

An Ounce of Prevention

Threat recognition

Humans tend to disregard threat and rationalise inaction. As a group, we deny the immediacy and danger of the situation – for instance, most of us ignore fire alarms in public buildings and fail to exit immediately. Indeed, the potential threat of total destruction of home, neighbourhood or community is often too difficult to grasp. We have only to look to history, however, to see the effect of disregarding warnings about impending natural disasters. Entire communities have perished because a threat was unheeded.

An effective warning that results in action requires the following components:

1. a loud warning (bell, siren, and the like)
2. a visual warning (for example, flashing lights)
3. an audible description of the danger
4. clear and stern directions
5. warning of the consequences of failing to comply.

Unfortunately, you are not likely to receive the above warning in most situations. You must program yourself to detect danger and react to less effective warnings. You must monitor the following factors on a regular basis:

- weather
- environment, including such factors as avalanche risk
- progress
- resources
- fitness
- time and daylight remaining
- dehydration, fatigue, hypothermia

An example: monitoring weather

Hypothermia is caused by exposure to weather and is the biggest killer in survival. That is why weather leads the list of factors that you must monitor on a regular basis. The following are indicators that the weather is changing. Be prepared to take immediate action.

Weather changes

- wind direction change
- sky change (amount of cloud cover, type of cloud, dark cloud)
- temperature drop
- precipitation
- pressure change

A rapid drop in barometric pressure usually foreshadows bad weather. Pressure changes can be detected. As the atmospheric pressure drops, gases are released from the earth and water. You can smell these gases. Have you ever noticed an earthy smell in the air just prior to a thunderstorm? That awareness could enable you to seek shelter and avoid a survival situation. The point is that there will always be valuable information available. Learn as much as you can and pay attention to all of your senses.

The benefits of developing observation skills extend beyond safety. They are the secret to success for many outdoor activities including fishing, hunting, trapping, or nature watching. Most survival situations are avoidable. Faithfully use the monitoring system above to detect potential threat.

“Hope for the best but prepare for the worst.”

By simply dressing adequately, packing sufficient equipment and stowing it securely you will be acknowledging the potential of an outdoor emergency. Taking precautions will help program you to watch for signs of danger. Your vigilance must be followed by action: you must also program yourself to take immediate action when you recognise a threat. Whoever coined the saying “an ounce of prevention is worth a pound of cure” must have been thinking about survival.

In summary, you should use this checklist to program yourself for an emergency.

- establish personal emergency procedures
- memorise these procedures in a simple drill
- program yourself to recognise threat warning
- resolve to act when warned or threatened

Man, mouse – or moose?

Driving emergencies require the effective use of emergency programming. Your first priority in driving should be to concentrate on safeguarding human lives. You simply cannot depend upon instinctive reactions in an emergency. You can, however, train and program yourself to react quickly and appropriately when the situation warrants.

The following advice defines my personal driving philosophy: Swerve for a moose; do not swerve for a mouse. You do not want to hit a moose – or any object that weighs as much as your automobile. Vehicle collisions with moose are frequently fatal for the vehicle occupants. I advocate aggressive moose avoidance manoeuvres. They warrant the associated risk. On the other hand, you cannot justify risking human lives by swerving out of control to avoid hitting a small animal.

Internalise the moose or mouse scenario so that you can quickly assess your options in a driving emergency and take appropriate action. Without this programming, most driving emergencies rarely graduate beyond a gasp, a death grip on the steering wheel, and target fixation.

Survival clothing

A well-prepared outdoor enthusiast will be clothed and equipped to meet any reasonable contingency. Survival emergencies have an annoying habit of occurring when people have insufficient equipment and are wearing inadequate clothing. Many situations would not be classified as survival if the individuals were adequately clothed and equipped.

Consider the following points when choosing your outdoor clothing:

- type of adventure planned
- level of participation
- climate, season and potential weather extremes
- type of transportation
- type of terrain to be crossed and or encountered
- duration of activity
- separation from civilization.

Survival secret

Adequate clothing and equipment minimises your survival threat.

The ideal survival clothing

Exposure to cold, wind, rain or snow, water (immersion), heat and sun may have devastating consequences. You may experience accelerated loss of body heat. This results in the condition known as hypothermia, which is the biggest killer in survival situations. Exposure also accelerates loss of energy and moisture reserves, causing dehydration.

