



# Moving Beyond “Heuristic Traps”



Presented by Nik White



# Nik White



**WHITEWATER**  
— WORKSHOP —



- ACA Swiftwater Rescue Instructor L5
- ACA Whitewater Kayak Instructor L5
- ACA Packraft Instructor L3



# Moving Beyond Heuristic Traps

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1. Heuristic Traps Case Study
2. The Hazard Failure Chain
3. Tools to Avoid Traps





# Strainers



Slower  
Current



Gravel Bar



Downed  
Tree in  
the River  
(Strainer)

rbk

# FACETS

# Familiarity

A

C

E

T

S

Familiarity

Acceptance

C

E

T

S

Familiarity

Acceptance

Consistency

E

T

S

Familiarity

Acceptance

Consistency

Expert Halo

T

S

Familiarity

Acceptance

Consistency

Expert Halo

Tracks

S

Familiarity

Acceptance

Consistency

Expert Halo

Tracks

Scarcity

Familiarity

Acceptance

Consistency

Expert Halo

Tracks

Scarcity



Just knowing about  
Heuristic Traps  
is not enough!

## Moving Beyond Heuristic Traps

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# The Hazard Failure Chain



# The Hazard Failure Chain

**K**nowledge

**D**ecision Making

**I**dentification

**S**kills



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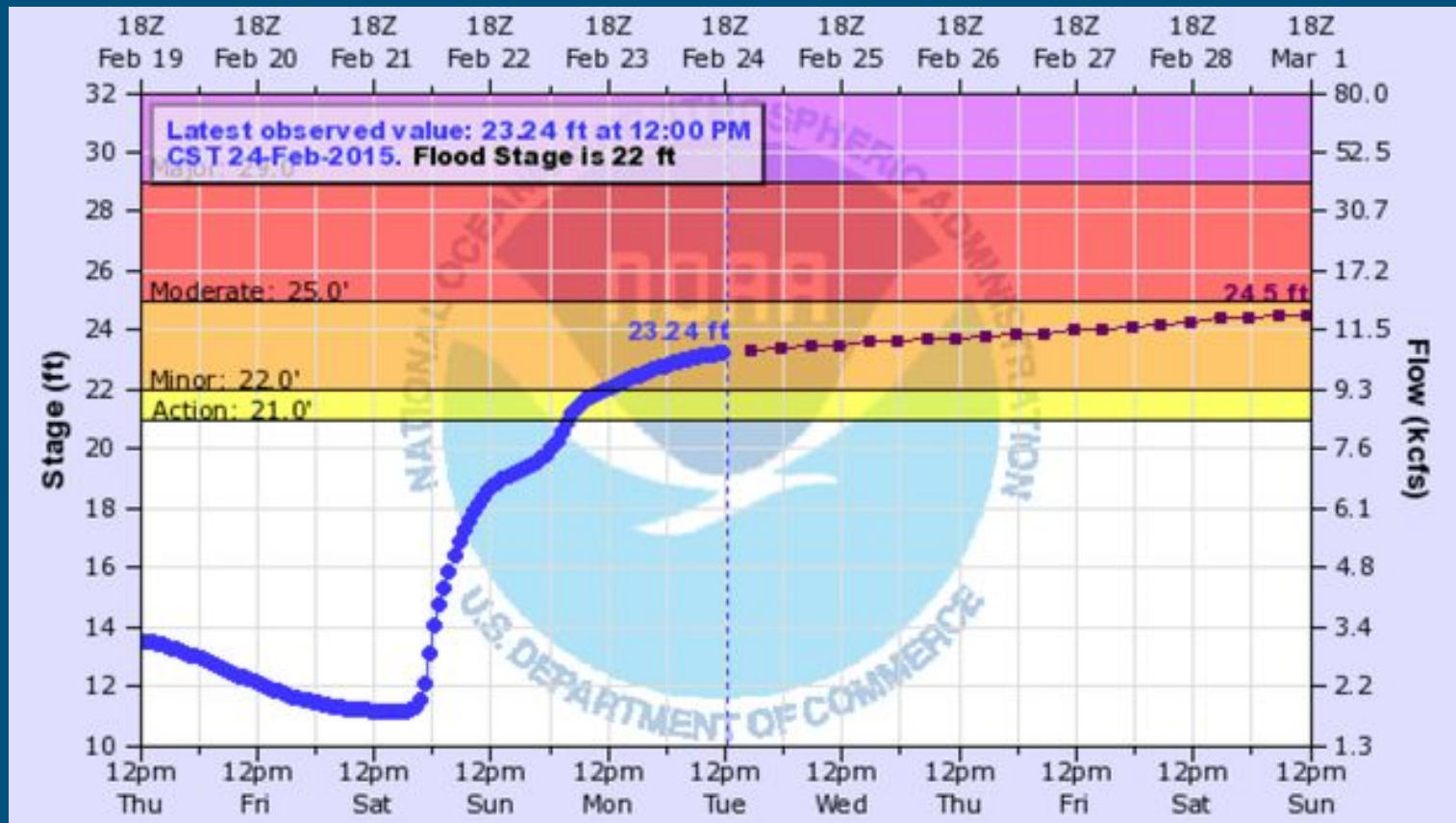
## Tools to Avoid Traps

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1. Before the trip
2. At the start of the trip
3. During the trip



