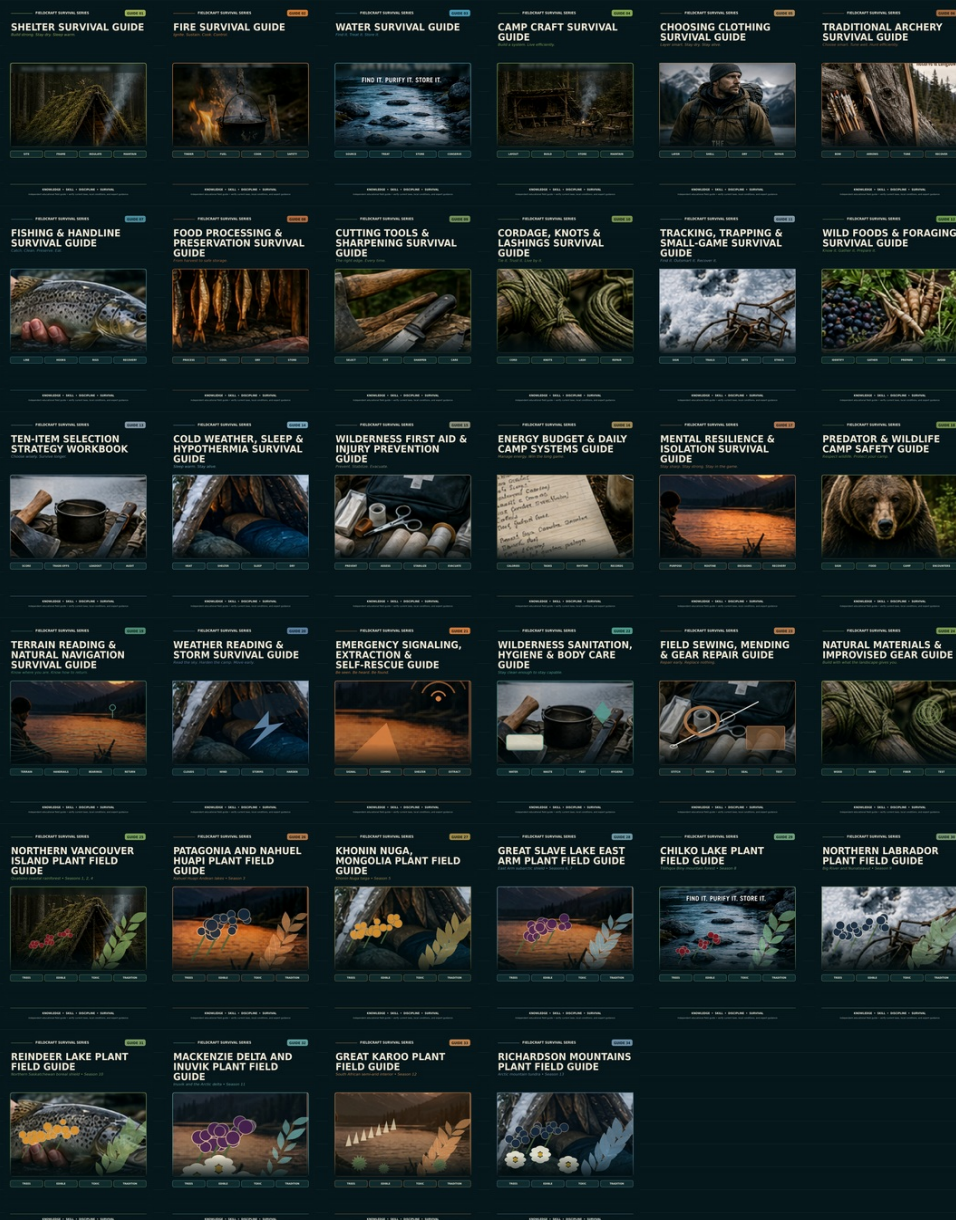


COMPLETE 34-GUIDE LIBRARY

Core survival systems plus ten location-specific plant field guides.



CONSISTENT COVERS • DOWNLOADABLE PDFs • WEB-READY CONTENT

Independent educational field guides • verify current law, conditions and professional guidance

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Water Survival Guide

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Great Karoo Plant Field Guide

SHELTER SURVIVAL GUIDE

Build strong. Stay dry. Sleep warm.



SITE

FRAME

INSULATE

MAINTAIN

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

READ THE RISK, THEN CHOOSE THE LEAST COSTLY SAFE MOVE

How to Use This Guide

Survival work is a sequence, not a shopping list. Stabilize exposure, establish a clean water routine, protect fire and sleep, then spend energy on upgrades that reduce future work. Adapt every method to local terrain, law, weather, wildfire restrictions, wildlife rules, and your actual training.

1 STOP Check injury, weather, daylight, and exit.	2 STAY DRY Rain and sweat defeat insulation quickly.	3 BUILD SYSTEMS Water, wood, sleep, repair, and sanitation reset daily.	4 SAVE CALORIES Short lanes and boring routines beat heroic chores.
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CONTENTS

PAGE	SECTION	PURPOSE
3	Site Selection Before Construction	The best shelter is the one not placed under a problem
4	Shelter Design Logic and Fast Forms	Small enough to heat, large enough to work
5	Emergency and Long-Stay Shelter Choices	Match structure to weather, time, tools, and calories
6	Frame, Bracing, Anchors, and Load	A roof is a load path, not a pile of branches
7	Roofing, Drainage, Floor, and Bed	Water follows gaps; cold follows contact
8	Ventilation, Condensation, and Fire Separation	Warmth without smoke, sparks, or carbon monoxide
9	Build Sequence and Energy Budget	Protect tonight before constructing next month
10	Inspection, Storm Reset, and Repair	Maintenance is cheaper than reconstruction
11	Shelter Selection Matrix	Choose the least expensive structure that controls the dominant threat

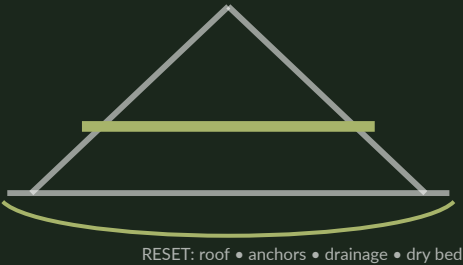
IMPORTANT SAFETY NOTE

This material is educational. It does not replace hands-on instruction, emergency medical care, official water-treatment directions, local fire orders, or site-specific avalanche, flood, tree-fall, wildlife, and weather guidance.

FIELD CARD

SURVIVAL PRIORITY

- 1 Stabilize exposure before spending calories on upgrades.
- 2 Build repeatable water, fire, sleep, repair, and sanitation systems.
- 3 Check current local rules and verify every high-risk method.



THE BEST SHELTER IS THE ONE NOT PLACED UNDER A PROBLEM

Site Selection Before Construction

A beautiful structure in a flood path, under a dead tree, or on a wind funnel is still a bad shelter. Scout before cutting anything heavy. The aim is not a perfect site. It is the least dangerous site with workable access to water, fuel, and travel routes.

SCREEN FATAL HAZARDS - Look up: dead limbs, leaning snags, damaged trunks, rockfall, ice-loaded branches, and trees rooted in saturated soil. - Look down: flood debris, tide marks, drainage channels, unstable banks, roots, holes, peat, and deep duff. - Look out: avalanche paths, storm surge, exposed ridges, funnel winds, lightning exposure, and animal travel corridors. - Do not build where fire can travel underground through roots or organic soil.	CHOOSE THE MICROCLIMATE - Favor natural wind protection without sealing yourself into stagnant, damp air. - Use slight elevation above wet ground, but avoid exposed high points and cold-air basins. - Choose ground that drains around the shelter rather than into it. - Keep water and fuel close enough for a safe routine, but keep sleep outside flood, splash, and scent zones. - Walk the route after dark in your head. If tired hands and bad weather make it absurd, move.
---	---

SITE RULE

A shelter should buy down risk every day. If the site creates a new water, wind, fire, wildlife, or travel problem, the structure is charging interest.

FIELD CARD

SITE SELECTION BEFORE CONSTRUCTION

1

Look up: dead limbs, leaning snags, damaged trunks, rockfall, ice-loaded branches, and trees...

2

Look down: flood debris, tide marks, drainage channels, unstable banks, roots, holes, peat, a...

3

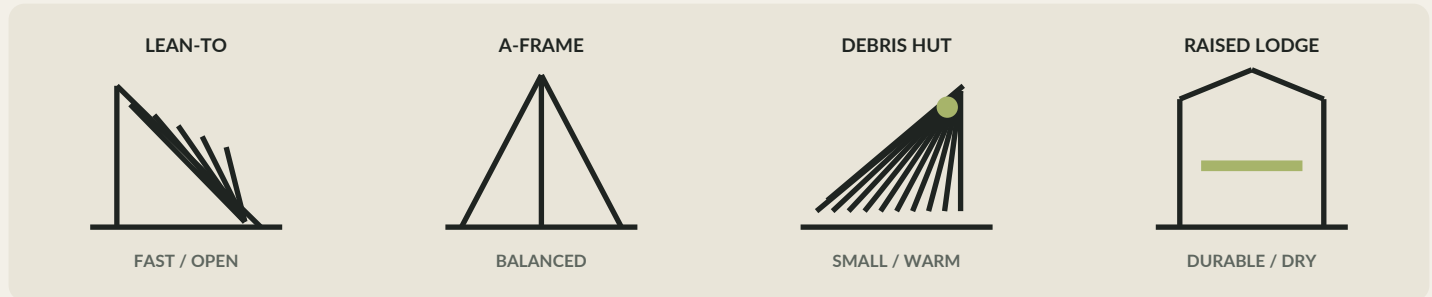
Look out: avalanche paths, storm surge, exposed ridges, funnel winds, lightning exposure, and...

RESET: roof • anchors • drainage • dry bed

SMALL ENOUGH TO HEAT, LARGE ENOUGH TO WORK

Shelter Design Logic and Fast Forms

Shelter performance comes from geometry and routine more than decoration. A compact volume reduces heat loss, a steep roof sheds weather, raised bedding separates the body from cold ground, and planned ventilation moves moisture and smoke out.



THE HEAT SHELL

- Size the sleeping core around bodies and bedding, not standing-room pride.
- Use a low profile in high wind and a steeper pitch in heavy rain or snow.
- Seal lower wind gaps while preserving deliberate high and low vents.
- Offset or shield the entry so wind and wet gear do not blow into bedding.

THE WATER SHELL

- Roof first, walls second, comforts last.
- Overlap every roofing course from the eave upward like shingles.
- Extend eaves beyond walls and entry, then add a clean drip edge.
- Route runoff around camp with shallow diversion only where legal and safe.
- Test the roof with real water before moving the sleep system inside.

DESIGN CHECK

Can it shed the forecast? Can smoke leave? Can the bed stay dry? Can every surface be inspected and repaired without dismantling half the camp?

FIELD CARD

SHELTER DESIGN LOGIC AND FAST FORMS

- 1 Size the sleeping core around bodies and bedding, not standing-room pride.
- 2 Use a low profile in high wind and a steeper pitch in heavy rain or snow.
- 3 Seal lower wind gaps while preserving deliberate high and low vents.



RESET: roof • anchors • drainage • dry bed

MATCH STRUCTURE TO WEATHER, TIME, TOOLS, AND CALORIES

Emergency and Long-Stay Shelter Choices

Emergency shelters are temporary risk controls. Long-stay shelters are repairable systems. Build the smallest reliable protection first, then upgrade after water, fire, sleep, and exit plans are stable.

FAST OPTIONS - Lean-to: fast and easy to inspect; best when one dominant weather direction can be blocked. - A-frame or low ridge: balanced protection and a strong ridge; brace before loading roof weight. - Debris hut: compact heat shell when dry insulation is abundant; labor heavy and easy to build too large. - Tarp or poncho: fastest carried-material option; protect from abrasion and retension after weather changes.	LONG-STAY CONCEPTS - Rain lodge: steep roof, deep eaves, raised bed, dry porch, and serious drainage. - Cold low-profile lodge: tight volume, protected entry, deep bedding, and optional cold sink. - Double roof: inner heat shell plus outer rain shell with a draining air gap. - Bermed or semi-subterranean: can cut wind where soil and rules allow; never trade wind for flooding or collapse. - Grow in modules: sleep shell, porch, wood annex, drying area, tool wall, and storage.
---	---

MODULAR RULE

Every upgrade should attach to yesterday’s work. Avoid designs that require tearing out the first roof to build the second one.

FIELD CARD

EMERGENCY AND LONG-STAY SHELTER CHOICES

1

Lean-to: fast and easy to inspect; best when one dominant weather direction can be blocked.

2

A-frame or low ridge: balanced protection and a strong ridge; brace before loading roof weight.

3

Debris hut: compact heat shell when dry insulation is abundant; labor heavy and easy to build...

RESET: roof • anchors • drainage • dry bed

A ROOF IS A LOAD PATH, NOT A PILE OF BRANCHES

Frame, Bracing, Anchors, and Load

Frames fail at connections, unsupported spans, overloaded roofs, and weak anchors. Use sound straight members, short spans, triangular bracing, redundant ties, and staged load testing.

STRUCTURAL SEQUENCE - Set main anchors or uprights on firm ground; reject rotten or split structural wood. - Install the ridge or main beam, then brace it before working beneath it. - Add rafters at even spacing and keep heavy roof material close to supports. - Add diagonal bracing so the frame resists side loads, not only gravity. - Load the roof in thin even layers while watching for twist, sag, or connection movement.	CONNECTIONS AND ANCHORS - Seat poles with notches when skill and tools allow; cordage should not stop every direction of movement by itself. - Wrap and frap lashings tightly, then protect them from abrasion and water pooling. - Use long stakes in soft soil, deadman anchors in sand or snow, and rock anchors where permitted. - Angle stakes away from load and mark guy lines for night travel. - Retension after rain, thaw, wind, and temperature change.
---	--

LOAD TEST

Push and pull the empty frame from several directions. If it racks, twists, or walks before roofing, it will not improve under load.

FIELD CARD

FRAME, BRACING, ANCHORS, AND LOAD

1

Set main anchors or uprights on firm ground; reject rotten or split structural wood.

2

Install the ridge or main beam, then brace it before working beneath it.

3

Add rafters at even spacing and keep heavy roof material close to supports.

RESET: roof • anchors • drainage • dry bed

WATER
FOLLOWS
GAPS;
COLD
FOLLOWS
CONTACT

Roofing, Drainage, Floor, and Bed

A durable shelter needs a continuous shedding roof and a dry insulated sleep platform. These two systems usually return more warmth per calorie than adding square footage.

ROOF AND DRAINAGE - Start at the eave; each higher course overlaps the one below. - Offset seams through multiple layers and secure outer material against wind lift. - Use steep pitch for rain and snow; flat roofs demand stronger framing and better membranes. - Trace leaks uphill from the drip and patch well beyond the entry point. - Maintain swales, eaves, and paths so water never pools against anchors or the bed.	FLOOR AND INSULATION - Build a stable raised platform with closely spaced poles or slabs and no sharp points. - Create resilient depth beneath hips and shoulders using pads, boughs, grass, leaves, mats, or textiles. - Protect one dry sleep set: base layer, socks, headwear, and bedding. - Separate clean sleep space from wet boots and processing gear. - Replace wet or crushed natural bedding before it becomes a cold sponge.
--	---

WARMTH PRIORITY

Before adding a room, deepen the bed, close the wind gap, repair the roof, and protect dry sleep clothing. Square footage does not generate heat.

FIELD CARD

ROOFING, DRAINAGE, FLOOR, AND BED

1

Start at the eave; each higher course overlaps the one below.

2

Offset seams through multiple layers and secure outer material against wind lift.

3

Use steep pitch for rain and snow; flat roofs demand stronger framing and better membranes.

RESET: roof • anchors • drainage • dry bed

WARMTH WITHOUT SMOKE, SPARKS, OR CARBON MONOXIDE

Ventilation, Condensation, and Fire Separation

Breath, wet clothing, cooking, and damp ground create interior moisture. Combustion adds smoke, sparks, and carbon monoxide. Vent deliberately and keep ordinary campfires, grills, charcoal, and stoves outside enclosed shelters.

VENTILATION AND DRYING • Provide a high exhaust path and lower intake without creating a body-level draft. • Protect vents from precipitation and keep them unobstructed. • Separate wet gear from bedding and run a daily drying routine. • Place clothing near useful heat but outside flame, sparks, and fabric-melting radiant heat. • A double roof or liner may catch drips, but it does not replace ventilation.	FIRE AND CO SAFETY • Use mineral soil or an established fire area well away from roofing, bedding, roots, and overhead fuel. • Keep water and an extinguishing tool ready and an exit route clear. • Never use unvented fuel-burning devices in a tent or enclosed shelter. • Headache, dizziness, weakness, nausea, confusion, or unusual sleepiness near combustion are emergency warning signs: move to fresh air and seek help. • If the shelter requires an attended fire to remain survivable, add another layer of protection.
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CARBON MONOXIDE

Fresh air is the treatment, not a cracked door and confidence. Carbon monoxide is colorless, odorless, and capable of turning fatigue into a fatal misdiagnosis.

FIELD CARD

VENTILATION, CONDENSATION, AND FIRE SEPARATION

1

Provide a high exhaust path and lower intake without creating a body-level draft.

2

Protect vents from precipitation and keep them unobstructed.

3

Separate wet gear from bedding and run a daily drying routine.

RESET: roof • anchors • drainage • dry bed

PROTECT TONIGHT BEFORE CONSTRUCTING NEXT MONTH

Build Sequence and Energy Budget

Build order should track immediate risk and forecast. Overbuilding early can create injury and a calorie deficit before the shelter begins paying rent.

PHASE	PRIMARY WORK	STOP WHEN
First 2 hours	Scout hazards; mark flood and wind concerns; establish emergency roof; protect bedding and ignition.	Darkness, worsening weather, or fatigue makes cutting unsafe.
Day 1	Complete rain shell; build bed; establish drainage; create fire and water routines; protect dry fuel.	You have dry sleep, clean water, and enough fuel for the night.
Days 2-3	Brace frame; deepen insulation; improve entry; add wood cover, drying line, and short paths.	Each new project reduces tomorrow's work.
Week 1+	Add porch, tool wall, work table, storage, storm anchors, and modular annexes.	Maintenance, food, and recovery need the calories more.

WORK-REST RULES

- Use short cutting blocks with planned hydration and hand warming.
- Stop precision work when coordination drops.
- Stage materials before lifting or climbing so trips are not repeated.
- End every day by resetting water, tinder, bedding, and exit.

PROJECT TEST

- Does it add warmth, dryness, safety, stored fuel, or usable work capacity?
- Will it reduce daily walking, bending, or exposure?
- Can it be completed before the forecast changes?
- Can it be maintained with declining energy? If not, it may be camp theater.

FIELD CARD
BUILD SEQUENCE AND ENERGY BUDGET

- 1 Use short cutting blocks with planned hydration and hand warming.
- 2 Stop precision work when coordination drops.
- 3 Stage materials before lifting or climbing so trips are not repeated.

RESET: roof • anchors • drainage • dry bed

MAINTENANCE IS CHEAPER THAN RECONSTRUCTION

Inspection, Storm Reset, and Repair

Wind loosens anchors, rain compresses roofs, snow adds load, heat dries lashings, and foot traffic changes drainage. A two-minute daily inspection prevents dramatic failures.

DAILY CHECK - Roof: new sags, exposed seams, displaced cap material, and blocked runoff. - Frame: cracks, twist, loose lashings, moving stakes, or crushed contact points. - Floor: damp bedding, pooling water, mud migration, insects, and rodents. - Ventilation: open smoke path, manageable condensation, and separated wet gear. - Fire separation: scorched material, shifted reflector, stray fuel, and spark damage.	STORM RESET - Secure doors, tarps, roof edges, and weather-side anchors. - Move bedding, ignition, dry clothing, and critical tools to the safest position. - Clear drainage and mark guy lines before visibility collapses. - Stage protected fuel without blocking vents or exits. - Abandon for active flood, bank failure, avalanche, wildfire, major tree movement, collapse, or CO risk.
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TWO-MINUTE RULE

Inspect after waking and after strong weather. Small movement is information. Ignore it long enough and it becomes architecture.

FIELD CARD

INSPECTION, STORM RESET, AND REPAIR

1

Roof: new sags, exposed seams, displaced cap material, and blocked runoff.

2

Frame: cracks, twist, loose lashings, moving stakes, or crushed contact points.

3

Floor: damp bedding, pooling water, mud migration, insects, and rodents.

RESET: roof • anchors • drainage • dry bed

CHOOSE THE LEAST EXPENSIVE STRUCTURE THAT CONTROLS THE DOMINANT THREAT

Shelter Selection Matrix

No shelter type wins everywhere. This matrix is a planning aid; carried material, daylight, injuries, local rules, fuel, and available dry insulation can change the answer.

CONDITION	BEST FIRST CHOICE	UPGRADE PATH	COMMON FAILURE
Cold + dry + windy	Low ridge or compact A-frame	Deep bedding, wind skirt, protected entry	Oversized interior and exposed doorway
Cold + wet	Steep A-frame or rain lodge	Double roof, raised bed, porch, drying system	Shallow pitch and wet bedding
Warm + heavy rain	High-airflow tarp or steep lean-to	Deep eaves, raised floor, insect control	Sealed ventilation and trapped humidity
Heavy snow	Steep compact frame with short spans	More braces, regular shedding, marked exit	Flat roof and overloaded ridge
High wind	Low profile behind terrain windbreak	Redundant anchors and small surface area	Ridge-top or funnel placement
Short emergency	Tarp, poncho, lean-to, safe overhang	Ground insulation and wind block	Spending all daylight on a cabin

DECISION ORDER

- 1. Site hazard and exit.
- 2. Rain and snow shedding.
- 3. Wind control.
- 4. Ground insulation.
- 5. Ventilation.
- 6. Repairability.

GO / NO-GO QUESTIONS

- Would I sleep here through the forecast?
- Can I leave quickly in darkness?
- Can one bedding set stay dry?
- Can the roof and frame be inspected?
- Does fire remain safely outside?
- Will daily maintenance remain affordable?

FIELD CARD
SHELTER SELECTION MATRIX

1

1. Site hazard and exit.

2

2. Rain and snow shedding.

3

3. Wind control.

RESET: roof • anchors • drainage • dry bed

USE, INSPECT, RESET, AND VERIFY

Field Checklist and Sources

This guide consolidates the project’s long-duration ALONE-style field-manual iterations and updates high-risk claims with current public-health, fire-safety, cold-stress, and Leave No Trace guidance. Practice before relying on any skill and check current local orders at the point of use.

FINAL CHECK ❑ Site clear of immediate fall, flood, avalanche, tide, and wind-funnel hazards ❑ Roof sheds forecast precipitation and drainage clears the footprint ❑ Frame braced; anchors, lashings, and load paths inspected ❑ Bed raised; insulation and sleep clothing dry	FINAL CHECK ❑ Ventilation open; ordinary combustion kept outside ❑ Fire, fuel, food, and waste separated from sleep ❑ Storm repair kit, light, footwear, and exit route staged
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AUTHORITATIVE REFERENCES

Centers for Disease Control and Prevention: [Carbon Monoxide Poisoning](#)

Occupational Safety and Health Administration: [Cold Stress Guide](#)

National Park Service: [Leave No Trace Seven Principles](#)

USE WITH JUDGMENT

Independent educational fieldcraft reference. Not affiliated with or endorsed by the television series ALONE, its producers, broadcasters, or participants. Local rules and emergency guidance always control.

FIELD CARD

PRACTICE BEFORE DEPENDENCE

1

Site clear of immediate fall, flood, avalanche, tide, and wind-funnel hazards

2

Roof sheds forecast precipitation and drainage clears the footprint

3

Frame braced; anchors, lashings, and load paths inspected

RESET: roof • anchors • drainage • dry bed

FIRE SURVIVAL GUIDE

Ignite. Sustain. Cook. Control.



TINDER

FUEL

COOK

SAFETY

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

READ THE RISK, THEN CHOOSE THE LEAST COSTLY SAFE MOVE

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Survival work is a sequence, not a shopping list. Stabilize exposure, establish a clean water routine, protect fire and sleep, then spend energy on upgrades that reduce future work. Adapt every method to local terrain, law, weather, wildfire restrictions, wildlife rules, and your actual training.

1 STOP Check injury, weather, daylight, and exit.	2 STAY DRY Rain and sweat defeat insulation quickly.	3 BUILD SYSTEMS Water, wood, sleep, repair, and sanitation reset daily.	4 SAVE CALORIES Short lanes and boring routines beat heroic chores.
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CONTENTS

PAGE	SECTION	PURPOSE
3	Fire Decisions and Legal Reality	A fire is a tool only when the site can safely hold it
4	Combustion and Fire Lays	Control heat, fuel, oxygen, and geometry
5	Tinder, Kindling, Fuelwood, and Dry Storage	Tinder lights kindling; kindling earns fuelwood
6	Ignition Methods and Redundancy	One method is a preference; three are a system
7	Wet Weather, Wind, Snow, and Cold Ground	Create dry surfaces and controlled airflow before asking for flame
8	Cooking Fire, Pot Systems, and Coal Control	Stable coals cook better than dramatic flames
9	Heat Reflectors, Shelter Separation, and Carbon Monoxide	Redirect heat without redirecting sparks into the roof
10	Firewood Processing and the 24-Hour Routine	The fire begins at the wood yard
11	Extinguishing and Troubleshooting	Cold enough to touch, cold enough to leave

IMPORTANT SAFETY NOTE
This material is educational. It does not replace hands-on instruction, emergency medical care, official water-treatment directions, local fire orders, or site-specific avalanche, flood, tree-fall, wildlife, and weather guidance.

FIELD CARD
SURVIVAL PRIORITY

1

Stabilize exposure before spending calories on upgrades.

2

Build repeatable water, fire, sleep, repair, and sanitation systems.

3

Check current local rules and verify every high-risk method.

RESET: tinder • water • fuel • cold ash

A FIRE IS A TOOL ONLY WHEN THE SITE CAN SAFELY HOLD IT

Fire Decisions and Legal Reality

Before ignition, check current fire bans, land rules, wind, overhead fuel, ground conditions, escape routes, and whether a stove or no-fire method is safer. Restrictions can change quickly. A warm meal does not justify a landscape-scale emergency.

DO NOT LIGHT WHEN • A ban or closure prohibits open flame, charcoal, or certain stoves. • Wind can carry sparks into grass, duff, branches, tents, or shelter roofing. • The ground is peat, deep organic soil, root-filled duff, or another medium that can smolder underground. • You cannot remain present with water and an extinguishing tool until the site is cold. • Fatigue, injury, intoxication, or poor coordination makes flame and tool control doubtful.	USE THE SMALLEST FIRE • Boiling water needs a stable, concentrated flame or coal bed, not a bonfire. • Cooking usually improves after bright flames settle into controllable coals. • Warmth comes from position, wind control, dry clothing, shelter, and reflector geometry - not flame height alone. • Cold meals and no-cook routines may be correct during extreme fire danger. • Carry redundant ignition even when a fire is not planned.
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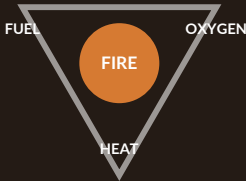
NON-NEGOTIABLE

Never leave a live fire unattended. If you cannot drown, stir, feel, and repeat until the site is cold, you did not have time to light it.

FIELD CARD

FIRE DECISIONS AND LEGAL REALITY

- 1 A ban or closure prohibits open flame, charcoal, or certain stoves.
- 2 Wind can carry sparks into grass, duff, branches, tents, or shelter roofing.
- 3 The ground is peat, deep organic soil, root-filled duff, or another medium that can smolder u...

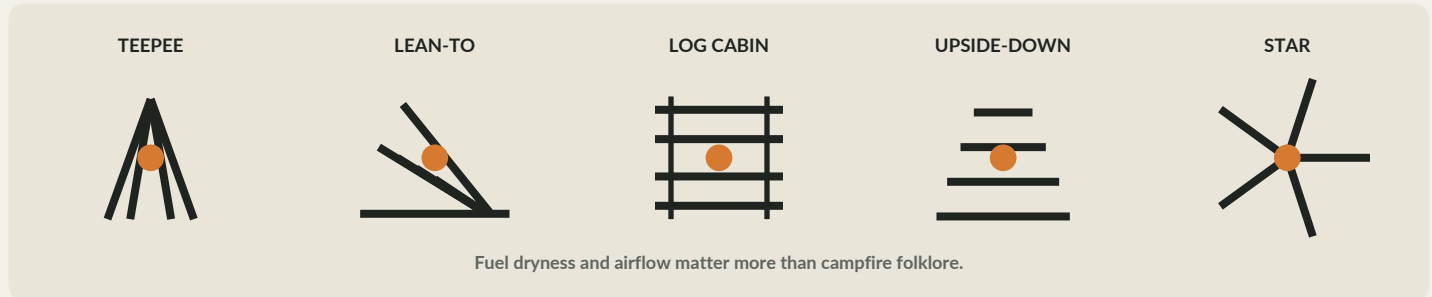


RESET: tinder • water • fuel • cold ash

CONTROL HEAT, FUEL, OXYGEN, AND GEOMETRY

Combustion and Fire Lays

When a fire fails, one side of the triangle is usually weak: insufficient heat, fuel that is too large or damp, or restricted airflow. Fire lays organize the transition from tinder to coal bed; once established, management matters more than the original shape.



FIRE TRIANGLE

- Heat: protect the first flame from wind and cold, wet ground.
- Fuel: split wood to expose dry inner surfaces and sharp catching edges.
- Oxygen: leave gaps between pieces and control wind without trapping smoke.
- Diagnose the missing side before adding more material. Smothering a weak flame with logs is burial, not persistence.

LAY SELECTION

- Teepee: fast draft and flame; can collapse and consume small fuel quickly.
- Lean-to: shields tinder from one direction and uses a support log.
- Log cabin: open, stable airflow around a central bundle.
- Upside-down: slower top-down burn when the entire stack is dry.
- Star or long fire: gradual feeding or broad heat; higher fuel and separation demands.

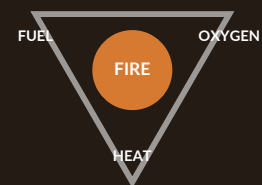
LAY RULE

Choose the smallest stable lay that produces the required flame or coals. Decorative size adds fuel consumption and risk, not competence.

FIELD CARD

COMBUSTION AND FIRE LAYS

- 1 Heat: protect the first flame from wind and cold, wet ground.
- 2 Fuel: split wood to expose dry inner surfaces and sharp catching edges.
- 3 Oxygen: leave gaps between pieces and control wind without trapping smoke.



RESET: tinder • water • fuel • cold ash

TINDER LIGHTS KINDLING; KINDLING EARNS FUELWOOD

Tinder, Kindling, Fuelwood, and Dry Storage

Reliable fire comes from preparation before ignition. Sort fuel by size, protect the driest material, and stage enough for the entire first burn. One delicate tinder nest followed by a frantic stick search is a fine way to watch a lesson go out.

TINDER AND KINDLING - Use very dry, fine, high-surface-area material: feather shavings, lawful bark fibers, dry grass, commercial tinder, cotton starters, or resinous shavings. - Prepare a loose spark-catching core and a denser outer nest that sustains flame. - Make multiple grades of kindling: matchstick, pencil, finger, then wrist size. - Split damp sticks and shave the dry center. Dead standing wood often beats material lying on wet ground. - Carry one protected tinder reserve and maintain a second dry camp reserve.	FUELWOOD SYSTEM - Sort by diameter and moisture before lighting. - Use the driest pieces to establish coals before asking the fire to dry marginal wood. - Cut and split to lengths that fit the fire lay and pot system. - Feed one or two pieces at a time so airflow remains visible. - Keep the next 24 hours of fuel under a steep roof, off the ground, and outside the spark path. - End the evening with tomorrow’s first tinder, kindling, and fuel staged dry.
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WOOD RULE

A sorted, covered, reachable system is the goal. A large wet pile is still no firewood.

FIELD CARD

TINDER, KINDLING, FUELWOOD, AND DRY STORAGE

1

Use very dry, fine, high-surface-area material: feather shavings, lawful bark fibers, dry gra...

2

Prepare a loose spark-catching core and a denser outer nest that sustains flame.

3

Make multiple grades of kindling: matchstick, pencil, finger, then wrist size.

RESET: tinder • water • fuel • cold ash

ONE METHOD IS A PREFERENCE; THREE ARE A SYSTEM

Ignition Methods and Redundancy

Practice ignition in rain, wind, cold, and gloves before depending on it. Fine motor skill declines with cold and fatigue, so the best emergency method is the one that still works after dexterity has resigned.

PRIMARY METHODS - Lighter: fast and efficient; protect from water and cold, and warm it inside clothing before use. - Stormproof matches: simple visual flame; keep in a hard waterproof case with redundant strikers. - Ferrocerium rod: durable and wet-resistant; demands prepared tinder and controlled scraping. - Firesteel and char material: reliable with practice; dependent on a dry ember-catching system. - Friction fire: valuable practiced skill, not a guaranteed emergency shortcut.	TECHNIQUE AND STORAGE - Bring the spark source close to tinder and shield the work with your body without blocking oxygen. - Ignite at the base or windward edge so flame travels into the nest. - Transfer only after the tinder produces sustained flame. - Split methods across body, pack, and shelter so one loss does not remove every option. - Replace damp matches, depleted lighters, damaged rods, and contaminated tinder before the trip continues.
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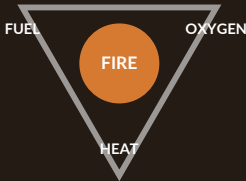
COLD-HAND TEST

Can you open, grip, and operate the system in gloves or with numb fingers? Packaging that wins in a living room can lose outside.

FIELD CARD

IGNITION METHODS AND REDUNDANCY

- Lighter: fast and efficient; protect from water and cold, and warm it inside clothing before...
- Stormproof matches: simple visual flame; keep in a hard waterproof case with redundant strikers.
- Ferrocerium rod: durable and wet-resistant; demands prepared tinder and controlled scraping.



RESET: tinder • water • fuel • cold ash

CREATE DRY SURFACES AND CONTROLLED AIRFLOW BEFORE ASKING FOR FLAME

Wet Weather, Wind, Snow, and Cold Ground

Rain changes tinder storage, fuel selection, ground isolation, ignition shielding, and the amount of kindling required. Wind carries embers and strips heat. Snow melts into water and collapses weak fire bases.

WET-WEATHER FIRE - Find dry material inside dead standing branches, split wood, lawful bark, and protected overhangs. - Build on bark, dry wood, stone, or another stable base above saturated ground. - Make a larger tinder bundle and two to three times the fine kindling used in dry weather. - Feather the inside of split sticks and stage every fuel grade before ignition. - Build coals with the driest wood, then pre-dry marginal pieces nearby - never on top of a weak flame.	WIND, SNOW, AND SOIL - Use terrain or a nonflammable wind screen that redirects gusts while leaving exhaust open. - Lower the fire profile and extinguish if sparks leave the prepared area. - In snow, dig to mineral soil when feasible or build a thick stable platform; expect meltwater and drainage. - Keep fuel elevated, covered, and marked before snowfall. - Do not use underground fire holes in peat, roots, deep duff, permafrost, unstable soil, or restricted land.
--	--

WIND DECISION

A windbreak does not legalize a bad fire day. When containment becomes doubtful, extinguish first and debate later.

FIELD CARD

WET WEATHER, WIND, SNOW, AND COLD GROUND

1

Find dry material inside dead standing branches, split wood, lawful bark, and protected overh...

2

Build on bark, dry wood, stone, or another stable base above saturated ground.

3

Make a larger tinder bundle and two to three times the fine kindling used in dry weather.

RESET: tinder • water • fuel • cold ash

STABLE COALS COOK BETTER THAN DRAMATIC FLAMES

Cooking Fire, Pot Systems, and Coal Control

Cooking requires a stable pot support, controllable heat, clean handling, and enough fuel to finish. Build and cold-test the suspension before scarce food or boiling water hangs over flame.

