

DANGEROUS ANIMALS



Animals rarely are as threatening to the survivor as the rest of the environment. Common sense tells the survivor to avoid encounters with lions, bears, and other large or dangerous animals. You should also avoid large grazing animals with horns, hooves, and great weight. Your actions may prevent unexpected meetings. Move carefully through their environment. Do not attract large predators by leaving food lying around your camp. Carefully survey the scene before entering water or forests.

Smaller animals actually present more of a threat to the survivor than large animals. To compensate for their size, nature has given many small animals weapons such as fangs and stingers to defend themselves. Each year, a few people are bitten by sharks, mauled by alligators, and attacked by bears. Most of these incidents were in some way the victim's fault. However, each year more victims die from bites by relatively small venomous snakes than by large dangerous animals. Even more victims die from allergic reactions to bee stings. For this reason, we will pay more attention to smaller and potentially more dangerous creatures. These are the animals you are more likely to meet as you unwittingly move into their habitat, or they slip into your environment unnoticed.

Keeping a level head and an awareness of your surroundings will keep you alive if you use a few simple safety procedures. Do not let curiosity and carelessness kill or injure you.

INSECTS AND ARACHNIDS

You recognize and identify insects, except centipedes and millipedes, by their six legs while arachnids have eight. All these small creatures become pests when they bite, sting, or irritate you.

Although their venom can be quite painful, bee, wasp, and hornet stings rarely kill a survivor unless he is allergic to that particular toxin. Even the most dangerous spiders rarely kill, and the effects of tick-borne diseases are very slow-acting. However, in all cases, avoidance is the best defense. In environments known to have spiders and scorpions, check your footwear and clothing every morning. Also check your bedding and shelter for them. Use care when turning over rocks and logs. See [Appendix D](#) for examples of dangerous insects and arachnids.

Scorpions

You find scorpions (*Buthotus* species) in deserts, jungles, and forests of tropical, subtropical, and warm temperate areas of the world. They are mostly nocturnal in habit. You can find desert scorpions from below sea level in Death Valley to elevations as high as 3,600 meters in the Andes. Typically brown or black in moist areas, they may be yellow or light green in the desert. Their average size is about 2.5 centimeters. However, there are 20-centimeter giants in the jungles of Central America, New Guinea, and southern Africa. Fatalities from scorpion stings are rare, but they can occur in children, the elderly, and ill persons. Scorpions resemble small lobsters with raised, jointed tails bearing a stinger in the tip. Nature mimics the scorpions with whip scorpions or vinegar-rooms. These are harmless and have a tail like a wire or whip, rather than the jointed tail and stinger of true scorpions.

Spiders

You recognize the brown recluse or fiddleback spider of North America (*Loxosceles reclusa*) by a prominent violin-shaped light spot on the back of its body. As its name suggests, this spider likes to hide in dark places. Though rarely fatal, its bite causes excessive tissue degeneration around the wound and can even lead to amputation of the digits if left untreated.

You find members of the widow family (*Latrodectus* species) worldwide, though the black widow of North America is perhaps the most well-known. Found in warmer areas of the world, the widows are small, dark spiders with often hourglass-shaped white, red, or orange spots on their abdomens.

Funnelwebs (*Atrax* species) are large, gray or brown Australian spiders. Chunky, with short legs, they are able to move easily up and down the cone-shaped webs from which they get their name. The local populace considers them deadly. Avoid them as they move about, usually at night, in search of prey. Symptoms of their bite are similar to those of the widow's--severe pain accompanied by sweating and shivering, weakness, and disabling episodes that can last a week.

Tarantulas are large, hairy spiders (*Theraphosidae* and *Lycosa* species) best known because they are often sold in pet stores. There is one species in Europe, but most come from tropical America. Some South American species do inject a dangerous toxin, but most simply produce a painful bite. Some tarantulas can be as large as a dinner plate. They all have large fangs for capturing food such as birds, mice, and lizards. If bitten by a tarantula, pain and bleeding are certain, and infection is likely.

Centipedes and Millipedes

Centipedes and millipedes are mostly small and harmless, although some tropical and desert species may reach 25 centimeters. A few varieties of centipedes have a poisonous bite, but infection is the greatest danger, as their sharp claws dig in and puncture the skin. To prevent skin punctures, brush them off in the direction they are traveling, if you find them crawling on your skin.

Bees, Wasps, and Hornets

We are all familiar with bees, wasps, and hornets. They come in many varieties and have a wide diversity of habits and habitats. You recognize bees by their hairy and usually thick body, while the wasps, hornets, and yellow jackets have more slender, nearly hairless, bodies. Some

bees, such as honeybees, live in colonies. They may be either domesticated or living wild in caves or hollow trees. You may find other bees, such as carpenter bees, in individual nest holes in wood, or in the ground, like bumblebees. The main danger from bees is their barbed stinger located on their abdomens. When the bee stings you, it rips its stinger out of its abdomen along with the venom sac, and the bee dies. Except for killer bees, most bees tend to be more docile than wasps, hornets, and yellow jackets that have smooth stingers and are capable of repeated attacks.

Avoidance is the best tactic for self-protection. Watch out for flowers or fruit where bees may be feeding. Be careful of meat-eating yellow jackets when cleaning fish or game. The average person has a relatively minor and temporary reaction to bee stings and recovers in a couple of hours when the pain and headache go away. Those who are allergic to bee venom have severe reactions including anaphylactic shock, coma, and death. If antihistamine medicine is not available and you cannot find a substitute, an allergy sufferer in a survival situation is in grave danger.

Ticks

Ticks are common in the tropics and temperate regions. They are familiar to most of us. Ticks are small round arachnids with eight legs and can have either a soft or hard body. Ticks require a blood host to survive and reproduce. This makes them dangerous because they spread diseases like Lyme disease, Rocky Mountain spotted fever, encephalitis, and others that can ultimately be disabling or fatal. There is little you can do to treat these diseases once contracted, but time is your ally since they are slow-acting ailments. According to most authorities, it takes at least 6 hours of attachment to the host for the tick to transmit the disease organisms. Thus, you have time to thoroughly inspect your body for their presence. Beware of ticks when passing through the thick vegetation they cling to, when cleaning host animals for food, and when gathering natural materials to construct a shelter. Always use insect repellents, if possible.

LEECHES

Leeches are blood-sucking creatures with a wormlike appearance. You find them in the tropics and in temperate zones. You will certainly encounter them when swimming in infested waters or making expedient water crossings. You can find them when passing through swampy, tropical vegetation and bogs. You can also find them while cleaning food animals, such as turtles, found in fresh water. Leeches can crawl into small openings; therefore, avoid camping in their habitats when possible. Keep your trousers tucked in your boots. Check yourself frequently for leeches. Swallowed or eaten, leeches can be a great hazard. It is therefore essential to treat water from questionable sources by boiling or using chemical water treatments. Survivors have developed severe infections from wounds inside the throat or nose when sores from swallowed leeches became infected.

