APPALACHIAN SEARCH AND RESCUE CONFERENCE, INC.

Allegheny Mountain Rescue Group
P.O. Box 2196 Pittsburgh, PA 15230-2196

CISD INTERVIEWING

Red = Al
Blue = Brian

Looks Good

Comments from Albert Baker & Brian Wheeler 2/88

Proposal: The ASRC Training Manual
Version 1.1 December 5, 1987
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Notes

- Equipment checklists and information on the ASRC uniform, originally included in the ASRC Basic Member Training Course, should more properly be a part of the Operations Manual.

- For items with a dagger (†), we will review the topic briefly, then refer the reader to a readily-available reference. (E.g. for Fourth Class Climbing Techniques, we will mention some basic principles, then refer the reader to a good basic text such as Loughman's *Learning to Rock Climb.**)

- I'd like to try an experiment with the Training Manual: providing both a printed manual and a computer version using a *HyperText* format. The idea behind *HyperText* is that the text is indexed like data in a database, so that there is more than one path to a particular sentence or paragraph. Thus, with a *hyperText* version of the Manual, you could all the sections relating to energy, in a logical order, as if they were in a single section, even though they are really spread throughout the manual.

- This version (1.1) supersedes version 1.0, which was incomplete. It is being distributed in three forms:

  - A form suitable for use with Broderbund Software's ForComment program, both of which are available** for downloading from the Allegheny Mountain Rescue Group Computer Bulletin Board System at 412-247-4488.

  - A plain ASCII text file, also available from the above BBS.

  - A printed version.

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*Loughman M. *Learning to Rock Climb.* San Francisco: Sierra Club, 1981.

**The reviewer program, which allows the user to enter comments, may be distributed freely. The author program, which is needed to import documents into the required format, cannot be distributed and must be purchased from Broderbund.

ASRC Training Manual Outline
Draft Version 1.1
December 5, 1987

If you have comments for the editors, we would prefer that you use ForComment to attach them to the outline; that way, we can integrate your suggestions directly into the word processor file that we are using. A second choice would be comments in ASCII form with carriage returns at the end of paragraphs but no line endings. We'll take handwritten notes, too, even if in Crayola crayon on brown paper.

Content Outline: ASRC Training Manual

I. Introduction
  A. Introduction: the role of the ASRC Member
  B. History of Wilderness Search and Rescue and the ASRC
II. Personal Wilderness Skills
  A. Survival
    1. Short-Term Survival vs. Long-Term Survival
    2. Survival Priorities
    3. Weather
      a. Sources of Information
      b. "Hypothermia Weather"
      c. Cyclonic Storms
      d. Cold and Warm Fronts
      e. Summer Storms
      f. Lightning
      g. Prediction of Weather in the Field
    4. Psychological Aspects of Survival
      a. The Role of Fear
      b. Panic Prevention
      c. The Will to Live
    5. Heat Balance and Survival
      a. Wind and Rain: Wetchill and Windchill
      b. Physics of Heat Loss
      c. Clothing Insulation Value
        ~~(1) The "Clo"~~
        (2) Clothing Materials and Properties
          (a) Warmth
          (b) Wet Warmth
          (c) Water Absorption
          (d) Wicking, Good and Bad
          (e) Compressibility
          (f) Water Resistance
          (g) Water Vapor Permeability
          (h) Teaching About Outdoor Clothing: The 3 "W's"
      d. Physiology of Heat and Cold
        (1) Dealing with Heat: Vasodilatation, Sweating, and Their Consequences
        (2) Dealing with Cold: Vasoconstriction, Shivering, and Their Consequences
        (3) Effects of Tobacco and Alcohol
      e. Heat Illness: Recognition, Prevention, and Wilderness First Aid
        (1) Dehydration†

I assume Tx will not be covered here

need to coordinate this section with Medical Part

(2) Heat Syncope†
(3) Heat Cramps†
(4) Heat Exhaustion†
(5) Heatstroke†

f. Cold Illness: ~~Recognition~~, Prevention, and Wilderness ~~First Aid~~ Mgmt.
(1) Frostbite
(a) Frostnip†
(b) Deep Frostbite†
(c) Immersion Foot†
(2) Hypothermia
(a) Immersion (Acute) Hypothermia†
(b) Mountain (Subacute, Exhaustion) Hypothermia†
(c) Urban (Chronic) Hypothermia†

6. Survival Equipment
a. The SAR Pack as a Life Support System – 10 essentials
b. Food
c. Shelter
d. Warmth
7. Bivouacs and Improvised Shelters
8. Improvised Evacuations → Good!

