

## A P P E N D I X F

### DANGEROUS FISH AND MOLLUSKS

*Since fish and mollusks may be one of your major sources of food, it is wise to know which ones are dangerous to you should you catch them. Know which ones are dangerous, what the dangers of the various fish are, what precautions to take, and what to do if you are injured by one of these fish.*

*Fish and mollusks will present a danger in one of three ways: by attacking and biting you, by injecting toxic venom into you through its venomous spines or tentacles, and through eating fish or mollusks whose flesh is toxic.*

*The danger of actually encountering one of these dangerous fish is relatively small, but it is still significant. Any one of these fish can kill you. Avoid them if at all possible.*

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## FISH THAT ATTACK MAN

The shark is usually the first fish that comes to mind when considering fish that attack man. Other fish also fall in this category, such as the barracuda, the moray eel, and the piranha.

### Sharks

Sharks are potentially the most dangerous fish that attack people. The obvious danger of sharks is that they are capable of seriously maiming or killing you with their bite. Of the many shark species, only a relative few are dangerous. Of these, four species are responsible for most cases of shark attacks on humans. These are the white, tiger, hammerhead, and blue sharks. There are also records of attacks by ground, gray nurse, and mako sharks. See Figure F-1 for illustrations of sharks.

Avoid sharks if at all possible. Follow the procedures discussed in Chapter 16 to defend yourself against a shark attack.

Sharks vary in size, but there is no relationship between the size of the shark and likelihood of attack. Even the smaller sharks can be dangerous, especially when they are traveling in schools.

If bitten by a shark, the most important measure for you to take is to stop the bleeding quickly. Blood in the water attracts sharks. Get yourself or the victim into a raft or to shore as soon as possible. If in the water, form a circle around the victim (if not alone), and stop the bleeding with a tourniquet.

### Other Ferocious Fish

In salt water, other ferocious fish include the barracuda, sea bass, and moray eel (Figure F-2). The sea bass is usually an open water fish. It is dangerous due to its large size. It can remove large pieces of flesh from a human. Barracudas and moray eels have been known to attack man and inflict vicious bites. Be careful of these two species when near reefs and in shallow water. Moray eels are very aggressive when disturbed.

In fresh water, piranha are the only significantly dangerous fish. They are inhabitants of the tropics and are restricted to northern South

**TIGER**  
3.0-3.7 METERS

**MAKO**  
2.1-2.7 METERS

**WHITE**  
3.0-4.6 METERS

**BLUE**  
2.4-3.0 METERS

**HAMMERHEAD**  
2.7-3.4 METERS

5      4      3      2      1      0  
**METERS**

**Figure F-1. Sharks.**

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America. These fish are fairly small, about 5 to 7.5 centimeters, but they have very large teeth and travel in large schools. They can devour a 135-kilogram hog in minutes.

## VENOMOUS FISH AND INVERTEBRATES

There are several species of venomous fish and invertebrates, all of which live in salt water. All of these are capable of injecting poisonous venom through spines located in their fins, tentacles, or bites. Their venoms cause intense pain and are potentially fatal. If injured by one of these fish or invertebrates, treat the injury as for snakebite.

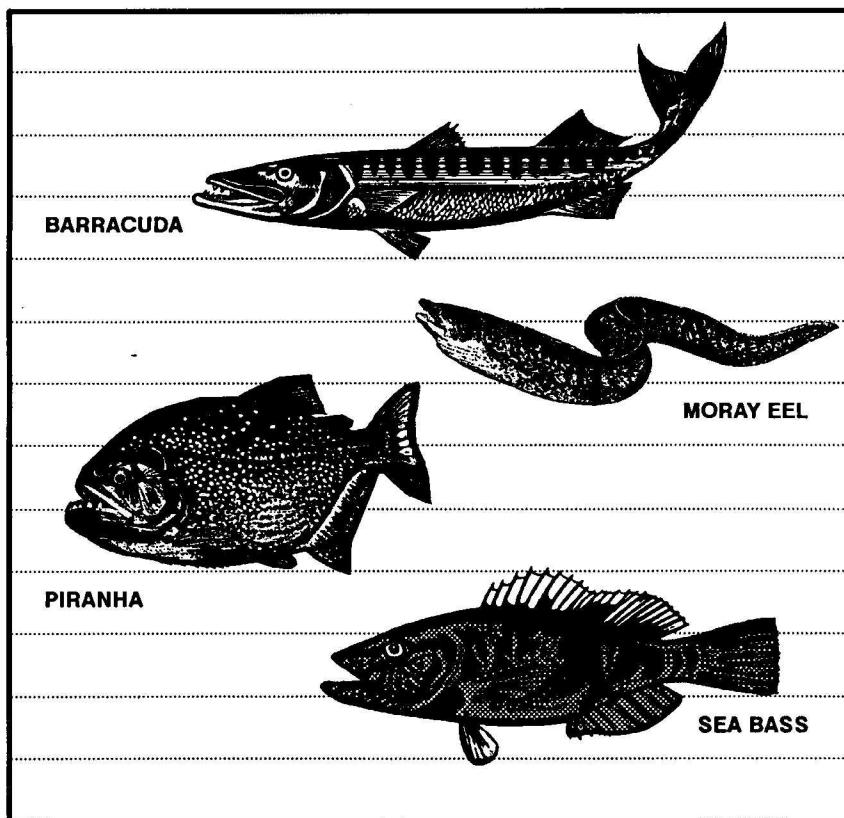
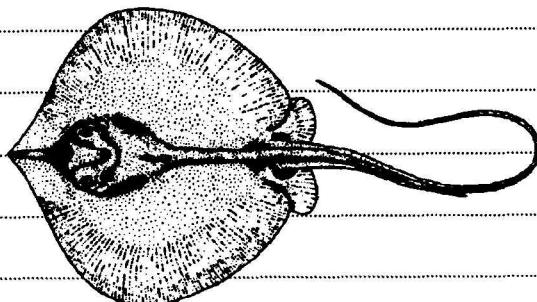


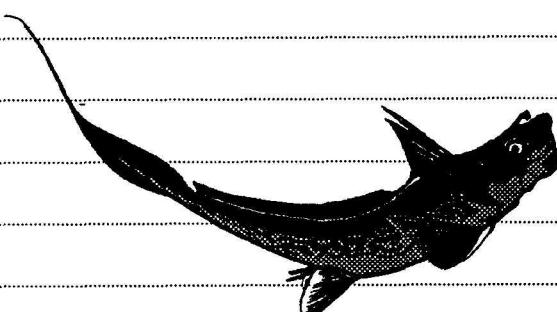
Figure F-2. Ferocious fish.



## **Stingrays**

*Dasyatidae* species

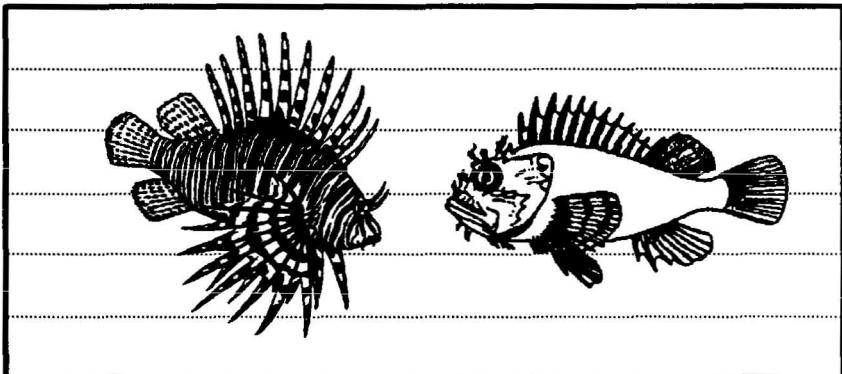
Stingrays inhabit shallow water, especially in the tropics and in temperate regions as well. All have a distinctive ray shape but coloration may make them hard to spot unless they are swimming. The venomous, barbed spines in their tails can cause severe or fatal injury.



## **Rabbitfish**

*Siganidae* species

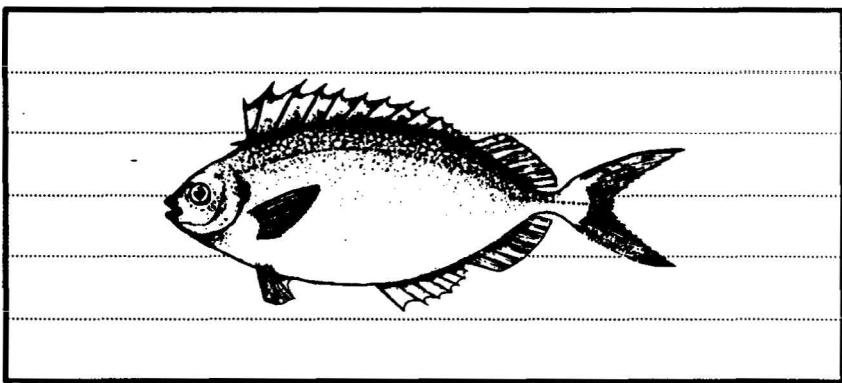
Rabbitfish are found predominantly on reefs in the Pacific and Indian oceans. They average about 30 centimeters long and have very sharp spines in their fins. The spines are venomous and can inflict intense pain.



