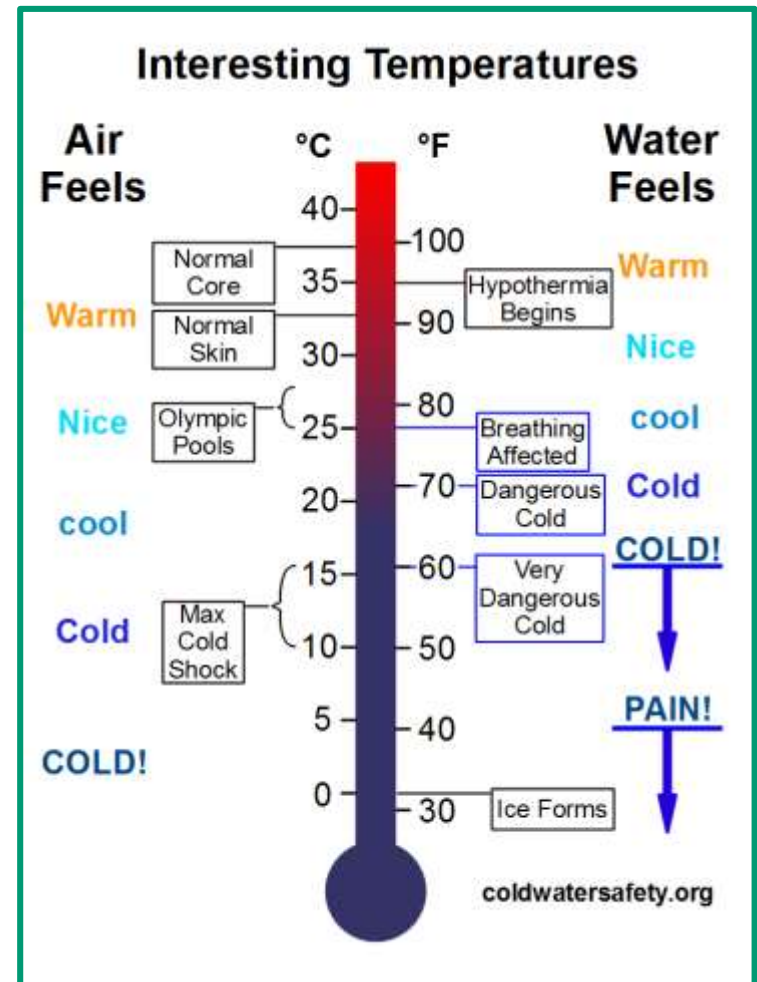
***Treat any  
water  
temperature  
below 70F  
with caution.***

### **Cold Water Shock:**

- Sudden immersion in water 60F or below.
- Gasp Reflex
- Muscle Spasms
- Hyperventilation
- Increase in pulse & blood pressure
- Loss of mental acuity