B. Wilderness Travel
1. Route Selection
2. Pace, Rest Stops, and the Rest ~~Step~~ step
3. Fourth Class Climbing Principles†
4. Conditioning for Mountain Search and Rescue
a. Strength
b. Endurance
c. Flexibility
5. Food, Water, Digestion, and The Wilderness Traveler
a. Food Types and Caloric Needs
(1) Energy Values of Foods
(2) Digestibility of Food
(3) Need for Carbohydrates, Fats, and Protein
b. Eating Habits and Exercise
(1) "Quick Energy" Food
(2) Easily Digestible Food
(3) Carbohydrate Loading
(4) Fat and the Winter Diet
c. Foods for Field Use
d. Water
(1) Finding Water
(2) Water Purification → interested in what we will advocate? BW
(3) Water and Electrolyte Needs

C. Personal Equipment
1. Clothing for the Outdoors
a. Materials: see under Heat Balance and Survival, above
b. Raingear
c. Wind Protection
d. Ventilation, Layering, and Adjusting Insulation
2. Hand Protection
a. Gloves for Ropework
b. Gloves and Mittens for Cold Weather

3. Foot Protection
   a. Standard Boots
   b. Winter Footgear: Winter Boots and Overboots
   c. Socks, Boot Liners, and Insoles
4. Sleeping Gear
   a. Sleeping Bags
   b. Sleeping Pads
5. Stoves and Fires: Uses and Dangers
   a. Fires
   b. Gasoline Stoves
   c. Other Stoves (Solid Fuel, Alcohol, Compressed Gas)
6. Winter Travel: Ice Axes, Snowshoes, Skis, and Crampons
   a. Ice Axes for Eastern Winter SAR
   b. Snowshoes for Eastern Winter SAR
   c. Skis for Eastern Winter SAR
   d. Crampons and Instep Crampons/"Creepers"
7. Light Sources
   a. Night Vision and Red Filters
   b. Headlamps and Flashlights
   c. Batteries/bulbs
   d. ~~Bulbs~~

D. Land Navigation
1. Maps
   a. Series and Types of Maps
      (1) Topographic
      (2) Aeronautical
      (3) Highway
      (4) Others: Oreinteering, Trail, Planimetric
   b. Features of Topographic Maps
      (1) Contour Lines†
      (2) Edge Information
         (a) Name
         (b) Date
         (c) Road Clasification
         (d) Scale
         (e) Contour Interval
         (f) Declination
         (g) Mapping Information
         (h) Other Edge Information
         (i) Keys to Adjacent Maps
   c. Features of Aeronautical Maps†
      (1) Contour Lines
      (2) VOR Markers
      (3) Aerodromes
      (4) Airways
      (5) Declination Marks
      (6) Lat-Long Co-ords
2. Grid and Location Systems
   a. The ASRC Grid System
   b. The "Uniform Map System" (CAP/MRA)
   c. The Universal Transverse Mercator--Military Grid Reference System (UTM/MGRS)
   d. Latitude and Longitude and LORAN-C
   e. The "Second G in George Washington" System
   f. Distance and Bearing/VOR+DME
3. Compasses

a. Basic Principle
b. Declination
c. Types: Orienteering, Survey, Lensatic, Other

4. Orienteering
~~a. Orienteering as a Sport~~ I agree, this manual is presently enough info. as it is... ~~A~~ One liner would be appropriate... Is that what you mean?
b. Orienteering as SAR Training
c. Point-to-Point Orienteering Courses
d. Northing Lines
e. Bearings (Azimuths)
f. Catching Features
g. Attack Points
h. Aiming Off
i. Collecting Features
j. Backwards Route Planning
k. Route Selection

5. Determining a Bearing
a. Determining a Bearing With Map, Protractor, and Strightedge
b. Determining a Bearing With Map and Compass