### **Scorpion fish or zebra fish**

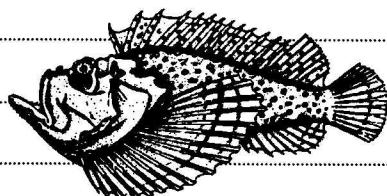
*Scorpaenidae* species

Scorpion fish or zebra fish live mainly in the reefs in the Pacific and Indian oceans. They vary from 30 to 90 centimeters long, are usually reddish in coloration, and have long, wavy fins and spines. They inflict an intensely painful sting.



### **Siganus fish**

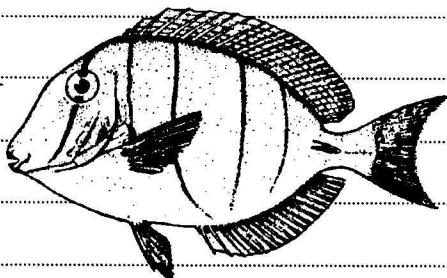
The siganus fish is small, about 10 to 15 centimeters long, and looks much like a small tuna. It has venomous spines in its dorsal and ventral fins. These spines can inflict painful stings.



## Stonefish

*Synanceja* species

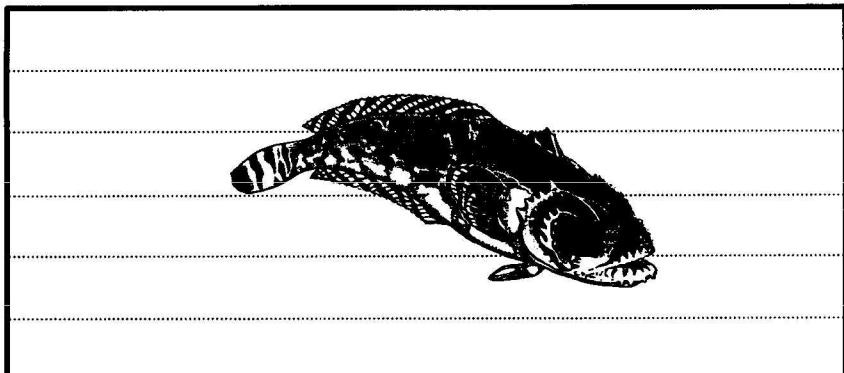
Stonefish are found in the tropical waters of the Pacific and Indian oceans. Averaging about 30 centimeters in length, their subdued colors and lumpy shape provide them with exceptional camouflage. When stepped on, the fins in the dorsal spine inflict an extremely painful and sometimes fatal wound.



## Tang or surgeonfish

*Acanthuridae* species

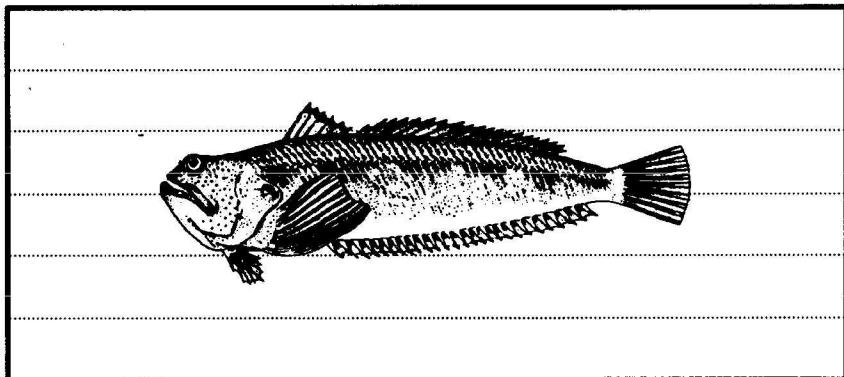
Tang or surgeonfish average 20 to 25 centimeters in length, with a deep body, small mouth, and bright coloration. They have needlelike spines on the side of the tail that cause extremely painful wounds. This fish is found in all tropical waters.



## Toadfish

*Batrachoididae* species

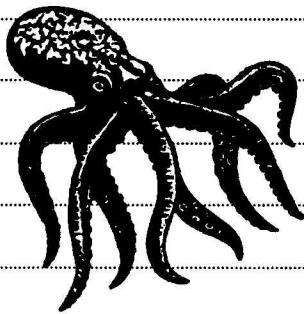
Toadfish are found in the tropical waters off the coasts of South and Central America. They are between 17.5 and 25 centimeters long and have a dull color and large mouths. They bury themselves in the sand and may be easily stepped on. They have very sharp, extremely poisonous spines on the dorsal fin (back).



## Weever fish

*Trachinidae* species

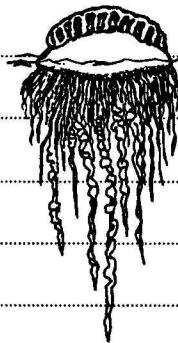
The weever fish is a tropical fish that is fairly slim and about 30 centimeters long. All its fins have venomous spines that cause a painful wound.



### **Blue-ringed octopus**

*Haplochlaena lunulata*

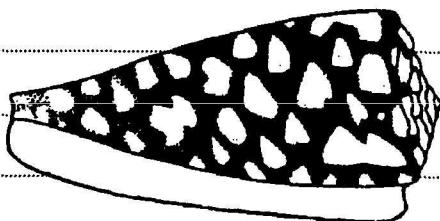
This small octopus is usually found on the Great Barrier Reef off eastern Australia. It is grayish-white with iridescent blue ringlike markings. This octopus usually will not bite unless stepped on or handled. Its bite is extremely poisonous and frequently lethal.



### **Portuguese man-of-war**

*Physalis species*

Although it resembles a jellyfish, the Portuguese man-of-war is actually a colony of sea animals. Mainly found in tropical regions, the Gulf Stream current can carry it as far as Europe. It is also found as far south as Australia. The floating portion of the man-of-war may be as small as 15 centimeters, but the tentacles can reach 12 meters in length. These tentacles inflict a painful and incapacitating sting, but the sting is rarely fatal.



### Cone shells

*Conidae* species

These cone-shaped shells have smooth, colorful mottling and long, narrow openings in the base of the shell. They live under rocks, in crevices or coral reefs, and along rocky shores of protected bays in tropical areas. All have tiny teeth that are similar to hypodermic needles. They can inject an extremely poisonous venom that acts very swiftly, causing acute pain, swelling, paralysis, blindness, and possible death within hours. Avoid handling all cone shells.



### Terebra shells

*Terebridae* species

These shells are found in both temperate and tropical waters. They are similar to cone shells but much thinner and longer. They poison in the same way as cone shells, but the venom is not as poisonous.

## FISH WITH TOXIC FLESH

There are no simple rules to tell edible fish from those with poisonous flesh. The most common toxic fish are shown in Figure 8-2. All of these fish contain various types of poisonous substances or toxins in their flesh and are dangerous to eat. They have the following common characteristics:

- Most live in shallow water around reefs or lagoons.
- Many have boxy or round bodies with hard shell-like skins covered with bony plates or spines. They have small parrotlike mouths, small gills, and small or absent belly fins. Their names suggest their shape.

In addition to the above fish and their characteristics, barracuda and red snapper fish may carry ciguatera, a toxin that accumulates in the systems of fish that feed on tropical marine reefs.

Without specific local information, take the following precautions:

- Be very careful with fish taken from normally shallow lagoons with sandy or broken coral bottoms. Reef-feeding species predominate and some may be poisonous.
- Avoid poisonous fish on the leeward side of an island. This area of shallow water consists of patches of living corals mixed with open spaces and may extend seaward for some distance. Many different types of fish inhabit these shallow waters, some of which are poisonous.
- Do not eat fish caught in any area where the water is unnaturally discolored. This may be indicative of plankton that cause various types of toxicity in plankton-feeding fish.
- Try fishing on the windward side or in deep passages leading from the open sea to the lagoon, but be careful of currents and waves. Live coral reefs drop off sharply into deep water and form a dividing line between the *suspected fish of the shallows* and the *desirable deep-water species*. Deepwater fish are usually not poisonous. You can catch the various toxic fish even in deep water. *Discard all suspected reef fish*, whether caught on the ocean or the reef side.

## A P P E N D I X   G

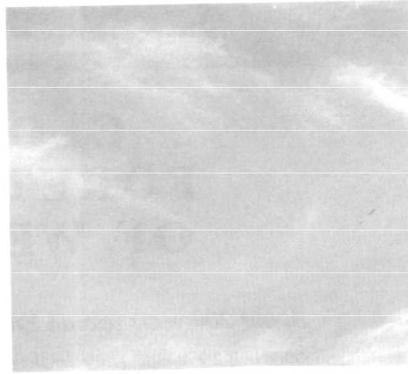
# CLOUDS: FORETELLERS OF WEATHER

*About 200 years ago an Englishman classified clouds according to what they looked like to a person seeing them from the ground. He grouped them into three classes and gave them Latin names: cirrus, cumulus, and stratus. These three names, alone and combined with other Latin words, are still used to identify different cloud formations.*

*By being familiar with the different cloud formation and what weather they portend, you can take appropriate action for your protection.*



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### Cirrus clouds

Cirrus clouds are the very high clouds that look like thin streaks or curls. They are usually 6 kilometers or more above the earth and are usually a sign of fair weather. In cold climates, however, cirrus clouds that begin to multiply and are accompanied by increasing winds blowing steadily from a northerly direction indicate an oncoming blizzard.