POT SUPPORT • Use a stable tripod, crossbar, crane, or established grate made from sound material. • Keep handles and bail wires away from walking lanes and flame. • Test with cold water before food or treated water is involved. • Maintain a clear nonflammable place for the hot pot, lid, and utensils. • Keep hands out of the fall line and never reach across flame to rescue bad geometry.	HEAT AND FOOD CONTROL • Develop coals, then move them or the pot to control intensity. • Use small split fuel for quick adjustments and larger coals for steady simmering. • A side fire can make coals for a separate cooking bed. • Use lids, wind control, and a fire no larger than the vessel needs. • Keep raw-food tools away from cooked food and clean-water containers. • Remove grease and scraps from the fire court before wildlife finds the invitation.
--	--

POT RULE

A bail, hook, or crossbar is a load-bearing system. Test it cold. Gravity does not care that dinner is important.

FIELD CARD

COOKING FIRE, POT SYSTEMS, AND COAL CONTROL

1

Use a stable tripod, crossbar, crane, or established grate made from sound material.

2

Keep handles and bail wires away from walking lanes and flame.

3

Test with cold water before food or treated water is involved.

RESET: tinder • water • fuel • cold ash

REDIRECT HEAT WITHOUT REDIRECTING SPARKS INTO THE ROOF

Heat Reflectors, Shelter Separation, and Carbon Monoxide

Reflectors can improve radiant warmth, but they also increase heat load on every surface in front of them. Combustion can also produce carbon monoxide, a colorless, odorless gas that can mimic fatigue or illness.

REFLECTOR SAFETY - Place the reflector behind the fire, separate from the shelter. - Use sound nonflammable material where possible; avoid wet river rocks that may fracture when heated. - Angle only slightly and watch for cracking, resin, scorching, and wind shifts. - Keep roofing, bedding, guy lines, drying clothing, and stored fuel far outside radiant heat and spark paths. - Use the smallest fire length that covers the occupied area.	CO AND NIGHT MANAGEMENT - Never use charcoal grills, ordinary camp stoves, or unvented heaters in tents or enclosed shelters. - Move to fresh air immediately for headache, dizziness, weakness, nausea, confusion, or unusual sleepiness near combustion, and seek emergency help. - Do not let a warmth system depend on unconscious supervision. - Reduce to a controlled coal bed only with continuous watch; otherwise extinguish completely before sleep. - Keep water, a light, footwear, and an exit route immediately available.
--	--

SEPARATION

A reflector is not a firewall. Radiant heat can dry, char, and ignite roofing without direct flame contact.

FIELD CARD

HEAT REFLECTORS, SHELTER SEPARATION, AND CARBON MONOXIDE

1

Place the reflector behind the fire, separate from the shelter.

2

Use sound nonflammable material where possible; avoid wet river rocks that may fracture when...

3

Angle only slightly and watch for cracking, resin, scorching, and wind shifts.

RESET: tinder • water • fuel • cold ash

THE FIRE BEGINS AT THE WOOD YARD

Firewood Processing and the 24-Hour Routine

Long-duration firecraft is mostly cutting, splitting, carrying, sorting, covering, and conserving. A compact worksite and a measured daily quota reduce injury and late-night shortages.

SAFE PROCESSING • Use a flat chopping block and clear the full swing and ricochet radius. • Keep hands, knees, and feet outside the blade path. • Saw supported wood so the cut opens rather than pinches the blade. • Use long, smooth strokes and store saws folded or sheathed immediately. • Stop when grip, balance, vision, or coordination deteriorates. • Clean, dry, inspect, sharpen, and store tools after the work block.	DAILY CYCLE • Morning: restart from dry reserve, boil water, and prepare the next kindling batch. • Midday: cut and split while light and coordination are best. • Afternoon: sort and cover; refill the near-fire rack. • Evening: stage tomorrow’s ignition set before fatigue and darkness. • Use wind control, lids, coals, and shelter improvements to reduce fuel demand. • A steep dry wood roof is a calorie-saving machine.
---	--

TOOL RULE

The moment a cutting tool feels sloppy is the moment to stop. Firewood is replaceable; hands are an extremely limited spare part.

FIELD CARD

FIREWOOD PROCESSING AND THE 24-HOUR ROUTINE

1

Use a flat chopping block and clear the full swing and ricochet radius.

2

Keep hands, knees, and feet outside the blade path.

3

Saw supported wood so the cut opens rather than pinches the blade.

RESET: tinder • water • fuel • cold ash

COLD ENOUGH TO TOUCH, COLD ENOUGH TO LEAVE

Extinguishing and Troubleshooting

Extinguishing is active work: drown, stir, expose hidden heat, drown again, and verify. Ash can insulate live coals for hours, and wind can restart what looked finished.

PROBLEM	LIKELY CAUSE	CORRECTION
Spark will not catch	Tinder damp, coarse, compacted, or spark too far away	Expose dry fine fibers; enlarge nest; bring ignition closer; shield wind
Tinder flames then dies	Too little fine kindling or transition too slow	Prepare more small fuel before ignition; feed from base without crushing
Heavy smoke, weak flame	Wet fuel, low heat, or restricted airflow	Split fuel; remove oversized pieces; open gaps; rebuild on dry base
Fire races and throws sparks	Excess wind, fine dry fuel, fire too large	Lower profile; reduce fuel; control wind; extinguish if containment is doubtful
Pot boils slowly	Fire too broad, pot too high, wind loss, no lid	Concentrate coals; lower pot safely; shield wind; use lid
Ground remains warm	Heat in roots, duff, or buried coals	Dig and expose; add water; stir until cold; report an escape immediately

DROWN, STIR, FEEL

- Pour water over all coals, ash, charred wood, and surrounding heated soil.
- Stir deeply and scrape logs apart to expose hidden embers.
- Repeat until hissing stops and every surface is cool.
- Use the back of the hand near the ash before touching; do not put skin into steam.
- Never bury a live fire. Soil can hide and insulate heat.

BEFORE LEAVING

- Edges, roots, logs, and rocks checked.
- No smoke, steam, or active combustion smell.
- Cold enough to touch safely.
- Trash, foil, food, and melted plastic removed.
- If a fire escapes, call emergency services immediately and move to safety.

FINAL TEST

Warm is not out. If you would not place a bare hand near the ash, the site is not ready to leave.

FIELD CARD

EXTINGUISHING AND TROUBLESHOOTING

1

Pour water over all coals, ash, charred wood, and surrounding heated soil.

2

Stir deeply and scrape logs apart to expose hidden embers.

3

Repeat until hissing stops and every surface is cool.

RESET: tinder • water • fuel • cold ash

USE, INSPECT, RESET, AND VERIFY

Field Checklist and Sources

This guide consolidates the project’s long-duration ALONE-style field-manual iterations and updates high-risk claims with current public-health, fire-safety, cold-stress, and Leave No Trace guidance. Practice before relying on any skill and check current local orders at the point of use.

FINAL CHECK □ Current restrictions, weather, and wind checked □ Established or mineral-soil site prepared with overhead and ground clearance □ Water and extinguishing tool ready before ignition □ Tinder, kindling, and fuel staged before the first flame	FINAL CHECK □ Fire continuously attended and kept far from shelter and stored fuel □ Cooking supports cold-tested and walking lanes clear □ Drowned, stirred, exposed, felt, and verified cold before leaving
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AUTHORITATIVE REFERENCES

National Park Service: [Campfire Safety](#)

USDA Forest Service: [Fire Safety: Know Before You Go](#)

Centers for Disease Control and Prevention: [Carbon Monoxide Poisoning](#)

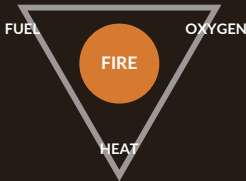
USE WITH JUDGMENT

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FIELD CARD

PRACTICE BEFORE DEPENDENCE

- 1 Current restrictions, weather, and wind checked
- 2 Established or mineral-soil site prepared with overhead and ground clearance
- 3 Water and extinguishing tool ready before ignition



RESET: tinder • water • fuel • cold ash

WATER SURVIVAL GUIDE

Find it. Treat it. Store it.



FIND IT. PURIFY IT. STORE IT.

SOURCE

TREAT

STORE

CONSERVE

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

READ THE RISK, THEN CHOOSE THE LEAST COSTLY SAFE MOVE

How to Use This Guide

Survival work is a sequence, not a shopping list. Stabilize exposure, establish a clean water routine, protect fire and sleep, then spend energy on upgrades that reduce future work. Adapt every method to local terrain, law, weather, wildfire restrictions, wildlife rules, and your actual training.

1 STOP Check injury, weather, daylight, and exit.	2 STAY DRY Rain and sweat defeat insulation quickly.	3 BUILD SYSTEMS Water, wood, sleep, repair, and sanitation reset daily.	4 SAVE CALORIES Short lanes and boring routines beat heroic chores.
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CONTENTS

PAGE	SECTION	PURPOSE
3	Water Priority, Hazards, and Source Choice	Clear is a visual description, not a laboratory result
4	Collection and Dirty/Clean Separation	Most recontamination is a workflow problem
5	Treatment Options and Redundancy	Match the method to the hazard and product rating
6	Boiling and Chemical Disinfection	Use official directions, not camp mythology
7	Turbid Water, Settling, and Prefiltration	Remove particles before disinfection
8	Snow, Ice, Rainwater, and Freezing Conditions	Cold water still requires a complete system
9	Coastal Water, Salt, and Distillation	Standard filters and boiling do not remove salt
10	Storage, Sanitation, and the Daily Reserve	Treatment is wasted if storage recontaminates the water
11	Water Myths and Troubleshooting	Improvisation can support treatment, but should not impersonate it

IMPORTANT SAFETY NOTE

This material is educational. It does not replace hands-on instruction, emergency medical care, official water-treatment directions, local fire orders, or site-specific avalanche, flood, tree-fall, wildlife, and weather guidance.

FIELD CARD

SURVIVAL PRIORITY

1

Stabilize exposure before spending calories on upgrades.

2

Build repeatable water, fire, sleep, repair, and sanitation systems.

3

Check current local rules and verify every high-risk method.



RESET: clean reserve • lids • treatment • raw side

CLEAR IS A VISUAL DESCRIPTION, NOT A LABORATORY RESULT

Water Priority, Hazards, and Source Choice

Water can carry bacteria, viruses, parasites, chemicals, sediment, and toxins without obvious smell or color. Treat uncertain water, protect a clean reserve, and select the least contaminated source before asking treatment to solve the rest.

SOURCE LADDER - Best: a known treated supply or genuinely protected spring. - Good starting point: rain collected from a clean surface into a clean container. - Next: moving surface water upstream of camps, livestock, roads, and activity. - Higher concern: ponds, slow streams, floodwater, and water near dense animal use. - Avoid when possible: chemical spills, fuel sheen, mine or industrial runoff, harmful algal blooms, seawater, and downstream sewage.	READ THE WATERSHED - Look uphill and upstream for roads, grazing, waste, logging, mining, wildfire debris, dead animals, and stagnant side pools. - After storms, runoff can carry fecal matter, fuel, soil, and chemicals into familiar sources. - Fast, cold, remote, and clear water can still contain pathogens. - Boiling and disinfection do not reliably remove salt, fuel, pesticides, heavy metals, or many toxins. - If chemical contamination is plausible, find another source rather than trying to boil confidence into it.
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SOURCE TEST

Ask what enters this water before it reaches you. Source selection is the first treatment step and sometimes the only defense against chemical contamination.

FIELD CARD

WATER PRIORITY, HAZARDS, AND SOURCE CHOICE

1

Best: a known treated supply or genuinely protected spring.

2

Good starting point: rain collected from a clean surface into a clean container.

3

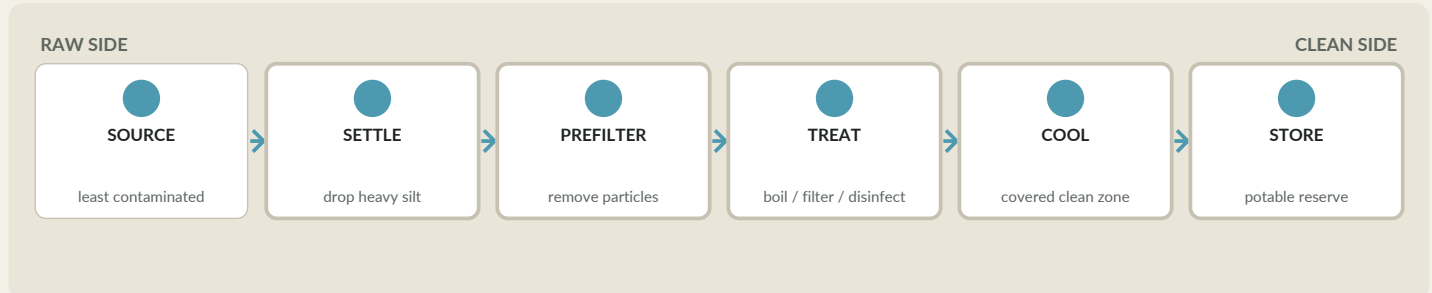
Next: moving surface water upstream of camps, livestock, roads, and activity.

RESET: clean reserve • lids • treatment • raw side

MOST RECONTAMINATION IS A WORKFLOW PROBLEM

Collection and Dirty/Clean Separation

Create a one-way line from raw source to clean storage. Hands, scoops, lids, threads, towels, and wet work surfaces can carry contamination backward in seconds.



RAW SIDE

- Use a dedicated pickup container or scoop.
- Collect upstream of bathing, laundry, food processing, latrines, and camp traffic whenever terrain allows.
- Keep raw lids, cloths, funnels, and bottle exteriors off the clean shelf.
- Carry raw water with a secure lid to prevent splash onto clean vessels.
- Let silty batches settle before they approach the treatment pot or filter.

CLEAN SIDE

- Use a covered container that has not touched raw water or dirty tools.
- Pour treated water rather than dipping hands or cups.
- Protect bottle threads and the inside of caps.
- Physically separate raw and potable containers so darkness does not create a guessing game.
- Maintain a working supply and a protected reserve.

ONE-WAY FLOW

Source -> settle -> prefilter -> treat -> covered cooling -> clean storage. Never send a clean cup backward into the raw bucket.

FIELD CARD

COLLECTION AND DIRTY/CLEAN SEPARATION

- 1 Use a dedicated pickup container or scoop.
- 2 Collect upstream of bathing, laundry, food processing, latrines, and camp traffic whenever te...
- 3 Keep raw lids, cloths, funnels, and bottle exteriors off the clean shelf.



RESET: clean reserve • lids • treatment • raw side

MATCH THE METHOD TO THE HAZARD AND PRODUCT RATING

Treatment Options and Redundancy

No method is universal. Boiling is highly reliable for disease-causing microorganisms when performed correctly. Filters vary by pore size and certification. Chemicals depend on dose, clarity, temperature, and contact time. UV requires clear water, power, and proper exposure.

METHOD	STRENGTHS	LIMITS / WATCH FOR
Boiling	Reliable against microorganisms; visually verifiable	Requires fuel and cooling; does not remove chemicals, salt, or sediment
Microfilter	Fast; removes particles and organisms according to rating	Many do not remove viruses; can freeze, clog, or crack
Chemical disinfectant	Lightweight backup; useful after filtration	Product-specific dose and contact time; weaker in cold or cloudy water
UV treatment	Fast and low taste when water is clear	Needs power, intact device, clear water, and correct exposure
Purifier device	Some target bacteria, protozoa, and viruses	Verify certification, capacity, replacement parts, and freezing risk
Improvised sand/charcoal	May improve clarity and taste as a prefilter	Not dependable disinfection; output remains raw until proven treatment

USE REDUNDANCY

- Carry at least two independent methods for critical travel.
- A filter plus chemical backup covers breakage and freezing.
- A metal pot plus ignition covers device failure where fire is legal and safe.
- Use the clearest available water to reduce fuel, clogging, and chemical demand.

READ THE RATING

- Follow manufacturer instructions for flow, backflushing, storage, chemical contact time, and freezing.
- A taste filter is not automatically a pathogen purifier.
- Many backpacking filters do not remove viruses.
- Replace a hollow-fiber filter after suspected freezing unless the manufacturer can confirm integrity.

FIELD CARD

TREATMENT OPTIONS AND REDUNDANCY

1

Carry at least two independent methods for critical travel.

2

A filter plus chemical backup covers breakage and freezing.

3

A metal pot plus ignition covers device failure where fire is legal and safe.

RESET: clean reserve • lids • treatment • raw side

USE OFFICIAL DIRECTIONS, NOT CAMP MYTHOLOGY

Boiling and Chemical Disinfection

CDC emergency guidance: bring clear water to a rolling boil for 1 minute; above 6,500 feet (about 1,981 meters), boil for 3 minutes. Let it cool in a clean, covered container. If water is cloudy, filter it through a clean cloth, paper towel, or coffee filter, or let sediment settle and draw off the clearer water first.

BOILING ROUTINE - Start with the clearest available water. - Use a lid when practical to reduce fuel and contamination. - Time begins after a rolling boil is reached, not at the first bubble. - Cool covered and never add untreated water or dirty utensils afterward. - Store above the floor, away from raw tools, food processing, ash, and animal access.	CHEMICAL PRODUCTS - Use only products intended or officially recommended for drinking-water disinfection. - Household bleach concentration varies widely. Follow the current CDC chart and product label rather than memorizing one dose. - Do not use scented, color-safe, splashless, or cleaner-added bleach for drinking water. - Cold or cloudy water may require different preparation and contact time. - Boiling and disinfectants do not make chemically polluted or salty water safe.
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OFFICIAL RULE

Public-health directions outrank remembered campsite advice. Product concentrations and hazards change; the label and current guidance control.

FIELD CARD

BOILING AND CHEMICAL DISINFECTION

1

Start with the clearest available water.

2

Use a lid when practical to reduce fuel and contamination.

3

Time begins after a rolling boil is reached, not at the first bubble.

RESET: clean reserve • lids • treatment • raw side

REMOVE PARTICLES BEFORE DISINFECTION

Turbid Water, Settling, and Prefiltration

Mud and organic matter interfere with treatment, consume chemicals, clog filters, and hide microorganisms. Prefiltration improves clarity but is not complete microbiological treatment.

SETTLE AND DECANT

- Fill a raw container and let heavy sediment drop without disturbance.
- Decant the clearer upper water into the prefilter stage.
- Use multiple vessels so one batch can settle while another is treated.
- Remove sediment from pots and raw containers away from the clean shelf.
- Repeat if water remains visibly loaded.

PREFILTER AND PROTECT

- Use a clean tightly woven cloth, paper towel, or coffee filter where official guidance permits.
- Fold layers for finer sediment, but expect slower flow.
- Keep the cloth on the raw side and clean or replace it regularly.
- Sand, gravel, and charcoal may improve appearance but can also add contamination.
- Treat every improvised-filter output as raw water and follow with proven treatment.

PREFILTER RULE

Better-looking water is easier to treat. It is not automatically safe to drink.

FIELD CARD

TURBID WATER, SETTLING, AND PREFILTRATION

- 1 Fill a raw container and let heavy sediment drop without disturbance.
- 2 Decant the clearer upper water into the prefilter stage.
- 3 Use multiple vessels so one batch can settle while another is treated.



RESET: clean reserve • lids • treatment • raw side

COLD WATER STILL REQUIRES A COMPLETE SYSTEM

Snow, Ice, Rainwater, and Freezing Conditions

Snow is mostly air and can consume substantial fuel. Ice and rainwater can carry soot, salt, animal waste, roof contamination, and windblown debris. Melt, clarify, and treat uncertain water just as you would liquid surface water.

SNOW AND ICE - Begin snowmelt with a small amount of liquid water to prevent scorching. - Add clean snow gradually and compress it as it melts. - Choose upper clean layers away from roads, camps, roofs, trails, and obvious contamination. - Clear blue ice usually yields more water per volume than fresh snow, but source risk still matters. - Do not eat large amounts of snow as a hydration method; it cools the body and provides little liquid.	RAIN AND FREEZE CONTROL - Use the cleanest catchment surface and discard the first dirty runoff when practical. - Cover storage immediately and treat when contamination is possible. - Keep a working bottle insulated and inverted so ice forms away from the cap. - Fill reserves before dark and protect freeze-sensitive filters according to manufacturer directions. - Never let the only clean reserve freeze into a solid block overnight.
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WINTER RULE

Water planning belongs to the evening, not to the coldest minute before dawn.

FIELD CARD

SNOW, ICE, RAINWATER, AND FREEZING CONDITIONS

1

Begin snowmelt with a small amount of liquid water to prevent scorching.

2

Add clean snow gradually and compress it as it melts.

3

Choose upper clean layers away from roads, camps, roofs, trails, and obvious contamination.

RESET: clean reserve • lids • treatment • raw side

STANDARD FILTERS AND BOILING DO NOT REMOVE SALT

Coastal Water, Salt, and Distillation

Do not drink seawater. It worsens dehydration. Boiling seawater without capturing and condensing vapor leaves salt behind and can concentrate it. Coastal routes need a deliberate desalination plan before the emergency.

DESALINATION REALITY • Use a properly rated reverse-osmosis/desalination device or a correctly built distillation system. • A distiller needs a safe heat source, clean vapor path, condenser, and clean collection vessel. • Standard microfilters do not remove dissolved salt. • Boiling alone does not create freshwater from the ocean. • Improvised solar stills often produce little water for the labor and should not be the primary plan.	CHEMICAL LIMITS • Some volatile chemicals can travel with steam; distillation is not a universal chemical-removal guarantee. • Avoid water exposed to fuel, solvents, industrial runoff, harmful algal blooms, or unknown spills. • In tidal areas, account for salt intrusion and changing current direction. • Carry spare seals, maintenance parts, and prefiltration for desalination equipment. • Practice the actual device before the route.
--	--

COASTAL RULE

A metal pot and fire do not automatically create drinking water from the ocean. Desalination is a separate process.

FIELD CARD

COASTAL WATER, SALT, AND DISTILLATION

1

Use a properly rated reverse-osmosis/desalination device or a correctly built distillation sy...

2

A distiller needs a safe heat source, clean vapor path, condenser, and clean collection vessel.

3

Standard microfilters do not remove dissolved salt.

RESET: clean reserve • lids • treatment • raw side

TREATMENT IS WASTED IF STORAGE RECONTAMINATES THE WATER

Storage, Sanitation, and the Daily Reserve

A useful camp carries water in stages: raw reserve, water being treated, clean working supply, and a protected emergency reserve. Covered containers reduce ash, insects, debris, and accidental dipping.

CONTAINER ROLES - Raw bucket: collection and settling only. - Treatment pot: boiling and hot-water production. - Clean working bottle: daily drinking and cooking. - Emergency reserve: sealed, protected, and left alone unless needed. - Utility water: washing tools and dirty work, clearly separate from potable storage.	SANITATION AND RESERVE - Wash hands after toileting, handling raw meat or fish, touching animals, and before managing clean water. - Do not wash dishes, clothing, bodies, or fish directly in the source. - Pour rather than dip; protect lids, threads, and clean cups. - Treat water while the fire or device is already active instead of waiting for the reserve to vanish. - Increase the reserve before storms, freezing nights, travel, and heavy work.
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RESERVE RULE

One clean bottle in the hand is a supply. A protected second container is a system.

FIELD CARD

STORAGE, SANITATION, AND THE DAILY RESERVE

1

Raw bucket: collection and settling only.

2

Treatment pot: boiling and hot-water production.

3

Clean working bottle: daily drinking and cooking.

RESET: clean reserve • lids • treatment • raw side

IMPROVISATION CAN SUPPORT TREATMENT, BUT SHOULD NOT IMPERSONATE IT

Water Myths and Troubleshooting

Many popular methods improve clarity or produce small amounts of water but do not reliably make contaminated water safe. Use this matrix to correct failures before the clean reserve disappears.

PROBLEM	LIKELY CAUSE	CORRECTION
Water remains cloudy	Insufficient settling or coarse prefilter	Settle longer; decant; use finer clean cloth; then treat
Filter flow slows	Sediment load, poor cleaning, or freeze damage	Prefilter; clean/backflush; replace if integrity is doubtful
Treated water tastes smoky	Open cooling near fire, dirty pot, ash contamination	Cool covered in clean zone; clean pot; move away from smoke
Reserve keeps running out	No batch rhythm, too few containers, route too long	Add vessels; treat during existing heat; shorten route; set minimum reserve
Bottle freezes at cap	Stored upright and exposed	Insulate and invert; keep working bottle warm without leakage
Repeated stomach illness	Cross-contamination, inadequate treatment, unsafe source	Stop using source; review workflow; seek medical care

DO NOT TRUST ALONE

- Charcoal, sand, moss, and cloth: particle prefilters, not dependable disinfection.
- Solar disinfection: dependent on clear water, bottle, sun, temperature, and exact guidance.
- Dew and plant bags: low yield and possible plant toxins.
- Drinking urine: adds salts and waste and can worsen dehydration.
- Eating snow: cools the body and bypasses treatment.
- A clear fast stream: still uncertain until treated or officially confirmed safe.

SERIOUS RED FLAGS

- Chemical spill, fuel sheen, algal bloom, floodwater, saltwater, or dead animal at source.
- Bloody diarrhea, high fever, confusion, fainting, very little urination, or inability to keep fluids down.
- No reliable treatment method or container integrity.
- Find another source, reduce exertion, signal, navigate to help, or seek rescue/medical care.

MYTH FILTER

A method is not reliable because it is old, natural, dramatic, or repeated online. Ask what hazard it removes, how that was verified, and what it leaves behind.

FIELD CARD

WATER MYTHS AND TROUBLESHOOTING

1

Charcoal, sand, moss, and cloth: particle prefilters, not dependable disinfection.

2

Solar disinfection: dependent on clear water, bottle, sun, temperature, and exact guidance.

3

Dew and plant bags: low yield and possible plant toxins.



RESET: clean reserve • lids • treatment • raw side

USE, INSPECT, RESET, AND VERIFY

Field Checklist and Sources

This guide consolidates the project’s long-duration ALONE-style field-manual iterations and updates high-risk claims with current public-health, fire-safety, cold-stress, and Leave No Trace guidance. Practice before relying on any skill and check current local orders at the point of use.

FINAL CHECK □ Safest practical source selected and upstream hazards assessed □ Raw and clean containers, lids, cloths, and work surfaces separated □ Sediment settled or prefiltered before treatment □ Boil time, chemical contact time, or device procedure completed correctly	FINAL CHECK □ Treated water cooled and stored covered in the clean zone □ Working supply and protected reserve filled before dark or weather □ Filter protected from freezing, cracking, clogging, and cross-contamination
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AUTHORITATIVE REFERENCES

Centers for Disease Control and Prevention: [Make Water Safe During an Emergency](#)

Centers for Disease Control and Prevention: [Prevent Diarrheal Illness After a Disaster](#)

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FIELD CARD

PRACTICE BEFORE DEPENDENCE

1

Safest practical source selected and upstream hazards assessed

2

Raw and clean containers, lids, cloths, and work surfaces separated

3

Sediment settled or prefiltered before treatment

RESET: clean reserve • lids • treatment • raw side

CAMP CRAFT SURVIVAL GUIDE

Build a system. Live efficiently.



LAYOUT

BUILD

STORE

MAINTAIN

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

READ THE RISK, THEN CHOOSE THE LEAST COSTLY SAFE MOVE

How to Use This Guide

Survival work is a sequence, not a shopping list. Stabilize exposure, establish a clean water routine, protect fire and sleep, then spend energy on upgrades that reduce future work. Adapt every method to local terrain, law, weather, wildfire restrictions, wildlife rules, and your actual training.

1 STOP Check injury, weather, daylight, and exit.	2 STAY DRY Rain and sweat defeat insulation quickly.	3 BUILD SYSTEMS Water, wood, sleep, repair, and sanitation reset daily.	4 SAVE CALORIES Short lanes and boring routines beat heroic chores.
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3	Camp as a System	A compact worksite beats a collection of projects
4	Zoning, Paths, and Weather Flow	Put each job where its mess, heat, water, and scent belong
5	Tool Safety and Workstations	Make the safe motion the easy motion
6	Knots, Lashings, and Cordage Discipline	Use the knot that fits the load and can still be untied
7	Core Camp Builds	Simple structures that return labor every day
8	Wood System, Containers, and Small Tools	More vessels and better staging create cleaner systems
9	Kitchen, Food Processing, and Storage	Separate raw, hot, clean, and waste
10	Sanitation, Wildlife, Repair, and Morale	Clean camp and a functioning person are both survival infrastructure
11	Build Phases and Maintenance Rhythm	Front-load risk reduction, then shift to calorie-smart maintenance

IMPORTANT SAFETY NOTE

This material is educational. It does not replace hands-on instruction, emergency medical care, official water-treatment directions, local fire orders, or site-specific avalanche, flood, tree-fall, wildlife, and weather guidance.

FIELD CARD

SURVIVAL PRIORITY

- 1 Stabilize exposure before spending calories on upgrades.
- 2 Build repeatable water, fire, sleep, repair, and sanitation systems.
- 3 Check current local rules and verify every high-risk method.



RESET: tools • water • wood • food • paths

A COMPACT WORKSITE BEATS A COLLECTION OF PROJECTS

Camp as a System

Long-duration camp should reduce movement, protect dry resources, separate clean from dirty work, and make the correct action easy even in darkness. The best camp is organized, slightly boring, and profitable in calories.

CORE SYSTEMS - Shelter and dry sleep. - Fire, fuel, and cooking. - Raw-to-clean water. - Food processing and storage. - Tool use and repair. - Sanitation, waste, and wildlife. - Weather monitoring and emergency exit.	DESIGN GOALS - Short travel lanes with no hidden stumps, hooks, blades, or guy lines. - Every tool has a dry assigned home. - Wet gear can dry without entering bedding. - Food scents and waste stay away from shelter and clean water. - The camp can be reset in a few minutes before sleep or bad weather. - Every major build reduces future walking, bending, drying time, fuel use, or risk.
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CAMP RULE

Build systems, not moments: a wood system, water system, drying system, storage system, sanitation system, and work-rest rhythm.

FIELD CARD

CAMP AS A SYSTEM

1

Shelter and dry sleep.

2

Fire, fuel, and cooking.

3

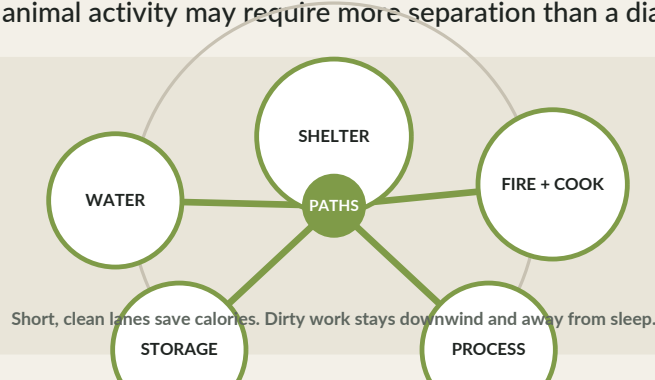
Raw-to-clean water.

RESET: tools • water • wood • food • paths

PUT EACH JOB WHERE ITS MESS, HEAT, WATER, AND SCENT BELONG

Zoning, Paths, and Weather Flow

Zones should be distinct enough to control contamination and wildlife, but close enough to reduce energy. Terrain, wind, drainage, local rules, and animal activity may require more separation than a diagram can show.



CLEAN CORE

- Sleeping platform, dry clothing, bedding, repair kit, emergency ignition, clean water shelf, and one clean sitting area.
- No raw fish, bait, greasy tools, waste, or dirty boots inside the sleep zone.
- Keep an exit line, light, footwear, and first-aid supplies easy to reach.
- Place the wet-gear entry on the dirty side of shelter.

DIRTY PERIMETER AND LANES

- Food processing, latrine, fish gear, hide work, and scent-heavy storage stay downwind and away from sleep.
- Route roof runoff away from paths, fire, water storage, and work surfaces.
- Build pole, bark, or stone walkways through mud where permitted.
- Mark stakes and guy lines; orient tools and footwear consistently for night use.
- Keep wood processing near enough to carry but outside living and walking space.

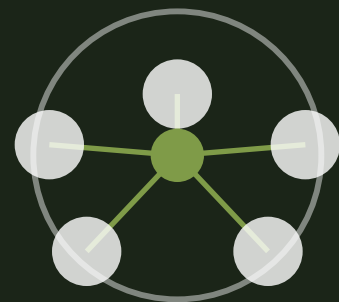
PATH RULE

A good camp lane remains safe in rain, snow, darkness, and fatigue. Fix the stump today; it has a meeting with your shin tonight.

FIELD CARD

ZONING, PATHS, AND WEATHER FLOW

- 1 Sleeping platform, dry clothing, bedding, repair kit, emergency ignition, clean water shelf,...
- 2 No raw fish, bait, greasy tools, waste, or dirty boots inside the sleep zone.
- 3 Keep an exit line, light, footwear, and first-aid supplies easy to reach.



RESET: tools • water • wood • food • paths

MAKE THE SAFE MOTION THE EASY MOTION

Tool Safety and Workstations

A stable chopping block, clear saw lane, controlled carving posture, and assigned tool wall reduce injury and lost gear. Most camp injuries are not cinematic. They are tired hands, poor footing, dull tools, and one careless cut too many.

PROCESSING STATIONS - Chopping: use a flat stable block and clear the full swing, ricochet, and rolling-round radius. - Sawing: support the work so the cut opens rather than pinches the blade. - Carving: sit with back support, brace work on a bench, cut away from the body, and keep the off-hand behind the edge. - Use a sharp tool; dull edges demand dangerous force. - Stop when cold, fatigue, poor light, or frustration reduces control.	TOOL WALL AND RESET - Assign a hook or slot for axe, saw, knife, gloves, cordage, pot gripper, repair kit, and light. - Mount under the driest eave and above mud splash. - Store cutting edges sheathed and handles oriented consistently. - Count tools at the end of each work block. - Clean pitch and dirt, dry metal, inspect handles and pivots, sharpen as needed, and return every item. - A tool on the ground is not stored; it is a future search party.
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STOP RULE

When a tool starts feeling wrong, stop. Fatigue is not a character test; it is a loss-of-control forecast.

FIELD CARD

TOOL SAFETY AND WORKSTATIONS

1

Chopping: use a flat stable block and clear the full swing, ricochet, and rolling-round radius.

2

Sawing: support the work so the cut opens rather than pinches the blade.

3

Carving: sit with back support, brace work on a bench, cut away from the body, and keep the o...

RESET: tools • water • wood • food • paths

USE THE KNOT THAT FITS THE LOAD AND CAN STILL BE UNTIED

Knots, Lashings, and Cordage Discipline

Cordage is a limited structural resource. Protect it from abrasion, heat, sharp edges, unnecessary cutting, and permanent knots. Practice with the actual rope and gloves used in the field.

USE	GOOD CHOICE	WHY
Fixed loop	Bowline or figure-eight loop	Stable anchor loop; inspect loading direction and tail
Adjustable guy line	Taut-line hitch, trucker-style tensioning, or hardware	Retensions after rain, wind, and temperature changes
Temporary pole position	Clove hitch backed up when needed	Fast positioning; not a universal critical-load knot
Join similar ropes	Appropriate bend or double fisherman	Choose for material and leave adequate tails
Square-frame structure	Square lashing with tight fraps	Controls crossing poles when geometry is sound
Tripod	Tripod lashing	Creates controlled splay for pot stands and racks

CORDAGE MANAGEMENT

- Cut only when a shorter reusable piece will serve long term.
- Coil by length and assign locations.
- Pad rock and bark contact points.
- Keep cordage away from sparks, knives, saw teeth, and hot cookware.
- Mark structural lines so no one mistakes them for a clothesline.

INSPECTION

- Check glazing, fuzzing, cuts, melted fibers, crushed sections, and knot creep.
- Retire damaged cord from structural use and reserve it for light ties or markers.
- Retension after wetting, freezing, and load changes.
- Never trust an unfamiliar knot with a suspended person or critical load.
- Cordage cannot repair bad geometry; brace the frame first.

FIELD CARD

KNOTS, LASHINGS, AND CORDAGE DISCIPLINE

1

Cut only when a shorter reusable piece will serve long term.

2

Coil by length and assign locations.

3

Pad rock and bark contact points.