BATS

Despite the legends, bats (*Desmodus* species) are a relatively small hazard to the survivor. There are many bat varieties worldwide, but you find the true vampire bats only in Central and South America. They are small, agile fliers that land on their sleeping victims, mostly cows and horses, to lap a blood meal after biting their victim. Their saliva contains an anticoagulant that keeps the blood slowly flowing while they feed. Only a small percentage of these bats actually carry rabies; however, avoid any sick or injured bat. They can carry other diseases and infections and will bite readily when handled. Taking shelter in a cave occupied by bats, however, presents the much greater hazard of inhaling powdered bat dung, or guano. Bat dung carries many

organisms that can cause diseases. Eating thoroughly cooked flying foxes or other bats presents no danger from rabies and other diseases, but again, the emphasis is on thorough cooking.

POISONOUS SNAKES

There are no infallible rules for expedient identification of poisonous snakes in the field, because the guidelines all require close observation or manipulation of the snake's body. The best strategy is to leave all snakes alone. Where snakes are plentiful and poisonous species are present, the risk of their bites negates their food value. Apply the following safety rules when traveling in areas where there are poisonous snakes:

- Walk carefully and watch where you step. Step onto logs rather than over them before looking and moving on.
- Look closely when picking fruit or moving around water.
- Do not tease, molest, or harass snakes. Snakes cannot close their eyes. Therefore, you cannot tell if they are asleep. Some snakes, such as mambas, cobras, and bushmasters, will attack aggressively when cornered or guarding a nest.
- Use sticks to turn logs and rocks.
- Wear proper footgear, particularly at night.
- Carefully check bedding, shelter, and clothing.
- Be calm when you encounter serpents. Snakes cannot hear and you can occasionally surprise them when they are sleeping or sunning. Normally, they will flee if given the opportunity.
- Use extreme care if you must kill snakes for food or safety. Although it is not common, warm, sleeping human bodies occasionally attract snakes.

See [Appendix E](#) for detailed descriptions of the [snakes](#) listed below.

Snake-Free Areas

The polar regions are free of snakes due to their inhospitable environments. Other areas considered to be free of poisonous snakes are New Zealand, Cuba, Haiti, Jamaica, Puerto Rico, Ireland, Polynesia, and Hawaii.

POISONOUS SNAKES OF THE AMERICAS

- American Copperhead (*Agkistrodon contortrix*)
- Bushmaster (*Lachesis mutus*)
- Coral snake (*Micrurus fulvius*)
- Cottonmouth (*Agkistrodon piscivorus*)
- Fer-de-lance (*Bothrops atrox*)
- Rattlesnake (*Crotalus species*)

POISONOUS SNAKES OF EUROPE

- Common adder (*Vipers berus*)
- Pallas' viper (*Agkistrodon halys*)

POISONOUS SNAKES OF AFRICA AND ASIA

- Boomslang (*Dispholidus typus*)
- Cobra (*Naja species*)
- Gaboon viper (*Bitis gabonica*)
- Green tree pit viper (*Trimeresurus gramineus*)
- Habu pit viper (*Trimeresurus flavoviridis*)
- Krait (*Bungarus caeruleus*)
- Malayan pit viper (*Callaselasma rhodostoma*)
- Mamba (*Dendraspis species*)
- Puff adder (*Bitis arietans*)
- Rhinoceros viper (*Bitis nasicornis*)
- Russell's viper (*Vipera russellii*)
- Sand viper (*Cerastes vipera*)
- Saw-scaled viper (*Echis carinatus*)
- Wagler's pit viper (*Trimeresurus wagleri*)

POISONOUS SNAKES OF AUSTRALASIA

- Death adder (*Acanthophis antarcticus*)
- Taipan (*Oxyuranus scutellatus*)
- Tiger snake (*Notechis scutatus*)
- Yellow-bellied sea snake (*Pelamis platurus*)

DANGEROUS LIZARDS

The Gila monster and the Mexican beaded lizard are dangerous and poisonous lizards.

Gila Monster

The Gila monster (*Heloderma suspectrum*) of the American southwest, including Mexico, is a large lizard with dark, highly textured skin marked by pinkish mottling. It averages 35 to 45 centimeters in length and has a thick, stumpy tail. Unlikely to bite unless molested, it has a poisonous bite.

Mexican Beaded Lizard

The Mexican beaded lizard (*Heloderma horridum*) resembles its relative, the Gila monster. It has more uniform spots rather than bands of color (the Gila monster). It also is poisonous and has a docile nature. You find it from Mexico to Central America.

Komodo Dragon

This giant lizard (*Varanus komodoensis*) grows to more than 3 meters in length and can be dangerous if you try to capture it. This Indonesian lizard can weigh more than 135 kilograms.

DANGERS IN RIVERS

Common sense will tell you to avoid confrontations with hippopotami, alligators, crocodiles, and other large river creatures. There are, however, a few smaller river creatures with which you should be cautious.

Electric Eel

Electric eels (*Electrophorus electricus*) may reach 2 meters in length and 20 centimeters in diameter. Avoid them. They are capable of generating up to 500 volts of electricity in certain organs in their body. They use this shock to stun prey and enemies. Normally, you find these eels in the Orinoco and Amazon River systems in South America. They seem to prefer shallow waters that are more highly oxygenated and provide more food. They are bulkier than our native eels. Their upper body is dark gray or black, with a lighter-colored underbelly.

Piranha

Piranhas (*Serrasalmo* species) are another hazard of the Orinoco and Amazon River systems, as well as the Paraguay River Basin, where they are native. These fish vary greatly in size and coloration, but usually have a combination of orange undersides and dark tops. They have white, razor-sharp teeth that are clearly visible. They may be as long as 50 centimeters. Use great care when crossing waters where they live. Blood attracts them. They are most dangerous in shallow waters during the dry season.

Turtle

Be careful when handling and capturing large freshwater turtles, such as the snapping turtles and soft-shelled turtles of North America and the matamata and other turtles of South America. All of these turtles will bite in self-defense and can amputate fingers and toes.

Platypus

The platypus or duckbill (*Ornithorhynchus anatinus*) is the only member of its family and is easily recognized. It has a long body covered with grayish, short hair, a tail like a beaver, and a bill like a duck. Growing up to 60 centimeters in length, it may appear to be a good food source, but this egg-laying mammal, the only one in the world, is very dangerous. The male has a poisonous spur on each hind foot that can inflict intensely painful wounds. You find the platypus only in Australia, mainly along mud banks on waterways.

DANGERS IN BAYS AND ESTUARIES

In areas where seas and rivers come together, there are dangers associated with both fresh and salt water. In shallow salt waters, there are many creatures that can inflict pain and cause infection to develop. Stepping on sea urchins, for example, can produce pain and infection. When moving about in shallow water, wear some form of footgear and shuffle your feet along the bottom, rather than picking up your feet and stepping.