Do the work before you launch



“Go / No Go” Rules

| ALPTRUTH Situational Awareness                                                                                                                                                                                                                                                                                        |                                           |        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------|
| Clue                                                                                                                                                                                                                                                                                                                  | Description                               | Rating |
| Avalanches                                                                                                                                                                                                                                                                                                            | Avalanches in last 48 hours               |        |
| Loading                                                                                                                                                                                                                                                                                                               | Loading from snow, wind, etc. in 48 hours |        |
| Path                                                                                                                                                                                                                                                                                                                  | Known avalanche path by novice            |        |
| Terrain                                                                                                                                                                                                                                                                                                               | Terrain Traps that increase consequences  |        |
| Rating                                                                                                                                                                                                                                                                                                                | Avalanche rating $\geq$ Considerable      |        |
| Unstable                                                                                                                                                                                                                                                                                                              | Unstable snow (cracking, whumpfing)       |        |
| Thawing                                                                                                                                                                                                                                                                                                               | Increase (of 10-15° F in 24 hours)        |        |
| <p><b>Give one point for each condition that exists.</b></p> <p>1-2 points: normal caution (2% of accidents)</p> <p>3-4 points: extra caution (21% of accidents)</p> <p>5-7 points: travel not recommended (77% of accidents)</p> <p>Developed by Ian McCammon, SnowPit Technologies. Table by BeaconReviews.com.</p> |                                           |        |

# Checklists can create rules



Set Alarm Bells



## RISK ASSESSMENT CHECKLIST

|                                                                                                   |                     |
|---------------------------------------------------------------------------------------------------|---------------------|
| Weather                                                                                           |                     |
| Cold / Hot: Temp .....                                                                            | F / C               |
| Deteriorating / Improving                                                                         |                     |
| River Flow Level                                                                                  | Low / Normal / High |
| Associated Hazards:                                                                               |                     |
| Is water going down or coming up?                                                                 | Down / Up           |
| Are eddies easy to catch?                                                                         | Y / N               |
| Have you or someone in your party paddled the river at the current water level?                   | Y / N               |
| Access / Egress                                                                                   |                     |
| Is it easy to portage or hike out?                                                                | Y / N               |
| Are you familiar with area?                                                                       | Y / N               |
| Do you have a map?                                                                                | Y / N               |
| Group                                                                                             |                     |
| Experience on run:                                                                                | Lots / Some / None  |
| Is there an appointed trip leader?                                                                | Y / N               |
| Have you done a group check in/safety briefing?                                                   | Y / N               |
| Hand/whistle signals and communication clarified?                                                 | Y / N               |
| Have you agreed to an approximate spacing and lead and sweep boaters based on current conditions? | Y / N               |
| Is there an agreement to always stay in line of sight?                                            | Y / N               |

### Equipment

|                                                                                     |       |
|-------------------------------------------------------------------------------------|-------|
| Are boats adequate for river conditions?                                            | Y / N |
| Does everyone have a good PFD?                                                      | Y / N |
| Does everyone have appropriate thermal protection for the temperature of the water? | Y / N |
| Does everyone have personal rescue gear?                                            | Y / N |
| Do you have:                                                                        |       |
| Rescue kit?                                                                         | Y / N |
| Outside communication, with emergency phone numbers?                                | Y / N |
| First aid kit?                                                                      | Y / N |
| Hypothermia kit?                                                                    | Y / N |
| Survival kit?                                                                       | Y / N |

### Training

|                                                                                                                 |       |
|-----------------------------------------------------------------------------------------------------------------|-------|
| Swiftwater Rescue training?                                                                                     | Y / N |
| First Aid /CPR training?                                                                                        | Y / N |
| Float plan: filed with <a href="http://www.americancanoe.org/PaddleReady">www.americancanoe.org/PaddleReady</a> | Y / N |
| Probability of encountering strainers:                                                                          | Y / N |

### Other:

|                 |       |                              |       |
|-----------------|-------|------------------------------|-------|
| Momentum        | Y / N | Long Distance Travelled      | Y / N |
| Permit Pressure | Y / N | Contingency Plan or Activity | Y / N |

For items in RED, what can we do to mitigate or manage the increased risk?

For items in RED, what can we do to mitigate or manage the increased risk?

Medical Info: .....

Sierra Rescue International

Tel: 530-902-6122 | Tel: 800-208-2723 | Web: [www.sierrarescue.com](http://www.sierrarescue.com)

# Checklists can also set Alarm Bells

# Tools to Avoid Traps

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1. Before or at the start of the trip
  - a. Checklists
  - b. Go / No Go Rules
2. During the trip
  - a. Checklists
  - b. Alarm Bells

# Moving Beyond Heuristic Traps

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1. Heuristic Traps Case Study
2. The Hazard Failure Chain
3. Tools to Avoid Traps
4. Action Items

## Action Items

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1. What Go / No Go rules apply to you?
2. What Alarm Bells do you use or could you train your people about?
3. Do you use checklists? Should anything be added to your checklists to identify heuristic traps?

# Thanks for having me!

Questions? Comments?

Future ideas?

Please reach out to Nik White:

[nik@whitewaterworkshop.com](mailto:nik@whitewaterworkshop.com)



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Presentation available at <https://whitewaterworkshop.com/beyond-traps>

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