RESET: tools • water • wood • food • paths

SIMPLE STRUCTURES THAT RETURN LABOR EVERY DAY

Core Camp Builds

A drying rack, tool wall, work table, seat, pot system, and wood roof can return more value than a dramatic cabin addition. Build from sound material, brace every structure, and test it cold and unloaded.

DRYING AND STORAGE - Place a drying rack near useful heat but outside sparks and scorching. - Use a high garment tier and a separate lower kindling tier only with generous clearances. - Space items for airflow and rotate them. - Build tool pegs, line winders, shelves, and a repair box under the driest eave. - Keep clean-water and food surfaces separate from hide, bait, and dirty tool work.	TABLES, SEATS, AND WOOD ROOF - Build one flat prep surface and one backed seat under cover. - A stable seated posture saves calories during carving, mending, food prep, and line work. - Use a nonflammable hot-pot landing area and lid rest. - Build a steep wood roof with raised floor and open sides for airflow. - Reserve the driest bay for tinder, kindling, and the next 24 hours of fuel. - Level, brace, load-test, then use. Rustic is a material choice, not permission for wobble.
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BUILD RULE

Every project must have a job, a safe load path, a maintenance plan, and a measurable return.

FIELD CARD

CORE CAMP BUILDS

1

Place a drying rack near useful heat but outside sparks and scorching.

2

Use a high garment tier and a separate lower kindling tier only with generous clearances.

3

Space items for airflow and rotate them.

RESET: tools • water • wood • food • paths

MORE VESSELS AND BETTER STAGING CREATE CLEANER SYSTEMS

Wood System, Containers, and Small Tools

The wood yard should convert raw rounds into sorted dry fuel with the fewest steps. Containers support water settling, dry storage, gathering, processing, repair, and inventory.

WOOD FLOW - Raw fuel arrives at the processing edge. - Saw to fire length on stable supports, then split on a dedicated block. - Sort tinder, kindling, feed wood, steady fuel, and marginal drying stock. - Move the daily reserve under cover and off the ground. - Carve sound hardwood wedges and a wooden mallet for difficult splitting and construction. - Use wind control, lids, and coals to reduce the amount of wood the system demands.	CONTAINERS AND SMALL EQUIPMENT - Folded bark trays for dry goods and processing; woven baskets for gathering and airflow. - Carved spoons, cups, ladles, toggles, pegs, pot hooks, lid rests, net needles, measuring sticks, and tally sticks. - Build smooth edges, stable bases, glove-sized handles, and lids where insects or ash matter. - Know the material: some woods, bark, resin, dyes, and treated lumber are unsafe for food or hot liquid. - Assign raw-water, raw-food, clean-storage, and tool roles by shape or location.
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CONTAINER RULE

Assign a job before building the vessel. A beautiful mystery bowl is still a project looking for a problem.

FIELD CARD

WOOD SYSTEM, CONTAINERS, AND SMALL TOOLS

1

Raw fuel arrives at the processing edge.

2

Saw to fire length on stable supports, then split on a dedicated block.

3

Sort tinder, kindling, feed wood, steady fuel, and marginal drying stock.

RESET: tools • water • wood • food • paths

SEPARATE RAW, HOT, CLEAN, AND WASTE

Kitchen, Food Processing, and Storage

A camp kitchen is a sanitation system. Stable supports, clean water, raw-food separation, protected storage, and a clear waste route reduce illness and wildlife conflict.

COOK AND PROCESS • Use a stable pot suspension, lid rest, clean utensil pegs, dry fuel, and a nonflammable hot-pot landing area. • Keep clean water above mud and separate from raw collection. • Create a washable processing surface away from shelter and the water source. • Keep hooks, knives, bait, blood, hides, and scraps contained. • Process promptly and move food to cooking, smoking, drying, cooling, or approved storage. • Never clean fish at the shelter threshold.	STORAGE AND WASTE • Follow current local wildlife rules and use approved bear-resistant containers or methods where required. • Store attractants away from sleep and downwind when feasible. • Keep dry goods covered, raised, and inspected for moisture, mold, insects, and animal damage. • Move scraps and gray water according to land-manager and Leave No Trace rules. • Never leave grease, bones, foil, food, or synthetic trash in the fire ring. • Secure scent-heavy clothing and gloves away from bedding.
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KITCHEN RULE

Raw side, hot side, clean side, waste route. When those four overlap, illness and wildlife both get a vote.

FIELD CARD

KITCHEN, FOOD PROCESSING, AND STORAGE

1

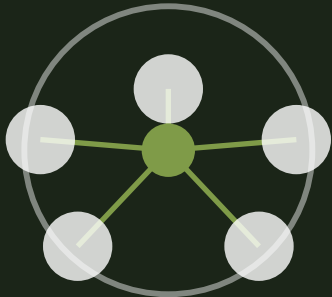
Use a stable pot suspension, lid rest, clean utensil pegs, dry fuel, and a nonflammable hot-p...

2

Keep clean water above mud and separate from raw collection.

3

Create a washable processing surface away from shelter and the water source.



RESET: tools • water • wood • food • paths

CLEAN CAMP AND A FUNCTIONING PERSON ARE BOTH SURVIVAL INFRASTRUCTURE

Sanitation, Wildlife, Repair, and Morale

Poor sanitation can undo shelter, water, and food work through illness and wildlife conflict. Long nights and bad weather can still support low-risk repair, planning, and morale work.

SANITATION AND WILDLIFE • Use toilets where provided; follow local rules for cat holes or packing out human waste. • Keep sanitation far from water, camp, trails, and food zones. • Strain food particles from wash water and pack them out. • Never feed wildlife, intentionally or through sloppy storage. • Secure food, trash, toothpaste, bait, greasy cookware, and scented items according to current local rules. • Complete a clean sweep before dusk.	REPAIR AND HUMAN SYSTEM • Maintain needles, thread, patches, tape, cordage, spare laces, seam sealer, awl, and sharpening tools. • Repair cuffs, knees, elbows, pack straps, boot seams, and shelter tie-outs before damage spreads. • Use darkness for low-risk mending, inventory, line preparation, planning, and simple seated carving. • Build one dry place to sit, eat, and repair. • Small morale projects - a carved spoon, tally stick, game, journal, or doorway trim - can support patience and routine. • Stop work before exhaustion becomes the camp foreman.
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MORALE

A well-run camp creates small evidence that tomorrow is manageable. That is not decoration. It is operational resilience.

FIELD CARD

SANITATION, WILDLIFE, REPAIR, AND MORALE

1

Use toilets where provided; follow local rules for cat holes or packing out human waste.

2

Keep sanitation far from water, camp, trails, and food zones.

3

Strain food particles from wash water and pack them out.

RESET: tools • water • wood • food • paths

FRONT-LOAD RISK REDUCTION, THEN SHIFT TO CALORIE-SMART MAINTENANCE

Build Phases and Maintenance Rhythm

Construction intensity should decline as camp becomes functional. By the second phase, only projects that improve warmth, dryness, food, water, safety, or morale should survive the budget meeting.

PHASE	OBJECTIVES
Days 1-3	Scout; emergency shelter; dry bed; water treatment; legal safe fire; dry fuel; clean/dirty zones; tool inventory.
Days 4-10	Durable roof; drainage; porch; wood cover; drying rack; tool wall; table; sanitation route; food-storage compliance.
Days 11-30	Improve insulation; shorten paths; expand fuel reserve; add containers; refine cooking and processing; establish repair rhythm.
Days 31+	Maintain more than build; simplify routes; preserve clothing; improve passive systems; prepare for worsening weather and lower energy.

DAILY CLOSE - Clean water full. - Tomorrow's ignition staged. - Wood under cover. - Tools counted and dry. - Food and waste secured. - Paths clear and night hazards marked. - Bedding protected and weather checked.	WEEKLY RESET - Inspect shelter, racks, anchors, and drainage. - Sharpen and maintain tools. - Wash and dry storage vessels. - Repair clothing, cordage, and footwear. - Reassess wildlife signs and food storage. - Remove projects that no longer earn their space.
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FIELD CARD

BUILD PHASES AND MAINTENANCE RHYTHM

1

Clean water full.

2

Tomorrow's ignition staged.

3

Wood under cover.

RESET: tools • water • wood • food • paths

USE, INSPECT, RESET, AND VERIFY

Field Checklist and Sources

This guide consolidates the project’s long-duration ALONE-style field-manual iterations and updates high-risk claims with current public-health, fire-safety, cold-stress, and Leave No Trace guidance. Practice before relying on any skill and check current local orders at the point of use.

FINAL CHECK ❑ Short, clear paths connect shelter, fire, clean water, wood, and work areas ❑ Tools assigned, counted, dry, sharp, and stored with edges protected ❑ Raw food, clean water, sleep, sanitation, waste, and wildlife attractants separated ❑ Dry fuel, tinder, clothing, and bedding protected from rain, sparks, and mud	FINAL CHECK ❑ Cooking supports, tables, racks, and seats stable and load-tested ❑ Food storage and human-waste practice comply with current local rules ❑ Daily close and weekly repair/inspection rhythm completed
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AUTHORITATIVE REFERENCES

National Park Service: [Leave No Trace Seven Principles](#)

USDA Forest Service: [Fire Safety: Know Before You Go](#)

Centers for Disease Control and Prevention: [Make Water Safe During an Emergency](#)

USE WITH JUDGMENT

Independent educational fieldcraft reference. Not affiliated with or endorsed by the television series ALONE, its producers, broadcasters, or participants. Local rules and emergency guidance always control.

FIELD CARD

PRACTICE BEFORE DEPENDENCE

1

Short, clear paths connect shelter, fire, clean water, wood, and work areas

2

Tools assigned, counted, dry, sharp, and stored with edges protected

3

Raw food, clean water, sleep, sanitation, waste, and wildlife attractants separated

RESET: tools • water • wood • food • paths

CHOOSING CLOTHING SURVIVAL GUIDE

Layer smart. Stay dry. Stay alive.



LAYER

SHELL

DRY

REPAIR

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

READ THE RISK, THEN CHOOSE THE LEAST COSTLY SAFE MOVE

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3	Clothing as a Survival System	Regulate heat before clothing becomes wet insulation
4	Layering Architecture	Move moisture outward and keep weather outside
5	Fabric Selection	Choose by climate, output, drying time, and failure mode
6	Base Layers and Active Midlayers	Warm enough to move, breathable enough to stay dry
7	Insulation Layers	Trap air during rest without trapping water
8	Shells, Rain Protection, and Lower Body	Weatherproof enough outside, breathable enough inside
9	Head, Hands, and Feet	Fast controls for heat, dexterity, circulation, and skin
10	Moisture Management by Activity	Change the system before the activity changes you
11	Drying, Repair, Rotation, and Selection	Clothing only performs when the maintenance system does
12	Climate and Activity Selection Matrix	Build for the worst credible transition, not the average forecast

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FIELD CARD

SURVIVAL PRIORITY

- 1 Stabilize exposure before spending calories on upgrades.
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- 3 Check current local rules and verify every high-risk method.

VENT • LAYER • DRY



RESET: vent • dry • repair • protect sleep set

REGULATE HEAT BEFORE CLOTHING BECOMES WET INSULATION

Clothing as a Survival System

Clothing must move moisture, trap air, block weather, fit without restricting circulation, and remain repairable. The goal is not maximum warmth at all times. It is controlled warmth across hard work, rest, wind, rain, and sleep.

OPERATING RULES - Start slightly cool before hard movement and vent early. - Add insulation before stopping, not after shivering begins. - Protect one dry sleep set whenever conditions allow. - Keep rain and wind layers accessible, not buried beneath camp. - Dry, repair, and rotate clothing as a daily system. - Treat hats, neckwear, gloves, and vents as fast temperature controls.	FIT AND SYSTEM CHECK - Layers need room to trap air without compressing loft. - Boots and gloves must allow circulation and liner changes. - Cuffs, waistbands, harnesses, and pack straps should not create pressure points. - Test the full system while bending, chopping, kneeling, climbing, and wearing a pack. - Make zippers, hoods, cuffs, and pockets usable in gloves. - Keep loose fabric away from flame, saws, axes, and rotating equipment.
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CLOTHING RULE

The warmest garment is the one that still has loft, and the driest layer is the one you did not sweat through.

FIELD CARD

CLOTHING AS A SURVIVAL SYSTEM

1

Start slightly cool before hard movement and vent early.

2

Add insulation before stopping, not after shivering begins.

3

Protect one dry sleep set whenever conditions allow.

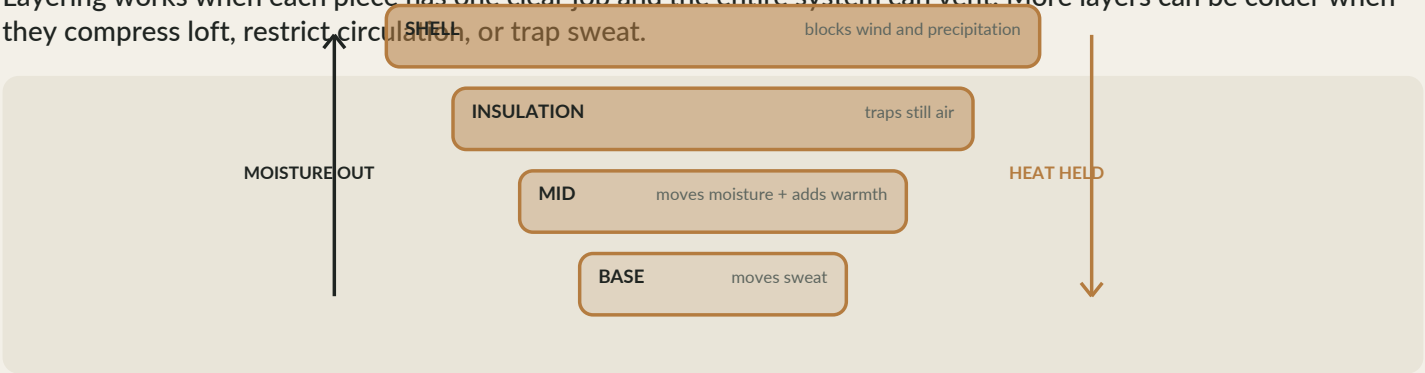
VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

MOVE MOISTURE OUTWARD AND KEEP WEATHER OUTSIDE

Layering Architecture

Layering works when each piece has one clear job and the entire system can vent. More layers can be colder when they compress loft, restrict circulation, or trap sweat.



BASE TO SHELL • Base: manages sweat and reduces clammy skin contact. • Active mid: transports moisture and adds flexible warmth. • Insulation: traps still air during low output and cold exposure. • Shell: blocks wind, rain, and snow while vents release excess heat. • Head, hands, feet, and lower body need the same modular logic.	SYSTEM CONTROLS • Front zip, pit zips, side zips, cuffs, hood, waist, and hem are temperature controls. • Open before sweating; close before chilling. • Use removable hat, neck, and hand layers for fast adjustment. • Do not expect a waterproof membrane to transport unlimited vapor during hard work. • Add an overlayer at the first minute of a stop while the body is still warm.
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VENT EARLY

Moisture management begins before sweat is visible. Once insulation is wet, the drying bill arrives with interest.

FIELD CARD

LAYERING ARCHITECTURE

1

Base: manages sweat and reduces clammy skin contact.

2

Active mid: transports moisture and adds flexible warmth.

3

Insulation: traps still air during low output and cold exposure.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

CHOOSE BY CLIMATE, OUTPUT, DRYING TIME, AND FAILURE MODE

Fabric Selection

Materials trade warmth, drying speed, odor, durability, flame sensitivity, bulk, and cost. Good systems blend materials rather than treating one fabric as a religion.

MATERIAL	BEST AT	WATCH FOR
Wool	Odor control, warmth when damp, broad comfort range	Slow drying in heavy weights; abrasion
Synthetic knit or fleece	Fast drying, hard activity, lower cost	Odor retention; melts near sparks and radiant heat
Down	Highest warmth-to-weight when kept dry	Major performance loss when soaked
Synthetic insulation	Reliable damp-weather loft	Bulk and gradual loft loss from compression
Cotton	Hot, dry camp comfort only	Holds water and chills in cold or wet conditions
Leather	Durable hand and foot protection	Needs slow drying, conditioning, and fit room

WOOL AND BLENDS

- Merino works well next to skin; heavier woven wool offers durable midlayer protection.
- Wool remains useful when damp and generally tolerates sparks better than many synthetics.
- Thick wool can become heavy and slow to dry after saturation.
- Protect elbows, cuffs, shoulders, knees, and seat from abrasion.

SYNTHETICS, DOWN, AND FLAME

- Synthetic knits and fleece dry quickly and perform well for high output.
- Many synthetic fabrics melt or shrink near flame. Keep them away from sparks, stoves, and radiant heat.
- Down is excellent when moisture can be controlled; synthetic insulation is often safer in persistent wet.
- Choose the material by the consequence of getting it wet, not by catalog adjectives.

FIELD CARD

FABRIC SELECTION

1

Merino works well next to skin; heavier woven wool offers durable midlayer protection.

2

Wool remains useful when damp and generally tolerates sparks better than many synthetics.

3

Thick wool can become heavy and slow to dry after saturation.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

WARM ENOUGH TO MOVE, BREATHABLE ENOUGH TO STAY DRY

Base Layers and Active Midlayers

Base layers should fit close without binding and move moisture. Active midlayers handle moderate output in cool weather. Weight and ventilation should match the work, not the morning temperature alone.

BASE LAYERS • Use merino, synthetic, or a tested blend; avoid cotton in cold and wet conditions. • Choose flat seams, a nonrestrictive waist, and a top with a deep venting zip. • Use lighter weights for hard movement and heavier weights for low activity or sleep. • Change into a dry sleep base layer before bedding. • Rotate, air, or rinse work layers when drying conditions exist. • Patch holes early with flat stitches that do not rub skin.	ACTIVE MIDLAYERS • Fleece, grid fleece, wool shirts, and breathable synthetic jackets are common options. • Choose full or deep front zips and low-bulk cuffs and shoulders. • Protect delicate fleece with a durable work layer in brush or around tools. • A light wind shirt can reduce convective loss with less condensation than a full rain shell. • If the midlayer is drenched at every stop, vent earlier or wear less insulation. • Add the static layer immediately when output ends.
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BASE RULE

A base layer is a moisture tool, not an insulation contest. The wrong weight can soak every layer above it.

FIELD CARD

BASE LAYERS AND ACTIVE MIDLAYERS

1

Use merino, synthetic, or a tested blend; avoid cotton in cold and wet conditions.

2

Choose flat seams, a nonrestrictive waist, and a top with a deep venting zip.

3

Use lighter weights for hard movement and heavier weights for low activity or sleep.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

TRAP AIR DURING REST WITHOUT TRAPPING WATER

Insulation Layers

Insulation is most valuable during low activity, wind exposure, camp chores, and emergencies. Put it on before cooling. Keep it dry, preserve loft, and select fill by the likelihood and consequence of saturation.

DOWN AND SYNTHETIC - Down: excellent warmth-to-weight and compressibility; demands disciplined moisture protection. - Synthetic: retains more useful warmth when damp and often dries faster; bulkier and gradually loses loft. - Store lofted garments uncompressed when possible. - Use durable shell protection around brush, sparks, grease, and sharp tools. - Choose an over-jacket cut that fits over active layers without crushing them.	WOOL, PILE, AND USE - Wool and pile are breathable, repairable, and tolerant of damp; they are heavy when saturated. - Full or two-way zips and large arm openings improve use over work clothing. - Add insulation at the first minute of every rest stop. - Remove it before hard movement restarts. - Use a dry sitting pad or bench so the garment is not asked to insulate against wet ground. - Protect static insulation as carefully as the sleeping bag.
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STOP LAYER

The correct time to add insulation is while you are still warm enough to warm the garment.

FIELD CARD

INSULATION LAYERS

1

Down: excellent warmth-to-weight and compressibility; demands disciplined moisture protection.

2

Synthetic: retains more useful warmth when damp and often dries faster; bulkier and gradually...

3

Store lofted garments uncompressed when possible.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

WEATHERPROOF ENOUGH OUTSIDE, BREATHABLE ENOUGH INSIDE

Shells, Rain Protection, and Lower Body

A shell manages wind and precipitation while mechanical vents manage the vapor the body produces. Fit, hood design, closures, durability, and venting matter as much as membrane marketing.

SHELL FEATURES - Adjustable hood with useful brim and head movement. - Pit or side zips for real heat dumping. - Cuffs large enough for gloves but sealable against runoff. - Hem and waist compatible with rain pants or bibs. - Reinforced shoulders, elbows, knees, seat, and lower legs where abrasion is constant. - Repairable face fabric and access to patches or seam tape.	LOWER-BODY SYSTEM - Use a wicking base, durable active pant, and rain or wind protection. - Articulated knees and a gusseted crotch improve movement. - Vents reduce sweat during climbing and wood work. - Full or long side zips allow rain pants over boots. - Bibs improve overlap but complicate sanitation and venting. - Avoid tight thighs, waistbands, and stacked layers that restrict circulation.
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SHELL REALITY

A shell is not a climate-controlled room. It is weather armor with zippers. Use the zippers.

FIELD CARD

SHELLS, RAIN PROTECTION, AND LOWER BODY

1

Adjustable hood with useful brim and head movement.

2

Pit or side zips for real heat dumping.

3

Cuffs large enough for gloves but sealable against runoff.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

FAST CONTROLS FOR HEAT, DEXTERITY, CIRCULATION, AND SKIN

Head, Hands, and Feet

Headwear, neckwear, gloves, socks, boots, and gaiters are modular systems. Protect at least one dry hand and foot reserve, and inspect skin before small problems alter movement.

HEAD AND HANDS • Use a light wicking cap for movement and a warm hat for stops and sleep. • Add a hood for wind and precipitation; use neckwear that can vent and dry quickly. • Hand system: liner glove, durable work glove, insulated glove or mitt, and waterproof overmitt. • Mitts are warmer; gloves provide dexterity. Use both rather than forcing one pair to do everything. • Dry gloves from the inside out and keep leather away from hard heat. • Store one dry liner or mitt system with sleep clothing.	SOCKS, BOOTS, AND GAITERS • Use a tested merino or synthetic sock system without folds or excessive stacking. • Boots need toe room, heel hold, swelling allowance, and circulation with the intended socks. • Remove and dry insoles daily when possible. • Use insulating insoles to reduce ground conduction. • Gaiters block snow, mud, rain, and brush at the cuff; inspect straps and buckles. • Check feet daily for hot spots, blisters, maceration, numbness, discoloration, and circulation.
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FOOT RULE

Warm feet require room. Adding socks until the boot becomes tight can make the feet colder by reducing circulation.

FIELD CARD

HEAD, HANDS, AND FEET

1

Use a light wicking cap for movement and a warm hat for stops and sleep.

2

Add a hood for wind and precipitation; use neckwear that can vent and dry quickly.

3

Hand system: liner glove, durable work glove, insulated glove or mitt, and waterproof overmitt.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

CHANGE THE SYSTEM BEFORE THE ACTIVITY CHANGES YOU

Moisture Management by Activity

The same clothing should not be worn the same way while hiking, chopping, sitting, sleeping, and standing in rain. Adjust at transitions, not twenty minutes afterward.

ACTIVITY	STARTING SYSTEM	TRANSITION ACTION
Fast travel / climbing	Light base, breathable mid or wind layer, vents open	Slow down or remove layers before heavy sweat
Wood processing	Durable work layer, eye and hand protection, minimal insulation	Add warm overlayer immediately when stopping
Steady rain travel	Base + light mid + vented shell; rain pants as needed	Open mechanical vents; protect dry camp insulation
Camp chores	Drier active layers; wind protection; task gloves	Rotate wet items to rack; keep sleep set untouched
Long rest / glassing	Static insulation, weather shell, dry seat	Protect hands, feet, and head before cooling
Sleep	Dry base, dry socks, clean compatible insulation	Vent moisture; keep wet work clothing outside bedding

START COOL

- Begin movement slightly cool, especially uphill or under load.
- Use hat, gloves, neckwear, and vents as quick controls before removing core layers.
- Keep rain protection accessible for sudden exposure.
- Reduce pace when the system cannot move moisture fast enough.

STOP WARM

- Add insulation before cooling begins.
- Replace wet gloves, socks, and headwear.
- Open the shell briefly to vent vapor when precipitation allows.
- Eat and hydrate before shivering starts.
- Move wet layers to a rack rather than into bedding.

FIELD CARD
MOISTURE MANAGEMENT BY ACTIVITY

- 1 Begin movement slightly cool, especially uphill or under load.
- 2 Use hat, gloves, neckwear, and vents as quick controls before removing core layers.
- 3 Keep rain protection accessible for sudden exposure.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

CLOTHING ONLY PERFORMS WHEN THE MAINTENANCE SYSTEM DOES

Drying, Repair, Rotation, and Selection

Drying uses airflow, mild heat, time, and rotation. Hard heat can melt synthetics, shrink leather, damage membranes, destroy adhesives, and ignite fabric. Repair small failures before weather turns them into equipment loss.

DRY, ROTATE, REPAIR - Press water from wool and insulation rather than aggressive wringing. - Open zips, pockets, cuffs, boots, and removable liners. - Hang with airflow and rotate inside-out. - Maintain work set, camp recovery set, and protected sleep reserve. - Carry needles, strong thread, patches, repair tape, seam sealer, spare laces, cord locks, and safety pins. - Clean and dry surfaces before adhesive repair; round patch corners and extend beyond damage.	SELECTION AND FIT TEST - Choose for the coldest rest, wettest work, highest output, and longest drying time expected. - Test all layers together without compressing insulation. - Raise arms, squat, kneel, and wear the actual pack. - Test boots with intended socks after feet have warmed and swollen. - Operate hoods, vents, zips, cuffs, gloves, and pockets with cold hands. - Nothing should create pressure points, snag tools, or expose delicate fabric to sparks.
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REPAIR HOUR

Small tears become major losses when cold and wet have a vote. Schedule repair before the item forces the meeting.

FIELD CARD

DRYING, REPAIR, ROTATION, AND SELECTION

1

Press water from wool and insulation rather than aggressive wringing.

2

Open zips, pockets, cuffs, boots, and removable liners.

3

Hang with airflow and rotate inside-out.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

BUILD FOR THE WORST CREDIBLE TRANSITION, NOT THE AVERAGE FORECAST

Climate and Activity Selection Matrix

Use the matrix as a planning start, then adjust for physiology, shelter, trip length, rescue access, and the actual drying environment.

CONDITION	PRIORITY	SYSTEM EMPHASIS
Cold + dry	Loft and wind control	Wicking base; breathable mid; high-loft insulation; windproof shell; warm mitts and boots
Cold + wet	Dry reserve and damp-tolerant materials	Multiple bases; fleece or wool; synthetic insulation; durable rain shell; overmitts; gaiters
Warm + wet	Ventilation and skin management	Light base; minimal mid; highly vented rain shell; quick-dry pants; foot rotation
High wind	Seal gaps without sweating	Wind layer or shell; adjustable hood, cuffs, hem; face and hand protection
Low activity	Insulate before cooling	Oversized static layer; insulated lower body; dry seat; mitts; warm headwear
Heavy work	Moisture escape and durability	Light base; vents; abrasion layer; task gloves; immediate stop layer

CORE CHECKLIST

- Base layers and dry sleep reserve.
- Active midlayer and static insulation.
- Rain shell and lower-body weather protection.
- Work pants and durable task layer.
- Light and warm headwear; neck protection.
- Liners, work gloves, insulated mitts or overmitts.
- Multiple sock systems, boots, gaiters, insulating insoles.
- Repair and drying kit.

RED FLAGS

- Cotton or saturated insulation in cold wet exposure.
- Tight boots, gloves, waistbands, or stacked socks.
- No dry sleep set or backup hand system.
- Shell buried where sudden weather cannot be reached.
- Hard drying heat or unattended clothing near flame.
- Numbness, confusion, uncontrollable shivering, loss of coordination, or unusual behavior: stop exposure and seek emergency care.

FIELD CARD

CLIMATE AND ACTIVITY SELECTION MATRIX

1

Base layers and dry sleep reserve.

2

Active midlayer and static insulation.

3

Rain shell and lower-body weather protection.

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

USE, INSPECT, RESET, AND VERIFY

Field Checklist and Sources

This guide consolidates the project’s long-duration ALONE-style field-manual iterations and updates high-risk claims with current public-health, fire-safety, cold-stress, and Leave No Trace guidance. Practice before relying on any skill and check current local orders at the point of use.

FINAL CHECK ❑ Full system fits without compressing insulation or circulation ❑ Vents, zips, hoods, cuffs, pockets, and pack interfaces work with gloves ❑ Dry sleep base, socks, headwear, and emergency insulation protected ❑ Hands and feet have modular task, insulation, and weather layers	FINAL CHECK ❑ Rain and wind protection accessible before conditions change ❑ Wet items drying with airflow and safe heat separation ❑ Damage, hot spots, numbness, and fit problems corrected before the next work block
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AUTHORITATIVE REFERENCES

Occupational Safety and Health Administration: [Cold Stress Guide](#)
Centers for Disease Control and Prevention: [Carbon Monoxide Poisoning](#)

USE WITH JUDGMENT

Independent educational fieldcraft reference. Not affiliated with or endorsed by the television series ALONE, its producers, broadcasters, or participants. Local rules and emergency guidance always control.

FIELD CARD

PRACTICE BEFORE DEPENDENCE

1

Full system fits without compressing insulation or circulation

2

Vents, zips, hoods, cuffs, pockets, and pack interfaces work with gloves

3

Dry sleep base, socks, headwear, and emergency insulation protected

VENT • LAYER • DRY

RESET: vent • dry • repair • protect sleep set

TRADITIONAL ARCHERY SURVIVAL GUIDE

Choose smart. Tune well. Hunt efficiently.



BOW

ARROWS

TUNE

RECOVER

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Choose a bow you can shoot when cold, tired and compressed by terrain

Traditional archery rewards simplicity, but only after disciplined setup. The useful survival bow is the one that draws smoothly in layers, carries safely through cover, and launches every field arrow with predictable impact.

1 Core principles

- Accuracy and repeatability outrank maximum draw weight. A bow that breaks form is too heavy for the job.
- Select the complete system - bow length, draw weight, string, shelf or rest, shaft spine, point weight, and fletching.
- Favor simple, repairable components that can be inspected and serviced with a compact field kit.
- Tune broadheads and small-game heads before deployment; never assume field-point accuracy transfers automatically.
- Conserve arrows through close-range shot selection, a reliable backstop, visible cresting, and deliberate recovery.

A romantic bow that cannot be drawn cleanly after a week of cold work is expensive firewood.

2 First-hour priorities

- Confirm local law and the current competition equipment brief before choosing the bow or arrowheads.
- Measure actual draw length in the clothing and shooting posture you expect to use.
- Shoot the candidate bow repeatedly from kneeling, seated, and uneven-ground positions.
- Build and number a matched shaft set, then record total mass, balance point, brace height, and nocking point.
- Prove broadhead and small-game impact at realistic distances before locking the nine-arrow mix.

The official Season 12 gear list currently published by HISTORY specifies one primitive recurve or longbow and nine arrows. Verify the current season brief.

FIELD RULE

Bring the bow only when you can already shoot it well. In a long-duration challenge, accuracy and arrow recovery matter more than impressive specifications.

RECURVE VERSUS LONGBOW SELECTION MATRIX

CHOOSE DELIBERATELY

Recurve versus longbow selection matrix

Both styles can work. Score the bow against your body, shooting skill, shelter space, brush density, repair plan, and likely shot opportunities.

Factor	Recurve	Longbow	Field decision
Overall length	Often shorter for equivalent draw length	Usually longer and more gradual	Favor the bow that moves safely through local cover and stores without limb pressure.
Draw character	Can feel sharper near full draw	Often smooth and progressive	Choose the curve that preserves anchor and release under fatigue.
Portability	Compact models travel well	Long limbs can snag or crowd shelter	Practice carrying, sitting, kneeling and entering camp.
Forgiveness	Good when tuned; sensitive to grip torque	Often stable with a clean release	Shoot both from field positions, not only a flat range.
Stringing	May require a bow stringer and method practice	Stringing method varies by design	Use the manufacturer-approved method and carry repair material.
Cold-weather use	Compact limbs may clear bulky clothing better	Longer geometry may feel smoother	Test with gloves, shell, hood and low light.
Repairability	Take-down parts may be replaceable but add joints	One-piece simplicity, fewer interfaces	Inspect tips, fades, limb surfaces, grip and string daily.
Best choice	The one that groups reliably	The one that groups reliably	Skill and fit decide; labels do not.

Decision note: Use a controlled trial: identical target, realistic clothing, five cold-start shots, kneeling and seated strings, and a fatigue round after camp work.

BOW AND ARROW TUNING WORKFLOW

REPEATABLE BEATS HEROIC

Bow and arrow tuning workflow

Change one variable at a time and record the result. Tuning is a controlled diagnosis, not a séance involving feathers and optimism.

1

ESTABLISH THE BOW BASELINE

Set brace height and nocking point inside the maker's recommended range. Confirm string condition, limb alignment, shelf or rest, silencers, and serving.

2

MATCH THE SHAFT FAMILY

Use shafts of the same model, spine, length and insert system. Number them, weigh them, spin-test them, and reject damaged components.

3

TUNE WITH SAFE PRACTICE POINTS

Compare bare-shaft or controlled field-point groups at short range. Adjust nocking point, brace height, center shot or shaft dynamic spine in small steps.

4

CONFIRM HUNTING-HEAD FLIGHT

Install sharpened or practice-matched heads safely. Compare impact and orientation with field points. Broadhead flight must be proven, not assumed.

5

LOCK AND DOCUMENT

Record final brace height, nocking point, shaft mass, point mass, fletching, balance, and observed impact. Recheck after string or component changes.

ARROW SYSTEM AND COMPONENT BUILD

ONE TUNED FAMILY

Build arrows as a matched system

Shaft spine, total mass, point weight, nock fit, and fletching must work together. A mixed-purpose quiver still needs common impact behavior and predictable recovery.

1 Arrow build order

- Select one shaft family and cut every shaft to the same measured length.
- Match spine to actual draw weight at actual draw length, not the number printed on the bow alone.
- Use secure inserts or adapters and verify every point seats square to the shaft.
- Set nock fit so the arrow clicks securely yet leaves the string without excessive pinch.
- Fletch consistently: same feather length, profile, orientation, offset or helical, and index position.
- Weigh and spin-test finished arrows; group close-mass shafts for the most critical heads.
- Number and crest shafts so flight history, damage and recovery are easy to track.

2 Head and fletching roles

- Cut-on-contact two-blade broadheads: maximum penetration and simple resharpening for lawful big-game opportunities.
- Judo or spring small-game heads: snag vegetation and reduce loss on ground-level shots.
- Solid blunts: durable impact for stump practice and suitable small-game applications where lawful.
- Flu-flu fletching: high drag and visible recovery for short bird opportunities; test point-of-impact separately.
- Three 5-inch shield feathers: stable broadhead control and visibility at realistic distances.
- Three 4-inch parabolic feathers: quicker, lower-drag small-game shafts where flight remains stable.
- Four low-profile feathers: durable blunt setup with strong steering and compact clearance.

3 Nine-arrow principle

- Four broadhead-capable arrows preserve large-game opportunity while leaving room for daily-calorie tools.
- Two judo or small-game arrows handle brush-edge targets and are easier to recover than broadheads.
- Two durable blunt arrows support practice, stump checks and lawful small-game work.
- One flu-flu bird arrow provides high visibility and short flight; it must be tuned as its own system.
- All nine should share compatible shaft and nock architecture so repairs, observations and impact remain predictable.

A practical starting mix: arrows 1-3 broadheads, 4-5 judo or small-game heads, 6-7 blunts, 8 flu-flu bird arrow, 9 spare broadhead-capable hunter. Adapt to local species and law.

THE 9-ARROW LOADOUT

A practical mixed quiver for Alone-style traditional hunting.