6. True Bearings, Magnetic Bearings, and Declination Adjustment
7. Following a Bearing
8. Determining Distance
9. Determining Position
a. "Thumbing" a Map
b. Position by Inspection
c. Position by Resection
d. Position by Triangulation
e. Marking Positions for Easy Location

10. Emergency Determination of Direction

III. Wilderness Search
A. Operations Management and Leadership
1. Principles of Management
2. Leadership

B. The Incident Command System and the ASRC SAROP
1. Principles of the ASRC SAROP
a. Completeness
b. Simplicity
c. Adaptability
d. Compatibility
e. Clear Delineation of Authority

2. Wilderness Search and Rescue Operation Management and the Incident Command System
a. Command
b. Plans
c. Resources
d. Logistics

3. ASRC Alerting and Mobilization
a. The Virginia Department of Emergency Services (DES) and University of Virginia Emergency Medical Communications Center (UVA MEDCOM)
b. The Alert Officer (AO)
c. The Appalachian Search and Rescue Conference Incident Commander (ASRC IC)
d. The Dispatch Officer (DO)
e. The members of non-BRMRG groups assigned to bitch about not being called early enough.

4. The First Response Phase
   a. Quick Response Team (QR Team) Organization
      (1). The Quick Response Team Leader (QR Team Leader)
      (2). The Assistant Team Leader (ATL)
      (3). The Medical Specialist (MEDIC)
      (4). The Rescue Specialist (RS)
      (5). The Radio Operator (RO)
      (6). The Base Officer (BO)
   b. Overhead Team Organization
      (1). The Dispatch Officer (DO)
      (2). The ASRC Incident Commander (ASRC IC)
5. The Scratch Search Phase
   a. The ASRC Command and General Staff
      (1) The ASRC Incident Commander (ASRC IC)
      (2) The Dispatch Officer (DO)
      (3) The Plans Chief
      (4) The Resources Unit Leader
      (5) The Operations Chief
      (6) The Logistics Chief
      (7) The Communications Unit Leader
   b. The National Interagency Incident Management System (NIIMS) and Incident Command System (ICS)
   c. The Field Team
   d. Operational ~~Problems~~
      (1) Task Assignment
      (2) Briefing and Debriefing
      (3) Relief
      (4) Safety
      (5) Coordination with Other Organizations
      (6) Communications
      (7) Position Information
      (8) Public Relations
      (9) Medical Care and Evacuations
      (10) Mission Suspension
6. The Saturation Search Phase
7. The Withdrawal Phase
   a. Withdrawal of Non-ASRC Searchers
   b. Withdrawal of ASRC Searchers
   c. Withdrawal of ASRC Command and General Staff

C. Communications
   1. Principles of effective communications
   2. Legal and administrative background
      a. Radio frequencies and bands
      b. Communications law and regulation
      c. Security and codes
   3. Technical background
      a. Modes and frequencies
      b. Radio propagation and attenuation
      c. Repeaters
      d. Antennas
      e. Power and batteries
      f. Squelch, tone squelch and "private line"
   4. Communications management
      a. Principles: planning the communications nets
      b. Base Camp Communication Center procedures

Should this be discussed sooner since already using terms see III. B. — (b.)

c. Field Radio Operator procedures
d. Net discipline
e. Radio operator discipline

5. Non-radio communications
a. Field telephones
b. Signaling

D. Lost Person Search
1. Search Theory
a. Search as an Emergency
b. Search as a Mystery
c. Searching for Clues vs. Subjects
d. Containment
e. Non-Thorough Search and Efficiency
f. Search Calculations: POA, POD, POS
2. Strategy†
3. Resources and Tactics
a. Trained searchers
(1) Hasty search
(2) Scratch search
(3) Sweep search
(4) Cutting for sign
b. Untrained searchers
(1) Line search
(2) Containment
(3) Managing untrained searchers on skilled search tasks
c. Man-trackers → "step by step tracking technique", we need to put skills, strategies, and techniques together in writing for our people
d. Dogs
(1) Tracking and trailing dogs
(2) Air scenting dogs
e. Aircraft
(1) Fixed-Wing
(2) Helicopters → include LZ's, etc. (3) Safety around a/c
f. Passive Search

Move to III.A.