Source: <http://coldwatersafety.org>

National Center for Cold Water Safety



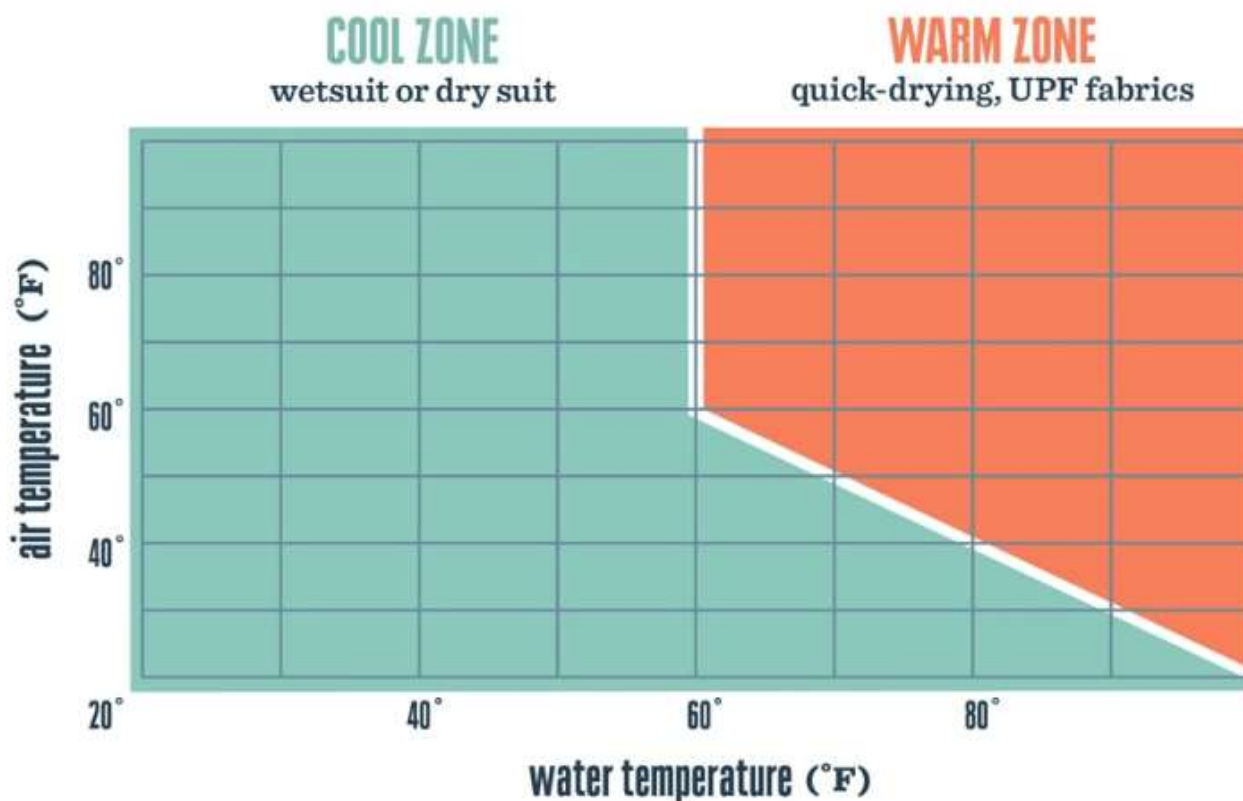


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*“ Dress to swim ”*







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## Cold Water/Air Clothing Options

Neoprene  
(wetsuits)



Dry suits





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## Clothing Options

Spray Tops

& Pants



### Layers

1. Wicking Base Layer
2. Mid Fleece Layer
3. Outer Water/Windproof Layer

Wicking Materials





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## PFD's



- ! PFDs all the way On or OFF
- ! When NOT in use, attached to boat or a visible, fixed object
- ! Do not Sit on your PFD

## Proper Fit

- ! Zipped
- ! Clipped
- ! Snug
- ! Nothing attached to the zipper
- ! USCG Approved
- ! Add a River Whistle (Colorado Law)







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## Helmets



*Wear for Class II and above per the American Canoe Association*

- 1. Designed for Whitewater*
  - NOT a bicycling helmet*
- 2. Comfort*
- 3. Strap Adjustment for snug fit*



# Footwear

- Terrain
- Temperature
- Closed Toe



Sock





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# Think in Color



- Clothing
- PFD
- Helmet
- Paddle
- Boat





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*Questions?*



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# Boat Gear for Safety & Rescue

- Spare Paddle/Oar
- Bailer
- Painters (Ropes on ends of the boat)
- Straps and/or Carabiners
- Throw Rope
- 1<sup>st</sup> Aid Kit
- Flotation (kayaks too!)
- Boat Retrieval 'Un-Pin' kit
- Spare Clothes, Shoes in dry bag
- Name & Address Identification (CPW)
- Waterway Regulation Gear Requirements

Attach **GEAR** only

***DO NOT*** attach  
your kid, dog or  
any *breathing*  
being!

**WEAR YOUR PFD!**



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## Choosing Paddling Partners and Roles

- Trip Host / Coordinator vs. Leader / Guide
- **# of Participants**
- Experience / Equipment Requirements
- **Individual Responsibilities**
- Group Responsibilities
- **Waterway Regulations (# people, gear, etc.)**

See: <https://rockymountaincanoecub.net/trip-organization/>



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## Whistle Signals



One LONG Blast = Take Notice!

Three LONG Blasts = Emergency

Whistle signals shall be passed  
up/down the line so all are  
aware





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## River Signals



**STOP !**

Find a safe place to  
quickly eddy-out.