#	PURPOSE & TARGETS	HEAD TYPE	FLETCHING
1	 BIG GAME	 125-145 GRAIN TWO-BLADE BROADHEAD	 3 x 5 IN SHIELD FEATHERS
2	 BIG GAME	 125-145 GRAIN TWO-BLADE BROADHEAD	 3 x 5 IN SHIELD FEATHERS
3	 BIG GAME	 125-145 GRAIN TWO-BLADE BROADHEAD	 3 x 5 IN SHIELD FEATHERS
4	 SMALL GAME / BRUSH	 125 GRAIN JUDO OR SMALL-GAME HEAD	 3 x 4 IN PARABOLIC FEATHERS
5	 SMALL GAME / BRUSH	 125 GRAIN JUDO OR SMALL-GAME HEAD	 3 x 4 IN PARABOLIC FEATHERS
6	 BLUNT HITTER	 BLUNT OR SMALL-GAME BLUNT	 4 x 3 IN LOW-PROFILE FEATHERS
7	 BLUNT HITTER	 BLUNT OR SMALL-GAME BLUNT	 4 x 3 IN LOW-PROFILE FEATHERS
8	 BIRD ARROW	 BLUNT OR JUDO HEAD	 FLU-FLU FLETCHING
9	 SPARE HUNTER	 125-145 GRAIN TWO-BLADE BROADHEAD	 3 x 5 IN SHIELD FEATHERS

WHY THIS MIX WORKS



Preserves several broadheads for larger opportunities.



Gives multiple small-game options.



Includes one dedicated bird arrow.



Keeps one spare hunting arrow.

MARK YOUR ARROWS



NUMBER SHAFTS

Label 1-9 for quick ID.



USE VISIBLE CRESTING

Make each type easy to see.



SEPARATE BROADHEADS FROM BLUNTS

Avoid mix-ups in the moment.

LEGEND: HEAD & FLETCHING COMBINATIONS



125-145 GRAIN
TWO-BLADE
BROADHEAD



125 GRAIN
JUDO OR
SMALL-GAME HEAD



BLUNT OR
SMALL-GAME
BLUNT



BLUNT OR
JUDO HEAD



3 x 5 IN
SHIELD
FEATHERS



3 x 4 IN
PARABOLIC
FEATHERS



4 x 3 IN
LOW-PROFILE
FEATHERS



FLU-FLU
FLETCHING

CHOOSE SMART. TUNE WELL. HUNT EFFICIENTLY.

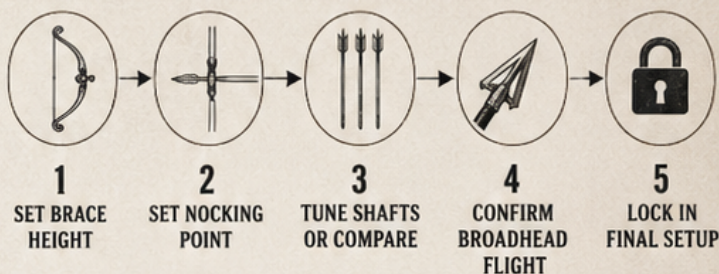
TUNING, PRACTICE & FIELD MAINTENANCE

Confidence comes from repeatability before the first shot in camp.

1 SIMPLE TUNING SEQUENCE

- 1 Set Brace Height**
Adjust to the bowyer's recommended range for your bow. Small changes matter.
- 2 Set Nocking Point**
Start at the manufacturer's recommendation or a proven baseline.
- 3 Tune Bare Shafts or Compare Field Points and Broadheads**
Ensure both fly the same. Adjust rest center, nocking point, or spine as needed.
- 4 Confirm Broadhead Flight**
Shoot fixed or mechanical heads and confirm consistent impact with field points.
- 5 Lock in Final Setup**
Recheck all settings. Mark measurements. Record arrow specs and results.

TUNING WORKFLOW



2 PRACTICE PRIORITIES

- ▶ Kneeling shots – stable under stress and uneven ground.
- ▶ Seated shots – simulate real hunting positions.
- ▶ Cold-weather shooting in layers – maintain draw, anchor, and follow-through.
- ▶ Stump shooting – draw from natural rest points.
- ▶ Short-range accuracy – focus on clean hits inside 20–30 yards under calm form.

3 ARROW RECOVERY & CONSERVATION

- ▶ Watch your arrow's flight and mark the hit location.
- ▶ Always check behind the target before moving in.
- ▶ Carry bright cresting for easier visual recovery.
- ▶ Conserve arrows—take only high-probability shots.
- ▶ A recovered arrow is a future meal.

4 FIELD MAINTENANCE

- ▶ Dry feathers fully after rain, dew, or damp conditions.
- ▶ Check nocks for cracks or looseness.
- ▶ Inspect broadheads for damage or bends.
- ▶ Touch up edges lightly with a stone.
- ▶ Rotate arrows to balance wear and prolong life.

5 CAMP REPAIR KIT IDEAS



Spare Nocks



Serving Material



Glue



Feather Repair Tape



Small Sharpening Tool



String Wax

FINAL ADVICE

Bring the bow only if you can already shoot it well.
On Alone, skill and arrow conservation matter more than romantic ideas about archery.

FIELD SHOOTING AND CONSERVATION SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Field shooting and conservation scenarios

The best field shot is not the one you can imagine making. It is the one that remains ethical, recoverable and repeatable under actual conditions.

1 Cold start in heavy layers

- Warm fingers and shoulders before drawing.
- Clear the string path from sleeve, chest strap and loose fabric.
- Use a conservative draw cycle; do not force a cold limb or body.
- Take a known-distance stump or target check only when safe and arrow recovery is certain.
- Stop if anchor, release or balance changes.

2 Small game in brush

- Confirm the target and a safe backstop.
- Use a judo or blunt head suited to the animal and legal method.
- Shorten distance until the vital area is a high-confidence target.
- Watch the complete flight and mark the impact location.
- Search methodically before abandoning the arrow.

3 Larger game opportunity

- Use only a proven broadhead arrow.
- Wait for angle, range and body position you have practiced.
- Do not shoot through uncertain cover or toward water, rock or skyline.
- Observe impact, direction of travel and landmark references.
- Follow local legal and ethical recovery requirements.

4 Daily camp maintenance

- Unstring only as recommended for the specific bow and storage plan.
- Dry feathers and string; keep gear away from direct fire heat.
- Inspect nocks, shafts, inserts, heads, serving, limb tips and grip.
- Touch up broadhead edges carefully and protect them in the quiver.
- Rotate arrows so wear does not concentrate on one shaft.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Most archery failures announce themselves through changed sound, impact, feel or visible damage. Stop before a small defect becomes a broken bow or injured hand.

Failure signal	Likely cause	Best correction
Groups open suddenly	Fatigue, clothing contact, loose nock or rest, brace-height drift	Stop. Inspect equipment, shoot a close controlled group, and correct one variable at a time.
One arrow flies differently	Bent shaft, damaged feather, loose point or nock, mass mismatch	Quarantine the numbered shaft; spin-test and repair or retire it.
Broadheads plane or miss field points	Poor tune, excessive steering demand, unsquared components	Return to shaft tune, component alignment and verified broadhead practice.
String frays or serving separates	Abrasion, dry fibers, bad nock fit, limb-tip damage	Do not shoot. Repair or replace the string and inspect every contact point.
Bow develops crack, lift or unusual creak	Limb damage, delamination, impact or unsafe heat exposure	Unstring safely if appropriate and retire the bow pending expert inspection.
Arrows repeatedly disappear	Poor backstop, low-visibility cresting, excessive range or rushed recovery	Change the shooting location and head type; shorten distance and mark every impact.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Archery deployment and daily inspection card

A nine-arrow kit is a finite resource. Protect the bow, protect the shafts, and refuse shots that trade long-term capability for hope.

FIELD CHECKLIST

- ☐ Current rules and local hunting regulations verified.
- ☐ Bow draw weight proven from field positions in full clothing.
- ☐ Brace height and nocking point measured and recorded.
- ☐ String, serving, silencers and limb tips inspected.
- ☐ All shafts numbered, weighed, spin-tested and damage-free.
- ☐ Nocks fit consistently and inserts are secure.
- ☐ Broadhead arrows group with practice references.
- ☐ Small-game and flu-flu arrows have separate impact records.
- ☐ Broadheads sharpened, protected and separated from blunts.
- ☐ Quiver carries securely without crushing feathers.
- ☐ Repair kit includes compatible nocks, serving, adhesive, feather repair material, wax and sharpening tool.
- ☐ Every shot has a safe backstop and a recovery plan.

STOP / REASSESS

Cracked shaft, loose insert or nock, lifted splinter, damaged carbon or unexplained vibration.

Limb crack, delamination, twisted limb, damaged tip or new creaking sound.

Inability to reach anchor cleanly while cold or fatigued.

Target, background, legal status or recovery route is uncertain.

Broadhead impact is not verified with the current setup.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

USA Archery - education and safety
<https://www.usarchery.org/>

National Bowhunter Education Foundation
<https://www.nbef.org/>

U.S. Fish and Wildlife Service
<https://www.fws.gov/>

Archery and hunting involve serious risk. Follow local law, certified instruction, safe-range rules and ethical recovery standards. Never shoot without a positively identified target and safe background.

FISHING & HANDLINE SURVIVAL GUIDE

Catch. Clean. Preserve. Eat.



LINE

HOOKS

RIGS

RECOVERY

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Turn limited line and hooks into a controlled food system

A handline is simple only in appearance. Success comes from organizing line, matching hooks to bait and target size, placing presentations where fish actually travel, and recovering every reusable component.

1 Core principles

- Protect line from abrasion, knots, heat, hooks and careless storage; line is both food tool and finite inventory.
- Use the smallest practical terminal system. Extra hardware creates failure points and may violate the current rules.
- Match hook gap, wire strength, bait size and presentation depth to the water and likely species.
- Fish high-probability structures and feeding windows rather than soaking effort everywhere.
- Plan landing, dispatch, processing and storage before the first bait enters the water.

The official published Season 12 list allows 300 yards of single-filament line up to 30 lb and 25 assorted barbed hooks. Confirm the current season rules.

2 First-hour priorities

- Verify fishing regulations, permitted methods and the current challenge equipment list.
- Inventory and label line by diameter or breaking strength; isolate damaged sections.
- Sort hooks by gap, wire, eye and purpose in a dry puncture-resistant wallet.
- Tie and test the few knots you can execute with cold fingers.
- Scout safe access, current, depth transitions, cover, inlet and outlet activity, and a clean processing zone.

Never wrap a loaded handline around a finger, hand or wrist. A running fish can cut deeply before you can react.

FIELD RULE

Every rig needs four answers: where the bait will travel, how the bite will be detected, how the fish will be landed, and how the line and hook will be recovered.

PRACTICAL
25-HOOK
ASSORTMENT

CHOOSE
DELIBERATELY

Practical 25-hook assortment

The exact mix depends on local fish. This balanced planning example favors replaceable bait hooks and a smaller number of stronger hooks for larger opportunities.

Qty	Hook role	Typical use	Reason for inclusion
6	Small bait hooks	Small fish, delicate bait, shallow margins	High bite conversion when forage and mouths are small.
6	Medium bait hooks	General lake and river work	Core inventory for worms, insects, fish pieces and mixed species.
4	Strong medium hooks	Current, larger bait, tougher fish	Extra wire strength without oversized bait presentation.
3	Large strong hooks	Larger fish where lawful and realistic	Preserves a few opportunities without overloading the kit.
3	Long-shank hooks	Baits that need easier handling or tooth clearance	Useful for removal and some bait styles; verify species fit.
2	Wide-gap hooks	Bulky natural bait	Improves gap exposure when bait fills a standard bend.
1	Reserve pattern	Replacement for the most productive local hook	Hold dry until field evidence identifies the highest-value role.

Decision note: Do not treat the assortment as universal. Research legal species, common mouth size, bait, habitat and seasonal behavior before deployment.

HANDLINE FISHING WORKFLOW

REPEATABLE BEATS HEROIC

Handline fishing workflow

A repeatable sequence reduces tangles, wasted bait, lost hooks and dangerous improvisation on wet rocks.

1

SCOUT BEFORE RIGGING

Observe current seams, depth changes, submerged cover, rising fish, bait movement, safe footing and a landing route.

2

BUILD ONE CLEAN RIG

Cut only the line needed. Tie the simplest suitable knot, trim safely, test under steady load and keep spare line dry.

3

PRESENT WITH CONTROL

Lower, drift or swing bait into the target zone without throwing loose coils. Maintain contact appropriate to the method.

4

DETECT, SET AND LAND

Respond to line movement without wrapping the line around the body. Guide fish toward a prepared shallow landing point.

5

RECOVER AND RESET

Dispatch and process lawfully, recover hook and usable line, inspect abrasion, refresh bait and record place, depth and time.

WATER TYPES AND PRESENTATIONS

ADAPT BEFORE CONDITIONS FORCE IT

Water types and presentations

The best rig is the lightest legal system that reaches the feeding zone without sacrificing control or recovery.

1 Lake shore

- Target points, drop-offs, inflows, windward food lanes and shade.
- Use a clean hand spool to control coils.
- Adjust bait depth before changing location.
- Keep line off brush and sharp rocks.
- Prepare a shallow landing pocket before the bite.

2 River and stream

- Fish current seams, eddies, undercut edges and pool transitions.
- Use enough weight or bait mass to reach the lane, not anchor indiscriminately.
- Stand downstream of loose coils.
- Avoid high water, unstable banks and entanglement hazards.
- Retie after repeated rock contact.

3 Cold water or ice

- Treat ice strength as unknown unless locally verified.
- Protect line from sharp edges and freezing coils.
- Use short controlled drops and organized slack.
- Keep hands dry and restore insulation immediately.
- Never let fishing compromise cold-injury prevention.

4 Natural bait system

- Collect bait lawfully and only from uncontaminated areas.
- Match bait size to hook gap; leave the point appropriately exposed.
- Store bait cool and separate from drinking water and food.
- Rotate bait when washed out or inactive.
- Record which bait, depth and time produce results.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Fishing failures are often system failures: poor placement, damaged line, mismatched hook, uncontrolled coils or no landing plan.

Failure signal	Likely cause	Best correction
Frequent break-offs	Abrasion, old knot, excessive force or line too light	Cut above damage, retie, reduce sharp angles and adjust line strength or landing method.
Bait disappears without fish	Hook buried, bait too soft, small fish or delayed response	Downsize bait, expose gap, change attachment and improve bite contact.
Fish throws the hook	Slack line, poor hook penetration, mismatched hook or rough handlining	Maintain controlled tension and use a hook size and set suited to the target.
Repeated tangles	Loose coils, wind, brush, mixed wet and dry line	Use a dedicated spool, deploy only needed line and rewind under light tension.
No activity in good-looking water	Wrong depth, time, temperature, presentation or no fish present	Change one variable, move to a new structure and record results.
Hook injuries or line cuts	Exposed points, unsafe coil handling or line wrapped on skin	Stop, control the hook, use tools where available and seek medical care for serious injury.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Fishing deployment and line-conservation card

Organize the kit so one wet, cold mistake cannot turn the entire line supply into a translucent bird nest.

FIELD CHECKLIST

- ☐ Current fishing license, season, species and method rules verified.
- ☐ Safe shoreline, footing, weather and water level assessed.
- ☐ Main line labeled by strength and inspected for age or abrasion.
- ☐ Hook wallet dry, counted and arranged by size and purpose.
- ☐ Known knots can be tied and tested with cold or wet hands.
- ☐ Hand spool has smooth edges and secure line retention.
- ☐ Natural bait source is lawful and uncontaminated.
- ☐ Landing area and dispatch tool prepared before fishing.
- ☐ Processing zone separated from clean water and sleeping area.
- ☐ Reusable line and hooks recovered, cleaned and dried.
- ☐ Catch, location, depth, bait, time and weather recorded.
- ☐ Food storage plan ready before a productive session.

STOP / REASSESS

Line is wrapped around fingers, wrist, body or fixed gear while under load.

Lightning, unstable ice, flooding, surf or unsafe bank conditions.

Hook is deeply embedded in the face, eye, joint, tendon area or near a major vessel.

Unknown regulation, species, size limit or prohibited method.

Fish cannot be cooled, cooked or preserved safely after capture.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

U.S. Fish and Wildlife Service
<https://www.fws.gov/>

National Park Service - fishing
<https://www.nps.gov/subjects/fishing/index.htm>

NOAA - weather and water safety
<https://www.noaa.gov/education/resource-collections/weather-atmosphere>

Fishing laws and permitted methods vary by jurisdiction and season. Water, weather, hooks and line can cause serious injury. Use lawful methods, safe access and conservative handling.

FOOD PROCESSING & PRESERVATION SURVIVAL GUIDE

From harvest to safe storage.



PROCESS

COOL

DRY

STORE

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Protect the calories after the harvest

Food value can be lost through contamination, heat, moisture, insects, scavengers and poor workflow. The preservation system begins before processing: clean tools, a defined dirty zone, rapid cooling and a storage plan matched to weather.

1 Core principles

- Separate dirty work, clean meat, drinking water, sleeping gear and waste. Camp convenience is not a sanitation plan.
- Cool edible portions quickly. Large warm masses hold heat and spoil faster than thin, ventilated pieces.
- Cook hazardous foods thoroughly and protect cooked food from raw surfaces and hands.
- Drying and smoking require thin uniform pieces, airflow, weather protection and repeated inspection.
- Use every lawful edible portion that can be handled safely, but discard food showing credible spoilage or contamination.

A productive day can become a medical problem overnight when processing and storage are improvised after dark.

2 First-hour priorities

- Prepare knife, clean surface, water, hanging or cooling location, waste route and storage before processing.
- Move the harvest from sun, standing water, soil and insects as quickly as practical.
- Remove contamination with controlled trimming rather than spreading it through rinsing or dirty cloth.
- Divide large portions so heat can escape; protect them from animals while cooling.
- Choose immediate cooking, short-term cooling, drying, smoking or another lawful method based on weather and volume.

When refrigeration is unavailable, small batches and rapid decisions are safer than assuming smoke alone preserves anything.

FIELD RULE

Harvest is not complete until the food is clean, cooled or cooked, protected, inventoried and scheduled for inspection.

PRESERVATION METHOD DECISION MATRIX

CHOOSE DELIBERATELY

Preservation method decision matrix

No single method fits every food or weather pattern. Choose by food thickness, ambient conditions, fuel, airflow, time and animal pressure.

Method	Best conditions	Strength	Main risk
Immediate cooking	Small harvest; uncertain weather; food needed now	Fastest path to safe consumption when cooked thoroughly	Leftovers still require protection and timely use.
Boiling or stewing	Tough tissue, bones, small pieces, reliable pot and fuel	Captures broth, fat and soluble nutrients	Fuel intensive; cooked food remains perishable.
Roasting	Controlled heat and manageable portions	Simple, palatable and fast for direct meals	Outside can char while interior remains undercooked.
Drying	Low humidity, steady airflow, thin uniform strips	Lightweight storage with no ongoing fuel	Moist centers, insects, dew and rehydration from weather.
Hot smoking	Reliable fuel, controlled smoke and heat, close supervision	Adds heat and surface drying	Smoke is not a guarantee of shelf stability; uneven heating is common.
Cold storage	Stable near-freezing conditions and animal-secure location	Preserves fresh quality with little processing	Temperature swings, freezing damage, scavengers and hidden warm pockets.
Rendering fat	Clean fat, controlled pot heat and dry storage vessel	Concentrates high-value calories	Water, tissue residue and overheating accelerate spoilage.

Decision note: Use conservative holding times. Without measured refrigeration and validated processing controls, preserved food needs frequent inspection and prompt consumption.

HARVEST-TO-STORAGE WORKFLOW

REPEATABLE BEATS HEROIC

Harvest-to-storage workflow

The sequence protects both food and camp. Set zones first; then move the material in one direction from dirty to clean.

1

PLAN THE ZONES

Choose a processing area downhill and away from sleeping and clean-water work. Prepare clean surfaces, tools, hanging points and waste containment.

2

STABILIZE AND COOL

Move food into shade and air. Open large masses, separate portions and prevent stacking that traps heat.

3

PROCESS CLEANLY

Use deliberate cuts, keep hair, feathers, soil, digestive material and dirty tools away from edible portions, and wash hands appropriately.

4

COOK OR PRESERVE

Select a method suited to thickness, fuel and weather. Standardize piece size and record when each batch began.

5

PROTECT AND INSPECT

Store off the ground or in approved animal-resistant systems. Inspect smell, surface, texture, moisture, temperature and pest evidence on schedule.

PROCESSING AND STORAGE SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Processing and storage scenarios

The system changes with harvest size, humidity, temperature and scavenger pressure. Sanitation does not.

1 Small fish or small game

- Process promptly and keep portions shaded.
- Cook whole only when internal tissues can reach safe doneness.
- Use bones and trimmings for broth when lawful and safe.
- Dry small pieces on clean racks with insect protection.
- Remove waste before it becomes a camp attractant.

2 Large harvest

- Prioritize rapid cooling before detailed trimming.
- Divide work into clean labeled batches.
- Protect hanging meat from rain, sun, insects and animals.
- Preserve only what the system can supervise safely.
- Increase inspection frequency as weather warms.

3 Wet or humid weather

- Do not count on air drying.
- Use smaller batches and more direct cooking.
- Keep smokehouse or drying area ventilated rather than sealed with moisture.
- Bring products under cover before dew and rain.
- Discard pieces that remain warm, wet and questionable.

4 Cold-weather cache

- Verify temperatures are consistently cold enough.
- Protect from sun exposure and warm-air pockets.
- Use animal-resistant containment and visible inventory labels.
- Separate raw from cooked food.
- Inspect after every thaw, storm or wildlife visit.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Spoilage, cross-contamination and wildlife loss rarely come from one dramatic error. They come from small sanitation and inspection failures repeated together.

Failure signal	Likely cause	Best correction
Meat stays warm after processing	Pieces too thick, stacked, poor airflow or warm site	Separate, thin, ventilate and move to a cooler protected location immediately.
Drying surface but soft center	Slices too thick or airflow/humidity inadequate	Recut if safe, increase airflow and heat control, or cook promptly.
Rancid or bitter rendered fat	Water or tissue contamination, overheating, light or warm storage	Discard suspect fat; render clean dry material gently and store sealed, cool and dark.
Animals repeatedly approach storage	Odor, residue, weak containment or food zone too close	Stop food handling, clean camp, upgrade storage and follow local wildlife guidance.
Cooked food contacts raw area	Cross-contaminated tools, hands or surfaces	Re-cook when appropriate, sanitize the workflow and separate clean equipment.
Uncertain odor, slime, swelling or mold	Spoilage or contamination	Do not taste-test. Discard conservatively and review storage conditions.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Processing, preservation and storage control card

Food safety in the field depends on conservative judgment. Hunger is persuasive; bacteria are unimpressed.

FIELD CHECKLIST

- ☐ Processing, clean-food, water, sleeping and waste zones separated.
- ☐ Hands, knife, pot and clean surfaces ready before the harvest arrives.
- ☐ Food moved to shade and cooled quickly.
- ☐ Digestive contents, soil, hair, feathers and dirty water kept away from edible portions.
- ☐ Pieces cut to uniform thickness for the chosen method.
- ☐ Batch start time and method recorded.
- ☐ Cooked food protected from raw tools and surfaces.
- ☐ Drying or smoking system has heat, airflow and weather control.
- ☐ Storage is animal-resistant and follows local requirements.
- ☐ Inventory is rotated; oldest or most vulnerable food used first.
- ☐ Food inspected after weather changes and wildlife activity.
- ☐ Questionable food discarded without tasting.

STOP / REASSESS

Food has remained warm for an extended, unknown period.

Foul, sour or unusual odor; slime; gas; swelling; unexpected mold or discoloration.

Digestive contamination cannot be removed cleanly.

Wildlife has accessed or contaminated food storage.

Vomiting, severe diarrhea, fever, confusion or dehydration after eating.

AUTHORITATIVE STARTING POINTS

USDA Food Safety and Inspection Service
<https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation>

CDC - Food Safety
<https://www.cdc.gov/food-safety/>

National Park Service - food and bear safety
<https://www.nps.gov/articles/bearsafetyfood.htm>

USDA Complete Guide to Home Canning
<https://nchfp.uga.edu/resources/category/usda-guide>

Field preservation without controlled refrigeration or validated processing carries risk. This guide does not establish guaranteed shelf life. Use official food-safety guidance and conservative disposal decisions.

CUTTING TOOLS & SHARPENING SURVIVAL GUIDE

The right edge. Every time.



SELECT

CUT

SHARPEN

CARE

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Choose tools by work accomplished per calorie and per injury risk

Cutting tools multiply labor, but they also concentrate force near hands and legs. A strong system assigns each tool a narrow job, creates stable work positions, protects edges from abuse, and restores sharpness before performance collapses.

1 Core principles

- Select a complementary tool set; duplication is expensive when every item must earn its place.
- Sharp, controlled tools are usually safer than dull tools forced through material.
- Build a defined cutting zone with stable footing, a clear swing arc and no bystanders.
- Match technique to grain, diameter, tension and tool geometry; wood can split, roll or spring unexpectedly.
- Inspect, clean, dry, sharpen and store tools on a schedule rather than after failure.

A larger tool may finish one task faster but cost more calories to carry, more space to store and more control to swing.

2 First-hour priorities

- List the real workload: felling, limbing, bucking, splitting, carving, food processing and repair.
- Choose handle length and mass you can control late in the day, not just during a fresh test swing.
- Practice safe kneeling, low-block and supported cutting positions before field use.
- Carry a sharpening method matched to every edge profile in the kit.
- Create blade covers, a dry storage location and a rule that no exposed edge lies in camp traffic.

Gloves do not make an unsafe swing safe. Distance, body position and a controlled stop do.

FIELD RULE

Before every cut, identify the tool path, the wood response, the stop point and every body part that must remain outside all four.

CUTTING-TOOL
ROLE
MATRIX

CHOOSE DELIBERATELY

Cutting-tool role matrix

Judge the kit as a system. The strongest combinations minimize overlap while covering daily wood, shelter, food and repair work.

Tool	Best jobs	Advantages	Limits and risks
Full-size axe	Felling, limbing and splitting larger wood	High energy per swing and useful reach	Heavy; requires clear arc, skill and disciplined storage.
Hatchet	Kindling, small splitting, shelter joinery	Compact and versatile around camp	Short handle puts hands and legs closer to the miss path.
Folding or bow saw	Bucking dry or green wood across grain	Efficient, quieter and precise	Blade binds under compression; frames and teeth need protection.
Fixed-blade knife	Food, carving, notches, fine splitting	Precise and always available	Not a substitute for an axe on large wood; tip and edge can be abused.
Multitool	Repairs, pliers, small cutting and hardware	High repair value in one compact item	Compromise blade and ergonomics; moving parts trap grit and moisture.
Drawknife or adze	Shaping poles, flattening and specialized woodworking	High productivity for a practiced user	Specialized, exposed edge and potentially high skill demand.
Sharpening stone/file	Edge restoration and maintenance	Extends every cutting tool's value	Wrong angle or pressure can damage an edge quickly.

Decision note: Score each candidate for work coverage, calories saved, carry cost, safety, maintenance, repairability and your verified skill. A tool you cannot control is not an asset.

SAFE CUTTING AND SHARPENING WORKFLOW

REPEATABLE BEATS HEROIC

Safe cutting and sharpening workflow

Set the work before applying force. The same sequence prevents most misses, rolling logs, pinched saws and damaged edges.

1

PREPARE THE ZONE

Clear overhead and ground hazards. Establish footing, lighting, a stable block or support, and a tool-free spectator distance.

2

READ THE MATERIAL

Identify grain, knots, rot, compression, tension, slope, rebound and where the piece may move after separation.

3

CHOOSE THE NARROW JOB

Use saw for controlled crosscuts, axe or hatchet for suited splitting and chopping, and knife for precision work.

4

CUT WITH A PLANNED STOP

Keep body parts outside the path, use controlled force, reset when alignment changes and never catch a falling edge.

5

SERVICE BEFORE STORAGE

Remove sap and moisture, inspect head and handle, sharpen or touch up, protect the edge and store where it cannot fall or be stepped on.

TOOL SYSTEMS FOR COMMON CAMP WORK

ADAPT BEFORE CONDITIONS FORCE IT

Tool systems for common camp work

Work position and sequence matter as much as the blade. Design the process to keep force moving away from the body.

1 Firewood production

- Select standing dead or lawful down wood appropriate to conditions.
- Bucking cuts need support that will not close on the saw.
- Split on a stable block below knee height when possible.
- Process in batches to reduce repeated setup and walking.
- Stack by size under cover with airflow.

2 Shelter construction

- Use straight poles and minimize unnecessary cuts.
- Notches should remove only enough material to seat the joint.
- Support work rather than holding near the edge.
- Inspect lashings and joints before loading.
- Reserve the sharpest knife edge for precision tasks.

3 Fine carving and repair

- Sit or kneel in a stable position.
- Cut away from the support hand and femoral area.
- Use shallow controlled slices rather than levering the tip.
- Secure small workpieces with a clamp, notch or bench system.
- Stop when hands become numb or fatigued.

4 Edge maintenance

- Clean the edge before diagnosing damage.
- Use the established bevel and light repeatable strokes.
- Remove burrs deliberately and protect fingers.
- Test on appropriate material, not skin.
- Oil or protect metal as material and food-use requirements allow.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Poor tool performance usually traces to dullness, loose components, bad work support, wrong technique or fatigue. Continuing harder makes each problem more dangerous.

Failure signal	Likely cause	Best correction
Axe glances or sticks	Poor aim, twisted grain, dull profile or unstable target	Reset support, shorten the swing, sharpen appropriately and change the cut plan.
Saw binds repeatedly	Kerf closing, unsupported wood, bent blade or wrong tooth pattern	Reposition supports, use wedges when appropriate and inspect blade tension.
Handle loosens or cracks	Drying, impact, bad fit or overstrike	Stop using the tool; repair or replace the handle and verify head security.
Knife rolls or chips	Edge too thin, hard contact, twisting or poor heat treatment	Restore the bevel if minor; retire badly damaged tools and change technique.
Sharpening makes cutting worse	Inconsistent angle, excessive pressure or incomplete burr removal	Mark the bevel, slow down, use a guide if needed and finish both sides evenly.
Near misses increase late day	Fatigue, cold hands, dim light or rushed quota	Stop cutting, warm and rest, improve lighting and resume only with full control.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Cutting-zone and daily tool inspection card

The best edge is the sharp one still attached to an intact tool and used by a person who has not become the workpiece.

FIELD CHECKLIST

- ☐ Tool roles and workload defined before selection.
- ☐ Cutting zone has stable footing, lighting and a clear swing radius.
- ☐ Wood support prevents rolling, pinching and unpredictable separation.
- ☐ Handle, head, pins, fasteners, frame and blade inspected.
- ☐ Edge is sharp enough for controlled work and protected in transit.
- ☐ Body position keeps hands, knees and legs outside the miss path.
- ☐ Saw kerf and compression/tension considered before cutting.
- ☐ No cutting while numb, exhausted, distracted or in unsafe weather.
- ☐ Sap, dirt and moisture removed after work.
- ☐ Sharpening angle and method recorded for each tool.
- ☐ Rust control and dry storage maintained.
- ☐ First-aid supplies remain accessible during tool work.

STOP / REASSESS

Loose axe head, cracked handle, damaged saw frame or missing fastener.

Numb hands, uncontrolled shivering, dizziness or impaired judgment.

Cut path crosses a leg, hand, rope, shelter wall or another person.

Wood is under uncertain tension or positioned to roll or spring.

Deep cut, uncontrolled bleeding, loss of motion or sensation after an injury.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

U.S. Forest Service - tools and safety
<https://www.fs.usda.gov/>

OSHA - hand and power tools
<https://www.osha.gov/hand-power-tools>

American Red Cross - first aid
<https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps>

Axes, saws and knives can cause catastrophic injury. Seek qualified instruction, use manufacturer guidance, maintain an emergency plan and stop work when control or conditions deteriorate.

CORDAGE, KNOTS & LASHINGS SURVIVAL GUIDE

Tie it. Trust it. Live by it.



CORD

KNOTS

LASH

REPAIR

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Treat cordage as engineered inventory, not disposable string

Cordage saves construction time and permits adjustment, repair and suspension. Its value depends on selecting the right material, tying a knot for the actual load, protecting fibers from abrasion, and inspecting every loaded system.

1 Core principles

- Know the material: strength, stretch, water response, abrasion resistance, heat sensitivity and knot-holding behavior.
- Use the simplest knot that reliably performs the role and can be inspected and untied when necessary.
- Loaded shelter and lifting systems need redundancy, suitable anchors and protection from sharp edges.
- Leave tails, dress knots cleanly and load them in the direction for which they were selected.
- Inventory cordage by length and condition; retire damaged sections from critical loads.

Every knot reduces usable strength. Unknown material, wet fibers, tight bends and abrasion can reduce it further.

2 First-hour priorities

- Separate structural rope, general-purpose line, bank line, repair cord and short offcuts.
- Practice a compact set: fixed loop, adjustable loop, bend, hitch, tensioner and lashing.
- Mark critical lines and avoid cutting full lengths until a repeated need is proven.
- Build smooth anchors and edge protection before tensioning.
- Create a daily walk-around for shelter ridgelines, hanging loads, trip hazards and animal damage.

Never trust a life-safety load to improvised cordage, unknown knots or field assumptions. This guide is for camp systems, not climbing or rescue.

FIELD RULE

A trustworthy cordage system is identifiable, correctly loaded, protected from abrasion, easy to inspect and backed up where failure would matter.

CORDAGE
AND
KNOT
ROLE
MATRIX

CHOOSE
 DELIBERATELY

Cordage
 and
 knot
 role
 matrix

Choose material and knot together. A perfect knot in the wrong line is still the wrong system.

Role	Useful option	Why it fits	Inspection focus
Fixed loop	Bowline or verified fixed-loop knot	Creates a non-sliding loop around an anchor or object	Tail length, dressing, loading direction and movement.
Adjustable loop	Taut-line style hitch or trucker system	Allows shelter tension and re-tensioning	Slippage on slick line, wet behavior and anchor abrasion.
Join equal lines	Sheet bend, double sheet bend or suitable bend	Connects line without bulky hardware	Diameter mismatch, tails and cyclic loading.
Attach to pole	Clove hitch backed up, constricting hitch or two half hitches	Fast positioning for lashings and camp fixtures	Rolling, end security and pole taper.
High tension	Trucker hitch or mechanical-advantage arrangement	Creates controllable tension with ordinary line	Anchor capacity, trapped fingers and excessive load.
Tripod or shear	Tripod, square or diagonal lashing as geometry requires	Distributes load across poles without cutting joints	Wrap tightness, fraps, pole movement and wet settling.
Temporary repair	Whipping, sewing, binding or splice-like wrap	Stabilizes handles, packs, racks and textiles	Heat, sharp edges, loosening and whether repair is load-critical.

Decision note: Names vary between traditions. Judge a knot by verified structure and function, not by what someone called it beside a campfire.

BUILD AND VERIFY A CORDAGE SYSTEM

REPEATABLE BEATS HEROIC

Build and verify a cordage system

A knot is only one component. The anchor, line path, edge contact, load direction and inspection schedule complete the system.

1

DEFINE THE LOAD

Identify force direction, expected movement, weather, consequences of failure and whether adjustment or release is needed.

2

SELECT MATERIAL AND ANCHOR

Choose line with suitable properties and an anchor that is sound, smooth, correctly oriented and strong enough.

3

TIE, DRESS AND SET

Form the knot correctly, remove crossings, leave adequate tails and apply a controlled test load.

4

PROTECT AND BACK UP

Pad sharp edges, prevent flame and heat exposure, separate moving lines and add redundancy where failure threatens shelter, food or people.

5

INSPECT AND RECLAIM

Check after wind, rain, freezing, load changes and animal contact. Dry, coil, label and return reusable cordage to inventory.

HIGH-VALUE CAMP CORDAGE SYSTEMS

ADAPT BEFORE CONDITIONS FORCE IT

High-value camp cordage systems

Cordage has its highest return when it creates repeatable camp infrastructure without becoming a web of trip hazards.

1 Shelter ridgeline

- Use sound anchors outside likely drainage.
- Keep tension within material and anchor limits.
- Protect bark and line at contact points.
- Add adjustable sections reachable from shelter cover.
- Inspect after wind, rain and temperature change.

2 Tripod and rack

- Select poles with matching strength and safe feet.
- Tie the lashing at the correct hinge geometry.
- Spread legs gradually under control.
- Test with a light load before pots, food or tools.
- Keep fire heat and sharp hardware away from line.