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### Cumulus clouds

Cumulus clouds are fluffy, white, heaped-up clouds. These clouds, which are much lower than cirrus clouds, are often fair weather clouds. They are apt to appear around midday on a sunny day, looking like large cotton balls with flat bottoms. As the day advances, they may become bigger and push higher into the atmosphere. Piling up to appear like a mountain of clouds. These can turn into storm clouds.



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### **Stratus clouds**

Stratus clouds are very low, gray clouds, often making an even gray layer over the whole sky. These clouds generally mean rain.



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### **Nimbus clouds**

Nimbus clouds are ram clouds of uniform grayness that extend over the entire sky



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### Cumulonimbus clouds

Cumulonimbus is the cloud formation resulting from a cumulus cloud building up, extending to great heights, and forming in the shape of an anvil. You can expect a thunderstorm if this cloud is moving in your direction.



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### Cirrostratus clouds

Cirrostratus is a fairly uniform layer of high stratus clouds that are darker than cirrus clouds. Cirrostratus clouds indicate good weather.



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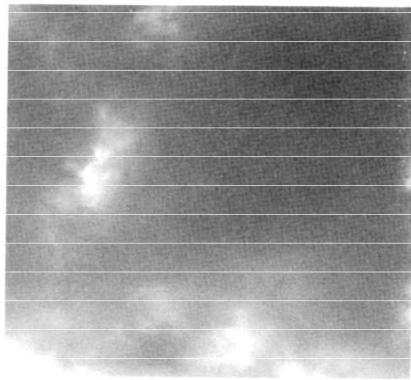
### Cirrocumulus clouds

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Cirrocumulus is a small, white, round cloud at a high altitude. Cirrocumulus clouds indicate good weather.



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### Scuds

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A loose, vapory cloud (scud) driven before the wind is a sign of continuing bad weather.

## A P P E N D I X H

# CONTINGENCY PLAN OF ACTION FORMAT

*Properly planning for the possible contingencies that may occur during a mission is a positive step toward being able to cope successfully with the changes in situation. The contingency plan of action is a critical document to an individual soldier, or to a unit, faced with evading enemy forces. First, it is a plan that will provide evaders a starting point to begin operating effectively once evasion has begun. Second, it gives recovery forces the ability to know what the evaders are planning to do, thus making recovery, operations easier. A well-thought-out contingency plan of action that everyone can understand is an important document to the evader.*

*Note: Upon deployment, you may carry with you the information compiled in A through E of the SITUATION paragraph only.*

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## I. SITUATION

### A. Country Climatic Zones

1. Tropical Rainy Climate
2. Dry Climate
3. Temperate Climate
4. Cold Climate (*wet/dry*)
5. Polar

### B. Climatic Land Zones (*whatever is applicable*)

1. Coasts - Seasons
  - a. Temperature
  - b. Precipitation
  - c. General wind direction
  - d. Cloud cover
2. Plains (*refer to coasts*)
3. Deserts (*refer to coasts*)
4. Plateaus (*refer to coasts*)
5. Mountains (*refer to coasts*)
6. Swamps (*refer to coasts*)

### c. Light Data (BMNT, EENT, Moonrise, Moonset, Percent of Illumination)

### D. Terrain

1. Neighboring Borders
2. General Terrain Zones
  - a. Coasts
    - (1) General description and size
    - (2) Vegetation
      - (a) Natural

- 2. Coniferous forest
  - 3. Deciduous forest
  - 4. Temperate grassland
  - 5. Marshland swamp
  - 6. Desert
  - 7. Pastoral and arable land
  - 8. Tropical forest
  - 9. Savanna

(b) Cultivated

(c) Concealment (*density*)

(d) Growing seasons

(e) Edible

  - 1. Food value
  - 2. Procurement (*young or mature*)
  - 3. Preparation
  - 4. cooking

(f) Poisonous

(g) Medical use

(h) Other uses

(3) Animals and fish

(a) Domestic

  - 1. Food values
  - 2. Procurement
  - 3. Preparation
  - 4. Cooking
  - 5. Medical use
  - 6. Dangerous
  - 7. Poisonous
  - 8. Other uses

(b) Wildlife (*animals, fish, insects, and reptiles*)  
*(see domestic)*

(4) Water sources

(a) Procurement

(b) Potability

(c) Preparation

- 
- b. Plains (*refer to coasts*)
  - c. Deserts (*refer to coasts*)
  - d. Plateaus (*refer to coasts*)
  - e. Mountains (*refer to coasts*)
  - f. Swamps (*refer to coasts*)
  - g. Rivers and lakes (*refer to coasts*)
- 3. Natural Land Barriers
    - a. Mountain ranges
    - b. Large rivers

## **E. Civilian Population**

- 1. Numbers of Population
  - a. Totals and density (*by areas*)
  - b. Divisions of urban, suburban, rural, and nomads
- 2. Dress and Customs
- 3. Internal Security Forces
- 4. Controls and Restrictions (*explain*)
- 5. Border Area Security

## **F. Friendly Forces**

- 1. FEBA/FLOT
- 2. Closest Units
- 3. Location of Friendly or Neutral Embassies, Liaisons, Consulates, etc.
- 4. Recovery Sites (*explain*), LZs En Route.

## **G. Enemy Forces**

- 1. Doctrine
- 2. Tactics
- 3. Intelligence Reports
  - a. Identification

- 
- b. Location
  - c. Activity
  - d. Strength
  - e. Night sighting devices

## **II. MISSION— Conduct Avoidance of Capture on Order From-To**

### **III. EXECUTION**

#### **A. Overall Plan**

- 1. When Do You Initiate Movement?
- 2. Location of Initial Movement Point
- 3. Actions at Initial Movement Point
- 4. Location of Hide Areas
- 5. Movement to Hide Areas
- 6. Actions Around the Hide Sites
- 7. Movement to Hide Sites
- 8. Actions at Hide Sites
  - a. Construction
  - b. Occupation
  - c. Movement out of hide site
- 9. Location of Hole-up Areas
- 10. Actions at Hole-up Areas
- 11. Location of Recovery Site(s)

#### **B. Other Missions**

- 1. Movement
  - a. Formation
  - b. Individual positions
  - c. Navigation
  - d. Stealth/listening

- 
- e. Security
    - (1) Noise
    - (2) Light
    - (3) All around security
  - f. Cover, concealment, and camouflage
  - g. Actions at breaks
    - (1) Listening (*5-10 minutes*)
    - (2) Long
  - h. Actions at danger areas (*enemy observation or fire*)
  - i. Actions for enemy sighting/contact
  - j. Rally points/rendezvous points
    - (1) Locations
    - (2) Actions
- 2. Actions in the Care of Sick or Injured
    - a. Initial movement point
    - b. Along the movement route
  - 3. Actions for Crossing Borders
  - 4. Actions at Recovery Site(s)
  - 5. Other Actions
  - 6. Training and Rehearsals
  - 7. Inspections before starting movement

## IV. SERVICE AND SUPPORT

### A. Survival Aids

- 1. Health
  - a. First aid
  - b. Disease
- 2. Water
  - a. Procurement

- 
- b. Purification
  - c. Carrying
  - 3. Food
    - a. Procurement
    - b. Preparation
    - c. cooking
    - d. Carrying
  - 4. Shelter and Comfort/Warmth
  - 5. Fire Starting
  - 6. Recovery
  - 7. Travel

**B. Survival Kit(s)**

**C. Special Equipment**

**D. Inspections**

- 1. Responsibilities
- 2. Equipment, Survival Items, and Kit(s)

**V. COMMAND AND SIGNAL**

**A. Chain of Command**

- 1. Senior Person
- 2. Team Leader

**B. Signals To Be Used by Movement Teams**

- 1. Along the Route
- 2. Rally/Rendezvous Points

**C. Communications to Higher Headquarters (*radio*)**

## G L O S S A R Y

<b>C</b>	Celsius
<b>cgy</b>	centigray
<b>cm</b>	centimeter
<b>CNS</b>	central nervous system
<b>CPA</b>	contingency plan of action
<b>CPR</b>	cardiopulmonary resuscitation
<b>F</b>	Fahrenheit
<b>FEBA</b>	forward edge of the battle area
<b>FLOT</b>	forward line of own troops
<b>HELP</b>	heat escaping lessening posture
<b>IV</b>	intravenous
<b>kg</b>	kilogram
<b>kph</b>	kilometers per hour
<b>m</b>	meter
<b>mg</b>	milligram
<b>MRE</b>	meal, ready-to-eat
<b>NBC</b>	nuclear, biological, and chemical
<b>RDF</b>	radio direction finding
<b>SERE</b>	survival, evasion, resistance, and escape
<b>SMCT</b>	Soldier's Manual of Common Tasks
<b>SOP</b>	standing operating procedure

## R E F E R E N C E S

### RELATED PUBLICATIONS

*The publications listed below are sources of additional information. They are not required in order to understand this publication.*

#### **U.S. Army Publications**

AR 70-38 Research, Development, Test, and Evaluation of Materiel for Extreme Climatic Conditions, August 1979

FM 1-400 Aviator's Handbook, May 1983

FM 21-11 First Aid for Soldiers, October 1988

FM 31-70 Basic Cold Weather Manual, April 1968

FM 31-71 Northern Operations, June 1971

FM 90-3 Desert Operations, August 1977

FM 90-5 (HTF) Jungle Operations (How to Fight), August 1982

FM 90-6 Mountain Operations, June 1980

TC 21-3 Soldier's Handbook for Individual Operations and Survival in Cold Weather Areas, March 1986

GTA 21-7-1 Study Card Set, Survival Plants, Southeast Asia

*Man and Materiel in the Cold Regions (Part I).* US Army Cold Regions Test Center, Fort Greely, AK.