**REPEAT ALL signals on to those behind or ahead of you!**

**\*Combine whistle and hand/paddle signals to get attention.**

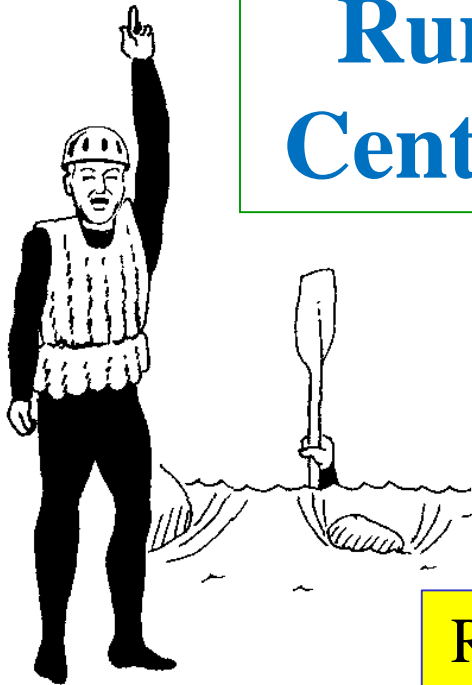


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**Run  
Center**



**Go that  
way**



**POINT POSITIVE**  
*Never* point at obstacle!

Repeat all signals on to those  
behind or ahead of you!



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**HELP !**

**Are you  
OK?**

**Yes, I'm  
OK**





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## Scouting When in doubt...Scout!



<https://www.voyageurtripper.com/beginners-guide-scouting-rapids/>

- Scout Rapids, Obstructions, Blind Corners...
- Carry a paddle and/or throw bag on scout
- Scouting hazards
  - Snakes/wildlife
  - Poison Ivy
  - Terrain



Learn to Read the River

**W.O.R.M.S.** = **W**ater, **O**bstacles, **R**outes, **M**arkers, **S**afety



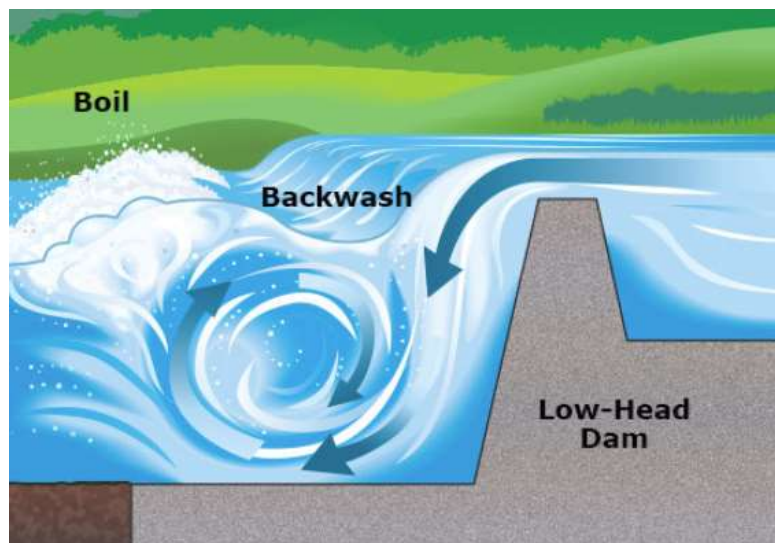


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## Low Head Dams – Scout & Portage!

Video: *Low Head  
Dams: Hidden Dangers*



[http://www.boat-ed.com/images/drawings/lowhead\\_dam.jpg](http://www.boat-ed.com/images/drawings/lowhead_dam.jpg)



<https://www.iowawhitewater.org/lhd/LHDrockford.html>



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## Strainers and other obstructions

Scout and Portage!

Take paddling classes!