Stingrays (*Dasyatidae* species) are a real hazard in shallow waters, especially tropical waters. The type of bottom appears to be irrelevant. There is a great variance between species, but all have a sharp spike in their tail that may be venomous and can cause extremely painful wounds if stepped on. All rays have a typical shape that resembles a kite. You find them along the coasts of the Americas, Africa, and Australasia.

SALTWATER DANGERS

There are several fish that you should not handle, touch, or contact. There are others that you should not eat.

Fish Dangerous to Handle, Touch, or Contact

There are several [fish](#) you should not handle, touch, or contact that are identified below.

Shark

Sharks are the most feared animal in the sea. Usually, shark attacks cannot be avoided and are considered accidents. You, as a survivor, should take every precaution to avoid any contact with sharks. There are many shark species, but in general, dangerous sharks have wide mouths and visible teeth, while relatively harmless ones have small mouths on the underside of their heads. However, any shark can inflict painful and often fatal injuries, either through bites or through abrasions from their rough skin.

Rabbitfish

Rabbitfish or spinefoot (*Siganidae* species) occur mainly on coral reefs in the Indian and Pacific oceans. They have very sharp, possibly venomous spines in their fins. Handle them with care, if at all. This fish, like many others of the dangerous fish in this section, is considered edible by native peoples where the fish are found, but deaths occur from careless handling. Seek other nonpoisonous fish to eat if at all possible.

Tang

Tang or surgeonfish (*Acanthuridae* species) average 20 to 25 centimeters in length and often are beautifully colored. They are called surgeonfish because of the scalpellike spines located in the tail. The wounds inflicted by these spines can bring about death through infection, envenomation, and loss of blood, which may incidentally attract sharks.

Toadfish

Toadfish (*Batrachoididae* species) occur in tropical waters off the Gulf Coast of the United States and along both coasts of Central and South America. These dully colored fish average 18 to 25 centimeters in length. They typically bury themselves in the sand to await fish and other prey. They have sharp, very toxic spines along their backs.

Scorpion Fish

Poisonous scorpion fish or zebra fish (*Scorpaenidae* species) are mostly around reefs in the tropical Indian and Pacific oceans and occasionally in the Mediterranean and Aegean seas. They average 30 to 75 centimeters in length. Their coloration is highly variable, from reddish brown to almost purple or brownish yellow. They have long, wavy fins and spines and their sting is intensively painful. Less poisonous relatives live in the Atlantic Ocean.

Stonefish

Stonefish (*Synanceja* species) are in the Pacific and Indian oceans. They can inject a painful venom from their dorsal spines when stepped on or handled carelessly. They are almost impossible to see because of their lumpy shape and drab colors. They range in size up to 40 centimeters.

Weever Fish

Weever fish (*Trachinidae* species) average 30 centimeters long. They are hard to see as they lie buried in the sand off the coasts of Europe, Africa, and the Mediterranean. Their color is usually a dull brown. They have venomous spines on the back and gills.

See [Appendix F](#) for more details on these venomous fish.

Animals and Fish Poisonous to Eat

Survival manuals often mention that the livers of polar bears are toxic due to their high concentrations of vitamin A. For this reason, we mention the chance of death after eating this organ. Another toxic meat is the flesh of the hawksbill turtle. You recognize them by their down-turned bill and yellow polka dots on their neck and front flippers. They weigh more than 275 kilograms and are unlikely to be captured.

Many fish living in reefs near shore, or in lagoons and estuaries, are poisonous to eat, though some are only seasonally dangerous. The majority are tropical fish; however, be wary of eating any unidentifiable fish wherever you are. Some predatory fish, such as barracuda and snapper, may become toxic if the fish they feed on in shallow waters are poisonous. The most poisonous types appear to have parrotlike beaks and hard shell-like skins with spines and often can inflate their bodies like balloons. However, at certain times of the year, indigenous populations consider the puffer a delicacy.

Blowfish

Blowfish or puffer (*Tetraodontidae* species) are more tolerant of cold water. You find them along tropical and temperate coasts worldwide, even in some of the rivers of Southeast Asia and Africa. Stout-bodied and round, many of these fish have short spines and can inflate themselves into a ball when alarmed or agitated. Their blood, liver, and gonads are so toxic that as little as 28 milligrams (1 ounce) can be fatal. These fish vary in color and size, growing up to 75 centimeters in length.

Triggerfish

The triggerfish (*Balistidae* species) occur in great variety, mostly in tropical seas. They are deep-bodied and compressed, resembling a seagoing pancake up to 60 centimeters in length, with large and sharp dorsal spines. Avoid them all, as many have poisonous flesh.

Barracuda

Although most people avoid them because of their ferocity, they occasionally eat barracuda (*Sphyraena barracuda*). These predators of mostly tropical seas can reach almost 1.5 meters in length and have attacked humans without provocation. They occasionally carry the poison ciguatera in their flesh, making them deadly if consumed.

See [Appendix F](#) for more details on toxic fish and toxic mollusks.

Other Dangerous Sea Creatures

The blue-ringed octopus, jellyfish, and the cone and auger shells are other dangerous sea creatures.

Blue-Ringed Octopus

Most octopi are excellent when properly prepared. However, the blueringed octopus (*Hapalochlaena lunulata*) can inflict a deadly bite from its parrotlike beak. Fortunately, it is restricted to the Great Barrier Reef of Australia and is very small. It is easily recognized by its grayish white overall color and iridescent blue rings. Authorities warn that all tropical octopus species should be treated with caution, since many have poisonous bites, although the flesh is edible.

Jellyfish

Jellyfish-related deaths are rare, but the sting they inflict is extremely painful. The Portuguese man-of-war resembles a large pink or purple balloon floating on the sea. It has poisonous tentacles hanging up to 12 meters below its body. The huge tentacles are actually colonies of stinging cells. Most known deaths from jellyfish are attributed to the man-of-war. Other jellyfish can inflict very painful stings as well. Avoid the long tentacles of any jellyfish, even those washed up on the beach and apparently dead.

Cone Shell

The subtropical and tropical cone shells (*Conidae* species) have a venomous harpoonlike barb. All are cone-shaped and have a fine netlike pattern on the shell. A membrane may possibly obscure this coloration. There are some very poisonous cone shells, even some lethal ones in the Indian and Pacific oceans. Avoid any shell shaped like an ice cream cone.

Auger Shell

The auger shell or terebra (*Terebridae* species) are much longer and thinner than the cone shells, but can be nearly as deadly as the cone shells. They are found in temperate and tropical seas. Those in the Indian and Pacific oceans have a more toxic venom in their stinging barb. Do not eat these snails, as their flesh may be poisonous.

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.

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.