#### **U.S. Air Force Publications**

Air Force Manual 64-4 Survival Training, July 1985

Air Force Manual 64-5 Aircrew Survival, September 1985

*Afoot in the Desert.* Environmental Information Div, Air Training Command, Air University Library, Maxwell AFB, AL: Oct 80.

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*Arctic Survival Principles, Procedures, and Techniques.* 3636th Combat Crew Training Wing (ATC), Fairchild AFB, WA: Sep 78.

*Basic Survival Medicine.* Environmental Information Div, Air Training Command Air University Library, Maxwell AFB, AL: Jan 81.

*Cold Sea Survival.* DTIC Technical Report AD 716389, AMRL-TR-70-72, Aerospace Medical Research Laboratory, Wright Patterson AFB, OH: Oct 70.

*Sharks.* Information Bulletin No. 1, 3636th Combat Crew Training Wing, ATC, Fairchild AFB, WA.

*The Physiology of Cold Weather Survival.* DTIC Technical Report AD 784268, Advisory Group for Aerospace Research and Development Report No. 620, Aerospace Medical Research Laboratory, Wright Patterson AFG, OH: Apr 73.

*Toxic Fish and Mollusks.* Information Bulletin No. 12, Environmental Information Division, Air Training Command Air University Library, Maxwell AFB, AL: Apr 75.

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"Cold Water Survival, Hypothermia and Cold Water Immersion, Cold Weather Survival," SERE Newsletter, Vol. 1, NO. 7, FASOTRAGRUPAC, Jan 83.

"Deep Water Survival," SERE Newsletter, Vol. 7, No. 8, FASOTRAGRUPAC, Jan 83.

SERE Guide Soviet Far East, Fleet Intelligence Center Pacific, Box 500, FPO San Francisco, CA 96610, Mar 77.

*Following are the stock numbers for decks of recognition cards, which were prepared by the Naval Training Equipment Center, Orlando, FL.*

### **National Stock No.**

20-6910-00-820-6702 Device 9H5, Survival Plants, Pacific

20-6910-00-004-9435 Device 9H18 Study Card Set, Northeast Africa/Mideast (Deck 1, Recognition Wildlife; Deck 2, Recognition Plantlife)

6910-00-106-4337/1 Device 9H15/1, Aviation Survival Equipment

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National Stock No.

6919-00-106-4338/2 Device 9H15/2, Aviation Land Survival Techniques

6910-00-106-4352/3 Device 9H15/3, Aviation Sea Survival Techniques

6910-00-820-6702      Device 9H9A Study Cards, Survival Plant  
Recognition

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## I N D E X

- aboveground still ..... 6-9  
aches, pains, and sprains, medicinal  
  plant use for ..... 9-13  
aircraft  
  *acknowledgments* ..... 19-13  
  *pickup or rescue* ..... 16-33  
  *vectoring procedures* ..... 19-14  
air plants ..... 6-7  
airway obstruction ..... 4-8  
animal foods ..... 4-5  
animals, as signs of water ..... 14-7  
animals for food  
  *amphibians* ..... 8-6  
  *birds* ..... 8-8  
  *crustaceans* ..... 8-3  
  *fish* ..... 8-5  
  *insects* ..... 8-2  
  *mammals* ..... 8-9  
  *mollusks* ..... 8-3, 16-36  
  *nesting birds* ..... 8-8  
  *reptiles* ..... 8-6  
  *worms* ..... 8-3  
antifungal washes ..... 9-14  
antihemorrhagics ..... 9-13  
antisepsics ..... 9-13  
archery equipment ..... 12-9  
arrow points ..... 12-8  
arterial bleeding, control of ..... 4-10  
audio signals  
  *gunshots* ..... 19-10  
  *radio equipment* ..... 19-9  
  *whistles* ..... 19-10  
Australian poncho raft ..... 17-7  
avoiding capture ..... 20-4  
backstroke ..... 16-5  
bait ..... 8-11  
bamboo thickets ..... 6-7  
banana tree ..... 6-6  
barter ..... 22-3  
bats ..... 11-5  
beach shade shelter ..... 5-17  
bearded seal ..... 8-9  
bees ..... 11-4, D-7  
behavior, the survivor's ..... 22-2  
belowground still ..... 6-11  
biological agents  
  *delivery means*  
    bursting-type munitions ..... 23-18  
    spray tanks or generators ..... 23-18  
    vectors ..... 23-18  
  *detection of* ..... 23-18  
  *effects of weather and terrain on* ..... 23-18  
  *protection against* ..... 23-19  
  *shelter against* ..... 23-19  
biological agents and effects  
  *germs* ..... 23-16  
  *toxins* ..... 23-17  
birds  
  *as food* ..... 8-8  
  *preparing for cooking* ..... 8-34  
bites and stings  
  *bee* ..... 4-21, 11-4, D-7  
  *flea* ..... 4-21  
  *fly* ..... 4-20, 15-12  
  *insect* ..... 4-20, 15-12  
  *lice* ..... 4-21  
  *mosquito* ..... 4-20  
  *scorpion* ..... 4-22, D-1  
  *spiders*  
    *black widow* ..... 4-22, 11-3, D-5  
    *brown house (recluse)* ..... 4-22, 11-3, D-2

---

funnelweb	4-22, 11-3, D-3
tarantulas	4-23, 11-3, D-4
tick	4-20, 11-4, D-9
<i>treatment of</i>	4-21
wasp	4-21, 11-4, D-8
black widow spider	4-22, 11-3, D-5
blast	23-2
blast injuries	23-4
bleeding, control of	
<i>arterial</i>	4-10
<i>by digital ligation</i>	4-14
<i>by direct pressure</i>	4-11
<i>by elevation</i>	4-11
<i>by tourniquet</i>	4-14
<i>capillary</i>	4-11
<i>using pressure points</i>	4-11
<i>venous</i>	4-10
body fluid loss, results of	4-2
body signals	19-10
boils	4-28
bola	12-10
border crossings	20-9
bottle trap	8-22
bow and arrow	8-23, 12-9
bow and drill	7-10
bow trap	8-20
breaststroke	16-4
breathing problems	4-8
brown house spider (recluse)	4-17, D-2
brush raft	17-6
burns	4-29
butchering game	8-34
camouflage	
<i>color and texture</i>	21-2
<i>movement</i>	21-4
<i>noise</i>	21-4
<i>scent</i>	21-4
<i>shadow</i>	21-3
<i>shape and outline</i>	21-2
<i>shine</i>	21-3
Canadian jays	15-23
capillary bleeding, control of	4-11
carbon monoxide poisoning	15-19
cardiopulmonary resuscitation (CPR)	4-9
centipedes and millipedes	11-4
channelization	8-11
chemical agents	
<i>detection of</i>	23-21
<i>protection against</i>	23-22
<i>shelter against</i>	23-23
cholera	6-13
chop fishing	8-30
clothing and insulation, field-expedient	
<i>animal skins</i>	12-14
<i>parachutes</i>	12-14
<i>plant fibers</i>	12-14
clouds, types of	
<i>cirrocumulus</i>	G-5
<i>cirrostratus</i>	G-4
<i>cirrus</i>	G-2
<i>cumulus</i>	G-2
<i>cumulonimbus</i>	G-4
<i>nimbus</i>	G-3
<i>scuds</i>	G-5
<i>stratus</i>	G-3
clubs	
<i>simple</i>	12-2
<i>sling</i>	12-4
<i>weighted</i>	12-2
coconuts	6-7
codes and signals	
<i>aircraft acknowledgments</i>	19-13
<i>body signals</i>	19-10
<i>ground-to-air emergency code</i>	19-10
<i>panel signals</i>	19-10
<i>SOS</i>	19-10
cold injuries	
<i>cold diuresis</i>	15-11
<i>constipation</i>	15-11
<i>dehydration</i>	15-11
<i>frostbite</i>	15-9
<i>hypothermia</i>	4-31, 15-8, 16-10
<i>insect bites</i>	15-12
<i>snow blindness</i>	15-11