3 Pack and tool repair

- Remove sharp edges before binding.
- Use whipping or lashing that cannot slide toward a taper.
- Back up temporary repairs where failure could cause injury.
- Reserve clean cord for food and medical applications.
- Schedule replacement rather than forgetting the temporary fix.

4 Inventory and reclamation

- Store long lengths separately from short utility pieces.
- Coil without kinks and dry before sealing.
- Mark damaged line for noncritical uses only.
- Untie systems no longer producing value.
- Record repeated lengths to improve future cutting decisions.

FAILURE
 MODES
 AND
 CORRECTIONS

DIAGNOSE
 THE
 SYSTEM

Failure
 modes
 and
 corrections

Cordage failures usually begin at an edge, knot, anchor or overlooked change in load. Frequent inspection costs almost nothing compared with rebuilding a collapsed system.

Failure signal	Likely cause	Best correction
Knot slips under load	Wrong knot, slick material, poor dressing or short tail	Unload safely, select a better knot and retest with adequate tails.
Line fuzzes or flattens	Abrasion, overload, heat or repeated bending	Remove from critical service, protect the contact and reroute the line.
Shelter loses tension	Wet stretch, anchor movement, knot creep or fabric settling	Re-anchor, use an adjustable system and inspect after weather changes.
Lashing rotates	Incorrect lashing, loose wraps, no fraps or tapered poles	Unload, rebuild for the actual geometry and add anti-slip features.
Anchor pulls or damages tree	Weak soil, dead wood, bad direction or excessive tension	Choose a sound anchor, reduce load and use protective padding.
Camp becomes tangled	Too many permanent lines, poor height or no traffic plan	Reroute, mark, elevate or remove low-value lines and define walkways.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Knot, lashing and cordage inspection card

A clean knot is inspectable. An inspectable knot is maintainable. A mysterious knot-shaped lump is merely suspense.

FIELD CHECKLIST

- ☐ Load, direction and failure consequence defined.
- ☐ Material properties and condition are known.
- ☐ Anchor is sound, correctly oriented and protected.
- ☐ Knot matches the role and is tied from memory under realistic conditions.
- ☐ Knot is dressed, set and has adequate tails.
- ☐ Sharp edges, heat, flame and moving parts are isolated.
- ☐ Critical loads have suitable backup or redundancy.
- ☐ Shelter lines can be adjusted without unsafe exposure.
- ☐ Trip hazards are marked, elevated or removed.
- ☐ Cordage inspected after weather and load changes.
- ☐ Wet line dried before storage.
- ☐ Damaged line labeled and removed from structural use.

STOP / REASSESS

Unknown cordage or knot is carrying a person, suspended heavy load or critical shelter.

Melted, glazed, cut, heavily abraded or chemically contaminated fibers.

Dead tree, loose rock or shallow stake used as a critical anchor.

Line crosses fire, stove, blade path or primary walkway.

Knot changes shape, slips or cannot be inspected while loaded.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

Cordage Institute
<https://www.ropecord.com/>

Animated Knots - reference library
<https://www.animatedknots.com/>

U.S. Forest Service
<https://www.fs.usda.gov/>

This guide does not cover climbing, rescue, fall arrest or human suspension. Life-safety rope systems require certified equipment, qualified instruction and applicable standards.

TRACKING, TRAPPING & SMALL-GAME SURVIVAL GUIDE

Find it. Outsmart it. Recover it.



SIGN

TRAILS

SETS

ETHICS

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Read the landscape before spending calories on it

Tracking is evidence-based observation. The goal is not to name every footprint; it is to determine what animal passed, how recently, what it was doing, whether it is likely to return, and whether a lawful pursuit can produce more energy than it costs.

1 Core principles

- Confirm multiple features - track pattern, stride, size, substrate, scat, feeding sign, hair, feathers and habitat.
- Distinguish fresh sign from old sign before building a plan around it.
- Focus on travel funnels, food, water, cover edges and repeated routes rather than random wandering.
- Use only legal, humane and species-appropriate methods; avoid non-target animals and unnecessary suffering.
- Set an energy and time limit, then stop when evidence does not justify continued effort.

A single track is a clue. A trail with repeated fresh sign, food and cover is a system.

2 First-hour priorities

- Verify hunting and trapping law, seasons, species, equipment and inspection requirements.
- Walk a slow evidence loop near water, cover transitions, feeding areas and natural funnels.
- Photograph or sketch track shape and pattern before disturbing it.
- Mark fresh sign, wind, time, weather and route on a camp map.
- Choose observation, tracking, lawful trapping or no action based on probability and calorie return.

This guide intentionally avoids detailed lethal-trap construction. Designs, laws and humane requirements vary, and professional instruction is essential.

FIELD RULE

Do not let fascination with sign turn into an unbounded hike. Every tracking loop needs a turnaround time, return route and objective success threshold.

EVIDENCE AND DECISION MATRIX

CHOOSE DELIBERATELY

Evidence and decision matrix

Combine evidence. Confidence rises when independent signs agree and the habitat explains why the animal was there.

Evidence	What to examine	Useful inference	Common error
Tracks	Toe count, pad, claws, symmetry, stride and trail width	Species group, gait, direction and approximate recency	Naming from one distorted print.
Scat	Shape, contents, moisture, color and placement	Diet, size class, route use and freshness	Handling without hygiene or assuming age from color alone.
Feeding sign	Cut stems, browse height, shells, cones, digs and caches	Food source and repeated use	Confusing weather or tool marks with animal work.
Beds and cover	Flattened vegetation, hair, tunnels, entrances and escape routes	Resting habitat and approach constraints	Entering the core area and destroying the pattern.
Hair and feathers	Color, length, structure, attachment point and context	Possible species and recent contact site	Using one fragment without tracks or habitat.
Trail pattern	Funnels, crossings, rubs, repeated prints and obstacle choices	Habitual route and likely observation point	Assuming every trail is current.
Weather overlay	Snow, rain, wind, sun and freeze-thaw since passage	Recency window and detection quality	Ignoring substrate-specific aging.

Decision note: Use a confidence scale: possible, probable, confirmed. Change the label only when additional evidence supports it.

TRACK-TO-DECISION WORKFLOW

REPEATABLE BEATS HEROIC

Track-to-decision workflow

Observation should narrow decisions, not merely produce miles. Record evidence, predict the next feature and test the prediction.

1

PAUSE AND PRESERVE

Stop before stepping on the sign. View from multiple angles, note light and substrate, and mark the cleanest example.

2

CLASSIFY THE PATTERN

Identify walking, hopping, bounding or galloping pattern; estimate direction, size and whether multiple animals are present.

3

BUILD THE HABITAT STORY

Connect sign to food, water, cover, weather, terrain and likely time of activity.

4

TEST A PREDICTION

Move to the next expected funnel, crossing or feeding site without contaminating the route. Look for confirming evidence.

5

CHOOSE THE ACTION

Observe, return later, use a lawful method, or stop. Record energy spent, result and what evidence would justify another attempt.

SMALL-GAME STRATEGY SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Small-game strategy scenarios

Small game can provide regular calories, but only when routes and methods fit the animal, law and inspection capacity.

1 Snow tracking

- Use gait pattern before individual print detail.
- Check weather history to estimate track age.
- Look for snow thrown by movement and sharpness of edges.
- Avoid following into dangerous terrain or dense bedding cover.
- Set a hard turnaround time before leaving camp.

2 Forest edge and brush

- Watch transitions between dense cover and food.
- Look for clipped vegetation, tunnels, droppings and repeated crossings.
- Use wind and concealment without entering core cover.
- Choose safe backstops and lawful tools.
- Return at the activity window rather than waiting all day.

3 Lawful trapping plan

- Confirm species, device, placement, marking and inspection rules.
- Select a route with repeated fresh target sign.
- Design for non-target avoidance and humane function.
- Map every set and inspect at legally required intervals or more often.
- Remove ineffective systems before they become hazards.

4 Recovery and processing

- Approach carefully and confirm the animal is dispatched humanely.
- Use gloves or barrier methods when disease risk exists.
- Process away from clean water and sleeping areas.
- Inspect for abnormal lesions or contamination.
- Store food and dispose of waste according to wildlife guidance.

FAILURE
 MODES
 AND
 CORRECTIONS

DIAGNOSE
 THE
 SYSTEM

Failure
 modes
 and
 corrections

Tracking effort fails when evidence is weak, assumptions outrun observation, or travel costs become invisible. Set stopping rules before leaving camp.

Failure signal	Likely cause	Best correction
Trail disappears	Substrate change, old sign, wrong direction or animal left route	Return to last confirmed sign, widen methodically and stop at the time limit.
Repeated empty observation	Wrong activity window, wind, route changed or sign is old	Reassess freshness and habitat; move only with new evidence.
Non-target sign dominates	Placement or method does not discriminate	Remove or relocate the system and revise species identification.
Energy cost exceeds return	Long travel, low encounter rate, difficult terrain	Shorten loops, target closer resources or suspend the strategy.
Sign is misidentified	Distorted print, overlapping animals or confirmation bias	Use pattern, multiple prints, measurements and independent sign.
Animal handling raises disease concern	Abnormal behavior, lesions, parasites or contamination	Avoid consumption and contact; follow public-health and wildlife-agency guidance.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Tracking loop and lawful small-game field card

Good tracking converts uncertainty into a decision. Bad tracking converts breakfast into a long walk.

FIELD CHECKLIST

- ☐ Current species, season, method and inspection laws verified.
- ☐ Route, turnaround time, weather and emergency return plan defined.
- ☐ Freshness evaluated using weather and multiple signs.
- ☐ Track pattern recorded before individual-print identification.
- ☐ Food, water, cover and travel funnels mapped.
- ☐ Wind and approach route protect observation quality.
- ☐ Non-target species and people are protected.
- ☐ Every lawful device or observation point is mapped and inspected.
- ☐ Energy cost and result recorded.
- ☐ Recovery, sanitation and processing supplies ready.
- ☐ Abnormal animal appearance or behavior triggers caution.
- ☐ Unproductive systems removed rather than forgotten.

STOP / REASSESS

Unknown or prohibited species or method.

Device could capture people, pets, protected wildlife or unintended animals.

Route crosses avalanche, thin ice, flood, cliff or navigation hazard.

Animal behaves abnormally or shows concerning lesions or contamination.

Tracking continues beyond the planned energy, daylight or weather margin.

AUTHORITATIVE STARTING POINTS

U.S. Fish and Wildlife Service
<https://www.fws.gov/>

Association of Fish and Wildlife Agencies
<https://www.fishwildlife.org/>

CDC - wildlife and zoonotic disease
<https://www.cdc.gov/healthy-pets/about/wild-animals.html>

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

Hunting and trapping laws, humane standards and permitted devices vary. Obtain qualified instruction, follow current regulations and avoid non-target capture. Do not consume abnormal or contaminated animals.

WILD FOODS & FORAGING SURVIVAL GUIDE

Know it. Gather it. Prepare it.



IDENTIFY

GATHER

PREPARE

AVOID

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Positive identification is the first preparation step

Wild food can diversify a diet, but confident guessing is not identification. A safe foraging system uses regional training, multiple independent features, known habitat and season, legal harvest, careful preparation, and a strict stop rule when any feature conflicts.

1 Core principles

- Eat only species positively identified through multiple diagnostic features and reliable regional references.
- Learn dangerous look-alikes before collecting the edible species they resemble.
- Avoid contaminated sites, roadside runoff, industrial areas, treated landscapes, flood deposits and questionable water.
- Measure energy return: abundant low-calorie plants can still cost more effort than they provide.
- Harvest conservatively so the patch, habitat and future food supply remain productive.

This guide excludes mushroom consumption without expert, region-specific instruction. Fungal look-alikes and toxins are too consequential for generalized field guidance.

2 First-hour priorities

- Build a short regional list of high-confidence species before deployment; do not attempt to learn everything at once.
- For each species, record leaf arrangement, stem, flower or fruit, root or bark, habitat, season and look-alikes.
- Verify collecting permission and restrictions for public, private, protected and Indigenous lands.
- Carry separate containers for confirmed food, unknown specimens and dirty roots.
- Process and label batches individually so one identification error cannot contaminate the entire harvest.

A universal edibility test is not a reliable substitute for positive identification and can expose the user to serious toxins.

FIELD RULE

When a required feature is missing, the habitat is wrong, the season conflicts, or a look-alike cannot be excluded, the correct harvest quantity is zero.

FORAGING VALUE AND RISK MATRIX

CHOOSE DELIBERATELY

Foraging value and risk matrix

Prioritize foods with high identification confidence, reasonable abundance, useful calories or nutrients, simple preparation and low contamination risk.

Food group	Potential value	Main controls	Common failure
Nuts and seeds	Often calorie dense and storable	Species, maturity, shell condition, pests and required leaching	Gathering empty, moldy or unripe material.
Berries and fruits	Water, sugars, vitamins and immediate food	Fruit structure, leaf/stem features, seed pattern and toxic look-alikes	Identifying only by berry color.
Roots and tubers	Possible starch and substantial calories	Whole-plant ID, lawful digging, preparation and contamination	Harvesting after aerial parts disappear or confusing roots.
Greens and shoots	Often abundant and quick to cook	Growth stage, leaf arrangement, sap, habitat and repeated-water needs	Assuming young plants are always safer.
Inner bark or cambium	Emergency starch from selected species	Exact tree ID, sustainable harvest and careful preparation	Ring-barking or using toxic or resinous species.
Sea vegetables	Minerals and bulk in coastal settings	Tide, water quality, species, attachment and legal harvest	Collecting from polluted water or confusing washed-up debris.
Fungi	Potential food but high consequence	Expert local instruction and specimen-level confirmation	Relying on one feature, app or folk rule.

Decision note: Build a personal confidence list: Level A - independently verified and practiced; Level B - known but needs reference; Level C - observe only. Eat only Level A species.

POSITIVE-IDENTIFICATION AND HARVEST WORKFLOW

REPEATABLE BEATS HEROIC

Positive-identification and harvest workflow

The process is designed to fail safely. Every stage can stop the harvest before an uncertain specimen reaches the food pot.

1

OBSERVE IN PLACE

Record habitat, growth pattern, neighboring species, season, abundance and the whole plant before collecting.

2

CONFIRM DIAGNOSTIC FEATURES

Check multiple independent traits using region-specific references and training. Photograph leaves, stems, fruit, flowers and roots where lawful.

3

EXCLUDE LOOK-ALIKES

Name the dangerous alternatives and identify the feature that rules each one out. If that cannot be done, stop.

4

HARVEST AND SEGREGATE

Take a sustainable amount, keep species and batches separate, protect clean food from soil and unknown specimens, and label time and location.

5

PREPARE, OBSERVE AND RECORD

Use the validated preparation method. Introduce only known foods conservatively and record tolerance, yield and labor for future decisions.

SEASONAL FORAGING SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Seasonal foraging scenarios

Season determines what features are visible, what parts are useful and whether a plant can be identified safely.

1 Spring shoots and greens

- Use mature-feature knowledge; juvenile plants can look alike.
- Prefer patches with confirmed adult remnants or repeated observation.
- Harvest tender portions without destroying the crown.
- Cook species that require heat or water changes.
- Do not mix unidentified greens into a shared pot.

2 Summer berries and fruits

- Check leaf arrangement, stem, fruit cluster and seed structure.
- Avoid mold, bird fouling and polluted runoff.
- Use breathable containers to reduce crushing and fermentation.
- Process quickly in warm weather.
- Map productive patches for return visits.

3 Autumn nuts and roots

- Assess shell fill, insect holes, mold and rancidity.
- Know which nuts require leaching or cooking.
- Dig only where lawful and where whole-plant ID is certain.
- Replace soil and minimize patch damage.
- Dry or store only clean sound material.

4 Coastal and wetland foods

- Verify tides, water quality and harvest closures.
- Identify attachment and habitat, not only washed-up appearance.
- Avoid stagnant or contaminated sediment.
- Rinse with appropriately clean water and process promptly.
- Plan safe access before the tide changes.

FAILURE
 MODES
 AND
 CORRECTIONS

DIAGNOSE
 THE
 SYSTEM

Failure
 modes
 and
 corrections

Foraging errors are driven by confirmation bias, mixed batches, missing seasonal features, contamination and poor return on effort. The system must make uncertainty visible.

Failure signal	Likely cause	Best correction
Plant matches only a photo	Key structure, scale, habitat or season not verified	Do not eat; use a regional key or qualified expert and inspect the whole plant.
Collected species become mixed	Similar leaves or berries placed together	Discard the mixed batch; segregate and label at collection.
Food causes mouth, stomach or neurologic symptoms	Misidentification, allergy, toxin or contamination	Stop eating, retain a specimen safely and contact poison control or emergency services.
Patch yield is tiny	Wrong season, overharvest, poor habitat or low-value species	Stop spending calories and redirect to a higher-confidence resource.
Stored nuts or roots mold	Moisture, damaged material or poor airflow	Discard contaminated food; sort, dry and inspect smaller batches.
Waterfront food is abundant but unsafe	Advisory, harmful bloom, sewage, industry or unknown contamination	Do not harvest; use official water-quality and closure information.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Positive-identification and harvest control card

Foraging should reduce uncertainty and increase food. When it does the reverse, stop collecting.

FIELD CHECKLIST

- ☐ Species is on a pre-trained regional confidence list.
- ☐ Whole plant and habitat observed before collection.
- ☐ Multiple diagnostic features confirmed.
- ☐ Dangerous look-alikes named and excluded.
- ☐ Season and growth stage support the identification.
- ☐ Harvest is lawful and site is uncontaminated.
- ☐ Confirmed food separated from unknown specimens and dirty roots.
- ☐ Required cooking, leaching or other preparation is known.
- ☐ Batch is labeled by species, place and time.
- ☐ Harvest amount leaves the patch productive.
- ☐ Energy return is recorded honestly.
- ☐ Any symptom triggers immediate stop and professional guidance.

STOP / REASSESS

Identification depends on color, smell, one photograph or a phone application alone.

Mushroom or unknown fungus is being considered without expert confirmation.

Bitter, burning, numbing or otherwise unusual oral sensation.

Collection site has runoff, chemical use, sewage, harmful bloom or harvest closure.

Vomiting, diarrhea, confusion, weakness, breathing difficulty or neurologic symptoms after eating.

AUTHORITATIVE STARTING POINTS

USDA PLANTS Database
<https://plants.usda.gov/>

National Park Service - plant guidance
<https://www.nps.gov/subjects/plants/index.htm>

Poison Control
<https://www.poison.org/>

U.S. Food and Drug Administration - natural toxins
<https://www.fda.gov/food/chemical-contaminants-pe-sticides/natural-toxins-food>

Wild-food identification errors can cause severe poisoning or death. Use expert regional instruction and current local references. Do not consume mushrooms or uncertain plants based on this guide.

TEN-ITEM SELECTION STRATEGY WORKBOOK

Choose wisely. Survive longer.



SCORE

TRADE-OFFS

LOADOUT

AUDIT

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Select an operating system, not ten attractive objects

A strong loadout covers exposure, water, food, cutting, cooking, repair and recovery while matching the participant's tested skills. The workbook makes tradeoffs explicit so sentiment and gear mythology do not occupy scarce slots.

1 Core principles

- Start with threats and workloads in the specific biome, season and rule set.
- Score the value you can actually extract with proven skill, not theoretical capability.
- Favor items that save repeated calories, create food opportunities or prevent catastrophic failure.
- Map overlap and dependency: a tool may require fuel, line, sharpening, containers or compatible accessories.
- Stress-test the final ten through simulations, then revise based on evidence rather than loyalty.

Ten items do not mean ten independent systems. A pot may support water treatment, cooking, food preservation, storage and heat management.

2 First-hour priorities

- Download and date the current official gear list; the published HISTORY page is labeled Season 12.
- List the top local failure modes: wet cold, wind, fuel scarcity, fishing access, animal pressure, terrain and daylight.
- Inventory your verified skills and rate each as novice, functional, reliable or expert under stress.
- Score every candidate using the same weighted model.
- Run a 72-hour and multi-week simulation with the proposed ten and record missing functions.

The official participant brief governs. Web summaries, older seasons and fan lists are not substitutes for the current rules supplied by production.

FIELD RULE

Choose the item for the repeated problem it solves, the calories it saves and the failure it prevents - then prove that value under realistic conditions.

WEIGHTED SELECTION SCORECARD

CHOOSE DELIBERATELY

Weighted selection scorecard

Score each factor 0-5, multiply by the suggested weight, then compare candidates. Adjust weights only after documenting the biome-specific reason.

Factor	Weight	Score question	Evidence required
Catastrophic-risk control	x5	Does it prevent exposure, injury, unsafe water or total system failure?	Timed drills in severe but controlled conditions.
Repeated calorie savings	x4	How much daily labor does it eliminate?	Measured task time and effort across several days.
Food-production value	x4	Does it create realistic, lawful opportunities in this location?	Regional species research and practiced catch or harvest data.
Multi-system coverage	x3	How many essential functions does it perform well?	Specific tasks, not vague claims of versatility.
Repairability	x3	Can it be maintained with carried skills and materials?	Repair drill, spare parts and failure analysis.
Skill reliability	x4	Can you use it cold, tired, wet and under time pressure?	Simulation results, not range-day confidence.
Dependency burden	x-3	Does it need consumables, accessories or ideal conditions?	Complete dependency map and replenishment plan.
Carry and storage cost	x-2	Does mass, bulk or shelter space impair other systems?	Packed carry test and camp layout trial.

Decision note: A high score is not enough if the candidate duplicates another item or leaves an essential function uncovered. Review the complete system after ranking individual tools.

TEN-ITEM DECISION WORKFLOW

REPEATABLE BEATS HEROIC

Ten-item decision workflow

Use a gated process. An item does not advance because it is beloved; it advances because it survives comparison and simulation.

1

LOCK THE RULE SET

Save the official allowed and prohibited lists, clothing rules, consumable limits and any season-specific notes.

2

DEFINE THE THREAT MODEL

Describe climate, terrain, water, fuel, species, travel, daylight, expected duration and medical constraints.

3

GENERATE CANDIDATES

List several ways to solve each required function before assigning items. Include no-item skill solutions where realistic.

4

SCORE AND MAP OVERLAP

Apply weights, identify dependencies, flag duplicates and confirm every critical function has coverage.

5

SIMULATE AND DECIDE

Run realistic exercises, log failures and energy cost, then freeze the final ten only after corrections are tested.

LOADOUT STRATEGY PROFILES

ADAPT BEFORE CONDITIONS FORCE IT

Loadout strategy profiles

Profiles are starting hypotheses, not prescriptions. The correct loadout depends on local opportunity and the user's strongest repeatable skills.

1 Fishing-led profile

- Prioritizes pot, line and hooks, cutting, fire, shelter and repair.
- Requires legal and accessible fish populations.
- Needs line organization and food preservation plan.
- May sacrifice an additional heavy cutting tool.
- Simulation must include poor fishing days.

2 Hunting-led profile

- Allocates a slot to bow and finite arrows.
- Requires advanced shooting, recovery and legal opportunity.
- Adds maintenance and storage demands.
- Needs complementary daily-calorie strategy.
- Must prove the bow still earns its slot in bad weather.

3 Builder-led profile

- Prioritizes axe, saw or other labor-saving construction system.
- Can create durable shelter and fuel margin quickly.
- Risks overbuilding and delayed food effort.
- Needs a stopping rule for camp improvements.
- Score tools by weeks of repeated work, not first-day excitement.

4 Balanced generalist

- Covers shelter, fire, water, cooking, cutting, fishing and repair.
- Reduces dependence on one food source.
- May lack maximum efficiency in a single specialty.
- Benefits from strong systems discipline.
- Requires honest assessment of which item is merely comforting.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Loadouts fail when selection is based on identity, novelty, one dramatic scenario or untested claims. The correction is measured practice and ruthless dependency analysis.

Failure signal	Likely cause	Best correction
Too many tools, weak food system	Selection favored building and comfort over calorie production	Replace overlapping tools with a proven food or preservation system.
Item never leaves storage	Low local opportunity, high setup cost or weak skill	Rescore with actual use data and replace if it does not earn repeated value.
One failure disables several systems	Hidden dependency or no repair path	Add redundancy through skills, compatible parts or a different item mix.
Simulation feels easy but field fails	Training omitted cold, wet, fatigue, darkness or scarcity	Repeat under controlled stress and score only reliable performance.
High-value item damages other gear	Poor carry, edge protection or shelter storage	Redesign packing and camp layout; include storage cost in the score.
Final ten change constantly	No decision criteria or emotional attachment	Freeze weights, document evidence and change only after a defined test.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Final selection audit and workbook prompts

The scorecard does not make the decision. It prevents the decision from hiding behind enthusiasm.

FIELD CHECKLIST

- ☐ Official current allowed and prohibited lists saved.
- ☐ Biome, season, duration and threat model written.
- ☐ Every candidate tied to a specific repeated function.
- ☐ Skill rating supported by realistic practice evidence.
- ☐ Catastrophic-risk controls covered.
- ☐ Water treatment and cooking workflow complete.
- ☐ Shelter, fire, cutting, repair and food systems integrated.
- ☐ Dependencies and consumables mapped.
- ☐ Overlap and single points of failure reviewed.
- ☐ Packing, storage and maintenance tested.
- ☐ 72-hour and multi-week simulations completed.
- ☐ Final ten signed, dated and justified in one sentence each.

STOP / REASSESS

Selection relies on an outdated season list or unofficial summary.

Item value depends on a skill never performed under field conditions.

No treatment path for water or no safe cooking vessel.

Food plan depends on one uncertain species or opportunity.

A single break, loss or consumable shortage collapses several essential systems.

AUTHORITATIVE STARTING POINTS

HISTORY - published Alone gear list
<https://www.history.com/shows/alone/articles/gear-list>

HISTORY - Alone series overview
<https://www.history.com/shows/alone>

National Weather Service
<https://www.weather.gov/safety/>

National Park Service - planning and safety
<https://www.nps.gov/subjects/healthandsafety/index.htm>

This workbook is independent and not affiliated with HISTORY or A+E Global Media. Official production documents and current local law always control equipment and activity decisions.

COLD WEATHER, SLEEP & HYPOTHERMIA SURVIVAL GUIDE

Sleep warm. Stay alive.



HEAT

SHELTER

SLEEP

DRY

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Protect the body's heat faster than the environment removes it

Cold stress is a systems problem involving shelter, clothing, food, hydration, workload, wind, moisture, ground contact and sleep. The safest plan prevents heat loss early and treats persistent shivering or altered thinking as operational emergencies.

1 Core principles

- Stay dry from precipitation and sweat; moisture strips insulation and accelerates heat loss.
- Insulate from the ground as aggressively as from the air. Compressed bedding loses performance.
- Block wind while preserving enough ventilation to control condensation and combustion hazards.
- Eat, hydrate and schedule work so the body can produce heat without soaking clothing.
- Recognize cold injury early and seek emergency care for severe or worsening symptoms.

Warm air is not enough. Wind, wet clothing and ground contact can overwhelm a small fire and a good attitude with equal efficiency.

2 First-hour priorities

- Establish a dry sleeping platform and deep ground insulation before improving comfort elsewhere.
- Create dry and working clothing categories; protect sleep layers from sweat and rain.
- Stage fire-starting, water, light and footwear so a nighttime problem does not require disorganized exposure.
- Set a pre-sleep routine: eat, drink, urinate, dry feet, adjust layers and inspect shelter ventilation.
- Create clear thresholds for stopping work, rewarming, requesting help or evacuating.

Do not use open flame or unsafe combustion inside an enclosed shelter. Carbon monoxide is colorless, odorless and deadly.

FIELD RULE

Persistent shivering, clumsiness, confusion, slurred speech, unusual behavior or declining consciousness are not endurance tests; they are reasons to stop, shelter, rewarm and seek emergency help.

HEAT-LOSS CONTROL MATRIX

CHOOSE DELIBERATELY

Heat-loss control matrix

Control all major paths of heat loss. Improving one while ignoring another can create a false sense of safety.

Heat pathway	Field example	Primary control	Inspection question
Conduction	Sleeping on cold ground, wet logs or metal	Deep dry ground insulation and raised platform	Is bedding compressed, damp or too thin under hips and shoulders?
Convection	Wind stripping warm boundary air	Windproof shell, tight shelter skin and protected entrance	Where can moving air reach clothing or sleep system?
Evaporation	Sweat, wet clothing, breath and damp bedding	Pace work, vent layers and dry equipment	Did work create moisture faster than the system can remove it?
Radiation	Heat lost from exposed body and large shelter volume	Insulation, hat, smaller protected space and reflector used safely	Is unnecessary volume being heated?
Respiration	Cold dry air and high exertion	Moderate pace, face protection that does not obstruct breathing	Is heavy breathing driven by avoidable overwork?
Fuel deficit	Insufficient food and dehydration	Regular calories, warm fluids and planned reserves	Is declining warmth actually an energy problem?
Sleep disruption	Cold spots, wet feet, fire tending and anxiety	Reliable bedding, dry layers and a nighttime plan	Can the system maintain safe rest without constant crisis work?

Decision note: Test the sleep system in controlled conditions colder, wetter and windier than expected, with the clothing and body position you will actually use.

COLD-NIGHT SLEEP WORKFLOW

REPEATABLE BEATS HEROIC

Cold-night sleep workflow

A safe night is built before darkness. Sequence the work so shelter, bedding, fuel and dry clothing are protected while energy is still available.

1

SECURE THE SHELTER ENVELOPE

Repair leaks and drafts, manage drainage, protect ventilation and reduce unnecessary interior volume.

2

BUILD THE GROUND SYSTEM

Create a dry platform and enough loft to prevent hips and shoulders from compressing insulation to the ground.

3

DRY AND STAGE

Change out of wet work layers, dry feet, protect sleep clothing and stage boots, light, water and fire tools.

4

FUEL THE BODY AND CAMP

Eat an appropriate meal, hydrate, prepare safe fuel and eliminate tasks that would force unnecessary nighttime exposure.

5

MONITOR AND RESPOND

Check cold spots, moisture, shivering, thinking and partner behavior. Rewarm early and activate emergency plans when symptoms progress.

COLD-WEATHER OPERATING SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Cold-weather operating scenarios

Different cold problems need different corrections. Wind, wetness, ground contact and metabolic fatigue are not interchangeable.

1 Wet cold near freezing

- Prioritize rain protection and sweat control.
- Change or dry wet base layers before rest.
- Increase airflow around bedding while keeping precipitation out.
- Use smaller work cycles to avoid soaking insulation.
- Treat persistent dampness as a shelter failure.

2 Dry extreme cold

- Protect exposed skin and extremities.
- Manage breath moisture near sleep insulation.
- Use deep loft and minimize compression.
- Warm tools and boots carefully without fire damage.
- Schedule frequent self-checks for numb or pale tissue.

3 Wind event

- Inspect anchors, roof, entrance and tree hazards early.
- Move work and storage into protected zones.
- Eliminate loose clothing and gear that can snag.
- Reduce trips outside.
- Maintain ventilation even while sealing drafts.

4 Nighttime decline

- Stop and assess shivering, speech, coordination and thinking.
- Replace wet clothing and add insulation from ground and wind.
- Use warm sweet fluids only when the person is alert and can swallow safely.
- Handle gently and avoid unsafe direct heat.
- Request emergency help for severe or worsening symptoms.

FAILURE
 MODES
 AND
 CORRECTIONS

DIAGNOSE
 THE
 SYSTEM

Failure
 modes
 and
 corrections

Cold systems often fail gradually: a damp layer, compressed bed, low food intake and one windy hour combine until judgment declines. Early correction is far easier than rescue.

Failure signal	Likely cause	Best correction
Cold hips or shoulders at night	Compressed or insufficient ground insulation	Add dry loft under pressure points and widen the insulated platform.
Bedding becomes damp	Sweat, breath, ground moisture, leaks or poor ventilation	Identify the moisture source, vent, dry and protect the sleep system.
Hands or feet stay cold	Wetness, constriction, low activity, poor insulation or systemic cooling	Dry, loosen, insulate and rewarm; assess for cold injury.
Shivering returns despite fire	Wind, wet clothing, ground loss, low fuel or progressing hypothermia	Move to shelter, replace wet layers, insulate fully and seek emergency help.
Morning gear is frozen	Moisture trapped in boots, gloves or clothing	Dry earlier, store strategically and keep critical items from saturating.
Thinking and coordination decline	Cold stress, exhaustion, dehydration or hypothermia	Stop work, shelter, rewarm, communicate and activate evacuation criteria.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Cold-night readiness and symptom card

The purpose of the sleep system is not merely comfort. It preserves judgment, coordination, immunity, recovery and tomorrow's work capacity.

FIELD CHECKLIST

- ☐ Weather, wind, precipitation and overnight low reviewed.
- ☐ Shelter leaks, drainage, ventilation and overhead hazards checked.
- ☐ Ground insulation remains deep and dry.
- ☐ Sleep clothing is clean enough, dry and protected.
- ☐ Wet work layers separated and drying safely.
- ☐ Food and hydration completed before bed.
- ☐ Fire and combustion plan is safe and ventilated.
- ☐ Boots, light, water and emergency gear staged.
- ☐ Hands, feet, face and skin inspected for cold injury.
- ☐ Shivering, speech, coordination and thinking assessed.
- ☐ Night checks and partner checks scheduled when appropriate.
- ☐ Evacuation and communication thresholds remain clear.

STOP / REASSESS

Persistent or violent shivering, or shivering that stops despite continued cold.

Confusion, apathy, slurred speech, stumbling, poor coordination or unusual behavior.

Waxy, pale, hard, numb or blistered skin.

Unsafe indoor flame, stove or combustion with inadequate ventilation.

Person cannot swallow safely, becomes drowsy or loses consciousness.

AUTHORITATIVE STARTING POINTS

CDC - hypothermia and cold weather
<https://www.cdc.gov/winter-weather/about/about-hypothermia.html>

National Weather Service - cold safety
<https://www.weather.gov/safety/cold>

Wilderness Medical Society
<https://wms.org/>

American Red Cross - first aid
<https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps>

Cold injury and hypothermia are medical emergencies. This guide supports prevention and recognition but does not replace emergency services, medical assessment or professional wilderness-medicine training.

WILDERNESS FIRST AID & INJURY PREVENTION GUIDE

Prevent. Stabilize. Evacuate.



PREVENT

ASSESS

STABILIZE

EVACUATE

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Prevent the injury, recognize the emergency and avoid making it worse

Remote first aid begins with scene safety and early communication. The goal is not improvised heroics; it is to control immediate threats, protect breathing and circulation, prevent further harm, monitor changes and reach professional care.

1 Core principles

- Check scene safety before contact. Fire, unstable trees, thin ice, wildlife, tools and water can create additional patients.
- Activate emergency communication early for serious illness, major trauma or deteriorating condition.
- Address life threats first: responsiveness, breathing, severe bleeding and environmental exposure.
- Use clean technique, simple immobilization and frequent reassessment rather than aggressive field procedures.
- Document time, mechanism, symptoms, treatment and changes for rescuers and medical professionals.

A medical kit without practiced decision-making is a pouch of optimistic inventory.

2 First-hour priorities

- Train through a recognized first-aid or wilderness first-aid course before remote travel.
- Build a kit around realistic hazards, personal medications, wound care, bleeding control, burns and immobilization.
- Carry two communication or signaling paths where possible and share the emergency plan.
- Review allergies, medical conditions, medications and evacuation triggers before deployment.
- Run drills for severe bleeding, cold exposure, burns, eye injury, fractures and loss of communication.

Follow the training you have received and the directions of emergency dispatch. Do not perform invasive procedures beyond your qualification.

FIELD RULE

When symptoms are severe, worsening, unexplained or beyond training, protect the patient and seek professional help early rather than waiting for certainty.

PRIORITY ASSESSMENT MATRIX

CHOOSE DELIBERATELY

Priority assessment matrix

Use a structured scan. Findings in the highest-priority rows override camp tasks, schedules and equipment concerns.