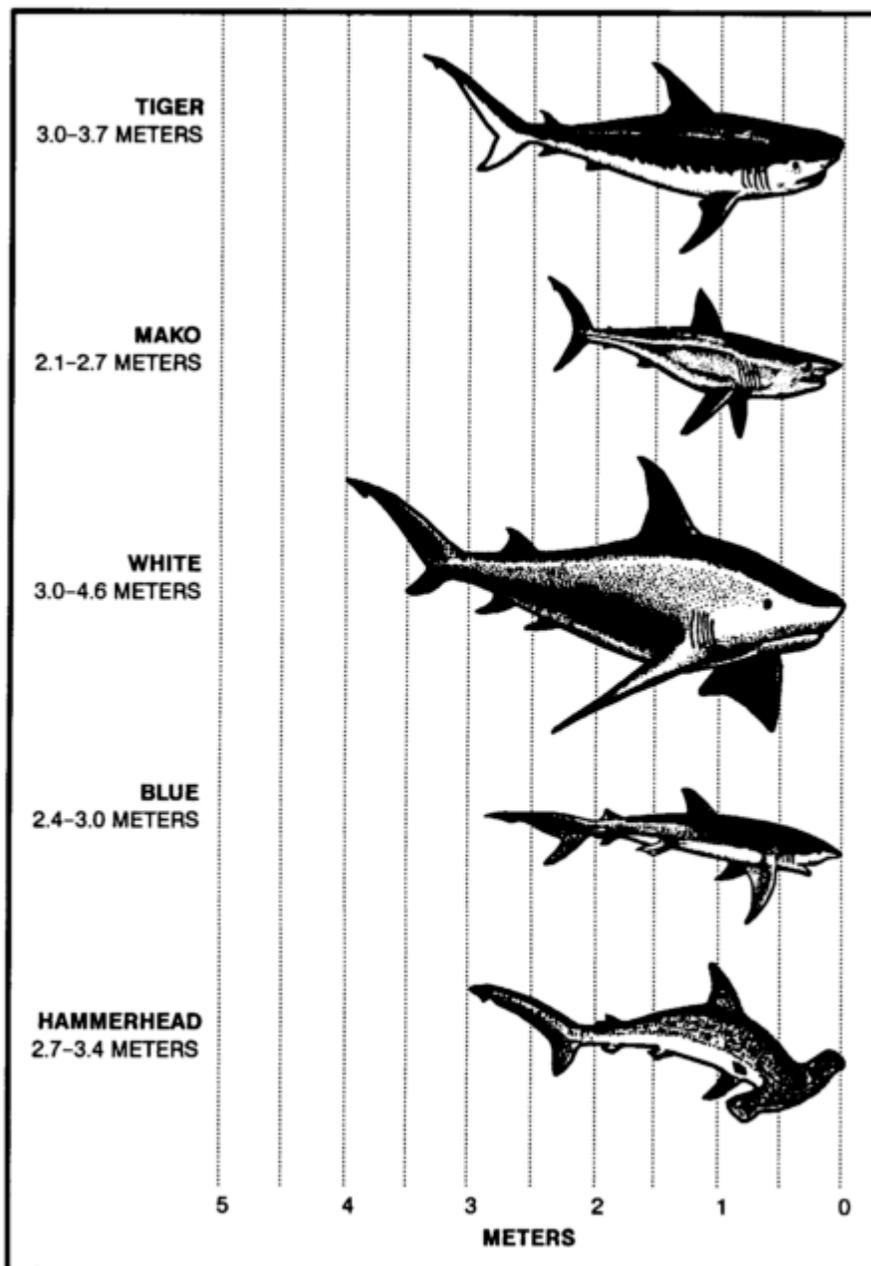


Figure F-1. Sharks.

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.

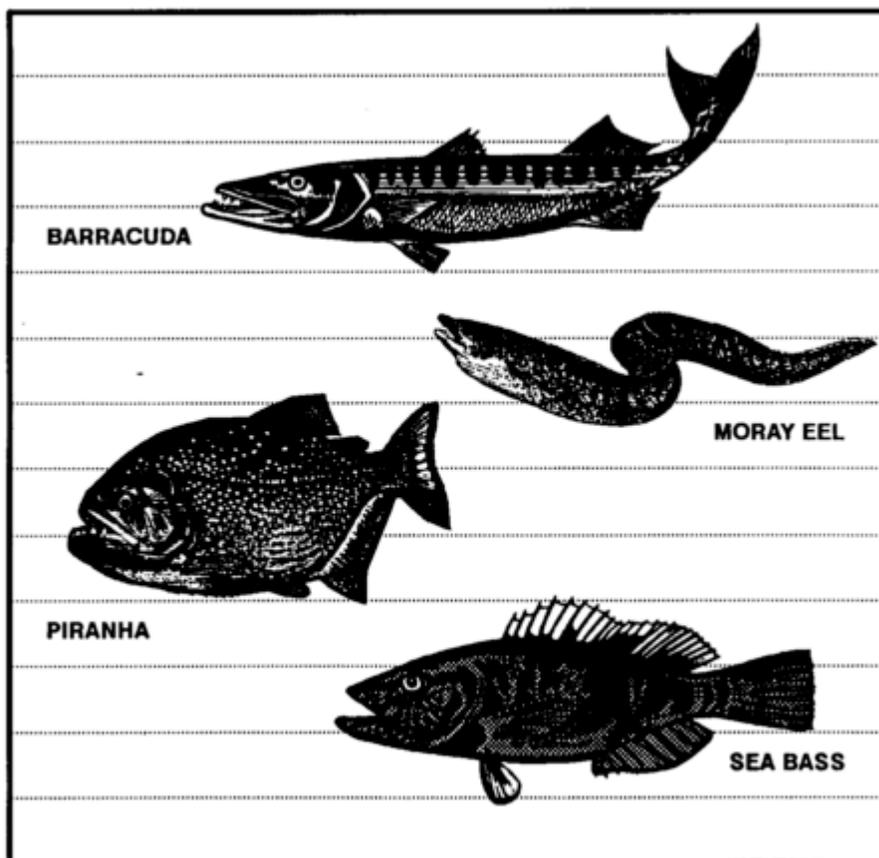
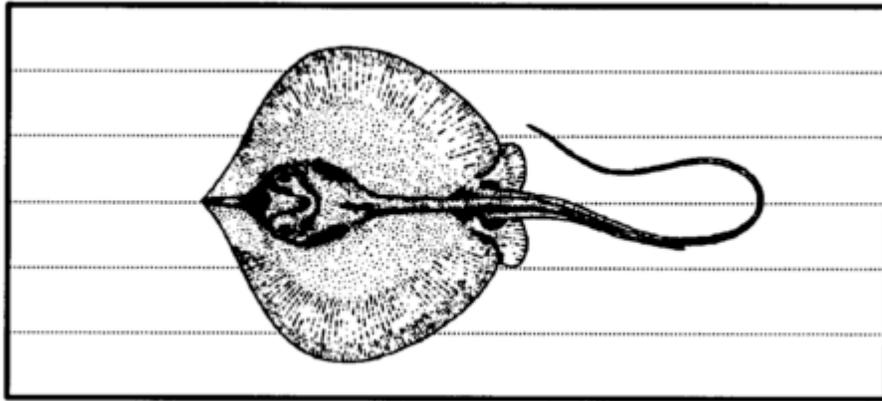


Figure F-2. Ferocious fish.