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*Questions?*



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## SELF-RESCUE



**It happens...**

**On all types  
of water**

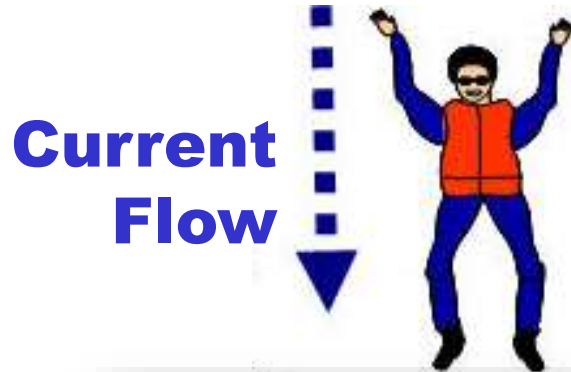
**Whether  
you're  
experienced  
or not.**



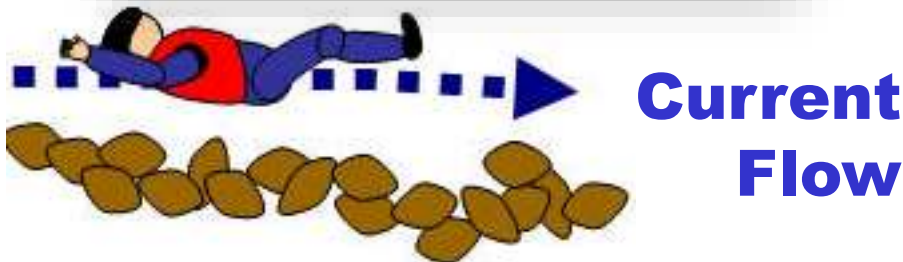


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- Basic Safe “Defensive Swimming Position”
- Look Around and Ahead
- Time your breathing
- Stay Upstream of your boat
- Hold on to your paddle (or toss into eddy)





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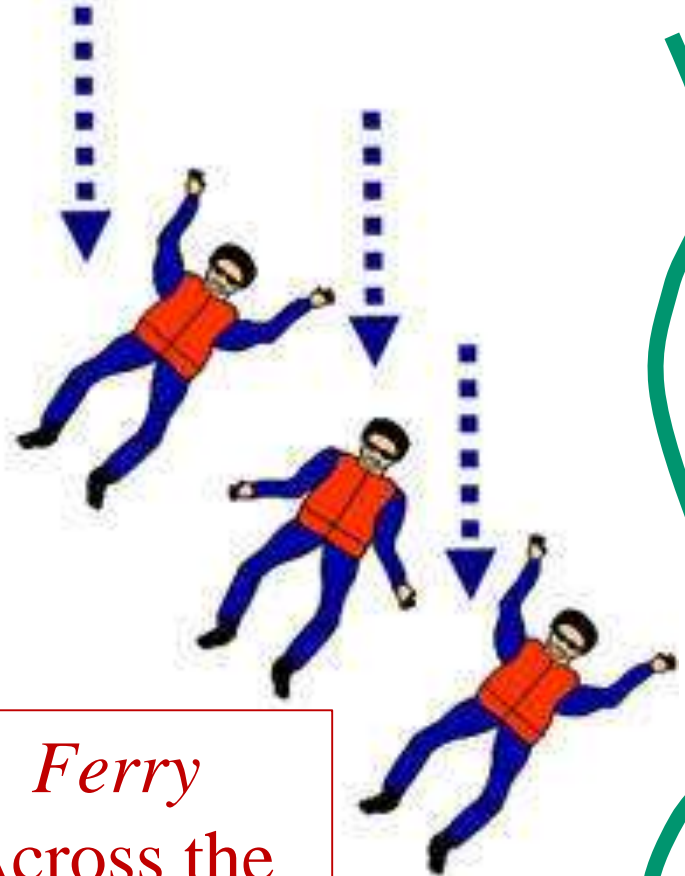
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### Get yourself to safety

- Ferry Position
- Back Stroke
- Aggressive Swim to a safe place
- “Barrel roll” across an eddy line
- Get all the way out of the water