Priority	Look for	Immediate objective	Escalation
Scene safety	Fire, water, falling objects, weapons, electricity, wildlife, traffic or unstable terrain	Remove or control the hazard without creating another casualty	Call for rescue when safe access or removal is not possible.
Responsiveness and breathing	Unresponsiveness, abnormal or absent breathing, airway obstruction	Follow trained CPR/AED and airway procedures; dispatch emergency help	Immediate emergency response.
Severe bleeding	Rapid blood loss, pooling, soaked dressings or traumatic amputation	Direct pressure and trained bleeding-control methods	Immediate evacuation and emergency guidance.
Circulation and shock signs	Pale, cool, clammy skin; weakness; altered behavior; rapid breathing	Limit movement, protect temperature and monitor closely	Urgent evacuation for serious injury or worsening signs.
Neurologic concern	Confusion, seizure, severe headache, weakness, head injury or loss of consciousness	Protect airway and spine as trained; prevent further injury	Urgent or immediate emergency evaluation.
Environmental illness	Hypothermia, heat illness, dehydration, altitude or immersion	Stop exposure and begin trained supportive care	Evacuate when severe, worsening or unable to correct.
Wounds and injuries	Burns, fractures, sprains, eye injury, infection or pain	Clean, cover, immobilize and monitor within training	Professional care for deep, contaminated, disabling or worsening injury.

Decision note: Reassess after every intervention and whenever the patient changes. A normal finding once is not a lifetime warranty.

REMOTE FIRST-AID RESPONSE WORKFLOW

REPEATABLE BEATS HEROIC

Remote first-aid response workflow

Use the same sequence under stress. It protects the responder, finds life threats and creates a usable handoff to rescuers.

1

MAKE THE SCENE SAFE

Stop tools and fire, control animals, avoid water or fall hazards, use protective barriers and determine the mechanism of injury.

2

CHECK AND CALL

Assess responsiveness and breathing. Activate emergency services or the expedition communication plan early for life threats.

3

CONTROL IMMEDIATE THREATS

Follow current trained procedures for CPR, severe bleeding, airway problems and environmental exposure.

4

FOCUSED EXAM AND PROTECTION

Identify pain, deformity, burns, wounds, neurologic changes and medical history. Clean, cover or immobilize only within training.

5

MONITOR AND EVACUATE

Record vital observations and trends, protect temperature, prevent food or drink when unsafe, and prepare a clear transfer report.

COMMON REMOTE MEDICAL SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Common remote medical scenarios

These pages emphasize recognition and decision thresholds. Exact treatment should follow current certified training and emergency-dispatch guidance.

1 Bleeding and wounds

- Use protective barriers when available.
- Apply firm direct pressure for serious bleeding.
- Do not repeatedly lift dressings to check.
- Clean minor wounds with appropriately clean water and cover.
- Evacuate deep, contaminated, gaping or function-threatening wounds.

2 Sprain, fracture or crush

- Stop movement and expose the area carefully.
- Check circulation, sensation and movement beyond the injury.
- Immobilize in the position found unless trained circumstances require otherwise.
- Recheck after splinting.
- Evacuate deformity, open fracture, loss of circulation or inability to travel safely.

3 Burn or eye injury

- Stop the burning process and remove ongoing exposure.
- Cool thermal burns with cool clean water when appropriate; avoid ice.
- Protect with clean non-stick covering.
- Do not remove embedded eye objects.
- Seek urgent care for deep, large, facial, airway, electrical, chemical or eye injuries.

4 Illness and dehydration

- Track intake, output, vomiting, diarrhea, fever and mental status.
- Use safe water and oral fluids only when the person is alert and can swallow.
- Protect from temperature extremes.
- Separate suspected contaminated food or water.
- Evacuate confusion, severe weakness, persistent vomiting, blood, severe pain or inability to hydrate.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Medical problems worsen when the scene stays dangerous, communication is delayed, heat loss is ignored, or a temporary improvement is mistaken for resolution.

Failure signal	Likely cause	Best correction
Responder is injured	Hazard not controlled before contact	Stop, reassess the scene and request specialized rescue.
Bleeding continues	Pressure inadequate, wound not exposed or dressing disturbed	Apply continuous trained bleeding control and activate emergency response.
Splint increases pain or numbness	Too tight, poor position or swelling	Loosen or adjust within training and reassess circulation immediately.
Patient becomes confused or drowsy	Shock, head injury, temperature illness, poisoning or worsening medical condition	Protect airway and temperature; initiate urgent evacuation.
Wound becomes red, swollen or draining	Infection or retained contamination	Seek medical evaluation; do not rely on field remedies.
Plan delays evacuation repeatedly	Wishful thinking, weather or unclear thresholds	Use predetermined triggers and communicate early while options remain.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Emergency assessment, documentation and evacuation card

Write down what happened and what changed. Stress edits memory with the confidence of a bad proofreader.

FIELD CHECKLIST

- ☐ Scene hazards controlled before patient contact.
- ☐ Protective barriers used when available.
- ☐ Responsiveness and breathing assessed.
- ☐ Emergency communication activated for serious or worsening conditions.
- ☐ Severe bleeding controlled using trained methods.
- ☐ Patient protected from cold, heat and wet ground.
- ☐ Focused exam and mechanism documented.
- ☐ Circulation, sensation and movement checked around injuries.
- ☐ Medications, allergies and medical history recorded.
- ☐ Time and response to care documented.
- ☐ Evacuation route and assistance requirements identified.
- ☐ Patient reassessed until transferred to professional care.

STOP / REASSESS

Unresponsiveness, abnormal breathing, severe chest pain or signs of stroke.

Uncontrolled bleeding, major trauma, amputation or penetrating injury.

Confusion, seizure, repeated vomiting, worsening headache or loss of consciousness.

Severe burn, eye injury, open fracture or loss of circulation or sensation.

Rapid deterioration, severe dehydration, suspected poisoning or inability to keep the person safely in the field.

AUTHORITATIVE STARTING POINTS

American Red Cross - first aid steps
<https://www.redcross.org/take-a-class/first-aid/performing-first-aid/first-aid-steps>

American Heart Association - CPR and emergency care
<https://cpr.heart.org/>

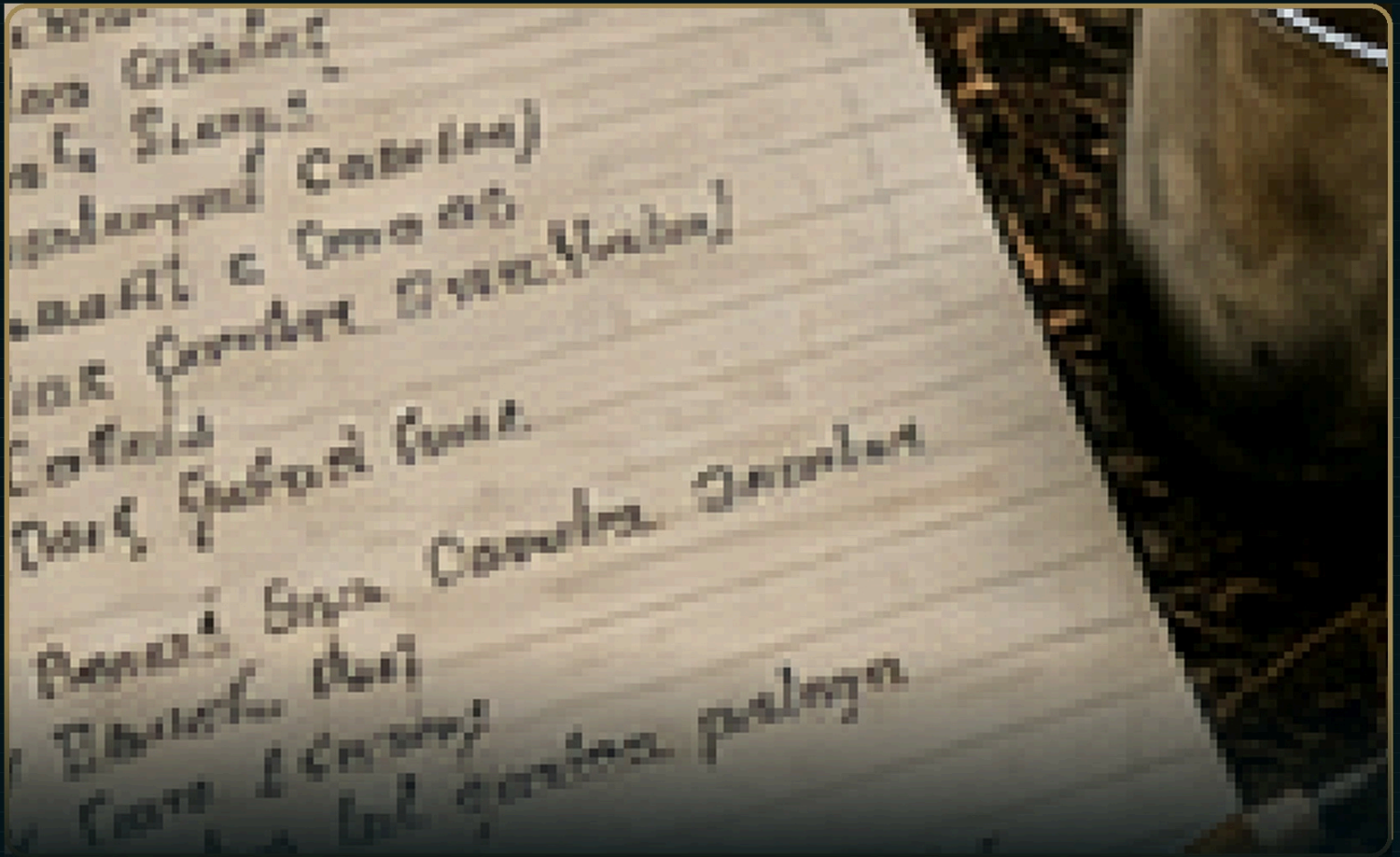
Wilderness Medical Society
<https://wms.org/>

CDC - emergency preparedness
<https://www.cdc.gov/emergency/>

This guide is not medical advice and does not replace certified first-aid training, emergency dispatch or professional care. Call emergency services for life-threatening or worsening conditions.

ENERGY BUDGET & DAILY CAMP SYSTEMS GUIDE

Manage energy. Win the long game.

[CALORIES](#)[TASKS](#)[RHYTHM](#)[RECORDS](#)

SYSTEM PRIORITIES

START WITH THE SYSTEM

Spend energy only where it protects life or produces repeatable return

Long-duration survival is a budget problem. Shelter, water, wood, food, maintenance and recovery compete for limited calories and daylight. A good camp converts repeated work into routines, infrastructure and shorter routes.

1 Core principles

- Prioritize threats before improvements: exposure, injury, water, unstable fire, wildlife and critical equipment failure.
- Measure repeated tasks by time, distance, load and result; memory underestimates routine costs.
- Build infrastructure only when it reduces future work more than it costs to create and maintain.
- Group trips and tasks by route, weather window and tool setup to reduce transitions.
- Preserve sleep, food, hydration and recovery because exhausted judgment wastes more calories than it saves.

A beautiful camp that consumes every day is a monument to overhead.

2 First-hour priorities

- Create a camp map with shelter, firewood, water, food work, storage, latrine and hazard zones.
- Log one baseline day: minutes, trips, distance, loads and outcome for every major task.
- Identify the largest recurring cost and redesign that system first.
- Set minimum daily standards for water, fuel, food effort, drying, maintenance and health checks.
- Create stop rules for construction, travel and low-probability food pursuits.

Avoid false precision. Estimates are useful when they compare options consistently, not when they pretend to measure exact metabolism with a pencil.

FIELD RULE

Every major task should answer one of three questions: What threat does it control? What repeatable return does it create? What will make me stop?

TASK VALUE MATRIX

CHOOSE DELIBERATELY

Task value matrix

Score tasks before starting, especially late in the day. High urgency and high repeatability deserve first claim on energy.

Task class	Examples	When to do it	Stop condition
Immediate safety	Shelter leak, severe cold, injury, unsafe water, wildlife breach	Now; suspend lower-value work	Threat controlled or professional help activated.
Daily sustainment	Water, essential fuel, food handling, sanitation, health checks	Scheduled minimum every day	Daily reserve and clean system secured.
High-return food	Known fishing window, active trapline check, ripe patch	When evidence and conditions align	Time or energy limit reached; return falls below threshold.
Preventive maintenance	Drying, edge care, line inspection, shelter tension	Before minor degradation becomes failure	Critical gear restored and documented.
Infrastructure	Wood rack, path, bench, drainage, storage	When payoff repeats across many days	Expected future savings no longer exceed build cost.
Comfort improvement	Decoration, extra space, low-use furniture	Only after margins are secure	Any core system or recovery need becomes underfunded.
Exploration	New food area, fuel source or route	With a hypothesis, map, turnaround and reserve	Evidence fails, weather changes or return margin closes.

Decision note: Add a confidence score. A high theoretical return with weak evidence should rank below a modest, reliable daily system.

DAILY OPERATING RHYTHM

REPEATABLE BEATS HEROIC

Daily operating rhythm

Routines protect cognition. The sequence should reveal threats early, use weather windows and end with tomorrow prepared.

1

MORNING STATUS CHECK

Assess body, sleep, weather, shelter, fire, water, food inventory, wildlife sign and critical gear before committing to travel.

2

SET THREE PRIORITIES

Choose one safety or sustenance task, one food task and one maintenance task. Everything else is optional.

3

BATCH MOVEMENT

Combine water, fuel, inspection and observation routes while preserving clean and dirty workflows.

4

USE THE WEATHER WINDOW

Schedule drying, fishing, cutting, travel and preservation when wind, precipitation, light and temperature favor them.

5

CLOSE THE CAMP

Refill water and fuel, secure food, dry gear, inspect systems, record results and stage the morning restart.

ENERGY DECISIONS IN THE LONG GAME

ADAPT BEFORE CONDITIONS FORCE IT

Energy decisions in the long game

The same task can be wise in one context and wasteful in another. Judge timing, probability, repeatability and recovery cost.

1 Shelter versus food

- Fix leaks, drainage and dangerous instability first.
- Stop cosmetic building once sleep is dry and wind-protected.
- Shift to food when shelter improvements have diminishing returns.
- Use bad-weather periods for indoor maintenance.
- Track whether construction reduces daily fuel and drying costs.

2 Firewood economics

- Measure trips and burn rate.
- Process sizes that match actual fire use.
- Build covered storage only to the level needed.
- Use saw, axe and routes that minimize handling.
- Do not burn premium dry wood for avoidable open-air waste.

3 Food pursuit threshold

- Estimate probability, travel, setup, wait and recovery cost.
- Favor repeated evidence and known feeding windows.
- Use a hard turnaround time.
- Record calories or meals, not just sightings.
- Suspend methods that repeatedly fail to cover their labor.

4 Recovery day

- Maintain water, food safety, shelter and essential fire.
- Reduce heavy cutting and long travel.
- Repair feet, hands, clothing and sleep debt.
- Use low-cost observation and camp maintenance.
- Resume workload based on function, not guilt.

FAILURE
 MODES
 AND
 CORRECTIONS

DIAGNOSE
 THE
 SYSTEM

Failure
 modes
 and
 corrections

Energy systems fail through hidden repetition: extra trips, poor storage, unfinished tasks, constant relighting, scattered tools and construction without a payoff date.

Failure signal	Likely cause	Best correction
Day is full but core work is unfinished	Too many transitions, no priorities or comfort projects	Set three priorities, batch routes and defer optional work.
Firewood demand keeps rising	Shelter leakage, inefficient fire, wet fuel or oversized heated space	Improve envelope, fuel storage and fire purpose before cutting more.
Food effort produces little	Weak evidence, excessive travel or poor timing	Set ROI thresholds and redirect to reliable methods.
Gear failures repeat	No inspection rhythm or temporary repairs forgotten	Create daily and weekly maintenance lists with owners and dates.
Sleep and judgment decline	Work extends too late, cold system weak or recovery ignored	Protect evening closeout and schedule recovery before errors multiply.
Camp layout causes constant walking	Zones placed by convenience rather than flow	Move high-frequency functions closer while preserving sanitation and wildlife spacing.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Daily energy budget and closeout card

A well-run camp turns yesterday's work into today's margin. A poorly run camp asks for the same payment every morning.

FIELD CHECKLIST

- ☐ Body status, sleep and injuries assessed.
- ☐ Weather and daylight window reviewed.
- ☐ Shelter, fire, water and wildlife threats checked.
- ☐ Three priorities written before optional tasks.
- ☐ Routes batched and turnaround times set.
- ☐ Food pursuits tied to evidence and ROI threshold.
- ☐ Heavy work paired with hydration, food and rest.
- ☐ Tools staged and returned to defined storage.
- ☐ Drying and preservation windows used.
- ☐ Water, fuel and food secured before dark.
- ☐ Results and failures recorded.
- ☐ Tomorrow's first task staged before sleep.

STOP / REASSESS

Persistent dizziness, weakness, confusion, injury or inability to recover overnight.

Core shelter, water or food-safety work is deferred for construction or exploration.

Travel continues without turnaround time, map or weather margin.

Firewood or water demand increases for several days without system diagnosis.

Decision-making becomes impulsive, hopeless or unusually rigid.

AUTHORITATIVE STARTING POINTS

National Park Service - trip planning
<https://www.nps.gov/subjects/healthandsafety/trip-planning-guide.htm>

National Weather Service
<https://www.weather.gov/safety/>

CDC - physical activity and heat
<https://www.cdc.gov/heat-health/>

HISTORY - Alone series overview
<https://www.history.com/shows/alone>

Energy needs and medical tolerance vary substantially. This planning guide is not nutrition or medical advice. Persistent decline, illness or injury requires professional assessment and may require evacuation.

MENTAL RESILIENCE & ISOLATION SURVIVAL GUIDE

Stay sharp. Stay strong. Stay in the game.



PURPOSE

ROUTINE

DECISIONS

RECOVERY

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Protect judgment as deliberately as shelter and fire

Isolation, hunger, cold, pain, uncertainty and sleep loss change attention and decision-making. Resilience is not denial; it is a system of purpose, routine, observation, emotional regulation, objective health checks and timely use of support or evacuation.

1 Core principles

- Define purpose and non-negotiable safety values before stress narrows perspective.
- Use stable morning and evening routines to reduce decision load and reveal changes early.
- Separate facts, interpretations and emotions when evaluating setbacks.
- Track sleep, appetite, pain, mood, motivation, errors and unusual thinking rather than relying on memory.
- Predetermine conditions that require communication, professional help or ending the challenge.

Persistence is useful. Persistence that refuses new evidence is merely stubbornness with better branding.

2 First-hour priorities

- Write a one-paragraph purpose statement and a short list of reasons to leave safely.
- Create a daily schedule with work, food effort, maintenance, rest, hygiene and reflection.
- Establish a five-minute cognitive and emotional check at the same times each day.
- Choose grounding, breathing, journaling and task-reset practices that have already been tested.
- Identify trusted contacts, emergency communication methods and mental-health resources before deployment.

Thoughts of self-harm, inability to stay safe, hallucinations, severe confusion or loss of reality testing require immediate emergency support.

FIELD RULE

A strong decision can include stopping. The objective is to protect life and judgment, not to defend yesterday's plan from today's evidence.

DAILY MENTAL-STATUS AND DECISION MATRIX

CHOOSE DELIBERATELY

Daily mental-status and decision matrix

Use trends, not one mood. Repeated decline across several domains is more important than a single difficult day.

Domain	Stable signs	Concerning trend	Action
Orientation and thinking	Knows date, plan, location and risks; decisions remain flexible	Confusion, fixation, poor sequencing or unusual beliefs	Stop complex work, eat, hydrate, rest, reassess and communicate if persistent.
Mood and motivation	Emotions vary but tasks and self-care continue	Sustained hopelessness, panic, withdrawal or inability to initiate basics	Reduce load, use supports and seek professional help when severe or worsening.
Sleep	Rest is imperfect but restorative enough for safe work	Several nights of severe loss, nightmares, agitation or daytime impairment	Prioritize sleep system and medical or mental-health consultation.
Behavior	Tools, fire, food and travel remain deliberate	Risk-taking, neglect, anger, impulsivity or repeated preventable errors	Stop hazardous tasks and activate predetermined support thresholds.
Appetite and self-care	Eats, drinks, washes, treats injuries and maintains shelter	Refuses food/water, ignores wounds or abandons hygiene	Treat as a health decline, not a character flaw; seek help.
Connection to purpose	Can name values and adjust goals realistically	Identity becomes tied to staying at any cost	Review exit criteria and discuss with a trusted professional or support person.
Safety	No intent to harm self or others; reality testing intact	Self-harm thoughts, plan, hallucinations or inability to stay safe	Immediate emergency response and continuous support if possible.

Decision note: Use a simple green-yellow-red record. Two or more yellow domains for several days, or any red safety domain, should trigger a predefined response.

SETBACK-TO-DECISION WORKFLOW

REPEATABLE BEATS HEROIC

Setback-to-decision workflow

A structured reset prevents a bad hour from dictating the week and prevents serious decline from being dismissed as a bad hour.

1

STOP HAZARDOUS WORK

Put down tools, move away from water, cliffs, fire and wildlife risk, and create a physically safe pause.

2

STABILIZE THE BODY

Eat, hydrate, warm or cool, treat pain within guidance, and rest. Physical deficits often amplify cognitive distress.

3

NAME FACTS AND STORY

Write what happened, what is known, what is assumed and what emotion is present. Avoid permanent conclusions during acute distress.

4

CHOOSE THE SMALLEST USEFUL ACTION

Repair one critical system, clean one area, prepare one meal or complete one communication step.

5

REASSESS AGAINST THRESHOLDS

Compare function and safety with prewritten criteria. Seek support or leave when the threshold is met, even if pride objects.

ISOLATION AND RESILIENCE SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Isolation and resilience scenarios

Mental resilience is built from ordinary repeatable actions, not constant inspiration. The system should still work on dull, frightened or discouraged days.

1 Boredom and monotony

- Use rotating work themes and small measurable goals.
- Maintain hygiene and camp order.
- Learn from observations rather than inventing unnecessary risk.
- Create safe rituals for meals and evening closeout.
- Avoid turning entertainment into calorie-heavy projects.

2 Major setback

- Secure immediate safety and inventory remaining capability.
- Separate loss from total-catastrophe language.
- Preserve core shelter, water, food and medical functions.
- Ask what can be rebuilt, replaced or simplified.
- Delay irreversible decisions until stabilized unless safety requires immediate exit.

3 Fear and wildlife stress

- Verify signs and distinguish evidence from imagined proximity.
- Improve food, waste, lighting and travel systems.
- Use agency guidance rather than folklore.
- Limit repeated checking that disrupts sleep without reducing risk.
- Leave when wildlife conditions cannot be managed safely.

4 Motivation collapse

- Reduce the day to essential minimum standards.
- Eat and hydrate before interpreting the feeling.
- Complete one visible task that restores control.
- Review purpose and exit criteria without shame.
- Communicate and seek professional help if decline persists or safety changes.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Mental systems fail when every thought is treated as fact, routine disappears, sleep debt accumulates, or identity makes safe withdrawal feel unacceptable.

Failure signal	Likely cause	Best correction
Tasks feel impossible	Hunger, sleep loss, overload or depression	Stabilize physical needs, reduce scope and complete one essential step.
Repeated risky shortcuts	Fatigue, urgency, frustration or impaired judgment	Stop hazardous work, simplify the plan and use written checklists.
Obsessive focus on one failure	Cognitive narrowing and stress	Write alternative explanations and redirect to controllable systems.
Camp order collapses	Low motivation, illness or routine loss	Restore one zone at a time, beginning with food, tools and sleeping area.
Exit criteria keep moving	Identity, sunk cost or fear of disappointment	Use the criteria written before deployment and involve outside support.
Self-harm thoughts or loss of reality testing	Mental-health emergency	Contact emergency services or crisis support immediately and do not remain alone.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Daily resilience, cognition and safety check

Write the check before you need it. A tired mind is an excellent lawyer for whichever impulse arrived first.

FIELD CHECKLIST

- ☐ Date, location, weather and plan are clear.
- ☐ Sleep quality and duration recorded.
- ☐ Food, hydration, pain and temperature status checked.
- ☐ Mood and motivation named without judgment.
- ☐ Recent mistakes or near misses recorded.
- ☐ Purpose statement reviewed.
- ☐ Three essential tasks selected; optional work limited.
- ☐ Grounding or breathing practice completed.
- ☐ Hygiene, wound care and camp order maintained.
- ☐ Green-yellow-red mental status recorded.
- ☐ Communication or support threshold reviewed.
- ☐ Exit decision compared with prewritten safety criteria.

STOP / REASSESS

Thoughts, intent or plan to harm self or another person.

Hallucinations, severe confusion, paranoia or inability to distinguish reality.

Several days of profound sleep loss, refusal of food/water or inability to perform basic self-care.

Repeated dangerous errors or impulsive behavior around tools, fire, water or terrain.

Feeling unable to leave because identity or shame matters more than safety.

AUTHORITATIVE STARTING POINTS

988 Suicide and Crisis Lifeline
<https://988lifeline.org/>

National Institute of Mental Health
<https://www.nimh.nih.gov/health>

CDC - coping with stress
<https://www.cdc.gov/mental-health/living-with/>

HISTORY - Alone series overview
<https://www.history.com/shows/alone>

This guide is educational and not mental-health treatment. In the United States, call or text 988 for crisis support; call emergency services for immediate danger. Use the appropriate local crisis service outside the U.S.

PREDATOR & WILDLIFE CAMP SAFETY GUIDE

Respect wildlife. Protect your camp.



SIGN

FOOD

CAMP

ENCOUNTERS

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

SYSTEM PRIORITIES

START WITH THE SYSTEM

Prevent wildlife conflict through clean systems and regional knowledge

Wildlife safety begins before an encounter. Camp location, food and waste control, visibility, travel habits and current agency guidance reduce surprise and prevent animals from learning that camp provides calories.

1 Core principles

- Research the species, season and local agency recommendations for the exact region.
- Keep food, garbage, toiletries, bait, fish, game, cooking residue and other attractants controlled.
- Separate sleeping, cooking, processing and storage zones as terrain and official guidance require.
- Avoid surprising animals: maintain visibility, read fresh sign and alter travel in dense cover or low light.
- Never use one universal encounter script; appropriate response varies by species and behavior.

A clean camp is not merely tidy. It is a behavior-management system for animals with excellent noses and no respect for your organizational chart.

2 First-hour priorities

- Contact the managing wildlife agency and save current bear, predator, ungulate and food-storage guidance.
- Select camp away from carcasses, heavy game trails, dense feeding sites, poor visibility and fresh concentrated sign.
- Build an attractant inventory that includes non-food odors and processing waste.
- Define daylight and nighttime travel rules, lighting and communication.
- Practice species-specific encounter responses and prepare approved deterrents where lawful and permitted.

Food-storage regulations vary. Some areas require approved bear-resistant containers and prohibit or discourage hanging methods.

FIELD RULE

Do not wait for repeated visits. The first sign that an animal is obtaining food or becoming habituated demands an immediate camp-system correction and agency guidance.

WILDLIFE RISK AND PREVENTION MATRIX

CHOOSE DELIBERATELY

Wildlife risk and prevention matrix

Use local guidance for exact responses. This matrix focuses on universal prevention and the evidence that should change camp behavior.

Risk source	Evidence	Prevention system	Escalation
Food and cooking odor	Tracks, scat, disturbed storage, repeated approaches	Approved storage, clean cooking zone, residue control and prompt waste handling	Stop food activity and contact agency when an animal accesses attractants.
Carcass or processing site	Ravens, tracks, drag sign, strong odor or fresh kill	Avoid site; separate processing and storage; increase awareness	Leave immediately if large predator sign is fresh or animal is present.
Dense travel corridor	Heavy trails, beds, rubs, poor visibility and fresh sign	Relocate camp or route; make appropriate presence known	Change travel time or abandon route when surprise risk remains high.
Bear encounter	Bear changes route, approaches, defends food or shows stress behavior	Follow species and agency-specific guidance; do not run	Use approved deterrent and emergency action as trained and locally advised.
Large ungulate	Moose, elk, bison or deer blocks route, charges or guards young	Give wide space, never crowd, use barriers and alternate route	Leave area; seek help after injury or persistent aggressive behavior.
Small scavengers	Chewed bags, droppings, missing food or contaminated surfaces	Hard storage, clean camp, remove nesting access and protect gear	Discard contaminated food and repair entry points.
Marine or reptile hazard	Tide-zone predators, crocodilians, snakes or venomous species	Region-specific distance, lighting, footwear and site selection	Immediate medical response for bite, envenomation or attack.

Decision note: Identify whether behavior is defensive, food-conditioned, predatory, territorial or simply transit. Do not guess during a close encounter; use prelearned local guidance.

WILDLIFE-SAFE CAMP WORKFLOW

REPEATABLE BEATS HEROIC

Wildlife-safe camp workflow

Prevent attractants from entering the sleeping system, then inspect before evidence becomes a pattern.

1

ASSESS THE SITE

Look for fresh tracks, scat, feeding sign, carcasses, trails, visibility, escape routes and seasonal food sources.

2

DESIGN ZONES

Place sleeping, cooking, processing, waste and storage according to terrain and current agency recommendations.

3

CONTROL EVERY ATTRACTANT

Inventory food, trash, toiletries, bait, fish, game, grease, clothing and containers. Clean and store immediately after use.

4

TRAVEL WITH AWARENESS

Adjust for wind, noise, visibility, daylight, young animals, carcasses and fresh sign. Avoid headphones and blind approaches.

5

INSPECT AND ESCALATE

Walk the camp perimeter, record sign and secure systems. Relocate, stop food activity or contact authorities when visits repeat or behavior changes.

WILDLIFE ENCOUNTER AND CAMP SCENARIOS

ADAPT BEFORE CONDITIONS FORCE IT

Wildlife encounter and camp scenarios

Exact responses differ by animal and region. These scenarios emphasize distance, attractant control and the decision to leave early.

1 Bear sign near camp

- Determine freshness without following into cover.
- Stop cooking and processing until the site is reassessed.
- Inspect storage and residue for access.
- Follow local guidance for species and behavior.
- Relocate or seek agency direction if visits repeat or a bear obtains food.

2 Moose or large ungulate

- Give more distance than seems necessary.
- Do not position between adult and young.
- Use a substantial object as a barrier if threatened.
- Back away and choose another route.
- Treat any trampling or impact as a medical emergency.

3 Nighttime camp noise

- Wake fully and use light from a protected position.
- Do not rush blindly outside.
- Account for food, waste, pets or companions.
- Identify only from safe distance and follow regional guidance.
- Repair the attractant or access failure before returning to sleep.

4 Fish or game processing

- Choose a site away from sleeping and clean-water work.
- Keep tools, clothing and surfaces organized.
- Move edible food promptly into approved storage.
- Handle remains according to local rules and wildlife guidance.
- Increase awareness around blood, odor, birds and fresh predator sign.

FAILURE MODES AND CORRECTIONS

DIAGNOSE THE SYSTEM

Failure modes and corrections

Wildlife incidents are often preceded by ignored sign, food rewards, poor visibility or a camp design that concentrates odor near people.

Failure signal	Likely cause	Best correction
Animal returns repeatedly	Attractant remains, food reward occurred or camp sits on travel route	Stop food activity, secure every odor source, relocate and contact wildlife authorities.
Storage is damaged	Container, hang or site is inadequate for local species	Discard contaminated food, upgrade to approved storage and reassess the entire camp.
Surprise encounters increase	Dense cover, low light, quiet travel or route through feeding habitat	Change route and timing, increase awareness and avoid high-risk habitat.
Response advice conflicts	Species, region or behavior not identified	Follow the current managing-agency guidance for the exact animal and location.
Scavengers contaminate food	Soft packaging, residue, open waste or shelter access	Use hard or approved storage, clean surfaces and remove access routes.
Fear disrupts sleep and judgment	Evidence unclear, system weak or repeated visits	Verify sign, strengthen controls, seek guidance and leave when safety margin is gone.

FIELD CARD, RED FLAGS AND SOURCES

CARRY THE STANDARD

Wildlife-safe camp and encounter-prevention card

The objective is not to win an encounter. It is to keep the encounter from becoming necessary.

FIELD CHECKLIST

- ☐ Regional species and seasonal behavior researched.
- ☐ Current agency encounter and food-storage guidance saved.
- ☐ Camp is away from carcasses, dense trails and fresh concentrated sign.
- ☐ Sleeping, cooking, processing, waste and storage zones defined.
- ☐ All food and non-food attractants inventoried.
- ☐ Approved storage method used correctly.
- ☐ Cooking surfaces, pots and clothing cleaned and stored.
- ☐ Processing remains handled according to local rules.
- ☐ Perimeter and storage inspected morning and evening.
- ☐ Travel rules account for visibility, wind, young animals and low light.
- ☐ Approved deterrents are accessible and practiced where lawful.
- ☐ Relocation and emergency thresholds are prewritten.

STOP / REASSESS

Animal obtains food or repeatedly approaches people or camp.

Fresh carcass, cache, heavy predator sign or defensive animal near the route.

Food-storage system does not meet local requirements.

Large animal blocks movement, charges, stalks or shows escalating behavior.

Any bite, envenomation, crushing injury or suspected rabies exposure.

AUTHORITATIVE STARTING POINTS

National Park Service - bear safety
<https://www.nps.gov/subjects/bears/safety.htm>

National Park Service - food storage
<https://www.nps.gov/articles/bearsafetyfood.htm>

U.S. Fish and Wildlife Service
<https://www.fws.gov/>

CDC - wild animals and health
<https://www.cdc.gov/healthy-pets/about/wild-animals.html>

Wildlife behavior and recommended responses vary by species, region and circumstance. Follow current managing-agency guidance and local law. Keep distance, control attractants and seek emergency care after injury or exposure.

TERRAIN READING & NATURAL NAVIGATION SURVIVAL GUIDE

Know where you are. Know how to return.



TERRAIN

HANDRAILS

BEARINGS

RETURN

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

NAVIGATION IS A CONTROL SYSTEM

Terrain association, route discipline and a camp-centered mental map.

START WITH A KNOWN ORIGIN

Control movement before movement controls you.

Natural navigation is not a collection of tricks. It is a disciplined cycle: define the origin, read the terrain, choose limits, move in short confirmed segments and preserve enough time and energy to return.

1 CORE PRINCIPLES

- Begin every trip with a known origin, purpose, route concept, turnaround condition and return plan.
- Build the mental map from relationships among ridges, drainages, shorelines, saddles and major landmarks.
- Use at least two independent cues before committing to a direction change.
- Track elapsed time, terrain crossed and the route behind you - not merely the destination ahead.
- Avoid routes that require a single fragile memory, one indistinct landmark or perfect visibility.

2 FIRST-HOUR PRIORITIES

- Place camp in an unmistakable terrain relationship that can be described without a map.
- Identify the closest handrail, backstop, catching feature and dangerous terrain trap.
- Set a conservative working radius and a hard turnaround time based on daylight and weather.
- Establish a repeatable departure and return point; avoid leaving camp through several similar-looking gaps.
- Leave a trip plan when possible and carry emergency communication appropriate to the trip.

FIELD RULE

The route is not understood until you can explain how to return in poor light, worsening weather and reduced energy.

READ THE LAND

Terrain features are a connected system, not isolated scenery.

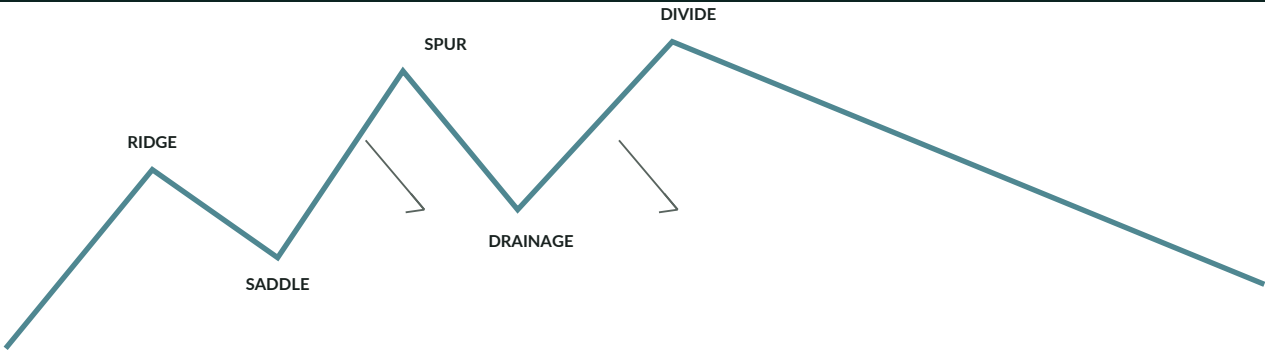
TERRAIN ASSOCIATION

Features that guide, stop and funnel movement.