The ideal survival clothing will:

- block the wind
- insulate against cold
- minimise perspiration loss
- keep out rain and snow
- provide floatation
- be comfortable, strong, and flexible, but not too bulky
- allow excess body heat to vent or dissipate

Amazing advances are being made in high-tech fabrics and insulating materials. Clothing technology will soon enable us to safely participate in activities that would have previously threatened our survival.

Nonetheless, until the perfect survival clothing is invented, we should apply the tried and true principle of layering clothing. Layering allows for flexibility both in changing conditions and in emergencies. It allows you to dry out some clothing while continuing to wear protection from the elements.

The following lists identify the ideal qualities for each layer of clothing.

The outer layer

- single layer shell
- strong
- windproof
- waterproof
- loose fitting
- easily ventilated
- easily stowed

The middle layer(s)

- breathable
- insulating, even when wet
- easily ventilated
- quick drying
- hydrophobic (repels water to outside)
- strong
- loose fitting (create dead air space)
- light
- washable

The inner layer

- wicks moisture away from your body
- insulates when wet
- dries quickly
- feels soft, comfortable, non-chafing
- does not restrict movement

A word about cotton

Cotton clothing is not recommended for wilderness wear. This includes cotton undergarments. Cotton absorbs and holds moisture. It dries slowly and is non-insulating and uncomfortable when wet. We all love cotton denim jeans, but I cannot stress too vehemently: *do not wear denim jeans in the wilderness.* (If you insist upon going to the field in jeans you might as well pin a note on your back that says: “My jeans have caused self-inflicted hypothermia. Do not render assistance.”)

Many modern synthetics provide better alternatives. Some occupations require static free or fire retardant inner or outer clothing for which synthetics pose a dilemma. Regulations or your personal threat assessment will dictate any required compromise.

Specialty clothing for extreme conditions

Some very low-tech foam materials are sometimes used in arctic garments. This type of clothing will keep you warm in extreme cold, even if you get wet, but it tends to be bulky in active situations. Excellent sea survival suits are available for boaters. (Immersion in cold water without thermal protection results in rapid onset of hypothermia.) Proper clothing can extend your survivability to a matter of days, verses minutes or hours.

There are many types of breathable waterproof materials on the market that claim to keep out water while allowing water vapour (perspiration) to escape. Some materials I have experimented with are indeed waterproof. Unfortunately they do not allow moisture to escape very effectively. They do not work well in cold or even cool weather. Perspiration vapour tends to condense on the inner side of the cold outer surface.

Waterproofing is not generally required in the winter arctic. Moisture in the outer layers turns to ice crystals, which eventually will sublime (change from ice to water vapour) in a cold dry climate. You can hang clothing in the dry arctic wind to accelerate sublimation and also partially remove ice by knocking the ice crystals out of footwear and clothing.

Footwear and headgear

You can avoid a tremendous amount of heat loss by protecting your head and neck from exposure. You should protect your head, feet and hands at least as well, if not better, than you protect the rest of your body.

Footwear should fit properly and afford protection relative to your activity and the terrain you will be travelling. The presence of rocks, cold, water, snakes, insects, and slippery conditions will influence your choice of footwear.

Socks should be given as much consideration as outer footwear. They should wick away moisture, thus preventing heat loss, blisters, and moisture damage to your skin. Socks should be durable, insulating when wet, and quick drying. If possible, bring an extra pair of socks.

Survival secret

Protect your feet.

Layer cold weather headgear. The inner layer should be made of wicking material that retains insulating properties when wet, and dries quickly. It should have adequate and well-positioned eyeholes and you should be able to pull the inner layer completely over your face. The outer layers should be insulated and wind proof. The hood of your parka should extend well beyond your face to create a snorkel opening. This provides a dead air space that is warmed by your breath and prevents frostbite, dehydration, and body heat loss. The snorkel hood can be made adjustable by inserting a length of suitable wire inside the outer edge. You can then change the shape of the hood to dramatically improve protection from a side wind; for instance, you can extend the windward side and close the opposite side in towards your face and thus avoid frostbite.

Animal fur is commonly used to trim parka hoods. The long guard hairs of some animals (such as wolverine) do not tend to frost up from your breath. When the hood is closed the hairs mesh. This creates a warm buffer. It also diffuses bright sunlight and offers some protection from snow blindness.

