

Swiftwater Rescue Course Manual

Table of Contents

Forward

Table of Contents

Swiftwater Rescue Skills Sheet

Chapter 1: Concepts and Philosophy of Rescue

- A. Principles of Rescue
- B. Rescue Curve
- C. The Experience
- D. Search Techniques for Swiftwater Rescue
- E. Summary
- F. References

Chapter 2: Wading, Swimming and Crossings

- A. Wading Techniques
 - 1. Solo Wading with a Paddle
 - 2. Two-Person Wading
 - 3. Four-Person “Huddle”
 - 4. Pyramid
 - 5. In-line Crossing
- B. Swiftwater Swimming Techniques
 - 1. Defensive Swimming
 - 2. Aggressive Swimming
 - 3. Barrel Rolls
 - 4. Back Ferrying
 - 5. Using Defensive and Aggressive Swimming to Swim a Rapids
 - 6. Strainers and the Strainer Drill
- C. Crossing Techniques
 - 1. Line Crossing
 - 2. Diagonal Traverse
 - 3. Setting Up of Line
- D. Summary
- E. References

Chapter 3: Rope Rescues

- A. Throw Bags
 - 1. Anatomy of a Throw Bag
 - 2. Types of Rope
 - 3. Materials
 - 4. Stuffing a Throw Bag
 - 5. First Throw of a Throw Bag
 - 6. Second Throw
 - 7. Throw Bag Drill
 - 8. Belays

- B. Shore Based Rope Rescues
 - 1. Stabilization Line
 - 2. Snag Line
 - 3. Inverted Paddle Snag Line
 - 4. Simple Rope Tether
 - 5. Tethered Swimmer or Live Bait Rescue
 - 6. V-Lower
- C. Cinches
 - 1. Simple Cinch
 - 2. Kwi Cinch
 - 3. Carlson Cinch
- D. Summary
- E. References

Chapter 4: River Dynamics

- A. River Currents
 - 1. River Right and River Left
 - 2. Primary Current
 - 3. Downstream and Upstream “V”s
 - 4. Bends
 - 5. Chutes and Waves
- B. River Features
 - 1. Eddies
 - 2. Hydraulics and Holes
 - 3. Pillows
- C. River Hazards
 - 1. Strainers
 - 2. Undercut Rocks
 - 3. Low-head Dams
 - 4. Old Man-made Structures
 - 5. Drowning Trap Flows
- D. Summary
- E. References

Chapter 5: Knots, Hitches, Bends and Anchors

- A. Principles and Definitions
 - 1. Knot
 - 2. Hitch
 - 3. Bend
 - 4. Families
 - 5. Parts of a Rope
 - 6. Tying Considerations
 - 7. Amount of Rope Used
 - 8. Types of Rope
- B. Knots
 - 1. Figure Eight Family
 - 2. Bowline
 - 3. Untying the Bowline
 - 4. Yosemite Tie-off

- C. Hitches
 - 1. Two Half-hitches
 - 2. Clove Hitch
 - 3. Prusik
 - 4. Trucker's (Riggers) Hitch
 - 5. Tensionless Anchor
 - 6. Munter Hitch
- D. Bends
 - 1. Sheetbend
 - 2. Water Knot
 - 3. Double Fisherman
- E. Cam Straps
- F. Anchors
 - 1. Simple or Single Loop
 - 2. 3-bight
 - 3. Girth Hitch
- G. Carabiners
- H. Summary
- I. References

Chapter 6: Mechanical Advantage Systems

- A. Principles and Definitions
 - 1. Mechanical Advantage
 - 2. Compound Pulley Systems
 - 3. Self-adjusting Brake
 - 4. Range of System
 - 5. Throw
 - 6. Internal Versus External Hauling Systems
 - 7. 120° Rule and Directional Pulleys
- B. Type of Systems
 - 1. 2:1 Pulley System
 - 2. Z-rig (3:1)
 - 3. Piggy-back (4:1)
 - 4. 5:1 System
 - 5. Double Z-rig (9:1)
 - 6. Block and Tackle
- C. Summary
- D. References

Chapter 7: Study Questions