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

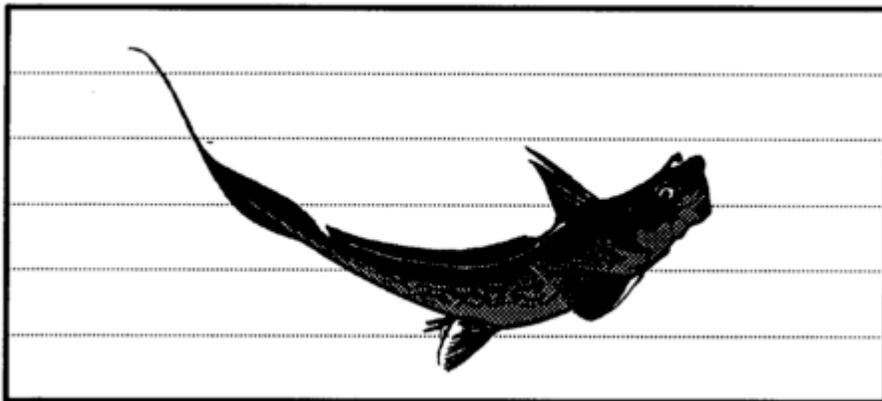
There are several species of venomous fish and invertebrates, all of which live in salt water. All of these are capable of injecting poisonous venom through spines located in their fins, tentacles, or bites. Their venoms cause intense pain and are potentially fatal. If injured by one of these fish or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



Stingrays

Dasyatidae species

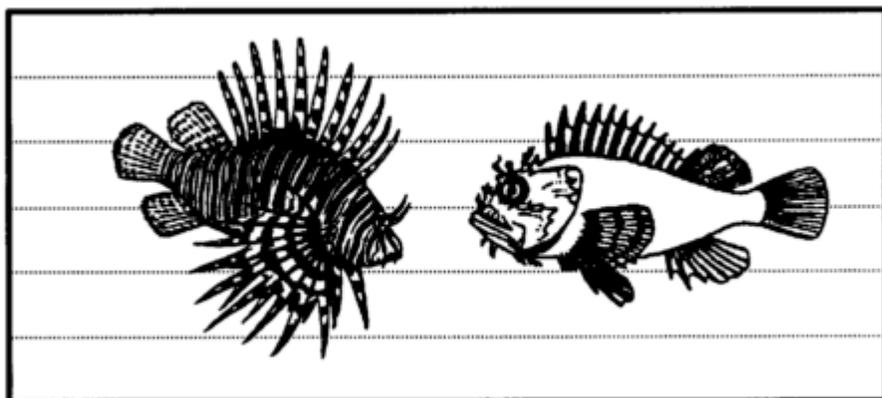
Stingrays inhabit shallow water, especially in the tropics and in temperate regions as well. All have a distinctive ray shape but coloration may make them hard to spot unless they are swimming. The venomous, barbed spines in their tails can cause severe or fatal injury.



Rabbitfish

Siganidae species

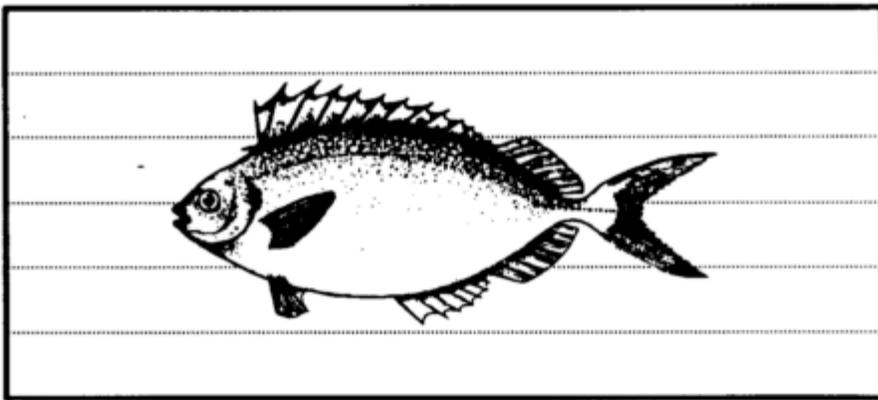
Rabbitfish are found predominantly on the reefs in the Pacific and Indian oceans. They average about 30 centimeters long and have very sharp spines in their fins. The spines are venomous and can inflict intense pain.



Scorpion fish or zebra fish

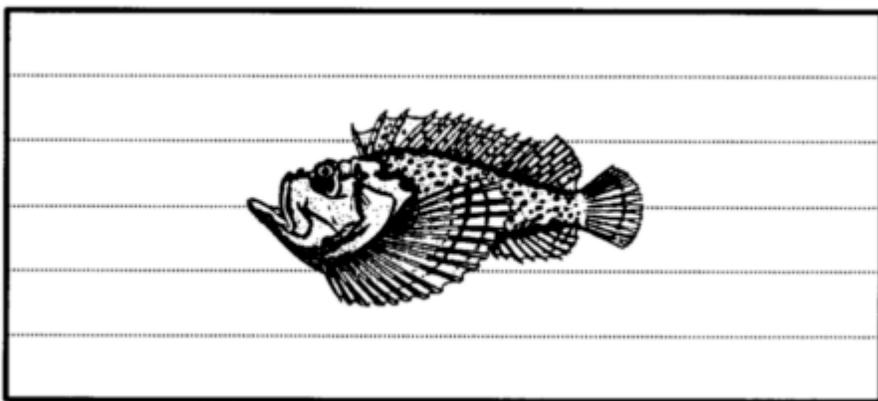
Scorpaenidae species

Scorpion fish 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

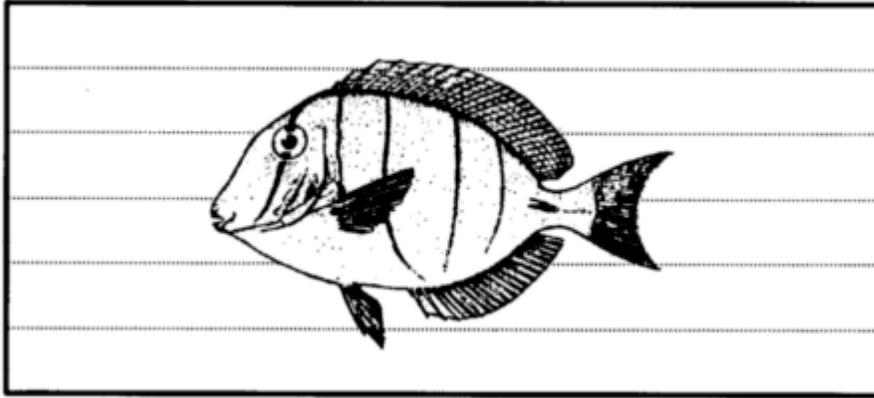
The siganus fish is small, about 10 to 15 centimeters long, and looks much like a small tuna. It has venemous spines in its dorsal and ventral fins. These spines can inflict painful stings.