*Ferry  
Across the  
Current*

River Left Shoreline

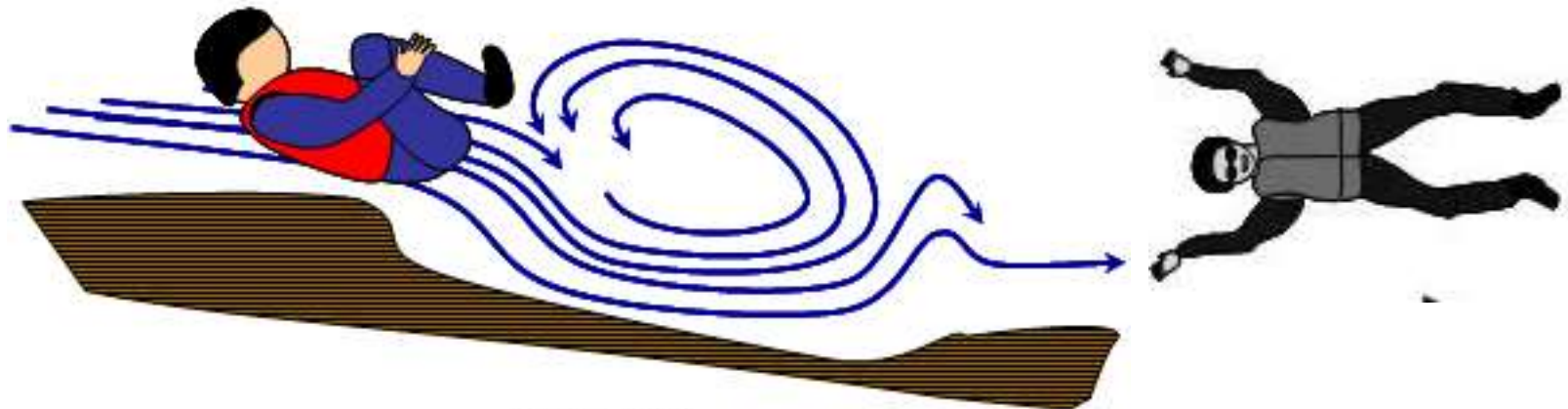


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- Drops – Form a Ball
- Holes – Drop in a ball, then change your shape to get flushed out.



Hydraulic





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## Walk Facing UPSTREAM !



Do Not walk facing  
downstream in  
moving water above  
your knees!

**Current  
Flow**





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## ASSISTED Rescue





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## Extension Rescue

**Reach**



**Hand, Paddle, Branch, etc.**





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## Tow Rescue





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## Throw Bags

Bag  
Styles



Length and  
Diameter determine  
bag size



**Floatable Rope - Polypropylene**

**Regulation Example:** ***Desolation/Gray Canyon Regulation:** Each boat 16-feet or longer must have a type IV throw able device or a commercially made rescue rope with at least 40 feet of line, and a whistle or horn*





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## Throw Rope Form - *Rescuer*

Loops/Knots

Location  
Characteristics

Stance / Anchor

How to

grip  
bag

Whistle / Yell

Eye Contact





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# Throw Rope Form – *Rescuer, cont.*



- Throw Across Victim
- Have someone hold the back of your PFD
- Wrap around a tree or rock for stability



## Throw Rope Form - *Swimmer*

**Defensive  
Swim Position**

**Eye  
Contact**

**Aggressively  
swim to rope if  
necessary**



**Rope over Outside/Away-  
From-Shore shoulder**



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Swiftwater Rescue Fundamentals Univ. of Utah course reported by KSL News







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## Paddle & Wedge Rescues

**Leader  
Anchors a  
paddle**

**Form a Wedge**

**Creates an  
eddy**

Eddy







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## Paddle & Wedge Rescues

**Paddle lean  
and  
Multi-  
Person**





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Swiftwater Rescue Training

<http://www.gravitypoweredmedia.com/>



GRAVITYPOWERED  
MEDIA





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### Continuing Education

- More classes – Swiftwater Rescue
- Videos, Magazines
- River Reading
- Apps, i.e., R3 Rescue for River Runners
- PRACTICE, PRACTICE, PRACTICE





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# Great Safety Resources!

[www.americanwhitewater.org](http://www.americanwhitewater.org)

[www.americancanoe.org](http://www.americancanoe.org)

[www.paddling.com](http://www.paddling.com)

[www.rescueforriverrunners.com](http://www.rescueforriverrunners.com)

Manufacturer Websites, i.e.,

- NRS
- Aquabound
- Kokotat
- REI

Paddling Club  
websites recommend  
local SWR classes

And so many more!



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*Questions?*

*Thank you!!*