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.
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
Figure F-1. Sharks.
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-ring
ded octopus
Hapalochlaena 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.
Coneshells
_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.
CLOUDS:
FORETELLERS
OF WEATHER

About 200 years ago an Englishman classified clouds ac-
cording 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 ac-
tion for your protection.
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.

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.
Stratus clouds

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

Nimbus clouds

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

Cirrostratus clouds

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

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

Scuds

A loose, vapory cloud (scud) driven before the wind is a sign of continuing bad weather.
APPENDIX 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.
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
               1. Tundra
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)
Celsius
centigray
centimeter
central nervous system
contingency plan of action
cardiopulmonary resuscitation
Fahrenheit
forward edge of the battle area
forward line of own troops
heat escaping lessening posture
intravenous
kilogram
kilometers per hour
meter
milligram
meal, ready-to-eat
nuclear, biological, and chemical
radio direction finding
survival, evasion, resistance, and escape
Soldier’s Manual of Common Tasks
standing operating procedure

Glossary-1
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
Arctic Survival Principles, Procedures, and Techniques. 3636th Combat Crew Training Wing (ATC), Fairchild AFB, WA: Sep 78.


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


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

U.S. Navy Publications


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

References-1
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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