Stonefish

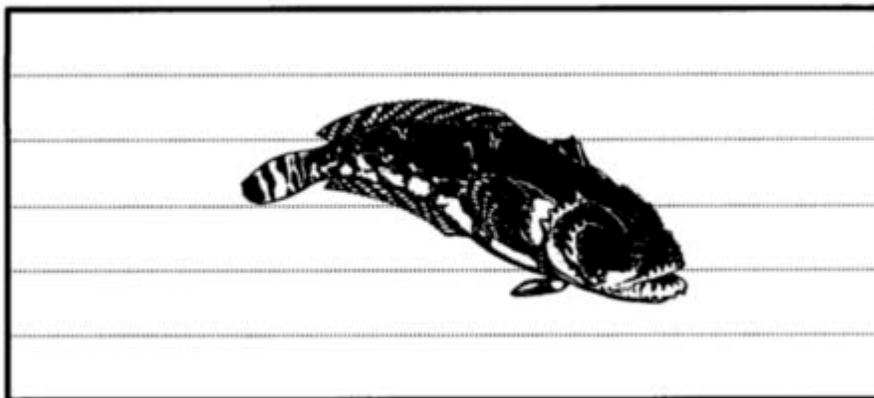
Synanceja species

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 camouflauge. When stepped on, the fins in the dorsal spine inflict an extremely painful and sometimes fatal wound.



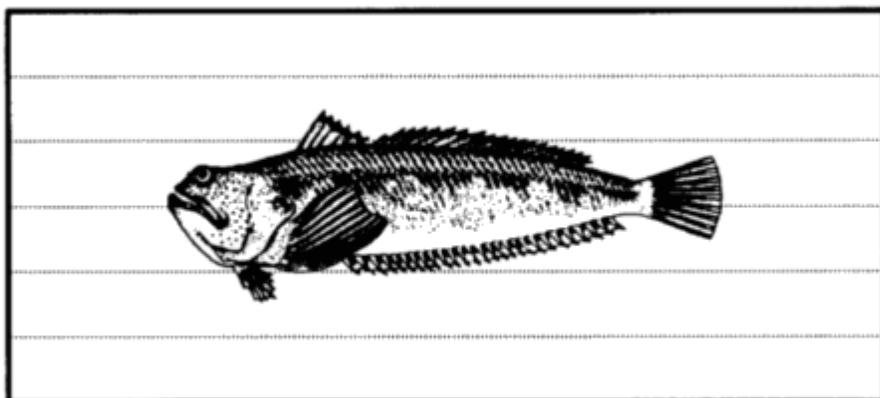
Tang or surgeonfish
Acanthuridae species

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.



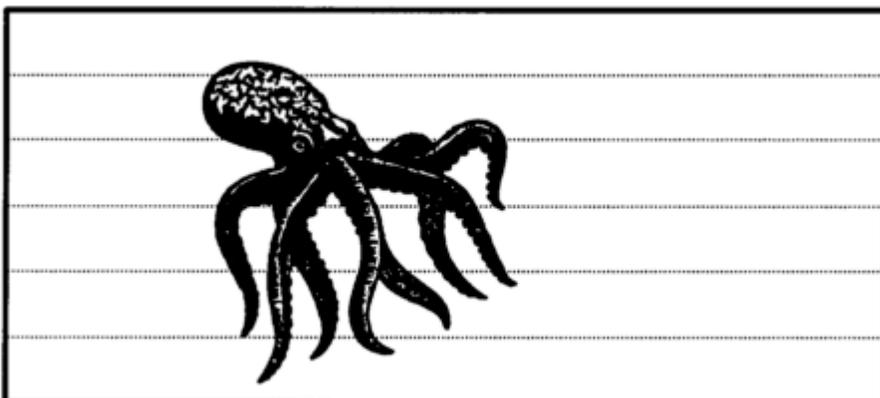
Toadfish
Batrachoididae species

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).



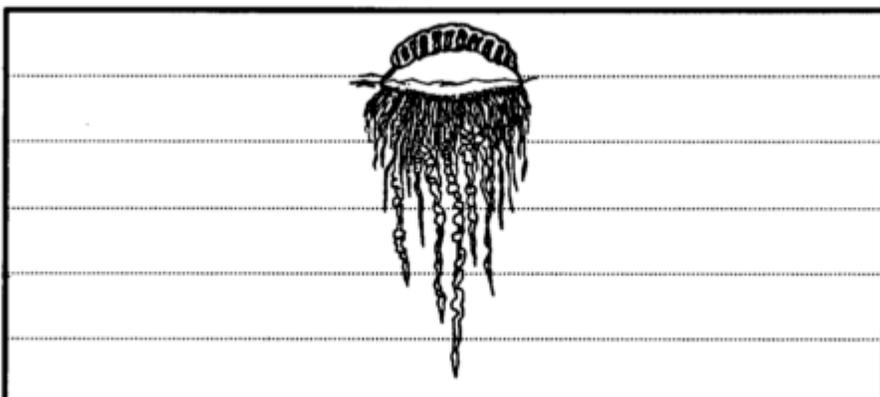
Weever fish
Trachinidae species

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
Hapalochlaena species

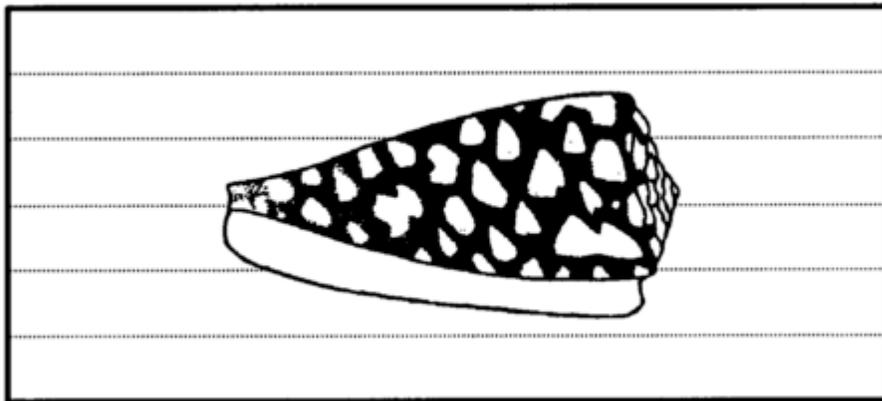
This small octopus is usually found on the Great Barrier Reef off eastern Australia. It is grayish-white with iridescent blue ringlike markings. This octopus usually will not bite unless stepped on or handled. Its bite is extremely poisonous and frequently lethal.