Wouldn't it be best to discuss the basic task we are doing before we tell them who does what job and why?

E. Downed Aircraft Search†
1. Interviewing
2. Visual Search
3. Electronic Search

F. Legal Aspects of Wilderness Search and Rescue
1. General
2. Authority and Responsibility for Search and Rescue
3. Authorization for ASRC Participation in a Search
4. Medico-Legal Considerations
a. Aid to Persons in Distress and "Good Samaritan Laws"
b. Levels of Training and Negligence
c. Abandonment
d. Consent: Express, Implied, and Informed
e. Patient Data and Public Information
5. Crime Scenes and Crash Sites
6. Entry on Private Property

IV. Wilderness Emergency Medicine*
  A. Wilderness Emergency Medical Services
  B. Wilderness First Aid
  C. Wilderness Medicine
V. Wilderness Rescue
  A. Principles of Wilderness Rescue
  B. Ropework
    1. Ropes, Knots, and Technical Equipment
      a. Rope and webbing
        (1) General Care
          (a) Chemicals
          (b) Radiation Damage
          (c) Thermal Damage
          (d) Mechanical Damage
            i) Abrasion
            ii) Direct Trauma
        (2) Materials
        (3) Management
          (a) Stacking
          (b) Coiling
            i) Speed Coil
            ii) Arm Coil
            iii) Knee Coil
            iv) Lap Coil
            v) Chain-coiling
            vi) Reverse-twist coil
            vii) "Rescue" Coils
            viii) Rope Bags
            ix) Tie-offs
          (c) Casting
      b. Knots and hitches
        (1) Principles
          (a) Strength
            i) Strength of Knot
            ii) Contouring
            iii) Standing Ends to the Outside
          (b) Security
            i) Knot Creep and Securing Ends
            ii) Overhands
            iii) Barrel Knots
          (c) Jamming
        (2) Basic Knots and Hitches
          (a) Overhand Knot
          (b) Overhand ~~Bend~~ Follow through, Water knot
          (c) Figure Eight Knot
          (d) Figure Eight ~~Loop~~ on a bight
          (e) Figure Eight ~~Bend~~ Follow through
          (f) Bowline

→ a lot. It needs to be w/ this training info for completeness sake. I agree BW

*I am uncertain how much wilderness medicine should be in the ASRC Training Manual, since we will be putting all our best information into the Wilderness EMT Textbook. Perhaps the Training Manual should have information only at the standard/advanced first aid level.

(g) Butterfly Knot
(h) Square Knot
(i) Barrel knot
(j) ~~Barrel bend~~ Double Barrel, Fishermens
(k) Clove hitch
(3) Advanced Knots and Hitches
(a) "double strength" bowline
(b) bowline-on-a-coil
(c) bowline-on-a-coil around anchors
(d) bowline-on-a-bight
(e) three-loop bowline
(f) sheet bend and double sheet bend
(g) anchor hitch
(4) Esoteric Knots and Hitches
(a) ~~Load-releasing Hitches~~
(5) Basic Tied Harnesses
(a) the ASRC Seat Harness
(b) ~~the Diaper Seat~~ (c) Swiss seat
(6) Basic Tied Harnesses
(a) ~~the ASRC seat harness~~: variants
(b) the Crossed-loop Chest Harness
(c) the Parisian Buadrier Chest Harness

c. Equipment
(1) Basic Technical Equipment
(a) Carabiners
(b) Pulleys
(c) Natural Anchors and Slings
(2) Advanced Technical Equipment
(a) Chocks
(b) Pitons
(c) Bolts → Friends? "Camming Devices"
(d) Edge Rollers
(e) A-Frames

2. Belaying
a. Basic Belay Device: Hips and Gloved Hands
b. Advanced Belay Devices
(1) Münter Hitch
(2) Belay Plate
(3) Figure 8 descender
c. Stance
(1) Physical Stance
(a) Sitting Hip Belay
(b) Mechanical Belay on Harness
(c) Standing Hip Belay
(d) Mechanical Belay on Anchor
(e) Tree Belay
(2) Tie-in
(3) Aim
d. Technique
(1) Basic Technique
(a) Up-rope
(b) Slack
(c) Catching Falls
(2) Sitting Hip Belay
(3) Mechanical Belay on Harness