---

<i>sunburn</i> .....	15-11
<i>trench foot and immersion foot</i> .....	15-10
cold regions and locations .....	15-2
cold weather shelters, types of and building	
<i>fallen tree shelter</i> .....	15-15
<i>lean-to shelter</i> .....	15-15
<i>snow block and parachute shelter</i> ..	15-15
<i>snow cave shelter</i> .....	15-13
<i>snow house or igloo shelter</i> .....	15-15
<i>snow trench shelter</i> .....	15-15
<i>tree-pit shelter</i> .....	15-16
<i>twenty-man life raft shelter</i> .....	15-17
cold weather survival	
<i>basic principles of</i> .....	15-3
<i>hygiene in</i> .....	15-6
<i>medical aspects of</i> .....	15-7
colds and sore throats .....	9-13
compasses, making improvised .....	18-7
constipation .....	9-13, 15-11, 16-27
contact dermatitis	
<i>plants that cause</i>	
cowhage .....	10-4, C-3
poison ivy .....	10-4, C-11
poison oak .....	10-4, C-11
poison sumac .....	10-4, C-12
rengas tree .....	10-4, C-13
strychnine tree .....	10-4, C-15
trumpet vine .....	10-4, C-16
<i>signs and symptoms</i> .....	10-3
<i>treatment of</i> .....	10-3
contact with local people .....	22-1
contingency plan of action (CPA) .....	20-2, App H
cooking and eating utensils .....	12-15
crustaceans, as food .....	8-3
Dakota fire hole .....	7-3
dangerous animals .....	11-1
dangerous fish and mollusks .....	F-0
dangerous lizards	
<i>Gila monster</i> .....	11-8, E-96
<i>komodo dragon</i> .....	11-8
<i>Mexican beaded lizard</i> .....	11-8, E-98
dangers in <i>estuaries</i>	
<i>sea urchins</i> .....	11-10
<i>stingrays</i> .....	11-10
rivers	
<i>electric eel</i> .....	11-9
<i>piranha</i> .....	11-9
<i>platypus</i> .....	11-9
<i>turtle</i> .....	11-9
debris hut .....	5-15
decocotion .....	9-12
dehydration	
<i>signs and symptoms of</i> .....	4-2
<i>dehydration in cold weather</i> .....	15-11
desert survival	
<i>camouflage</i> .....	13-6
<i>environmental factors</i>	
intense sunlight and heat .....	13-4
low rainfall .....	13-4
mirages .....	13-7
sandstorms .....	13-6
soil with high mineral content .....	13-6
sparse vegetation .....	13-5
wide temperature range .....	13-4
<i>hazards</i> .....	13-11
<i>need for water</i> .....	13-7
<i>precautions to take</i> .....	13-11
<i>shelters</i> .....	5-18
<i>terrain</i>	
broken terrain .....	13-3
mountain deserts .....	13-2
rocky plateau deserts .....	13-2
salt marshes .....	13-3
sandy or dune deserts .....	13-2
detection of	
<i>biological agents</i> .....	23-18
<i>chemical agents</i> .....	23-21
digital ligation .....	4-14
direction finding	
<i>other means</i> .....	18-8
<i>using the moon</i> .....	18-5
<i>using the stars</i>	
<i>the northern sky</i> .....	18-5
<i>the southern sky</i> .....	18-6

---

<i>using the sun and shadows</i>	
shadow-tip methods	18-2
the watch method	18-4
dislocations	4-19
dog paddle	16-4
down at sea	16-2
drag noose	8-13
dry cold weather environments	15-2
drying meat	8-37
dysentery	6-13
earless seal	15-22
edged weapons	
<i>arrow points</i>	12-8
<i>knives</i>	12-4
<i>spear blades</i>	12-7
edibility test, universal	9-7
edible and medicinal plants	
<i>abal</i>	B-1
<i>acacia</i>	B-2
<i>agave</i>	B-3
<i>almond</i>	B-4
<i>amaranth</i>	B-5
<i>arctic willow</i>	B-6
<i>arrowroot</i>	B-7
<i>asparagus</i>	B-8
<i>bael fruit</i>	B-9
<i>bamboo</i>	B-10
<i>banana and plantain</i>	B-11
<i>baobab</i>	B-12
<i>batoko plum</i>	B-13
<i>bearberry or kinnikinnick</i>	B-14
<i>beech</i>	B-15
<i>bignay</i>	B-16
<i>blackberry</i>	B-17
<i>blueberry</i>	B-18
<i>breadfruit</i>	B-19
<i>burdock</i>	B-20
<i>buri palm</i>	B-21
<i>canna lily</i>	B-22
<i>carob tree</i>	B-23
<i>cashew nut</i>	B-24
<i>cattail</i>	B-25
<i>cereus cactus</i>	B-26
<i>chestnut</i>	B-27
<i>chicory</i>	B-28
<i>chuwa</i>	B-29
<i>coconut</i>	B-30
<i>cocoyam</i>	B-88
<i>colocynth</i>	B-100
<i>common jujube</i>	B-31
<i>cranberry</i>	B-32
<i>crowberry</i>	B-33
<i>cuipo</i>	B-34
<i>dandelion</i>	B-35
<i>dasheen</i>	B-88
<i>date palm</i>	B-36
<i>daylily</i>	B-37
<i>dewberry</i>	B-17
<i>duchesnea</i>	B-38
<i>eddo</i>	B-88
<i>elderberry</i>	B-39
<i>elephant ears</i>	B-88
<i>Eskimo potato</i>	B-48
<i>fireweed</i>	B-40
<i>fishtail palm</i>	B-41
<i>foxtail grass</i>	B-42
<i>goa bean</i>	B-43
<i>hackberry</i>	B-44
<i>hazelnut</i>	B-45
<i>horseradish tree</i>	B-46
<i>huckleberry</i>	B-18
<i>Iceland moss</i>	B-47
<i>Indian potato</i>	B-48
<i>Indian strawberry</i>	B-38
<i>juniper</i>	B-49
<i>lotus</i>	B-50
<i>luffa sponge</i>	B-103
<i>malanga</i>	B-51
<i>mango</i>	B-52
<i>marioc</i>	B-53
<i>marsh marigold</i>	B-54
<i>mulberry</i>	B-55
<i>nettle</i>	B-56
<i>nipa palm</i>	B-57
<i>oak</i>	B-58
<i>orach</i>	B-59

---

<i>palmetto palm</i>	B-60	<i>wild caper</i>	B-98
<i>papaya</i>	B-61	<i>wild crab apple</i>	B-99
<i>pawpaw</i>	B-61	<i>wild desert gourd</i>	B-100
<i>persimmon</i>	B-62	<i>wild dock</i>	B-101
<i>pincushion cactus</i>	B-63	<i>wild fig</i>	B-102
<i>pine</i>	B-64	<i>wild filbert</i>	B-45
<i>plantain, broad and narrow leaf</i>	B-65	<i>wild garlic</i>	B-105
<i>pokeweed</i>	B-66	<i>wild gourd</i>	B-103
<i>prickly pear cactus</i>	B-67	<i>wild grape vine</i>	B-104
<i>purslane</i>	B-68	<i>wild onion</i>	B-105
<i>raspberry</i>	B-17	<i>wild pistachio</i>	B-106
<i>rattan palm</i>	B-69	<i>wild rice</i>	B-107
<i>reed</i>	B-70	<i>wild rose</i>	B-108
<i>reindeer moss</i>	B-71	<i>wild sorrel</i>	B-101
<i>rock tripe</i>	B-72	<i>wood sorrel</i>	B-109
<i>rose apple</i>	B-73	<i>yam</i>	B-110
<i>sago palm</i>	B-74	<i>yam bean</i>	B-111
<i>Saint John's bread</i>	B-23	<i>yellow water lily</i>	B-81
<i>sassafras</i>	B-75	effects of nuclear weapons	
<i>saxaul</i>	B-76	<i>blast</i>	23-2
<i>screw pine</i>	B-77	<i>nuclear radiation</i>	23-2
<i>sea orach</i>	B-78	<i>thermal radiation</i>	23-2
<i>sheep sorrel</i>	B-79	electric eels	11-9
<i>sorghum</i>	B-80	environmental injuries	
<i>spatterdock</i>	B-81	<i>diarrhea</i>	4-31
<i>sterculia</i>	B-82	<i>heatstroke</i>	4-30
<i>strawberry</i>	B-83	<i>hypothermia</i>	4-31
<i>sugarcane</i>	B-84	<i>intestinal parasites</i>	4-31
<i>sugar palm</i>	B-85	equipment, field-expedient	12-1
<i>sweetsop</i>	B-86	expressed juice	9-12
<i>tamarind</i>	B-87	fallen tree shelter	15-15
<i>taro</i>	B-88	fallout	23-5
<i>thistle</i>	B-89	fevers	9-13
<i>ti</i>	B-90	fiddleback spider	11-3, D-2
<i>tree fern</i>	B-91	field-expedient weapons, tools, and equipment	12-1
<i>tropical almond</i>	B-92	figure 4 deadfall	8-19
<i>walnut</i>	B-93	fire	
<i>water chestnut</i>	B-94	<i>how to build</i>	
<i>water lettuce</i>	B-95	cross-ditch	7-7
<i>water lily</i>	B-96	lean-to	7-5
<i>water plantain</i>	B-97	pyramid	7-7
<i>wild apple</i>	B-99	tepee	7-5