Portuguese man-of-war

Physalis species

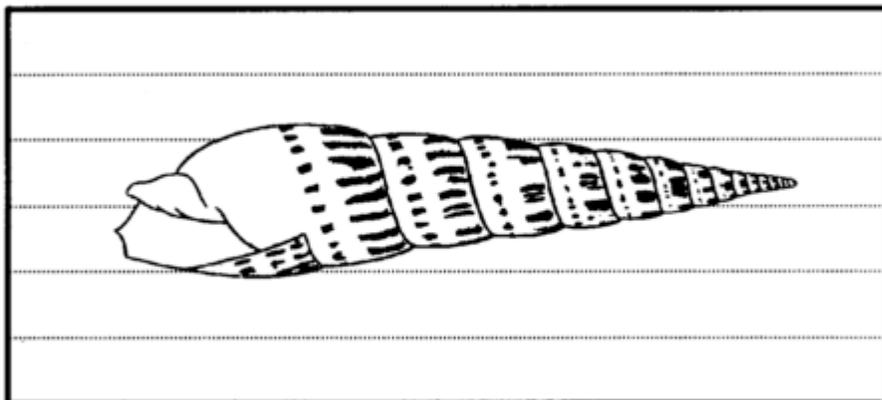
Although it resembles a jellyfish, the Portuguese man-of-war is actually a colony of sea animals. Mainly found in tropical regions, the Gulf stream current can carry it as far as Europe. It is also found as far south as Australia. The floating portion of the man-of-war may be as small as 15 centimeters, 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 and coral reefs, and along rocky shores and 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 their 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.



VIPERS

Vipers, one of the two groups of poisonous snakes, have long movable fangs. When not in use, the fangs fold back into a sheath on the roof of the mouth. The fangs are erected when the snake strikes. Examples of vipers include the pit viper, cottonmouth, water moccasin, rattlesnake, copperhead, fer-de-lance, Russels viper, Korean pit viper, and gaboon snakes.

SYMPTOMS

The venom affects the circulatory system and destroys muscle Symptoms usually develop within 5 to 10 minutes and slowly spread.

- Severe pain
- Swelling
- Change in skin color

After several hours, the following symptoms will occur :

- Further swelling
- further change in skin color
- Bleeding blisters
- Numbness of the affected area

Other signs which may occur:

- Weakness
- Rapid pulse
- Nausea
- Vomiting
- Shortness of breath
- Shock
- Sweating

ELAPIDS

Elapids, one of the Two groups of poisonous snakes, have one pair of immovable fangs Examples of elapids include coral, mamba, and krait snakes

SYMPTOMS

The venom affects the central nervous system. Because a snakebite initially produces only slight pain and swelling, the victim may fail to realize they have been bitten or that the wound is serious. Symptoms usually develop within 1 to 7 hours after the bite occurs:

- Blurred vision
- Drooping eyelids
- Slurred speech
- Drowsiness
- Increased salivation and sweating

If the snakebite is not treated promptly, the following symptoms may appear:

- Vomiting
- Shock Breathing difficulties Convulsion
- Coma

FIRST AID

1 THE DEFINITIVE TREATMENT OF A POISONOUS-SNAKEBITE VICTIM CAN ONLY BE PROVIDED BY A PHYSICIAN IN A HOSPITAL The first responsibility of anyone providing care to a victim is to arrange transportation to an appropriate physician/hospital

2 While waiting for and during transportation

a CALM AND REASSURE THE VICTIM Movement, especially of a bitten extremity increases the spread of the poison. Have victim lie down, if possible, and keep him quiet. Give nothing by mouth. Keep the victim warm.

b REMOVE CLOTHING AND JEWELRY FROM THE AFFECTED AREA BEFORE SWELUNG OCCURS

c THE CONSTRICTIVE BAND SHOULD SLOW THE FLOW OF SUPERFICIAL BLOOD AND TISSUE FLUID, BUT SHOULD NOT INTERFERE WITH THE FLOW OF BLOOD IN THE DEEP ARTERIES AND VEINS

d CHECK VICTIM'S VITAL SIGNS BLOOD PRESSURE, PULSE, AND RESPIRATION DO NOT DELAY EVACUATION

e IMMOBILIZE THE AFFECTED AREA WITH A LOOSE SPLINT If the bite is on the arm or leg, keep extremity below the level of the heart. Splints applied with elastic bandages applied (light tension) have been shown to slow the spread of the poison. **DO NOT DELAY EVACUATION**

f COVER THE WOUND WITH A DRESSING AND APPLY A COOL PACK TO THE SNAKEBITE IF AVAILABLE The purpose of the cool pack is to slow blood flow and the subsequent spread of venom. **DO NOT USE ICE DO NOT DELAY EVACUATION**

g DO NOT CUT OPEN THE SNAKEBITE AND SUCTION THE VENOM This technique does not remove much venom, and it exposes the wound to further complications. Any venom removed could harm the person who is providing this type of first aid.

3 TRANSPORT VICTIM IMMEDIATELY TO MEDICAL FACILITY Send the snake, if possible, or its identification with the victim to aid medical personnel in determining the proper treatment.

CAUTION: Do not attempt to capture the snake alive. Try to kill it without damaging too many of its identifying features. Handle it carefully, as freshly killed snakes can bite due to reflex action.

Precautions With Snakes

Snakes are important members of the natural world and make a significant contribution to the control of pests such as rats, insects, and other snakes. Poisonous snakes, however, are not desirable members of the human habitat. The risk of a poisonous snakebite is lower than that of being struck by lightning and can be reduced further by:

- Cleaning up refuse and other hiding spots around buildings and yards;
- Wearing heavy shoes and pants in wooded areas; and
- Looking first before stepping or touching hidden areas where snakes are likely to be resting or hiding.

Most poisonous snakes in the United States belong to the pit viper group. The pit viper has pits on its head, vertical pupils, a triangular head, slim neck, and a heavy body with a single row of scales on the underside of the tail. The pit viper group includes the major categories of copperhead and cottonmouth and two major categories of rattlesnake. All pit vipers may vibrate their tail sections rapidly to make noise when threatened.

The cottonmouth and copperhead categories are often referred to as mocassins, but they are two distinct categories within the pit viper group. **Note: Click Images For Larger View**

Rattlesnake



There are many varieties of rattlesnakes that have pit viper characteristics and a button on the tail (youngest snakes), plus two to four segments of rattles for each year of age. The size range of rattlesnakes is 15 to 72 inches, with the record size held by a 96-inch Eastern Diamondback.

Copperhead



The five varieties of copperhead snakes have pit viper characteristics and bands or hourglass markings of brown, copper, or red on a tan body. The 20- to 36-inch snakes have regional differences in color and size; the young have a bright-yellow tail tip. An unusually large copperhead was recorded at 56 inches in length.

Cottonmouth



The semi aquatic cottonmouth also has pit viper characteristics, but the adult has a solid-colored upper body that is olive brown or black, and a lighter underside. Although often difficult to distinguish from the nonpoisonous water snake, a cottonmouth is usually more aggressive.