(4) Standing Hip Belay
(5) Mechanical Belay on Anchor
(6) Tree Belay
(7) Tying Off Belay and Leaving Stance

e. Calls

3. Rappelling
   a. Basic Rappel Devices
      (1) Dulfersitz Body Rappel
      (2) Arm Rappel
      (3) Figure 8 Descender (single and double wrap)
      (4) Rappel Rack
   b. Advanced/Escape Rappel Devices
      (1) Münter hitch
      ~~(2) Carabiner Wrap~~
      ~~(3) Carabiner-Brake Bar~~ > I would not advocate either method due to safety concerns
      (4) Six-carabiner Rappel
   c. Basic Rappel Technique
      (1) Basic Technique
      (2) Tying Off
      (3) Edges
      (4) Recovering from a Jammed Rig
      (5) Switching to Ascend
   d. Advanced Rappel Technique
      (1) Multiple-step Pull-down Rappels
      (2) Self-Belays: Spelean Shunt, Spiral Knot, etc.
   e. Calls
   f. Belaying a Rappeller
      (1) Bottom-belays
      (2) Top Belays
4. Ascending
   a. Basic Ascending Devices
      (1) Prusik Knot
      (2) Headden Knot
      (3) Cam Ascenders (e.g. Gibbs Ascenders)
      (4) Spring Ascenders (e.g. Jumars, Clog Ascenders)
      (5) Taut-line Hitch
   b. Advanced Ascending Devices
      (1) Bachmann Knot
      (2) French Prusik
      (3) Friction Hitch
   c. Basic Ascending Systems
      (1) Two-knot "Texas" rig and Texas "Y" rig
   d. Advanced Ascending Systems
      (1) classic three-knot rig
      (2) three-cam "ropewalker" rig
      (3) modified climber's Jumar-etrier rig
      (4) Mitchell system
5. Hauling
   a. Principles of Mechanical Hauling System
   b. Z-hauls
   c. Piggyback Hauls
6. High-tension lines
   a. Principles of High-Tension Lines
   b. Anchors for High-Tension Lines
   c. Tensioning High-Tension Lines

d. Passing Personnel and Equipment across High-tension Lines

7. Anchorage
   a. Natural Anchors
      (1) Looped Runner
      (2) Girth Hitch
      (3) Doubled Runner
      (4) Tree-Wrap

C. Patient Packaging
D. Non-Technical Evacuations and Basic Litter Handling
E. Semi-Technical Evacuations
F. Technical (Vertical) Rescue
   1. Basic Technical Rescue
      a. Sending Litters Across High-Tension Lines
      b. Vertical Lowering
      c. Solo Rescue
   2. Advanced Technical Rescue
      a. Vertical Raises
      b. Third-Man Techniques
      c. Special Rigging

G. Cave Search and Rescue
   1. The National Cave Rescue Commission and the Role of the ASRC in Cave Rescue
   2. The Cave Environment†
   3. Management Issues†
   4. Patient Transportation†
   5. Vertical Cave Rescue†
   6. Hazardous Atmospheres†
   7. Water Problems†

I Feel very strongly that the ASRC should not attempt to cover this topic in the manual. I do respect many ASRC members interest in this form of rescue but feel other texts should be used besides the ASRC Training Manual.

H. Downed Aircraft Extrication and Rescue
   1. Military Aircraft†
   2. Common Carrier Aircraft†
   3. Light Civil Aircraft
      a. Hazards and Scene Management
      b. Fire
      c. Extrication with Lightweight and Improvised Tools
      d. Nullifying ELT Signals

I. Whitewater Rescue
   1. Hazards of the Whitewater Environment and the Rescuer†
   2. River Rescue by Rope†
   3. Rescue from Entrapment†

VI. Disasters
VII. ASRC Training Standards*
VIII. Pretests
IX. Pretest Answers
X. Annotated Bibliography
XI. Skills Checklists

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*I was going to suggest that this be available also as a separate publication, but after some contemplation, I found it difficult to justify as a separate publication.