Your psychological and physiological well-being can be affected dramatically by your clothing. This is true whether you are struggling to enjoy an outdoor activity during inclement weather or attempting to survive in an emergency. Properly prepared outdoors enthusiasts will select clothing that protects them in the worst-case scenario. Remember: always wear clothing that accommodates a change in the weather or a mishap.

Commercial travel

Commercial travel requires innovative survival planning. Consider possible emergencies when you dress to travel. Be reasonable. It is impossible to dress for every conceivable survival extreme that might be encountered on a winter flight from Northern Canada to Hawaii. I always wear winter boots when I travel in cold weather and keep my parka with me at my seat.

Emergency equipment

Frequently, the mishap that creates the survival situation also separates you from stowed emergency equipment. Be a minimalist: *depend only upon the survival equipment on your person*. When I fly commercial airlines, I wear a multi-pocketed suede vest that discreetly holds my survival items. I carry as much equipment as practical. I choose multi-purpose items that are small and light, and I make sure I can access and operate my vital survival equipment with either hand.

The *very least* you should carry when travelling is a knife and fire starting equipment. Current commercial transportation regulations do not permit you to carry a pocket-knife or other sharp instruments on your person. Carry a pocket-knife in your checked luggage. It will serve your needs in a survival emergency. You should also carry waterproof, windproof matches, or a cigarette lighter. Some people have waterproof matches sewn into the lining of their favourite outdoor clothing for emergencies. This reduces the temptation to use the matches in non-emergency situations.

You have a tremendous psychological advantage if you are determined to survive with only a knife and matches. With this mindset, any additional equipment you have in survival would be considered a bonus and would boost your morale. Maximise your ingenuity. Foam is commonly used in the seat cushions of virtually every form of transportation. It is nearly always overlooked as a source of first aid material, footwear, clothing, bedding, or shelter.

Appropriate equipment

Some equipment is simply inappropriate in the hands of an inexperienced survivor. Chainsaws are a good example. There is another much simpler implement commonly used in conventional survival training that is very dangerous. The axe is an inappropriate tool in the hands of an inexperienced survivor, and it almost always produces negative results.

The axe has always been used in survival training. This is because survival training was developed for the benefit of downed aircrew at a time when nearly everyone knew how to use an axe. When air regulators originally stipulated that all aircraft must carry an axe, it was a logical choice.

Today's urban survival students look forward to the prospect of training with an axe. The axe is a time machine. With your first swing you are transported back in time. You are instantly standing shoulder to shoulder with prominent frontier heroes who have been immortalised in outdoor history and folklore. Unfortunately, today's survival students have little or no experience in safe axe handling. I have witnessed many accidents and near misses related to axe use. Inexperienced axe users tend to:

- work too hard or too fast for safety
- develop blisters
- become quickly fatigued without stopping to rest and recover
- overexert themselves until they are perspiring profusely
- injure themselves or others

Improper axe handling will seriously deplete your quick energy reserves (glycogen) within just a few minutes. This will cause the rapid onset of fatigue. Excessive sweating leads to dehydration. Sweating also makes your clothes and hair damp; this increases heat loss and hastens hypothermia. Hypothermia, dehydration, and fatigue all adversely affect your ability to focus and concentrate.

Safe axe handling requires considerable focus and concentration, which are not attributes associated with a survival victims' trauma.

While there is absolutely nothing wrong with learning how to use an axe, it takes time and much practice. Unless you have used an axe all your life, it is best not use an axe in survival if it can be avoided. Most survival tasks can be accomplished more safely and more efficiently without an axe. A knife will function adequately in survival.

Survival secret

It is psychologically devastating to injure yourself unnecessarily in survival.

Recommended survival equipment

The following survival items could be considered for carrying on your person during outdoor activities, including camping, fishing, hiking, boating, hunting, cross-country skiing, climbing, etc. There will undoubtedly be other items that you require personally that you can add to this list. Make sure you select sturdy, reliable equipment.

Useful survival items

- **waterproof, windproof matches.** Make sure you can access and open them with either hand. Use plastic photography film canisters since they float, are waterproof and can be opened with one hand. Use only for emergencies.
- **sturdy, multifunction pocket-knife** that can be accessed and opened with either hand
- **large, sturdy, bright orange plastic bag.** Useful for rain, snow, and wind protection, signaling, carrying water, as a sail, etc.