While a water snake will leave rapidly when threatened, the pit viper often raises its head and confronts an enemy with a show of fangs inside a cotton-white mouth. The size of the cottonmouth ranges from 30 to 48 inches, with a record length of 74 inches.

Coral Snake



The coral snake is an exception to the other snakes of the United

States, because it has round pupils and an elliptical head, but it is quite poisonous. While the pit viper venom reduces the amount of oxygen carried by a victim's red blood cells, a coral snake has venom that rapidly affects the nervous system. The small mouth of the coral snake has trouble grasping and biting the larger human; however, the effect is more deadly than the pit viper once a bite is accomplished!

Pit Vipers	Other Snakes
Flat triangular head	Usually oval, elongated head
Facial pit; vertical pupil	No pit; round pupil
Single row of scales under end of tail	Double row of scales under end of tail

If You Are Bitten By A Snake

1. If the snake is still in the area, do not attempt to kill or catch it, unless it poses a danger to you or the victim. Try to remember what it looks like so you can identify the type of snake from pictures in the emergency room.
2. Remove all items that may restrict circulation in the affected extremity. Watches, bracelets, rings, gloves, or shoes may pose a problem as the bite area swells.
3. Immobilize the affected area as much as possible. Attempt to keep the bite at or slightly below the level of the head.
4. If swelling occurs **rapidly**, place a 1-inch-wide constricting band about 2 inches above the bite. This is not a tourniquet and should not fit so tightly you cannot easily slip a finger under it. **Do not** place a constricting band on a joint.
5. Attempt to keep the victim from moving rapidly about while transporting him/her to the nearest emergency medical facility as quickly as possible.
6. **Note:**
 - a. **Do not Give the victim anything to eat or drink, particularly alcohol;**
 - b. **Do not Place the affected area in ice;**
 - c. **Do not Make any cuts or apply suction to the area;**
 - d. **Do not Attempt to give antivenom; or**
 - e. **Do not Administer pain or anti-anxiety medications**

Safety Precautions With Snakes

After a flood, storms, or hurricane, snakes are forced into places where they usually are not found. Take the following precautions if you live in an area where poisonous snakes are common.

1. Know how to identify poisonous snakes common to your area.

2. Be alert for snakes in unusual places. They may be found in or around homes, barns, outbuildings, driftwood, levees, dikes, dams, stalled automobiles, piles of debris, building materials, trash, or any type of rubble or shelter.
3. Keep a heavy stick or some other weapon handy.
4. Search the premises thoroughly for snakes before beginning any cleanup or rescue operations. Snakes may be under or near any type of protective cover.
5. In rescue or cleanup operations, wear heavy leather or rubber high-topped boots, and heavy gloves. Wear trouser legs outside boots. Be extremely careful around debris. Use rakes, pry bars, or other long-handled tools when removing debris. Never expose your hands, feet, or other parts of your body in a place where a snake might hide.
6. Carry a strong light after dark.
7. Explain to children the dangers of snakes under storm or flood conditions, and the precautions they should follow. Do not allow children to play around debris.
8. If you kill a poisonous snake, use a stick, rake, or other long-handled tool to carry the snake away for disposal. Snakes may bite even when they appear dead.
9. If you realize you are near a snake, avoid sudden movement, which may cause the snake to strike. If you remain still the snake may leave. If the snake doesn't move away from you slowly back away from it.
10. If someone is bitten by a poisonous snake, call a doctor immediately.

Controlling Snakes

To get rid of snakes in buildings and to prevent other snakes from entering:

1. Remove snakes' food supply. Eliminating rats and mice from an area often discourages snakes.
2. Remove snakes' hiding places. Get rid of lumber piles, trash piles, high weeds and grasses, and debris.
3. Block openings where snakes might enter buildings. Snakes can pass through extremely small openings and usually enter near or below ground level. Be sure doors, windows, and screens fit tightly. Search walls and floors for holes or crevices. Inspect the masonry of foundations, fireplaces, and chimneys; plug or cement cracks. Plug spaces around pipes that go through outside walls. Fasten galvanized screen over drains or ventilators, or over large areas of loose construction.

There are no sprays, dusts, or poisons that have legal registration for use around homes or farms to repel or kill snakes.

Low places under houses are likely to trap water, which provides a harborage for water moccasins. Outdoor sheds and barns are also ideal places for snakes to hide. These areas should be drained if possible.

Rodents

Homeowners returning to areas inundated by floodwaters are likely to encounter infestations of insects, rodents, snakes, and other pests that can cause numerous health problems for humans and livestock.

Rats and other rodents may move into homes and outbuildings to escape floodwaters. Search likely harboring places in your home and farm buildings. Carry a flashlight and approach closets, basements, storage areas, stairwells, bins, and shelves cautiously.

Do not endanger yourself. Guard against rat bites. If you are bitten by a rodent, try to capture or kill it, and take it immediately to a health authority to check for rabies. You may need medical treatment.

Rats that cannot be eliminated by clubbing or trapping, destroy by poisoning. Zinc Phosphide is a rat poison to use if there is no danger of small children or pets contacting them. This material kill rats quickly. The anticoagulant poisons (warfarin, pival, fumarin, and diphacinone) are safer to use around small children and pets, but require at least four days of successive feeding before the rats begin to die. Death of rats continues for two weeks or longer after consuming bait.

After the infestation is controlled, conduct a careful cleanup program. Remove trash piles, and avoid piling up lumber, trash, or damaged furniture or equipment on the ground. Store materials on platforms or shelves 12-18 inches above the ground. Make every effort to deprive the rats of food, food scraps, hiding places, or harborage. Clear outdoor harborages after rats are under control--never before--since rats may be driven into the house for refuge. It's also easier to choose proper places to put bait before cleanup.

Clean up piles of garbage and debris both indoors and outdoors, and cover garbage cans tightly. Store foods in glass or metal containers in cupboards. Set traps and poisons in strategic locations, and maintain them even after you have stopped an infestation. Dispose of dead rodents as you would livestock carcasses.

Pest Control

Use the following preventive measures, and apply pesticides if necessary. Do not overreact to emergency conditions, however.

Note: Use pesticides only in the areas and amounts specified on the labels. Keep them out of the reach of children, pets, and livestock.

Insects

Insects multiply rapidly because post-flood conditions provide many favorable breeding sites. Mosquito, fly, and other insect outbreaks can reach alarming rates quickly.

Avoid potential health problems by eliminating breeding spots. Cesspools, cisterns, trash containers, and rain barrels should be covered. Drain standing puddles, marshes, and containers filled with water. Use insecticides to treat standing water and sanitation pits. Dispose of garbage and animal carcasses as recommended. If you use manure as fertilizer, spread it thinly so that it dries quickly.

Repair or replace damaged screens, windows, doors, and vents that allow insects to enter your home and farm buildings.

Use household sprays indoors and apply an insecticide to window screens. In heavily infected areas, use commercial outdoor sprays, and wear protective clothing and insect repellent. An insecticide supplier can recommend chemicals and application procedures.