Use terrain to simplify decisions. A reliable route follows obvious features and ends at unmistakable boundaries; a fragile route crosses repetitive ground and depends on memory alone.

FEATURE	WHAT IT TELLS YOU	BEST USE	COMMON HAZARD
Ridge / divide	High ground separating drainages. Often broad and branching.	Long handrail, overview, watershed boundary.	Exposure, wind, false branches and difficult descents.
Spur	Finger of high ground descending from a ridge.	Approach or descent route with a defined crest.	Confusing one spur for the next in timber or fog.
Drainage / valley	Low line collecting water and often vegetation.	Catching feature, water access, route reference.	Cliffs, deadfall, flash flooding, brush and cold air pooling.
Saddle / pass	Low point between two higher features.	Crossing point and strong positional confirmation.	Wind funnel, cornice or avalanche terrain in snow.
Cliff / rock band	Abrupt slope break or barrier.	Backstop, route boundary and visible landmark.	Forced detours, rockfall and blocked return route.
Shoreline	High-contrast boundary between land and water.	Handrail, location reference and access corridor.	Tides, steep banks, unstable ice and impassable points.
Watershed relationship	Which drainage joins which larger system.	Rebuild the mental map after temporary loss of position.	Assuming every stream leads safely or directly to people.

TERRAIN PROFILE: READ RELATIONSHIPS



Water follows gravity into drainages; ridgelines divide watersheds. Use the relationship among features, not a single landmark, to orient the mental map.

CAMP-CENTERED TRAVEL WORKFLOW

Plan, move, confirm and return without surrendering the margin.

BUILD A REPEATABLE SEQUENCE

Six steps for every excursion

The same short sequence should govern a five-minute water run and a long food-gathering loop. Scale the detail, not the discipline.

- 1 **DEFINE THE MISSION**
State the exact purpose, destination type, maximum travel time, weather limit and turnaround trigger.
- 2 **ORIENT AT CAMP**
Name the major terrain relationships around camp and identify the return approach before leaving.
- 3 **SELECT HANDRAILS AND BACKSTOPS**
Choose features that guide movement and unmistakable features that stop an overshoot.
- 4 **MOVE ONE CONFIRMED SEGMENT**
Travel to the next decision point. Stop before changing direction and look back at the return view.
- 5 **RECONFIRM POSITION**
Match at least two terrain cues. If the picture does not fit, stop rather than forcing the story.
- 6 **RETURN, LOG AND IMPROVE**
Record time, hazards, useful routes and misleading features. Refine the mental map while memory is fresh.

ROUTE CARD

- Origin and departure time
- Purpose and destination type
- Primary handrail
- Backstop / catching feature
- Turnaround time
- Weather and visibility limit
- Emergency communication
- Expected return time

NATURAL CUES: USEFUL, NOT MAGICAL

Every cue has conditions, error and a failure mode.

ADAPT BEFORE CONDITIONS FORCE IT

Cross-check direction clues

Natural cues are supporting evidence. They are not substitutes for terrain association, route discipline or approved navigation tools when those tools are available.

1 SUN AND SHADOW

- The sun rises generally east and sets generally west, but the exact path changes with latitude, season and time.
- Short shadow observations can suggest direction only when the sun is visible and the method is understood.
- Cloud, steep terrain and canopy can erase or distort the cue.

2 STARS AND NIGHT SKY

- Celestial orientation requires prior practice and a clear sky.
- A single star identification is not enough when terrain blocks the horizon.
- Night travel multiplies navigation, fall and wildlife risk; waiting may be the safer decision.

3 WIND, WEATHER AND SLOPE

- Prevailing wind and slope exposure can support a terrain picture but vary with storms, valleys and time of day.
- Cold air often settles low; wind can accelerate over ridges and through saddles.
- Treat these as context, not a compass.

4 WATER AND VEGETATION

- Water flows downhill and drainages join larger systems, but routes along them can be blocked or dangerous.
- Moss, tree form and vegetation patterns reflect many variables and are unreliable as a stand-alone direction rule.
- Use vegetation to read moisture, exposure and travel difficulty instead.

VISIBILITY RULE

When fog, snowfall, darkness or dense cover removes the next confirmation point, shorten the segment, tighten the turnaround time or stop in a safe place. Confidence is not evidence.

LOST RESPONSE & MOVEMENT DECISIONS

Stop the drift before it becomes a search problem.

DIAGNOSE THE SYSTEM

STOP: Stop, Think, Observe, Plan

The first job is to prevent a small positional error from becoming a large one. Stabilize the person, the weather exposure and the decision process before moving again.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
Terrain no longer matches the expected picture	Missed junction, false ridge, unnoticed detour or memory substitution.	Stop immediately. Return to the last confirmed point only if the route is safe and certain.
Repeatedly changing the story to fit the ground	Confirmation bias and sunk-cost thinking.	State what is actually known. Separate observations from assumptions.
Camp should be visible but is not	Distance or direction estimate is wrong, or terrain blocks the view.	Do not widen the search randomly. Use the last confirmed feature and a controlled plan.
Return time is slipping	Route was harder than expected, task expanded or turnaround discipline failed.	Abandon the task early. Preserve daylight, weather margin and energy for the return.
Circling, duplicate landmarks or crossed tracks	Loss of orientation and unstructured searching.	Stop moving. Mark the current safe point and begin the STOP process.
Injury, weather or darkness reduces mobility	Original route may no longer be viable.	Shelter, communicate and reassess stay-versus-move with the new constraints.

STAY OR MOVE

Stay when the current location is safe, rescuers have a reliable trip plan or beacon position, visibility is poor, injury limits travel, or movement would enlarge the search area. Move only when remaining creates the greater danger or a short, certain route reaches a clearly safer location.

FIELD CARD, RED FLAGS & SOURCES

A compact standard for every movement away from camp.

CARRY THE STANDARD

Never lose the return route

Operate from a known origin, move between confirmed features, and preserve a hard turnaround margin.

FIELD CHECKLIST

- ☐ Name the origin, mission, route concept and return condition before departure.
- ☐ Identify a handrail, backstop, catching feature and terrain trap.
- ☐ Set a turnaround time that protects daylight, weather and energy margin.
- ☐ Look back after every meaningful direction change.
- ☐ Confirm at least two cues before leaving a decision point.
- ☐ Record elapsed time and terrain crossed; do not depend on distance intuition alone.
- ☐ Stop when the terrain picture fails to match expectations.
- ☐ Use the STOP process before any unstructured search.
- ☐ Signal early when injury, weather or uncertainty threatens self-rescue.
- ☐ Log routes and misleading landmarks after returning.

STOP / REASSESS

- You cannot identify the last confirmed location.
- Visibility removes the next confirmation point.
- You are rewriting the route story to fit the terrain.
- The turnaround margin is already consumed.
- Injury, cold, heat or fatigue is degrading judgment.
- Movement would enlarge the search area or create a harder rescue.

AUTHORITATIVE STARTING POINTS

NPS Trip Planning Guide

www.nps.gov/subjects/healthandsafety/trip-planning-guide.htm

Plan routes, backup options, emergency actions and trip information.

NPS Hike Smart

www.nps.gov/articles/hiking-safety.htm

Route, weather, time and communication planning.

NPS Ten Essentials

www.nps.gov/articles/10essentials.htm

Navigation, illumination, shelter and emergency supplies.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

WEATHER READING & STORM SURVIVAL GUIDE

Read the sky. Harden the camp. Move early.



CLOUDS

WIND

STORMS

HARDEN

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

WEATHER IS AN OPERATING CONSTRAINT

Forecasts, observations and thresholds drive the work plan.

BUILD A WEATHER LOOP

Observe, verify, decide, act and log.

Field weather reading is not fortune-telling. Use official forecasts and alerts when available, combine them with direct observations, and make decisions from preplanned thresholds rather than optimism.

1 CORE PRINCIPLES

- Check the current forecast, alerts and regional hazard information before departure and whenever communication allows.
- Observe cloud development, wind, temperature, precipitation, water level and visibility on a fixed schedule.
- Treat field signs as clues, not precise forecasts. Confirm with several independent changes.
- Move early: stop exposed work, protect insulation and harden camp before the storm arrives.
- Write down conditions and decisions; memory becomes selective after a long, wet or cold day.

2 CAMP WEATHER PRIORITIES

- Choose a site outside flood channels, avalanche paths, exposed ridges and obvious falling-tree zones.
- Maintain drainage, roof tension, ventilation and a protected dry reserve.
- Secure loose tools, boats, tarps and fuel before wind rises.
- Protect sleep insulation and ignition materials in independent waterproof layers.
- Define lightning, high-water, wind, snow-load and cold-stress triggers in advance.

FIELD RULE

Weather does not need to be predicted perfectly. It needs to be recognized early enough to protect the person, the shelter and the dry reserve.

FIELD WEATHER CLUES

Patterns suggest risk; they do not guarantee timing or intensity.

READ CHANGES, NOT ONE CLOUD

Combine sky, wind, temperature and terrain.

The more rapidly several conditions change together, the more conservative the decision should become. Local terrain can accelerate wind, trap cold air and hide approaching weather.

FIELD CLUE	WHAT IT MAY INDICATE	IMMEDIATE ACTION
High thin clouds spreading and thickening	A large-scale weather system may be approaching; timing varies.	Review forecast, drying status, route exposure and overnight shelter.
Towering cumulus growing quickly	Increasing convective potential, gusty wind, heavy rain or lightning.	Leave exposed ridges and water early; identify substantial shelter options.
Dark advancing cloud base or shelf-like leading edge	Strong outflow wind and rapid weather change may precede precipitation.	Secure camp, stop tree work and move away from dead or damaged timber.
Wind shift with temperature drop	Front, outflow boundary or local terrain effect.	Reassess fire, water travel, shelter tension and clothing before conditions worsen.
Low cloud, fog or falling ceiling	Reduced visibility and navigation margin.	Shorten travel, delay crossings and protect the return route.
Rapid water rise, muddy surge or debris	Upstream heavy rain or flash-flood process.	Move to higher ground immediately; do not wait for rain at your location.
Persistent heavy snow or freezing rain	Loading, blocked ventilation, falling limbs and travel deterioration.	Clear shelter load safely, protect egress and reduce nonessential movement.

LIMIT OF FIELD SIGNS

Cloud names and traditional sayings cannot replace official warnings, radar, local knowledge or conservative thresholds. A beautiful sky can still produce ugly decisions.

STORM RESPONSE WORKFLOW

A short sequence that protects the margin before the first impact.

BUILD A REPEATABLE SEQUENCE

Act before the camp is under load

The best storm repair is the one completed while hands are warm, visibility is good and the shelter is not trying to leave.

1

OBSERVE AND VERIFY

Note the changes, check official information when available and identify the specific hazard: lightning, flood, wind, cold, snow or surf.

2

STOP EXPOSED WORK

End boating, ridge travel, tree work, open-water fishing and other tasks whose risk rises sharply in the hazard.

3

PROTECT THE DRY RESERVE

Move sleep insulation, fire kit, spare clothing and critical electronics into independent waterproof protection.

4

HARDEN THE CAMP

Tension shelter, clear drainage, secure tools and fuel, inspect overhead hazards and maintain safe ventilation.

5

SHELTER EARLY

Choose the safest available location before lightning, wind, floodwater, darkness or cold removes options.

6

MONITOR AND REASSESS

Track changes and secondary hazards. Do not resume normal work because the first lull feels reassuring.

LIGHTNING PRIORITIES

- Avoid exposed ridges, summits, isolated tall objects and open water.
- A substantial building or hard-topped vehicle is preferred when available.
- In remote terrain, reduce exposure early; no outdoor location is completely safe.
- Wait for the threat to pass according to current local weather guidance.

HAZARD MODULES

Different hazards demand different first moves.

ADAPT BEFORE CONDITIONS FORCE IT

Match the response to the hazard

Do not apply one generic storm plan. Lightning, floodwater, falling trees and cold injury can pull the safe choice in different directions.

1 LIGHTNING

- Leave peaks, ridgelines, open water and exposed shorelines before thunder is close.
- Avoid sheltering beneath an isolated tree or against a conductive rock face.
- Spread critical group equipment when appropriate so one strike does not remove every capability.
- Resume travel only after the threat has clearly moved away under current guidance.

2 HEAVY RAIN AND FLASH FLOOD

- Do not camp in dry washes, narrow drainages, floodplains or below unstable slopes.
- Move to higher ground at the first reliable sign of rapid rise or upstream surge.
- Never enter fast water to save gear.
- Recheck water crossings; yesterday's route may no longer exist.

3 WIND AND FALLING TREES

- Inspect for dead tops, leaning trees, root failure, hanging limbs and wind funneling.
- Stop cutting or moving beneath suspect timber as gusts rise.
- Lower wind profile, secure loose objects and protect eyes and hands.
- Reassess after the storm; damaged trees may fail later.

4 SNOW, ICE AND WET COLD

- Clear shelter loading from a safe position and keep ventilation open.
- Protect footwear, gloves and sleeping insulation from moisture.
- Reduce travel when ice, whiteout or deep snow erases route control.
- Track body function: fumbling, confusion and unusual fatigue require immediate warming action.

COMPOUND HAZARDS

Storms stack problems: wet clothing plus wind, snow load plus blocked ventilation, heavy rain plus darkness, or rising water plus an injured return. Plan for the second failure, not only the first.

FAILURE MODES & CAMP HARDENING

Correct the system while options still exist.

DIAGNOSE THE SYSTEM

Diagnose before repairing

Storm work is high-risk work. Protect the person and sleep system first, then correct the failure without creating a fall, cut, burn or tree-strike exposure.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
Shelter leaks only when wind rises	Poor overlap, wind-driven rain, loose roof or pressure lifting an edge.	Reorient or reinforce from a safe position; protect bedding before chasing the leak.
Condensation soaks insulation	Ventilation reduced too far or wet gear drying inside.	Restore high and low airflow, separate wet gear and protect sleep system.
Water begins crossing the camp floor	Site or drainage is failing.	Move critical gear and person uphill early; do not deepen trenches that violate rules or destabilize the site.
Trees or limbs move unusually	Wind loading or damaged timber.	Leave the fall zone before attempting camp repair.
Snow roof bows or vents disappear	Load accumulation and blocked exhaust.	Unload carefully, reopen ventilation and maintain an exit route.
Repeated weather surprises	Observation schedule, forecast access or thresholds are inadequate.	Increase log frequency and set objective trigger points for stopping work.

WEATHER LOG

Record time, temperature trend, cloud change, wind direction and strength, precipitation, water level, visibility, alerts, actions taken and the next decision threshold. A log turns impressions into evidence.

FIELD CARD, RED FLAGS & SOURCES

A weather operating standard for camp and travel.

CARRY THE STANDARD

Read the sky; act on the threshold

Use official information when available, observe changes on a schedule and harden camp before the hazard arrives.

FIELD CHECKLIST

- ☐ Check forecast, alerts and regional hazards before departure.
- ☐ Log cloud, wind, temperature, precipitation, water and visibility changes.
- ☐ Define the hazard and the first protective action.
- ☐ Stop exposed work before thunder, wind or high water removes options.
- ☐ Protect sleep insulation, dry clothing, fire kit and electronics independently.
- ☐ Secure shelter, tools, watercraft and fuel; maintain ventilation and egress.
- ☐ Move away from flood channels, exposed ridges and falling-tree zones early.
- ☐ Clear snow loading and blocked vents from a safe position.
- ☐ Treat a lull as a reassessment point, not automatic all-clear.
- ☐ Inspect camp and route hazards again after the storm.

STOP / REASSESS

- Thunder is audible or towering clouds are rapidly developing.
- Water rises, muddies or carries debris.
- Wind begins moving suspect trees or shelter anchors.
- Visibility removes safe travel or route confirmation.
- Snow, ice or rain is compromising ventilation or sleep insulation.
- Cold, fatigue or darkness makes storm repair unsafe.

AUTHORITATIVE STARTING POINTS

NWS Lightning Safety

www.weather.gov/safety/lightning

Current lightning science, warning information and safety guidance.

NWS Flood Safety

www.weather.gov/safety/flood

Flood and flash-flood preparedness and response.

NWS Winter Safety

www.weather.gov/safety/winter

Winter storm, cold, snow and ice hazards.

NPS Hike Smart

www.nps.gov/articles/hiking-safety.htm

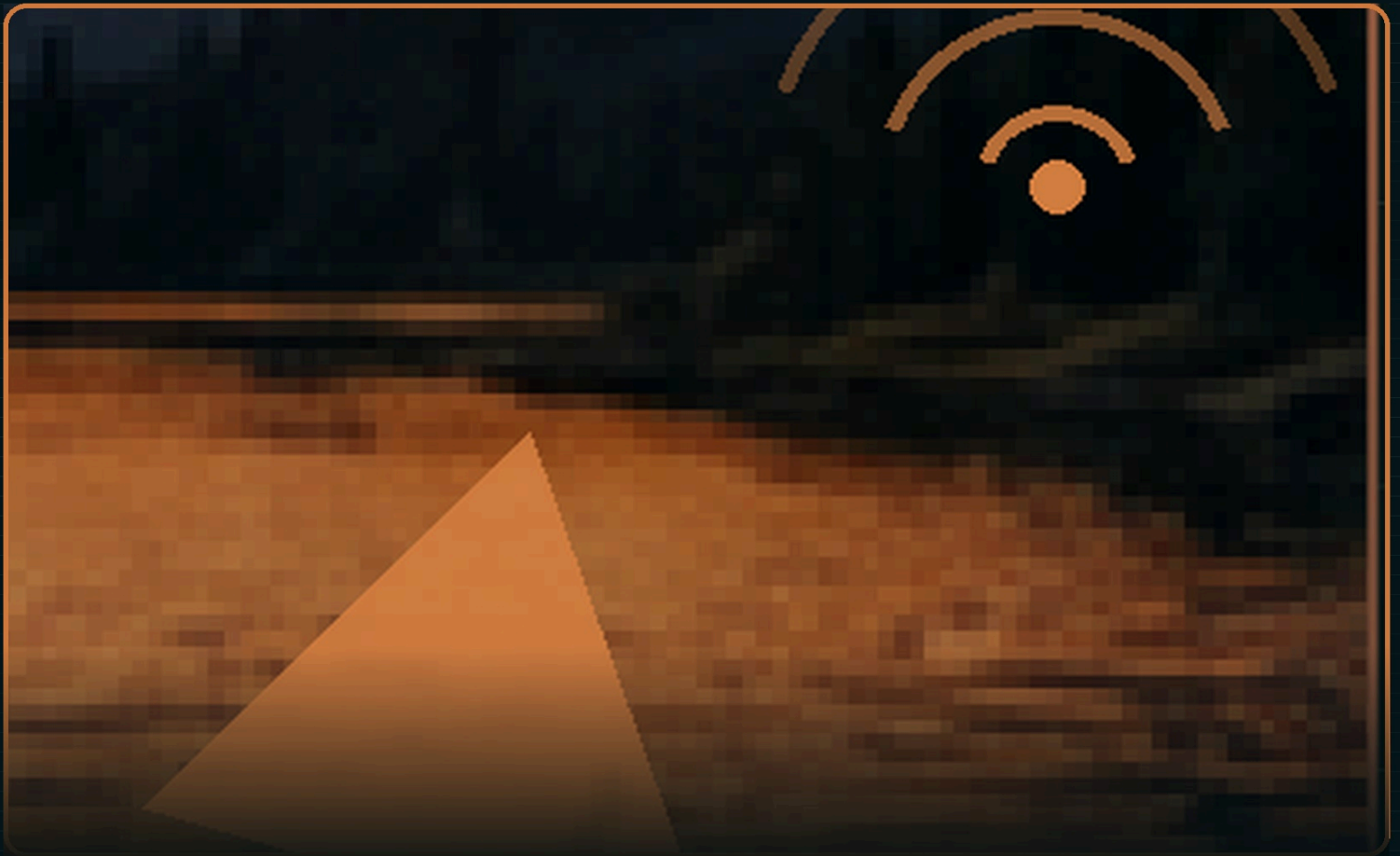
Weather readiness and backcountry risk planning.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

EMERGENCY SIGNALING, EXTRACTION & SELF-RESCUE GUIDE

Be seen. Be heard. Be found.



SIGNAL

COMMS

SHELTER

EXTRACT

EXTRACTION BEGINS BEFORE THE EMERGENCY

Trip plans, communication layers and rescue information reduce delay.

PLAN THE RESCUE PATH

Make the emergency discoverable before it exists.

A good extraction plan tells another person where to look, when to worry, how to contact help and what equipment or medical limitations may shape the response.

1 PRE-TRIP PRIORITIES

- Leave a trip plan with route, camp area, dates, equipment, vehicle information and a firm overdue trigger.
- Research emergency numbers, ranger or land-manager contacts and communication coverage.
- Choose a satellite messenger or 406 MHz personal locator beacon appropriate to the trip; understand the device before departure.
- Register eligible beacons and keep owner, emergency contact and vessel or trip information current.
- Carry critical medical, shelter and signaling gear on the person when separation from the main kit is plausible.

2 COMMUNICATION HIERARCHY

- Primary: two-way satellite messenger or other reliable remote communication with a clear operating procedure.
- Emergency: registered personal locator beacon for grave and imminent distress when appropriate.
- Local: phone or radio where coverage and licensing permit; never assume service.
- Passive: trip plan, vehicle note, route record and expected-return trigger.
- Close-range: whistle, light, mirror, high-contrast panel and repeated visual or audible signals.

FIELD RULE

A rescue device is not a plan. The plan is the trip information, trigger time, device practice, battery discipline, shelter and decisions that keep the signal alive.

BUILD A SIGNAL STACK

Electronic, visual, audible and site signals reinforce one another.

REDUNDANCY WITHOUT CLUTTER

Use the strongest signal for the environment.

Signals fail for different reasons: canopy, terrain, battery, weather, noise, distance or poor visibility. Layer independent methods and preserve them for the moment they matter.

THE SIGNAL STACK



Use multiple independent signals. One failed layer should not erase the rescue plan.

METHOD	BEST CONDITIONS	STRENGTH	LIMIT
406 MHz PLB	Open sky, severe emergency, registered device.	Dedicated global distress system; long-life emergency battery.	Typically one-way; no casual messaging; must be registered and tested as directed.
Satellite messenger	Open sky with charged device and service.	Two-way status, location and emergency communication.	Subscription, battery, terrain and network limitations.
Whistle / voice	Close rescuers, quiet periods, timber or low visibility.	Light, durable and energy-efficient.	Shorter range; wind and terrain mask sound.
Mirror / light / panel	Daylight or darkness with line of sight.	Strong contrast and directionality.	Needs visibility, correct aiming and a searching observer.
Fire / smoke	Legal, safe fuel conditions and no wildfire restriction.	Visible and can provide warmth.	Can create wildfire, smoke or burn risk; never automatic.

BEACON ACTIVATION WORKFLOW

Protect the signal and make the site easier to find.

BUILD A REPEATABLE SEQUENCE

Activate deliberately, then sustain the rescue

Follow the device manufacturer and rescue authority instructions. Do not delay an emergency signal merely to create a perfect campsite or exact diagnosis.

1

CONFIRM THE EMERGENCY

Use the emergency function for grave or imminent danger, or according to the device and local authority guidance.

2

MOVE ONLY TO IMPROVE SAFETY OR SKY VIEW

If it can be done without harmful delay, leave deep cover or a canyon wall and reduce immediate hazards.

3

DEPLOY AND ACTIVATE

Position the antenna and device exactly as instructed. Keep it upright, unobstructed and powered.

4

LEAVE THE DEVICE OPERATING

Do not repeatedly switch it off or relocate without cause. Preserve line of sight to the sky.

5

SHELTER, TREAT AND DOCUMENT

Protect the person, note time and location, conserve energy and prepare information for rescuers.

6

GUIDE THE FINAL APPROACH

Use visible panels, lights, whistle or mirror. Keep people clear of rotor, boat and vehicle hazards.

BEACON DISCIPLINE

- Register the beacon and update contact information.
- Use only the manufacturer-approved test function.
- Know battery expiry and storage requirements.
- Carry the device where it remains reachable after a fall, capsize or pack loss.
- Cancel false alerts immediately through the appropriate authority.

STAY, MOVE OR PREPARE THE SITE

Movement changes both risk and the search problem.

ADAPT BEFORE CONDITIONS FORCE IT

Choose the option with the best rescue outcome

The safest-looking choice in the next five minutes may create a worse outcome over the next five hours. Consider medical condition, weather, terrain, signal quality and what rescuers know.

1 STAY WHEN

- The current site is safe enough to shelter and signal.
- A beacon position or trip plan gives rescuers a reliable search point.
- Injury, darkness, weather or terrain makes travel dangerous.
- Movement would enlarge the search area or reduce sky visibility.

2 MOVE WHEN

- Remaining exposes the person to flood, fire, avalanche, surf, falling trees or another immediate hazard.
- A short, certain route reaches clearly safer shelter or a much better signal site.
- The trip plan requires self-evacuation and the route, patient and conditions support it.
- The move can be communicated or reliably documented.

3 PREPARE THE EXTRACTION SITE

- Create the largest safe, visible approach area available without damaging protected resources.
- Secure loose objects; mark wires, branches, smoke and hazards.
- Place high-contrast signals clear of rotor wash, flame and moving water.
- Designate one person to communicate and one to control gear when in a group.

4 PREPARE INFORMATION

- Number of people, injuries, symptoms and changes.
- Location description, elevation, terrain, weather and access hazards.
- Treatments, medications, allergies and relevant medical history.
- Time of incident, signal activation, movement and water or food status.

MOVEMENT RULE

Do not move merely because waiting feels passive. Move because the new location is clearly safer, the route is controlled, and the change improves rather than confuses the rescue.

SELF-RESCUE & EXTRACTION FAILURE MODES

Do not let urgency erase control.

DIAGNOSE THE SYSTEM

Protect the patient, signal and search picture

Improvised movement can worsen injury and separate the group from the strongest signal. Use trained methods, minimize unnecessary handling and update rescuers when conditions change.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
No confirmation or message response	One-way device, obstructed sky, terrain or service limitation.	Leave emergency device operating as instructed; improve sky view only if safe; add visual and audible signals.
Battery is falling quickly	Cold, screen use, repeated messages or poor storage.	Warm spare power, dim screen, use scheduled communication and preserve emergency function.
Rescuers pass without seeing the site	Poor contrast, canopy, noise, smoke direction or unsafe approach.	Increase contrast and repeated signals; move loose hazards and signal from a visible safe point.
Patient worsens while waiting	Exposure, bleeding, dehydration, illness or delayed care.	Prioritize first aid, shelter and reassessment; update rescuers through available communication.
Self-evacuation is slower than planned	Terrain, injury, load or weather exceeded capability.	Stop before exhaustion; shelter, signal and provide updated location if possible.
Group members give conflicting signals	No communication lead or site control.	Assign one signal lead, one patient lead and one approach-safety role.

CASUALTY MOVEMENT

Move an injured person only to escape a greater immediate hazard or when trained evacuation is necessary. Protect the spine and injured limb according to current first-aid training; avoid improvised carries that risk a second casualty.

FIELD CARD, RED FLAGS & SOURCES

A rescue operating standard from trip plan to final approach.

CARRY THE STANDARD

Be seen, heard and found

Leave a trip plan, carry practiced communication, activate early when warranted, and protect the signal site.

FIELD CHECKLIST

- ☐ Leave route, camp, vehicle, dates, contacts and an overdue trigger with a responsible person.
- ☐ Register eligible 406 MHz beacons and keep information current.
- ☐ Practice device testing, activation and message procedures before the trip.
- ☐ Carry the emergency device where it remains accessible after a fall or pack loss.
- ☐ Use multiple independent signals: electronic, visual, audible and site contrast.
- ☐ Activate according to the device and emergency authority guidance.
- ☐ Keep the antenna unobstructed and device operating as instructed.
- ☐ Shelter the person, document condition and prepare rescue information.
- ☐ Move only for a clearly safer site or controlled self-evacuation.
- ☐ Secure loose hazards and guide rescuers from a safe visible point.

STOP / REASSESS

- The person cannot travel safely or is getting worse.
- Weather, darkness or terrain makes self-evacuation uncertain.
- Movement will reduce signal quality or confuse the search area.
- The extraction site has falling-tree, fire, flood, rotor or surf hazards.
- Battery management is threatening the emergency function.
- You are delaying a warranted distress signal to avoid embarrassment.

AUTHORITATIVE STARTING POINTS

NPS Trip Planning Guide

www.nps.gov/subjects/healthandsafety/trip-planning-guide.htm

Trip plans, emergency plans and communication preparation.

NPS Hike Smart

www.nps.gov/articles/hiking-safety.htm

Do not rely on cell service; consider emergency communication.

NOAA SRSAT Beacon Registration

www.sarsat.noaa.gov/register-your-beacon/

U.S. 406 MHz beacon registration and information updates.

NPS Ten Essentials

www.nps.gov/articles/10essentials.htm

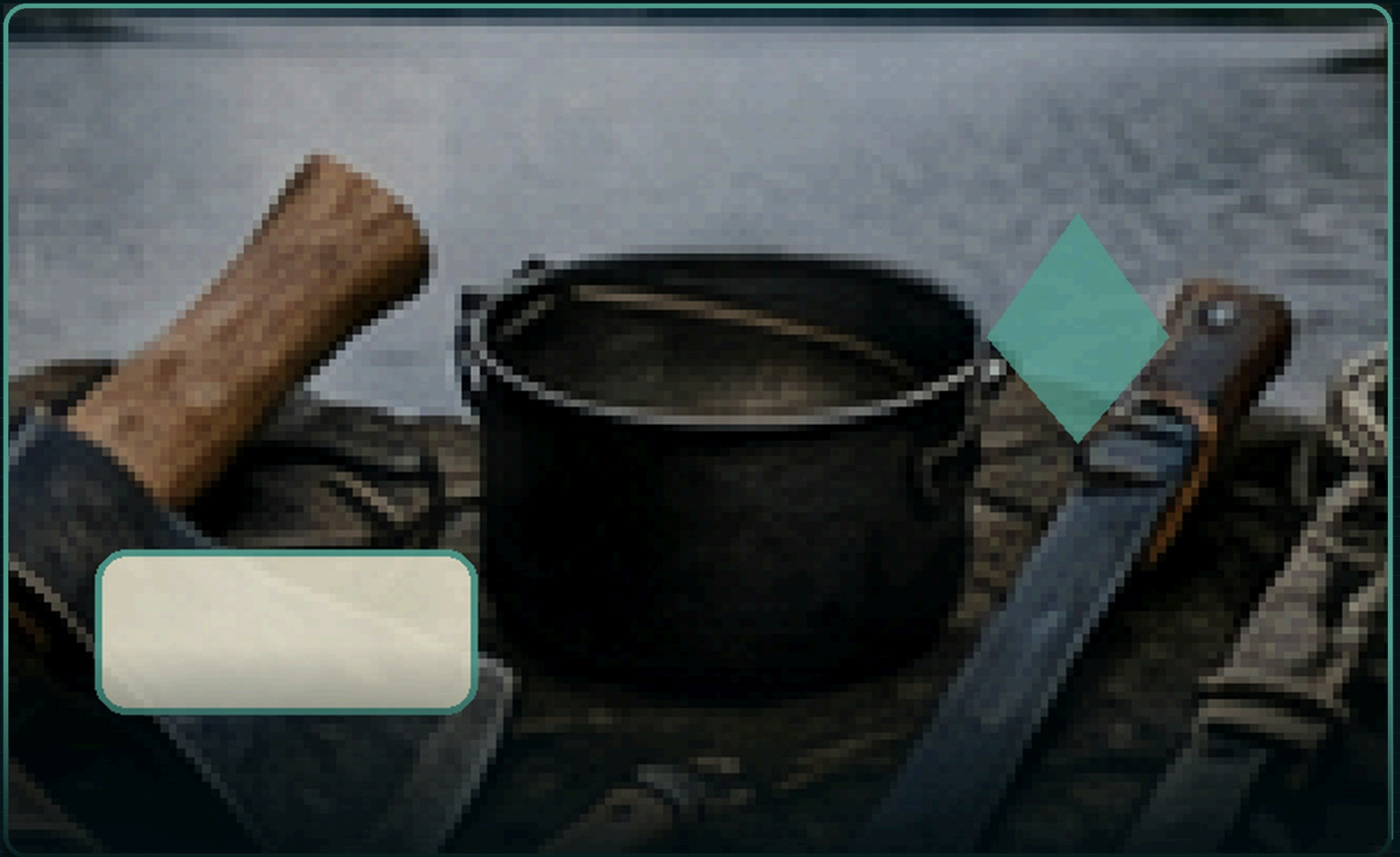
Illumination, first aid, repair, shelter and emergency equipment.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

WILDERNESS SANITATION, HYGIENE & BODY CARE GUIDE

Stay clean enough to stay capable.

[WATER](#)[WASTE](#)[FEET](#)[HYGIENE](#)

HYGIENE IS A PERFORMANCE SYSTEM

Clean hands, protected water, dry skin and disciplined waste zones preserve capability.

SEPARATE CLEAN FROM DIRTY

Design the camp so contamination must cross a visible boundary.

Long-duration hygiene is not cosmetic. It protects water, food, skin, feet, sleep, morale and the ability to keep working. The system must be simple enough to use when cold, tired and hungry.

1 CORE PRINCIPLES

- Separate raw water, treated water, food processing, handwashing, sleeping and waste activities.
- Wash hands at the moments that matter: after toileting, before food handling, after processing animals and after wound care.
- Keep treated-water containers, utensils and clean cloths from touching dirty surfaces or raw-water gear.
- Dry skin folds, feet, gloves, socks and bedding; moisture damage can become a mobility problem.
- Use local land-manager rules as the controlling standard for human waste and wastewater.

2 FIRST CAMP PRIORITIES

- Choose toilet and wastewater locations before urgency creates a bad one.
- Build a stable handwashing station that works without contaminating the water container.
- Create a clean drying line and a dirty holding area for wet or soiled items.
- Reserve one cloth or tool for food-contact cleaning and another for general camp dirt.
- Set a daily foot, skin, mouth and clothing inspection routine.

FIELD RULE

A hygiene system fails when the clean container, clean hand or clean utensil touches the dirty workflow. Make the boundary obvious.

WASTE & WASTEWATER

Local rules first; protect water and pack out what the place requires.

DISPOSE OF WASTE PROPERLY

Plan the method before the need.

Requirements vary by environment, season and agency. Some places require pack-out systems. Never assume a cathole or greywater practice is allowed simply because it is common elsewhere.

SYSTEM	GENERAL STARTING POINT	DO NOT
Local rules	Check land-manager requirements, closures, fire restrictions and pack-out rules before the trip.	Apply a generic backcountry rule where the agency requires a different method.
Human waste, where catholes are allowed	Choose a discreet site at least 200 feet from water, trails and camp; dig 6-8 inches deep, cover and disguise.	Use shallow soil, flood zones, beaches, alpine rock, frozen ground or high-use sites without verifying rules.
Toilet paper and hygiene products	Pack out toilet paper, wipes and menstrual products unless specific local guidance says otherwise.	Burn or bury synthetic wipes, packaging or hygiene products.
Pack-out systems	Carry approved waste bags or containers where required or where digging is unsuitable.	Wait until the emergency to learn sealing, storage or disposal procedures.
Dish and wash water	Move at least 200 feet from water where guidance applies; use minimal biodegradable soap, strain food particles and scatter wastewater broadly.	Wash dishes, bodies or clothing directly in streams or lakes.
Animal-processing waste	Follow wildlife, fishing and land-manager rules; keep processing and storage away from sleep and water systems.	Leave concentrated remains beside camp, trails or public access points.

DISTANCE IS NOT THE ONLY CONTROL

Slope, soil depth, flood risk, wildlife, visitor use and the exact agency rule matter. A site can be 200 feet away and still drain directly into water.