<b>how to light</b>	
modern methods	
battery	7-8
convex lens	7-8
gunpowder	7-8
matches	7-8
metal match	7-8
primitive methods	
bow and drill	7-10
fire-plow	7-9
flint and steel	7-9
<i>in cold weather</i>	15-17
<i>principles of</i>	7-2
<i>site selection and preparation</i>	7-2
fire laying, helpful hints for	7-12
<b>fire materials</b>	
<i>fuel</i>	7-5
<i>kindling</i>	7-5
<i>tinder</i>	7-5
fire wall	7-3
fire-plow	7-9
firecraft	7-1
<b>fish</b>	
<i>ferocious</i>	
barracuda	F-1
moray eel	F-1
piranha	11-9, F-1
sea bass	F-1
<i>that attack man</i>	F-1
<i>venomous</i>	
rabbitfish	11-11, F-4
siganus fish	F-5
scorpionfish or zebrafish	11-11, F-5
stingrays	11-10, F-4
stonefish	11-11, F-6
tang or surgeonfish	11-11, F-6
toadfish	11-11, F-7
weever fish	11-11, F-7
fish poison	8-30, 9-14
fish traps	8-28
fish, as food	8-5
fish, preparing for cooking and storage	8-32
<b>fish, with toxic flesh</b>	F-10
<b>fishhooks, improvised</b>	8-24
<b>fishing devices</b>	
<i>chop fishing</i>	8-30
<i>fish poison</i>	9-14, 8-30
<i>fish traps</i>	8-28
<i>gill net</i>	8-26
<i>improvised fishhooks</i>	8-24
<i>spearfishing</i>	8-29
<i>stakeout</i>	8-25
<i>fishing hints</i>	16-25
<i>fleas</i>	4-21
<i>flies</i>	4-20
<i>flint and steel</i>	7-9
<i>flotation devices</i>	
<i>cattails</i>	17-11
<i>empty containers</i>	17-10
<i>logs</i>	17-11
<i>plastic bags</i>	17-10
<i>poncho</i>	17-10
<i>trousers</i>	17-10
<i>flukes</i>	6-14
<b>food plants</b>	
<i>of desert zone</i>	9-10
<i>of temperate zone</i>	9-9
<i>of tropical zone</i>	9-10
<b>food procurement</b>	
<i>in arctic and subarctic regions</i>	
fish	15-21
plants	15-23
sea ice animals	15-22
<i>in biologically contaminated environments</i>	23-20
<i>in chemically contaminated environments</i>	23-23
<i>in fallout-contaminated areas</i>	23-14
<i>in sea survival</i>	
birds	16-25
fish	16-23
fishing aids	16-24
<i>in seashore survival</i>	
crabs, lobsters, and barnacles	16-36
mollusks	16-36
sea cucumber	16-36

---

sea urchins	16-36
worms	16-36
<i>in tropical areas</i>	14-9
food sources	
<i>animal foods (meat)</i>	4-5
<i>plant foods</i>	4-4
fording a stream	17-3
fractures, bone	
<i>closed</i>	4-17
<i>open</i>	4-17
<i>splinting a</i>	4-18
freshwater swamps	14-6
frostbite	4-29, 15-9, 16-27
fuel	7-5
fungal infections	4-28
funnelweb spider	4-22, 11-3, D-3
game, skinning and butchering	8-34
gas and cramps	9-13
germs	23-16
Gila monster	11-8, E-96
gill net	8-26
ground-to-air emergency codes	19-10
grouse	15-23
health needs	
<i>food</i>	4-4
<i>personal hygiene</i>	4-5
<i>water</i>	4-2
heat casualties	
<i>heat cramps</i>	13-10
<i>heat exhaustion</i>	13-10
<i>heatstroke</i>	4-30, 13-10
HELP body position	16-6
hemorrhoids	9-13
herbal medicines	4-32
hide site	
<i>activities</i>	20-6
<i>selection</i>	20-6
hole-up areas	20-8
hornets	11-4, D-8
hospitality	22-3
human scent, removal of	8-10

hygiene	
<i>in cold weather survival</i>	15-6
<i>personal</i>	4-5
hypothermia	4-31, 15-8, 16-10
immersion foot	15-10, 16-27
immunizations	4-21
improvised compasses	18-7
induced radiation	23-5
infections, fungal	4-28
infusion	9-12
ingestion poisoning	<i>see also</i> poisonous plants and poisonous animals
<i>plants that cause</i>	
<i>castor bean</i>	10-4, C-2
<i>chinaberry</i>	10-4, C-3
<i>death camas</i>	10-4, C-5
<i>lantana</i>	10-4, C-6
<i>manchineel</i>	10-4, C-7
<i>oleander</i>	10-4, C-8
<i>pangi</i>	10-4, C-9
<i>physic nut</i>	10-4, C-9
<i>poison hemlock</i>	10-4, C-10
<i>rosary pea</i>	10-4, C-13
<i>strychnine tree</i>	10-4, C-16
<i>water hemlock</i>	10-4, C-15
<i>signs and symptoms</i>	10-4
<i>treatment of</i>	10-4
insect bites	4-20, 15-12
insects and arachnids	
<i>bees</i>	11-4, D-7
<i>brown recluse</i>	11-3, D-2
<i>centipedes</i>	11-4, D-6
<i>funnelweb</i>	4-22, 11-3, D-3
<i>hornets</i>	D-8
<i>scorpions</i>	11-2, D-1
<i>tarantulas</i>	4-23, 11-3, D-4
<i>ticks</i>	4-20, 11-4, D-9
<i>wasps</i>	4-21, 11-4, D-8
<i>widow spider</i>	D-5
insects, as food	8-2
insulation, field-expedient	12-14
intestinal parasites	4-31, 9-13
invertebrates, venomous	
<i>blue-ringed octopus</i>	11-13, F-8

---

<i>cone shells</i> .....	11-13, F-9
<i>Portuguese man-of-war</i> .....	F-8
<i>terebra</i> snails .....	F-9
itching .....	9-13
jungle types	
<i>freshwater swamps</i> .....	14-6
<i>saltwater swamps</i> .....	14-5
<i>secondary jungle</i> .....	14-4
<i>semievergreen seasonal and monsoon forests</i> .....	14-4
<i>tropical rain forests</i> .....	14-3
<i>tropical savanna</i> .....	14-5
<i>tropical scrub and thorn forest</i> .....	14-4
killing devices	
<i>bow and arrow</i> .....	8-23, 12-9
<i>rabbit stick</i> .....	8-23, 12-8
<i>sling</i> .....	8-24
<i>spear</i> .....	8-23
kindling .....	7-5
knives, made with	
<i>bone</i> .....	12-6
<i>glass</i> .....	12-7
<i>metal</i> .....	12-7
<i>stone</i> .....	12-4
<i>wood</i> .....	12-6
komodo dragon .....	11-8
lashing and cordage	
<i>lashing material</i> .....	12-11
<i>natural cordage selection</i> .....	12-11
latrines .....	4-8
lean-to, field-expedient .....	5-11
lean-to shelter, cold weather .....	15-15
leeches .....	6-14, 11-5
lice .....	4-21
lifesaving steps	
<i>control bleeding</i> .....	4-10
<i>open airway and maintain</i> .....	4-9
<i>prevent and treat shock</i> .....	4-14
linkup	
<i>at the FEBA/FLOT</i> .....	20-10
<i>with friendly patrols</i> .....	20-11
making improvised compasses .....	18-7
mammals, as food .....	8-9
meat	
<i>preparation for</i>	
<i>drying</i> .....	8-37
<i>smoking</i> .....	8-36
<i>preservation</i>	
<i>by drying</i> .....	8-37
<i>by freezing</i> .....	8-38
<i>using brine and salt</i> .....	8-38
medical emergencies	
<i>breathing problems</i> .....	4-8
<i>severe bleeding</i> .....	4-8
<i>shock</i> .....	4-8
medicinal plant use	
<i>remedies</i>	
<i>for aches, pains, and sprains</i> .....	9-13
<i>as antifungal washes</i> .....	9-14
<i>as antihemorrhagics</i> .....	9-13
<i>as antiseptics</i> .....	9-13
<i>for colds and sore throats</i> .....	9-13
<i>for constipation</i> .....	9-13
<i>for diarrhea</i> .....	9-12
<i>for fevers</i> .....	9-13
<i>for gas and cramps</i> .....	9-13
<i>for hemorrhoids</i> .....	9-13
<i>for itching</i> .....	9-13
<i>as sedatives</i> .....	9-13
<i>for worms or intestinal parasites</i> .....	9-13
<i>terms and definitions</i> .....	9-12
medicine, basic survival .....	4-1
Mexican beaded lizard .....	E-98
mollusks, as food .....	8-3, 16-36
mosquitoes .....	4-20
movement in hostile areas	
<i>execution</i> .....	20-4
<i>planning phases</i> .....	20-2
<i>return to friendly control</i> .....	20-9
mushrooms .....	9-3, 10-3
natural shelters .....	5-15
no-pole parachute tepee .....	5-9
noosing wand .....	8-17
nuclear bursts, types of .....	23-3
nuclear injuries, types of	
<i>blast</i> .....	23-4