- **sturdy multifunction tool** that can be accessed and opened with one hand
- **mechanical pencil** with extra stored lead (I wrap various size sewing needles to the pencil with heavy nylon thread, stainless steel wire, Teflon and duct tape.) Teflon tape will often repair leaking threaded joints or stripped threads. This could help you repair your motorised equipment and get you out of your survival situation
- **small note pad** in a re-sealable, heavy, waterproof, plastic bag
- **flashlight** (small, waterproof, brightly coloured, extra bulb and long-life batteries taped to flashlight with lots of tape that is useful in emergencies). A small light can be held in your mouth, leaving both hands free. They are available with adjustable beam width. If the flashlight is not brightly coloured, wrap some fluorescent tape around it
- **bandages** (stretch, bandanna, duct tape, mole skin, butterfly, etc.)
- **medicinal items:** medicine, lip balm, sun screen, insect repellent, small vile of ammonia for insect bites and stings, small tube of antiseptic and antibiotic cream, Vaseline-impregnated gauze packet (for medical use, fire starting, candle or equipment lubrication), inhalers, nasal spray, pain killers, chronic disease medication. (Select very small containers of medicinal items so that they will fit comfortably in your pockets and not weigh you down. Check all medication prior to each outing to ensure that it is not time expired, damaged, or depleted.)
- **reflective Mylar plastic bag** for signaling, water collection, and covering sucking chest wounds (an empty large potato chip bag)
- **compass and topographical map**
- **watch**
- **tube of quick-drying, strong, flexible cement** to repair or seal equipment, footwear or clothing
- **spare eyeglasses**
- **plastic magnifier** (light weight)
- **radio, cellular phone, GPS** (global position system) spare long-life batteries

- parachute **cord**, strong Nylon, Dacron or other more modern ultra strength **fishing line**
- **needle and strong thread**
- **aluminum foil**
- **space blanket** (small package of thin reflective plastic)
- **candles**
- plastic-handled, folding lock-blade **camp saw** (not allowed on airlines)
- **snare wire** (picture-hanging wire)

Know how to use your survival equipment and know where it is stowed. Some people wear a multi-pocket vest or fanny pack (over or under clothing) to hold their survival items. The benefit to this system is that your survival items are always available. Others choose loose fitting clothing with large secure pockets. Loose fitting clothing insulates well and is comfortable. It also holds lots of emergency equipment without becoming overly tight or restrictive. It is important that you become familiar with each item and its location.

I duplicate critical items such as matches and knife, and carry them on opposite sides of my body. If I sustain damage or injury to one side, I have a back up resource that I can still reach.

In a survival emergency, take stock of every piece of equipment. Check every pocket. If possible, securely attach critical items (knife, compass, flashlight) with a line to your clothing. This will prevent losses and delays while you prepare camp. Never use your knife while it is attached to you by a cord. You will inevitably reach out to cut something and slice your hand open. You can form a loop in the knife cord so that you can quickly and easily free it from your person.

Survival secret: inventory your possessions

Take the time to inventory every single item in your possession down to the gum wrapper you conscientiously pocketed to avoid littering. These items constitute all your worldly possessions. Discard nothing. Everything you have may be useful and not necessarily as originally intended. If the woods are wet and you have a dry twenty dollar bill in your pocket then roll it up and use it to light your fire. It will be the best twenty dollar investment you ever make.

A word about survival kits

Survival kits tend to be assembled or purchased and then ignored. We tend to forget about or be unfamiliar with the equipment in the kit. Some of the items may become damaged or spoiled (time expired). People tend to put poor quality items in survival kits. It is hard to put a \$75 knife in a kit you hope you never have to use.

Lost or broken eye glasses

In an emergency you can use a pinhole in paper or other thin material to adjust your focus to enable you to read medicine labels, repair, operating or emergency instructions. You can also use this technique to repair equipment. If you are unable to produce a pinhole apparatus, you can create a magnifying pinhole between your thumb and first two fingers.

Survival secret

Always carry critical survival gear on your person.

Survival review

You cannot predict the circumstances of your survival ordeal. Dress adequately. Make a habit of carrying all the items that you might need in an emergency. With adequate equipment, some potential survival situations will be reduced to an inconvenience instead of an emergency.