---

<i>radiation</i>	23-4
<i>thermal</i>	23-4
nuclear radiation	23-2
Ojibwa bird pole	8-16
one-man shelter	5-10
one-pole parachute tepee	5-8
open wounds and their treatment	4-25
opossum	8-9
owls	15-23
oxalate compounds	9-3
Paiute deadfall	8-20
panel signals	19-10
parachute hammock	5-11
pig spear shaft	8-21
piranhas	11-9
plantain tree	6-6
plant food	4-4
plant food, preparation of	9-11
plant identification by	
<i>leaf arrangements</i>	9-4
<i>leaf margins</i>	9-4
<i>root structure</i>	9-4
plants <i>see also</i> edible and medicinal plants	
<i>drying of</i>	4-5
<i>edibility of</i>	9-2
<i>for medicine</i>	9-12
<i>use of as</i>	
dyes	9-14
fibers and cordage	9-14
fish poison	8-30, 9-14
insect repellents	9-14
insulation	9-14
tinder	9-14
platypus	8-9, 11-9
poisonous animals to avoid eating	
<i>barracuda</i>	11-13
<i>blowfish</i>	11-12
<i>triggerfish</i>	11-12
poisonous lizards	
<i>Gila monster</i>	E-96
<i>Mexican beaded lizard</i>	E-98
poisonous plants	
<i>how they poison</i>	
by absorption or inhalation	10-1
by contact	10-1
by ingestion	10-1
<i>identifying</i>	
castor bean, castor-oil plant, <i>palma cristi</i>	C-1
chinaberry	C-2
cowage, cowhage, cowitch	C-3
death camas, death lily	C-4
lantana	C-5
manchineel	C-6
oleander	C-7
pangi	C-8
physic nut	C-9
poison hemlock, fool's parsley	C-10
poison ivy	C-11
poison oak	C-11
poison sumac	C-12
rengahs tree, rengas tree, marking nut, black-varnish tree	C-13
rosary pea, crab's eye	C-14
strychnine tree	C-15
trumpet vine, trumpet creeper	C-16
water hemlock, spotted cowbane	C-17
<i>learning about</i>	10-2
<i>misconceptions about</i>	10-2
<i>rules to avoid</i>	10-3
poisonous sea snakes	
<i>banded sea snake</i>	E-92
<i>yellow-bellied sea snake</i>	E-94
poisonous snakes	
<i>identification of</i>	11-6, App E
<i>of Africa and Asia</i>	
boomslang	11-7, E-40
bush viper	E-42
common cobra	11-7, E-44
Egyptian cobra	E-46
Gaboon viper	11-7, E-48
green mamba	E-50
green tree pit viper	11-7, E-52
habu pit viper	11-7, E-54
horned desert viper	E-56

---

king cobra .....	E-58	porcupines .....	15-23
krait .....	11-7, E-60	poultice .....	9-12
Levant viper .....	E-62	preserving meat	
Malayan pit viper .....	11-7, E-64	<i>by drying</i> .....	8-37
McMahon's viper .....	E-66	<i>by freezing</i> .....	8-38
mole viper or burrowing viper ...	E-68	<i>with brine and salt</i> .....	8-38
Palestinian viper.....	E-70	pressure dressing.....	4-11
puff adder .....	11-7, E-72	pressure point.....	4-11
rhinoceros viper or river jack .....	11-7, E-74	ptarmigans .....	15-23
Russell's viper .....	11-7, E-76	rabbit stick .....	8-23, 12-8
sand viper .....	11-7, E-78	radiation	
saw-scaled viper .....	11-7, E-80	<i>bodily reaction to</i> .....	23-5
Wagler's pit viper .....	11-7, E-82	<i>countermeasures against</i>	
<i>of Australasia</i>		<i>distance</i> .....	23-7
Australian copperhead .....	E-84	<i>shielding</i> .....	23-7
death adder .....	11-8, E-86	<i>special medical aspects</i> .....	23-8
taipan .....	11-8, E-88	<i>time</i> .....	23-7
tiger snake .....	11-8, E-90	<i>nuclear</i> .....	23-2
<i>of Europe</i>		<i>shelter against</i> .....	23-8
common adder .....	11-7, E-32	<i>thermal</i> .....	23-2
long-nosed adder .....	E-34	radiation injuries, symptoms of .....	23-6
Pallas' viper .....	11-7, E-36	raft procedures	
Ursini's viper .....	E-38	<i>one-man raft</i> .....	16-11
<i>of the Americas</i>		<i>sailing rafts</i> .....	16-19
American copperhead .....	11-7, E-10	<i>seven-man raft</i> .....	16-14
bushmaster .....	11-7, E-12	<i>twenty- to twenty-five-man rafts</i> .....	16-16
coral snake .....	11-7, E-14	rafting or beaching techniques .....	16-30
cottonmouth .....	11-7, E-16	rafts, building expedient	
Eastern diamondback rattlesnake	E-18	<i>Australian poncho raft</i> .....	17-7
eyelash pit viper .....	E-20	<i>brush raft</i> .....	17-6
fer-de-lance .....	11-7, E-22	<i>log raft</i> .....	17-9
jumping viper .....	E-24	<i>poncho donut raft</i> .....	17-8
Mojave rattlesnake .....	E-26	rain forests .....	14-2
tropical rattlesnake .....	E-28	ravens .....	15-23
Western diamondback rattlesnake	E-30	reptiles, as food .....	8-6
polar bear .....	8-9, 15-22	residual radiation	
political allegiance .....	22-4	<i>fallout</i> .....	23-5
poncho		<i>induced radiation</i> .....	23-5
<i>Australian poncho raft</i> .....	17-7	rucksack	
<i>donut raft</i> .....	17-8	<i>construction materials</i> .....	12-12
<i>lean-to</i> .....	5-3	<i>construction techniques</i> .....	12-12
<i>tent</i> .....	5-5	<i>square pack</i> .....	12-12
		<i>horseshoe pack</i> .....	12-12

saltwater	
<i>dangers</i>	
rabbitfish	11-11, F-4
scorpion fish	11-11, F-5
shark	11-10, 16-27
stonefish	11-11, F-6
tang	11-11, F-6
toadfish	11-11, F-7
weever fish	11-11, F-7
<i>sores</i>	16-26
<i>swamps</i>	14-5
savannas	14-5
scorpion stings	4-22
scorpions	4-22, 11-2, D-1
scrub and thorn forests	14-4
sea creatures, other dangerous	
<i>auger shell</i>	11-14
<i>blue-ringed octopus</i>	11-13, F-8
<i>cone shell</i>	11-13, F-9
<i>jellyfish</i>	11-13
sea survival	
<i>aircraft pickup or rescue</i>	16-33
<i>cold weather considerations</i>	16-10
<i>detecting land</i>	16-29
<i>don'ts in</i>	16-23
<i>down at sea</i>	16-2
<i>hot weather considerations</i>	16-11
<i>medical problems</i>	
blindness/headache	16-27
constipation	16-27
difficult urination	16-27
immersion foot, frostbite, and hypothermia	16-27
saltwater sores	16-26
seasickness	16-26
sunburn	16-27
<i>precautionary measures</i>	16-2
<i>raft procedures</i>	16-11
<i>rafting or beaching techniques</i>	16-30
<i>rescue procedures</i>	16-2
<i>shark dangers</i>	11-10, 16-27
<i>swimming ashore</i>	16-32
<i>swimming strokes used in</i>	16-4
<i>sea urchins</i>	11-10, 16-36
<i>seal blubber</i>	15-23
<i>seashore survival, hazards of</i>	
<i>aggressive fish</i>	16-35
<i>coral</i>	16-34
<i>crocodiles</i>	16-35
<i>poisonous fish</i>	16-34
<i>sea urchins, sea biscuits, sponges, anemones</i>	16-35
<i>tides and undertow</i>	16-35
<i>seasickness</i>	16-26
<i>seaweeds</i>	9-10
<i>secondary jungle</i>	14-4
<i>sedatives</i>	9-13
<i>semievergreen seasonal and monsoon forests</i>	14-4
<i>sharks</i>	F-1
<i>shelter, site selection</i>	5-2
<i>shelters, types of and building</i>	
<i>beach shade shelter</i>	5-17
<i>debris hut</i>	5-15
<i>desert shelters</i>	5-18
<i>field-expedient lean-to</i>	5-11
<i>natural shelters</i>	5-15
<i>no-pole parachute tepee</i>	5-9
<i>one-man shelter</i>	5-10
<i>one-pole parachute tepee</i>	5-8
<i>parachute hammock</i>	5-11
<i>poncho lean-to</i>	5-3
<i>poncho tent</i>	5-5
<i>swamp bed</i>	5-14
<i>three-pole parachute tepee</i>	5-6
<i>tree-pit snow shelter</i>	5-16
<i>shock</i>	4-8
<i>shock, prevention and treatment</i>	4-14
<i>short water rations</i>	16-21
<i>sidestroke</i>	16-4
<i>sign language</i>	22-3
<i>signaling techniques, application of</i>	19-1
<i>simple club</i>	12-2
<i>simple snare</i>	8-12
<i>skin diseases/ailments, treatment of</i>	
<i>boils</i>	4-28
<i>fungal infections</i>	4-28
<i>rashes</i>	4-28

---

skinning game .....	8-34
sling .....	8-24
sling club .....	12-4
smoking meat .....	8-36
snake fangs, types of .....	E-1
snake groups	
<i>colubridae (opisthoglyphous)</i> .....	E-7
<i>crotalidae (solenoglyphous)</i> .....	E-4
<i>elapidae (proteroglyphous)</i> .....	E-6
<i>laticaudinae and hydrophidae (proteroglyphous)</i> .....	E-7
<i>trimeresurus (solenoglyphous)</i> .....	E-6
<i>viperidae (solenoglyphous)</i> .....	E-3
snake venom, types of .....	E-2
snakebite	
<i>symptoms of</i> .....	4-24
<i>treatment of</i> .....	4-23
<i>ways to avoid</i> .....	E-1
snake-free areas .....	11-8
snakes	
<i>poisonous versus nonpoisonous</i> .....	E-2
<i>preparing for cooking</i> .....	8-33
snow	
<i>blindness</i> .....	15-11
<i>block and parachute shelter</i> .....	15-15
<i>cave shelter</i> .....	15-10
<i>house or igloo</i> .....	15-11
<i>trench shelter</i> .....	15-10
soap, making of .....	4-5
spear .....	8-23
spear blades .....	12-7
spearfishing .....	8-29
spider bites .....	4-17
spiders .....	11-3
sprains .....	4-20
squirrel pole .....	8-15
stakeout .....	8-25
stalking methods	
<i>animal stalking</i> .....	21-6
<i>crawling</i> .....	21-6
<i>prone stalking</i> .....	21-6
<i>upright stalking</i> .....	21-5
standing operating procedures (SOPs) .....	20-2
still, construction of	
<i>a belowground</i> .....	6-11
<i>an aboveground</i> .....	6-9
stingrays .....	11-10
stress, need for .....	2-2
sunburn .....	15-11, 16-27
survival	
<i>actions in</i> .....	1-1
<i>attitude, developing the</i>	
adopt positive attitude .....	2-10
anticipate fears .....	2-9
be realistic .....	2-10
know yourself .....	2-9
learn stress management techniques .....	2-10
remind yourself what is at stake ..	2-10
train .....	2-10
<i>cold weather</i> .....	15-1
<i>desert</i> see also <i>desert survival</i> .....	13-1 through 13-8
<i>in biological environments</i> .....	23-16
<i>in chemical environments</i> .....	23-21
<i>in the nuclear environment</i> .....	23-2
<i>internal reactions to</i>	
<i>anger and frustration</i> .....	2-7
<i>anxiety</i> .....	2-6
<i>depression</i> .....	2-7
<i>fear</i> .....	2-6
<i>guilt</i> .....	2-8
<i>loneliness and boredom</i> .....	2-8
<i>keyword used in</i> .....	1-1
<i>pattern for</i>	
<i>kits</i> .....	3-2, A-1
<i>planning</i> .....	3-1
<i>in the tropics</i> .....	14-1
<i>movement in hostile areas</i> .....	20-1
<i>on open sea</i> .....	16-1
<i>on seashores</i> .....	16-33
<i>psychology of</i> .....	2-1
<i>stressors in</i>	
<i>environment</i> .....	2-4
<i>fatigue</i> .....	2-5

---

hunger and thirst .....	2-5
injury, illness, or death .....	2-4
isolation .....	2-5
uncertainty and lack of control .....	2-4
<i>use of plants in</i> .....	9-1
<i>tropical</i> .....	14-1
<i>survival kits</i>	
aviator's survival vest .....	A-7
cold climate kit .....	A-2
hot climate kit .....	A-3
individual kits .....	A-5
overwater kit .....	A-4
rigid seat survival kits .....	A-7
<i>swamp bed</i> .....	5-14
<i>swimming ashore</i> .....	16-32
<i>tarantulas</i> .....	4-23, 11-3, D-4
<i>tea</i> .....	9-12
<i>terms and definitions, medicinal plant use</i>	
<i>decoction</i> .....	9-12
<i>expressed juice</i> .....	9-12
<i>infusion or tisane or tea</i> .....	9-12
<i>poultice</i> .....	9-12
<i>thermal radiation</i> .....	23-2
<i>three-pole parachute tepee</i> .....	5-6
<i>throwing stick</i> .....	12-8
<i>ticks</i> .....	4-20, 11-4, D-9
<i>tides and undertow</i> .....	16-35
<i>tinder</i> .....	7-5
<i>tisane</i> .....	9-12
<i>tools, field-expedient</i> .....	12-1
<i>tourniquet</i> .....	4-14
<i>toxins</i> .....	23-17
<i>traction splint</i> .....	4-18
<i>trading</i> .....	22-3
<i>traps and snares</i>	
<i>channelization to</i> .....	8-11
<i>concealment of</i> .....	8-10
<i>construction of</i>	
<i>bottle trap</i> .....	8-22
<i>bow trap</i> .....	8-20
<i>drag noose</i> .....	8-13
<i>figure 4 deadfall</i> .....	8-19
<i>noosing wand</i> .....	8-17
<i>Ojibwa bird pole</i> .....	8-16
<i>Paute deadfall</i> .....	8-20
<i>pig spear shaft</i> .....	8-21
<i>simple snare</i> .....	8-12
<i>squirrel pole</i> .....	8-15
<i>treadle spring snare</i> .....	8-17
<i>twitch-up</i> .....	8-13
<i>twitch-up snare</i> .....	8-13
<i>determining if run or trail</i> .....	8-10
<i>removing or masking human scent</i> .....	8-10
<i>using bait with</i> .....	8-11
<i>travel</i>	
<i>in arctic and subarctic regions</i> .....	15-24
<i>through jungle areas</i> .....	14-6
<i>treadle spring snare</i> .....	8-17
<i>tree-pit snow shelter</i> .....	15-16
<i>trench foot</i> .....	4-29, 15-10
<i>tropical</i>	
<i>rain forests</i> .....	14-2
<i>savannas</i> .....	14-5
<i>scrub and thorn forests</i> .....	14-4
<i>survival</i> .....	14-1
<i>tropics, weather in</i> .....	14-2
<i>turtles</i> .....	11-7
<i>twenty-man life raft shelter</i> .....	15-17
<i>twitch-up</i> .....	8-13
<i>twitch-up snare</i> .....	8-13
<i>typhoid</i> .....	6-13
<i>underground fireplace</i> .....	7-4
<i>undertow</i> .....	16-35
<i>universal edibility test</i> .....	9-2, 9-7
<i>venous bleeding, control of</i> .....	4-10
<i>visual signals</i>	
<i>clothing</i> .....	19-8
<i>fire</i> .....	19-2
<i>flashlight or strobe light</i> .....	19-7
<i>mirrors or shiny objects</i> .....	19-6
<i>natural material</i> .....	19-8
<i>pen flares</i> .....	19-5
<i>sea dye markers</i> .....	19-9
<i>smoke</i> .....	19-4
<i>smoke grenades</i> .....	19-5

---

<i>star clusters</i>	19-5	<b>water sources</b>	
<i>star parachute flares</i>	19-5	<i>air plants</i>	6-7
<i>tracer ammunition</i>	19-5	<i>bamboo</i>	6-5
<i>VS-17 panels</i>	19-8	<i>banana trees</i>	6-6
wasps	4-21, 11-4, D-8	<i>baobab tree</i>	6-9
water crossing locations		<i>cacti</i>	6-3
<i>channels</i>	17-2	<i>coconuts</i>	6-7
<i>hazards to</i>		<i>condensation</i>	6-4
eddies	17-2	<i>dew</i>	6-5
obstacles	17-2	<i>ground</i>	6-3
river estuary	17-2	<i>ice</i>	6-2
rock ledge	17-2	<i>palm trees</i>	6-8
rocky places	17-2	<i>plantain trees</i>	6-6
waterfall or deep channel	17-2	<i>plants with moist pulpy centers</i>	6-8
<i>rapids</i>	17-2	<i>rain</i>	6-2
<i>sandbars</i>	17-2	<i>roots</i>	6-8
water crossings, rivers and streams	17-1	<i>sea</i>	6-2
water filtration devices	6-14	<i>sea ice</i>	6-2, 16-22
water from plants	14-8	<i>snow</i>	6-2
water obstacles, other	17-11	<i>traveler's tree of Madagascar</i>	6-8
water procurement in		<i>umbrella tree</i>	6-9
<i>arctic and subarctic regions</i>	15-20	<i>vines</i>	6-6
<i>biologically contaminated environments</i>	23-20	<b>weapons, field-expedient</b>	
<i>chemically contaminated environments</i>	23-23	<i>clubs</i>	12-2
<i>fallout-contaminated areas</i>	23-12	<i>edged weapons</i>	12-4
<i>sea survival</i>		<i>other</i>	12-8
from fish	16-22	<b>weather and terrain, effects on biological agents</b>	23-18
using desalting kits	16-22	<b>weather signs</b>	
using sea ice	16-22	<i>birds and insects</i>	15-26
using solar stills	16-22	<i>clouds</i>	15-26, App G
<i>tropical areas</i>		<i>low-pressure front</i>	15-26
animals as signs of water	14-8	<i>smoke</i>	15-26
water from condensation	14-9	<i>wind</i>	15-25
water from plants		<i>weighted club</i>	12-2
palm trees	14-9	<i>wet cold weather environments</i>	15-2
roots	14-9	<i>whiteout conditions</i>	15-25
vines	14-8	<i>windchill</i>	15-2
water purification	6-11	<i>worms or intestinal parasites</i>	4-31, 9-13
		<i>worms, as food</i>	8-3, 16-36
		<i>wounds</i>	4-25