CAMP HYGIENE WORKFLOW

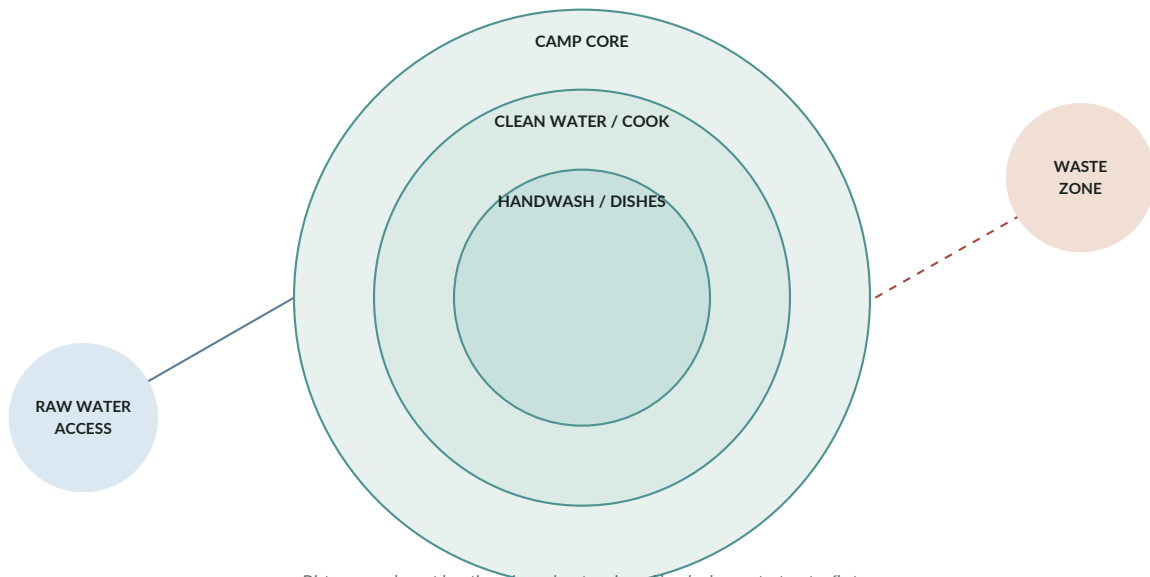
Move water and utensils through one direction: raw to treated to clean use.

DESIGN OUT CROSS-CONTAMINATION

The clean system should never backflow into the dirty system.

Use dedicated containers or unmistakable markings. Store raw-water tools separately, and do not dip dirty hands or vessels into treated-water storage.

SEPARATE THE SYSTEMS



1. COLLECT

Use the raw-water container and keep it outside the clean zone.

2. TREAT

Apply the chosen treatment correctly; allow required contact or cooling time.

3. STORE

Close the treated-water container and protect its spout or opening.

4. WASH HANDS

Use a controlled pour or spigot; avoid touching the outlet.

5. CLEAN DISHES

Scrape and strain food first; wash away from water according to local guidance.

6. DISPOSE

Scatter strained wastewater where allowed or use the required pack-out method.

ONE-WAY RULE

Raw-water hands and tools never touch the treated-water opening, clean cloth, eating utensil or wound-care kit. Reset the system immediately after any breach.

BODY CARE THAT PRESERVES MOBILITY

Small daily actions prevent large performance losses.

ADAPT BEFORE CONDITIONS FORCE IT

Inspect, clean, dry and protect

The schedule should be brief and repeatable. Pay special attention to feet, skin folds, hands, mouth and any area repeatedly exposed to friction or moisture.

1 FEET AND FOOTWEAR

- Inspect hot spots, blisters, cracks, swelling and numbness every day.
- Clean and dry feet; rotate socks and air footwear when conditions allow.
- Adjust lacing and friction points before pain changes gait.
- Protect damaged skin from dirt and continued abrasion.

2 SKIN, CHAFING AND HANDS

- Dry skin folds and change wet layers promptly.
- Reduce friction with fit changes, dry fabric and task modification.
- Keep nails short enough to avoid tearing but not cut into inflamed tissue.
- Cover cuts and monitor for spreading redness, warmth, swelling or drainage.

3 MOUTH AND DENTAL CARE

- Brush teeth and clean between them with safe tools on a regular schedule.
- Rinse cookware and drinking containers so residue does not build up.
- Do not use sharp improvised dental tools.
- Escalate severe pain, facial swelling, fever or inability to eat or drink.

4 CLOTHING, BEDDING AND MENSTRUAL CARE

- Separate sleep clothing from wet work clothing whenever possible.
- Air bedding and inspect for moisture, insects and odor sources.
- Pack out menstrual products and follow the same hand-hygiene standard.
- Store clean items where food, fuel, fish and animal-processing residue cannot reach them.

BODY CHECK

A two-minute inspection is cheaper than a two-day mobility problem. Record changes when pain, diarrhea, rash, wound drainage or foot damage persists.

FAILURE MODES & HEALTH RED FLAGS

Correct the contamination pathway, not only the symptom.

DIAGNOSE THE SYSTEM

Make the system easier to obey

A good hygiene system works in rain, darkness and fatigue. Place tools where they are used, label clean and dirty containers, and keep the routine short enough to repeat.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
Treated water tastes or smells contaminated	Dirty outlet, cross-use container, residue or ineffective treatment.	Stop using it, clean the system, retreat water and investigate the contamination source.
Repeated stomach illness in camp	Water, hand, dish, food or waste-system breach.	Simplify to strict clean/dirty zones; hydrate with safely treated water and seek medical help for red flags.
Persistent wet feet or skin breakdown	Insufficient drying, poor fit, friction or saturated clothing rotation.	Reduce exposure, dry and protect skin, change fit or task, and monitor closely.
Animals investigate hygiene or dish area	Food particles, scented products or concentrated wastewater.	Remove residues, improve storage and relocate or disperse wastewater according to rules.
Wound becomes more painful, red, swollen or draining	Possible infection or ongoing contamination.	Clean and protect according to current first-aid training; seek professional care or evacuation guidance.
Hygiene tasks are routinely skipped	System is too complex, poorly located or consumes too much water.	Reduce steps, place supplies at point of use and build the task into morning and evening routines.

SEEK HELP / EVACUATION GUIDANCE

Persistent inability to hydrate, blood in stool, severe abdominal pain, fever with worsening illness, spreading wound redness, pus, severe foot damage, facial swelling, confusion or marked weakness require prompt professional medical evaluation.

FIELD CARD, RED FLAGS & SOURCES

A practical hygiene standard for long-duration camp.

CARRY THE STANDARD

Stay clean enough to stay capable

Protect water, separate clean and dirty workflows, and inspect the body before small problems become mobility problems.

FIELD CHECKLIST

- ☐ Verify local human-waste, wastewater and pack-out rules.
- ☐ Keep raw-water equipment separate from treated-water storage.
- ☐ Wash hands after toileting and animal processing, and before food or wound care.
- ☐ Protect treated-water outlets from dirty hands and containers.
- ☐ Strain food from dishwater and dispose of wastewater according to local guidance.
- ☐ Pack out toilet paper, wipes and hygiene products where required.
- ☐ Inspect and dry feet, skin folds, gloves, socks and bedding daily.
- ☐ Brush teeth and protect cuts from repeated dirt and friction.
- ☐ Store clean clothing and medical supplies away from food and processing residue.
- ☐ Record persistent illness, skin damage or wound changes and escalate early.

STOP / REASSESS

- The clean-water outlet was contaminated.
- Human waste or wastewater could reach water, trail or camp.
- Diarrhea or vomiting prevents adequate hydration.
- A wound shows spreading redness, swelling, pus or worsening pain.
- Foot or skin damage changes gait or hand function.
- The hygiene system is so complex that it is not being used.

AUTHORITATIVE STARTING POINTS

NPS: Dispose of Waste Properly

home.nps.gov/articles/000/ldkt_int_3.htm

Local-rule priority, cathole and pack-out starting guidance.

Leave No Trace: Dispose of Waste Properly

lnt.org/why/7-principles/dispose-of-waste-properly/

Human waste, toilet paper, wastewater and soap practices.

NPS Leave No Trace Principles

www.nps.gov/articles/leave-no-trace-seven-principles.htm

Planning, durable surfaces, waste and camp-impact principles.

NPS Ten Essentials

www.nps.gov/articles/10essentials.htm

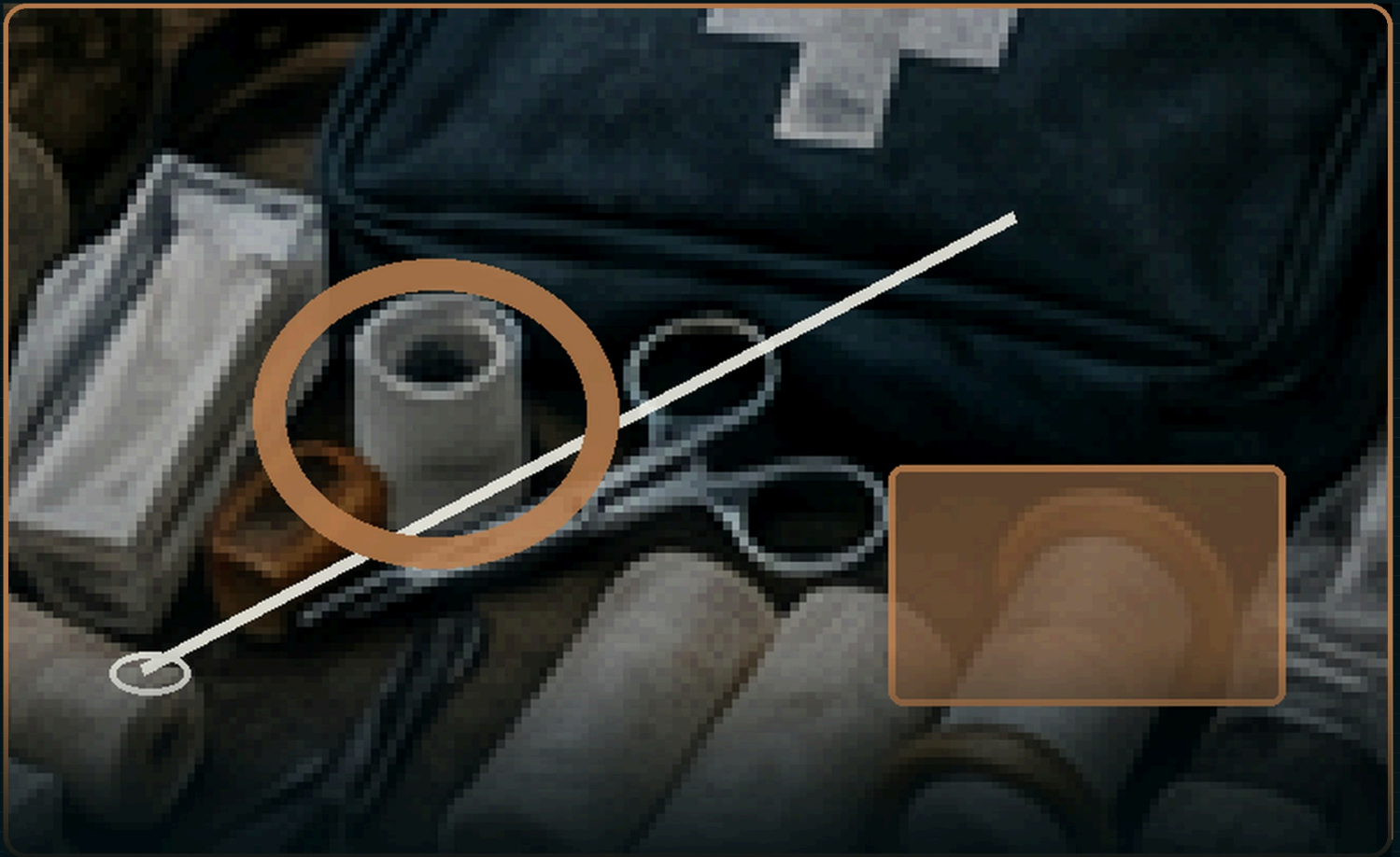
Water treatment, first aid and repair readiness.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

FIELD SEWING, MENDING & GEAR REPAIR GUIDE

Repair early. Replace nothing.

[STITCH](#)[PATCH](#)[SEAL](#)[TEST](#)

REPAIR IS A TRIAGE SYSTEM

Stabilize the failure, preserve function and avoid hiding structural damage.

REPAIR EARLY

A five-minute stitch today can prevent a destroyed garment tomorrow.

Repair work should begin with the consequence of failure. Protect life safety, weatherproofing, load-bearing function and mobility before appearance or comfort.

1 REPAIR PRIORITIES

- Life safety: damaged climbing, rescue, fire or load-bearing equipment requires manufacturer or professional guidance - do not improvise critical structural repairs.
- Weather barrier: stop water and wind from reaching insulation and skin.
- Mobility: restore footwear, pack suspension, gloves and clothing needed to move safely.
- Containment: stop a tear, seam or delamination from spreading beyond repair.
- Comfort: address noncritical abrasions, pockets and cosmetic damage after essential functions are stable.

2 BEFORE SEWING OR GLUING

- Inspect the entire item; the visible tear may be the final symptom of a larger failure.
- Clean and dry the area. Dirt, oil and moisture weaken stitches, tape and adhesive.
- Unload tension and align edges without stretching the material out of shape.
- Choose temporary, field-stable or permanent repair according to time, tools and material.
- Record repairs on critical gear and reinspect after the next load, wetting or temperature cycle.

FIELD RULE

A repair is successful when it restores the required function and can be inspected. A hidden failure is merely waiting for worse timing.

ESSENTIAL FIELD STITCHES

Choose the stitch for load direction, edge condition and access.

STITCH WITH PURPOSE

Small, even and locked beats heroic tangles.

Use a needle and thread appropriate to the fabric. Keep tension firm enough to close the repair without puckering or cutting the material.

RUNNING STITCH



Fast temporary closure and basting. Not ideal alone for high stress or a spreading tear.

BACKSTITCH



Strong hand seam when access is available from one side. Useful for loaded fabric seams.

WHIP / OVERCAST



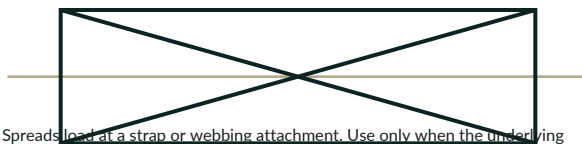
Binds an edge and limits fraying. Keep bites far enough from a damaged edge.

LADDER / SLIP



Closes a slit with a low-profile seam. Avoid excessive tension that puckers the fabric.

BOX-X REINFORCEMENT



Spreads load at a strap or webbing attachment. Use only when the underlying material is sound.

FABRIC, GARMENT & SHELL REPAIRS

Match the patch to the stress and the weather barrier.

ADAPT BEFORE CONDITIONS FORCE IT

Contain first, then rebuild

Round patch corners, extend beyond damaged fibers and avoid creating a hard edge that concentrates stress. Follow product and garment instructions for waterproof membranes and insulated items.

1 TEARS AND PUNCTURES

- Stop the tear tip with a small controlled stitch only when appropriate for the material.
- Align edges without stretching; place the patch on the side best protected from abrasion.
- Extend the patch beyond sound material and round the corners.
- Reinspect after flexing, wetting and drying.

2 FAILED SEAMS

- Remove only loose thread that interferes with alignment.
- Recreate the original seam allowance where possible.
- Backstitch high-stress seams and lock both ends.
- Do not sew through waterproof layers unnecessarily.

3 WATERPROOF SHELLS AND TARPS

- Clean and dry fully; use compatible tape or adhesive.
- Patch both sides when the product instructions call for it.
- Avoid open flame or uncontrolled heat near coated fabrics.
- Test with gentle water before returning to full exposure.

4 SOCKS, GLOVES AND INSULATION

- Darn around sound fibers rather than cinching a hole closed.
- Prevent hard knots at pressure points inside socks or gloves.
- Contain loose insulation before closing the shell.
- Preserve loft; a flat repair can create a cold spot.

PATCH GEOMETRY

A patch should be larger than the damaged zone, supported by sound material and shaped without sharp corners. The best-looking repair is not always the strongest; the load path matters.

LOAD-BEARING & HARDWARE REPAIRS

Restore function without pretending field work is factory certification.

TEMPORARY IS A VALID CATEGORY

Name the limit of the repair.

Some repairs preserve a walk-out or protect gear until replacement. Mark temporary work, reduce load and inspect constantly. Never field-certify life-safety equipment.

SYSTEM	FIELD APPROACH	LIMIT / RED FLAG
Pack strap or webbing	Unload; inspect the anchor; use broad overlap and a box-X or multiple bar tacks through sound material.	Torn frame, cracked buckle at a primary load point, or fabric delamination requires load reduction and replacement.
Boot upper or sole edge	Clean, dry, align and use compatible adhesive, stitching or wrap without creating pressure points.	Separated midsole, broken shank, loss of traction or repair that changes gait.
Tarp / shelter tie-out	Distribute load with a broad patch, folded reinforcement, smooth toggle or alternate tie-out.	Do not concentrate tension at a new hole or sharp object.
Zipper or buckle	Clean track, realign slider, add temporary closure or replace modular buckle if compatible.	Forcing a damaged zipper can destroy teeth; primary harness buckles may be nonrepairable.
Tool sheath / pouch	Restore retention and edge protection; keep sharp tools from contacting the repair thread.	Discard or redesign if the blade can escape or cut the wearer.
Cord, line or webbing splice	Use the correct knot, splice or replacement for the material and load.	Never use an improvised splice for climbing, rescue or suspension of people.

MARK THE LIMIT

Tag temporary repairs, note the date, material, method and reduced-load rule. Reinspect after every high load, wet-dry cycle, freeze-thaw cycle or long abrasion event.

FAILURE MODES & REPAIR KIT

The second failure usually reveals the first diagnosis was incomplete.

DIAGNOSE THE SYSTEM

Build a repair kit around the actual gear

Carry needles, thread, awl, thimble, compatible tape and adhesive, small scissors, spare cord, webbing, buckle parts, patches, wax and manufacturer-specific items that match the equipment.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
Stitches pull through fabric	Bites are too close to the edge, thread too thin or material already degraded.	Move into sound material, add a broad backing patch and reduce load.
Patch peels in cold or wet	Surface contamination, incompatible adhesive or inadequate cure.	Clean and dry, warm within product limits, use mechanical reinforcement or replace.
Repair puckers or creates pressure point	Tension too high, patch too stiff or seam geometry changed.	Remove and restitch with even tension; soften or reposition the repair.
Boot repair changes gait	Asymmetric build-up, hard knot or sole misalignment.	Stop and correct; protect feet and reduce travel before secondary injury develops.
Strap repair stretches under load	Thread, stitch pattern, overlap or substrate is inadequate.	Unload, increase overlap through sound material and classify the repair as temporary.
Repeated failure at same location	Underlying design, fit, abrasion or load path remains wrong.	Correct the cause, add chafe protection or retire the item.

REPAIR RECORD

Item; damage; likely cause; temporary or permanent; materials used; load restriction; next inspection; result after wetting, cold, heat or use. A short record prevents forgotten limits.

FIELD CARD, RED FLAGS & SOURCES

A practical repair standard for clothing, shelter and carry systems.

CARRY THE STANDARD

Repair early; replace nothing blindly

Triage by consequence, clean and dry the surface, restore the load path, and state the limit of the repair.

FIELD CHECKLIST

- ☐ Classify the failure: life safety, weather barrier, mobility, containment or comfort.
- ☐ Inspect beyond the visible tear for degraded fabric, anchors, hardware and abrasion.
- ☐ Unload, clean and dry before stitching, taping or gluing.
- ☐ Use the stitch and thread that match the material and direction of load.
- ☐ Place patches over sound material with rounded corners and adequate overlap.
- ☐ Protect waterproof membranes and insulation loft.
- ☐ Reduce load on temporary strap, boot and shelter repairs.
- ☐ Never improvise certification of climbing, rescue or person-suspension equipment.
- ☐ Mark temporary work and reinspect after loading and environmental cycles.
- ☐ Correct the abrasion, fit or load problem that caused the damage.

STOP / REASSESS

- The repair involves climbing, rescue or human suspension.
- Underlying fabric, frame or anchor is rotten, delaminated or cracked.
- Footwear repair changes gait, traction or circulation.
- A sheath or pouch can no longer retain a sharp tool.
- Adhesive will not cure under field conditions.
- The same location fails repeatedly despite repair.

AUTHORITATIVE STARTING POINTS

NPS Ten Essentials

www.nps.gov/articles/10essentials.htm

Repair kit and tools as part of emergency readiness.

NPS Trip Planning Guide

www.nps.gov/subjects/healthandsafety/trip-planning-guide.htm

Equipment preparation, backup planning and emergency readiness.

NPS Leave No Trace Principles

www.nps.gov/articles/leave-no-trace-seven-principles.htm

Minimize camp impacts and pack out synthetic repair waste.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

NATURAL MATERIALS & IMPROVISED GEAR GUIDE

Build with what the landscape gives you.



WOOD

BARK

FIBER

TEST

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

MATERIAL CHOICE IS ENGINEERING

Legality, identification, properties and testing come before the project.

USE WHAT IS LEGAL

Dead and down does not automatically mean available.

Natural materials can replace containers, handles, fasteners and simple camp hardware, but collection rules vary widely. Protect living plants, cultural resources, wildlife habitat and high-use sites.

1 SELECTION PRINCIPLES

- Verify land ownership, protected-species rules, harvesting limits and fire restrictions before collecting.
- Use dead and down material where permitted; avoid cutting live trees or stripping bark from living trunks.
- Identify the material before food contact, burning, skin contact or structural use.
- Match strength, flexibility, abrasion resistance, water behavior and decay rate to the task.
- Test a small sample before investing calories or depending on the finished item.

2 DESIGN PRIORITIES

- Prefer reversible projects that can be dismantled and scattered or packed out.
- Use simple replaceable parts: pegs, toggles, wedges, lashings and sleeves.
- Keep sharp edges and abrasive fibers away from cordage, skin and waterproof fabric.
- Do not use unknown wood, bark, resin, stone or shell in food-contact or medical applications.
- Reinspect natural materials after wetting, drying, freezing, heat and load cycles.

FIELD RULE

The landscape is not free inventory. Take only what is legal, necessary and replaceable; leave the site looking and functioning like a natural place.

MATERIAL SELECTION MATRIX

Choose by property and risk, not by appearance.

TEST THE SAMPLE

Know how it bends, splits, swells and fails.

The same species can behave differently when green, dry, decayed, frozen or waterlogged. Reject unknown, contaminated, protected or structurally degraded material.

MATERIAL	USEFUL PROPERTIES	COMMON USES	TEST / CAUTION
Dead, sound wood	Compression strength, carveability, predictable grain.	Pegs, toggles, wedges, handles, racks, spoons.	Reject punky wood, checks at load points and hidden rot.
Naturally shed bark or bark harvested where lawful	Sheet form, water shedding, moderate stiffness.	Containers, shingles, pads, sleeves, scoops.	Never girdle live trees; identify species and food-contact safety.
Roots, withes and flexible shoots where collection is lawful	Bending and binding with low hardware demand.	Basket frames, lashings, hoops, ties.	Test wet and dry; living harvest can damage plants and may be prohibited.
Plant fibers and inner bark from approved sources	Twist, braid and netting potential.	Cordage, ties, wicks, soft lashings.	Some fibers irritate skin or weaken sharply when wet.
Resin / pitch from legal sources	Adhesion, sealing and water resistance.	Noncritical sealing, tack and repair compounds.	Flammable, heat-sensitive, variable and often unsuitable for food contact.
Stone, shell or naturally shed antler where lawful	Hard edge, abrasion and compression resistance.	Scrapers, burnishers, weights, wedges.	Cultural artifacts and remains are protected; sharp fracture can injure.
Snow and ice	Moldable, insulating in depth, temporary mass.	Wind blocks, cooling, temporary forms.	Ventilation, collapse, meltwater and cold-injury hazards.

MATERIAL TEST BEFORE COMMITMENT

- 1

IDENTIFY
Know the species or material. Reject toxic, rotten or protected resources.
- 2

BEND
Test flexibility and recovery. Listen for cracking.
- 3

LOAD
Apply a controlled load far below the final demand.
- 4

WET
Check swelling, slip, delamination and loss of strength.
- 5

AGE
Reinspect after heat, cold, abrasion and repeated cycles.

FASTENERS & STRUCTURAL PARTS

Simple geometry converts imperfect materials into reliable camp hardware.

BUILD REPLACEABLE COMPONENTS

Pegs, toggles, wedges and lash points are easy to inspect.

Avoid depending on one carved joint or one brittle branch. Spread load, round contact surfaces and design parts that can be replaced without rebuilding the entire system.

1



PEG

Taper the working end, leave a strong shoulder, and strike only sound end grain. Use for ground anchors where soil and rules permit.

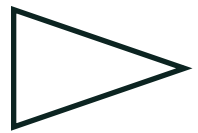
2



TOGGLE

A smooth crosspiece spreads load in a loop or behind a fabric reinforcement. Round edges to protect cord and cloth.

3



WEDGE

Converts driving force into clamping or splitting. Use gradual taper and avoid brittle material near hands.

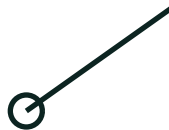
4



SPLINT

Bridges a broken handle, pole or container wall. Extend well beyond damage and lash over sound material.

5



HANDLE

Follow straight grain, smooth transitions and secure mechanical retention. Test with light controlled loads first.

6



LASH POINT

Use a notch, saddle or broad contact surface that prevents slip without cutting fibers.

LOAD TEST

Test every new component with a light controlled load, then a moderate load away from the body. Stop at cracking, permanent bending, slipping, fiber damage or an unexpected sound.

CONTAINERS & CAMP IMPLEMENTS

Build only what saves work, protects resources or solves a repeated problem.

ADAPT BEFORE CONDITIONS FORCE IT

Utility before ornament

A natural-material project should reduce future calories, protect food or water, improve organization, or replace a failed tool. Otherwise it is expensive decoration.

1 BARK AND FOLDED CONTAINERS

- Use only lawfully gathered, positively identified material.
- Fold so water or contents press seams closed rather than open.
- Use smooth pegs or stitches; avoid punctures near the load line.
- Do not assume unknown bark is food-safe or heat-safe.

2 WOVEN BASKETS AND FRAMES

- Build a sound rim and base before filling the walls.
- Alternate flexible elements evenly to prevent a weak side.
- Dry slowly and retighten after shrinkage.
- Use liners for small, wet or food-contact contents when appropriate.

3 SPOONS, PADDLES AND SCOOPS

- Follow straight grain and leave thickness at the neck.
- Round all hand and mouth contact surfaces.
- Avoid toxic or highly aromatic unknown species.
- Dry and inspect for cracks before repeated food use.

4 RACKS, FUNNELS AND ORGANIZERS

- Use tripods, crossbars and broad supports rather than deeply cutting live trees.
- Keep drying racks away from fire and animal access.
- Use clean nonabsorbent liners for treated-water funnels.
- Dismantle temporary structures before leaving where required.

FOOD-CONTACT CAUTION

Identification matters. Unknown wood, bark, resin, fungi, pigments and plant fibers may be toxic, allergenic, irritating or contaminated. Use known safe materials and current regional guidance.

FAILURE MODES & SITE RESTORATION

Natural materials change after the first wet, dry, freeze and load.

DIAGNOSE THE SYSTEM

Design for inspection and removal

Avoid burying hardware, cutting living trees or leaving dangerous points. Dismantle temporary work, scatter natural material where appropriate and pack out synthetic additions.

FAILURE SIGNAL	LIKELY CAUSE	BEST CORRECTION
Peg splits when driven	Cross grain, brittle material, abrupt taper or impact on weak end.	Select straight-grained wood, make a gradual taper and reduce impact.
Lashing slips after rain	Material swelled, stretched or surface became slick.	Add mechanical stop, retension after wetting and use a more suitable cordage.
Container leaks at seams	Fold direction, puncture or shrinkage opened the seam.	Refold so load closes the seam; add liner or retire from liquid use.
Handle loosens during use	Poor grain, inadequate shoulder or wet-dry movement.	Stop use, rebuild retention and test under controlled load.
Pitch or resin softens near heat	Material is temperature-sensitive.	Remove from heat and use mechanical fastening or a compatible alternative.
Project consumes more time than it saves	Overbuilding, wrong material or low-value task.	Stop. Salvage reusable parts and return to a simpler system.

RESTORATION WORKFLOW

Remove cord, wire, tape and synthetic material. Dismantle structures unless specifically permitted. Disperse dead-and-down material naturally, replace moved rocks where appropriate, erase concentrated trampling and leave cultural or natural objects where found.

FIELD CARD, RED FLAGS & SOURCES

A legal, low-impact standard for improvised camp gear.

CARRY THE STANDARD

Use what is legal; build what lasts

Identify, test and choose materials by property. Protect living systems and dismantle what should not remain.

FIELD CHECKLIST

- ☐ Verify land ownership, harvest rules, protected species and site restrictions.
- ☐ Prefer dead and down material where permitted; do not strip bark from living trees.
- ☐ Leave artifacts, bones, antlers and culturally significant objects where rules require.
- ☐ Identify material before food, skin, fire or medical contact.
- ☐ Test bend, load, wet behavior and age before depending on the item.
- ☐ Round contact surfaces and protect cordage, skin and fabric from sharp edges.
- ☐ Use replaceable pegs, toggles, wedges, lashings and splints.
- ☐ Avoid pitch or resin near heat and in unknown food-contact uses.
- ☐ Reinspect after wetting, drying, freezing and repeated load.
- ☐ Remove synthetic additions and restore the site before leaving.

STOP / REASSESS

- The material is unknown, protected, contaminated or culturally significant.
- Harvest would damage a living tree, root system or wildlife habitat.
- The item will support a person or other life-safety load.
- Cracking, slip, permanent bend or delamination appears during testing.
- Food contact depends on an unidentified material.
- The project is consuming more energy than the problem justifies.

AUTHORITATIVE STARTING POINTS

NPS Leave No Trace Principles

www.nps.gov/articles/leave-no-trace-seven-principles.htm

Leave natural objects, avoid damage and minimize structures.

Leave No Trace: Leave What You Find

lnt.org/why/7-principles/leave-what-you-find/

Protect living trees, natural objects and cultural resources.

NPS Trip Planning Guide

www.nps.gov/subjects/healthandsafety/trip-planning-guide.htm

Research regulations and land-specific requirements before travel.

VERIFY BEFORE FIELD USE

Rules, access, weather, emergency procedures and land-use practices change. Confirm local requirements, current forecasts, device registration, medical guidance and land-manager instructions before deployment.

NORTHERN VANCOUVER ISLAND PLANT FIELD GUIDE

Quatsino coastal rainforest • Seasons 1, 2, 4



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Trees, edible plants, toxic look-alikes and traditional-use species of the wet Pacific coast.

Filming region: Quatsino Sound and the northern Vancouver Island coastal rainforest, British Columbia, Canada

Alone season(s): 1, 2, 4

Ecology: Coastal temperate rainforest, estuary, bog, shoreline and disturbed camp edges

The northern Vancouver Island filming region lies in one of the wettest temperate forests in North America. Western redcedar, western hemlock and Sitka spruce dominate many sites, while salal, huckleberries, salmonberry, ferns and mosses form a dense understory. Salt spray, bogs, tidal edges and logging disturbance create sharp changes in plant communities over short distances.

FIELD PRIORITIES

- Learn the three dominant conifers before using bark, roots, pitch or boughs.
- Treat every white-flowered wetland plant as hazardous until water hemlock is ruled out.
- Use berry color only as a supporting clue; leaf shape, stem form, flower and habitat must agree.
- Harvest lightly. Many coastal plants are culturally important and slow to recover in saturated soils.
- Do not eat mushrooms from this guide; fungi require a separate expert-reviewed manual.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

1**1. PLACE**

Record habitat, moisture, slope, elevation and nearby dominant plants.

2**2. FORM**

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.

3**3. LEAVES**

Check arrangement, shape, edge, veins, hairs, odor and underside.

4**4. STEM & BARK**

Look for thorns, sap, pith, lenticels, buds, twig color and texture.

5**5. FLOWER / FRUIT**

Count petals, inspect clusters, seed structures and fruit attachment.

6**6. CROSS-CHECK**

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

WESTERN REDCEDAR

TREE / WOODY

Thuja plicata

IDENTIFY

Flat sprays of scale-like leaves; small upright oval cones; fibrous reddish-brown bark that pulls in long strips; drooping leader.

HABITAT & SEASON

Moist lowlands, stream margins, seepage slopes and old coastal forest. Season: Year-round

DOCUMENTED USE

Durable, easily split wood for boards, stakes, shingles and containers. Published Indigenous technologies include cordage, mats and baskets made from carefully prepared bark and roots.

CAUTION

Do not ring-bark living trees. Cedar dust and fresh foliage may irritate sensitive people; internal medicinal use is not recommended.

LOOK-ALIKES

Yellow-cedar has sharper, more aromatic scale leaves and rounder cones.

1

WESTERN HEMLOCK

TREE / WOODY

Tsuga heterophylla

IDENTIFY

Short flat needles of unequal length with two pale bands below; tiny pendant cones; slender drooping top; bark becomes furrowed and dark.

HABITAT & SEASON

Cool, shaded coastal forest, nurse logs and moist slopes. Season: Year-round

DOCUMENTED USE

Straight-grained wood for poles and light structures. Young boughs can provide springy bedding when used sparingly.

CAUTION

Hemlock the tree is not poison hemlock, but the shared common name causes dangerous confusion. Never use a name alone for identification.

LOOK-ALIKES

Pacific yew has flat needles without pale undersides and red arils; Douglas-fir needles are more evenly arranged.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

SITKA SPRUCE

TREE / WOODY

Picea sitchensis

IDENTIFY

Stiff sharp four-sided needles; large thin-scaled hanging cones; gray-brown scaly bark; massive buttressed trunks near the coast.

HABITAT & SEASON

Shorelines, estuaries, river terraces and wind-exposed coastal forest. Season: Year-round

DOCUMENTED USE

Strong wood for poles and split kindling. Flexible roots have documented use in lashing and basketry after skilled preparation.

CAUTION

Needles are extremely sharp. Resin can contaminate eyes and wounds. Take roots only from downed material or with permission.

LOOK-ALIKES

Western hemlock needles are soft and flat; shore pine needles occur in bundles of two.

3

DOUGLAS-FIR

TREE / WOODY

Pseudotsuga menziesii var. *menziesii*

IDENTIFY

Single soft needles with a citrus-resin scent when crushed; cones have distinctive three-pointed bracts extending beyond the scales; deeply furrowed bark on old trees.

HABITAT & SEASON

Drier slopes, rocky benches and disturbed forest, less common on the wettest coastal sites. Season: Year-round

DOCUMENTED USE

High-value structural poles and dense fuelwood. Resinous dead twigs can assist fire starting when dry.

CAUTION

Do not confuse with true firs, whose cones stand upright and fall apart on the branch. Avoid ingesting resin.

LOOK-ALIKES

Grand fir has flat needles in two rows and upright cones without protruding bracts.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

RED ALDER

TREE / WOODY

Alnus rubra

IDENTIFY

Oval leaves with rolled-under margins and prominent parallel veins; smooth gray bark often mottled with lichens; woody cone-like female catkins persist.

HABITAT & SEASON

Slides, streambanks, road edges, clearings and young forest. Season: Spring to fall for leaves; year-round bark and wood

DOCUMENTED USE

Fast-growing poles, pegs and smoking wood. Alder wood burns evenly once seasoned; green wood is useful for low-smoke cooking racks only after safe setup.

CAUTION

Bark and leaf preparations have traditional uses but may cause reactions; do not self-medicate. Wet alder is poor emergency fuel.

LOOK-ALIKES

Paper birch has peeling white bark; hazelnut has toothed leaves and bristly husks.

5

BIGLEAF MAPLE

TREE / WOODY

Acer macrophyllum

IDENTIFY

Very large opposite leaves with five broad lobes; paired winged seeds; greenish bark on young trees, often thick with mosses and licorice fern.

HABITAT & SEASON

Floodplains, lower slopes, forest edges and rich disturbed ground. Season: Spring through fall

DOCUMENTED USE

Broad leaves can serve as short-lived work-surface liners. Hard wood is useful for carved utensils, wedges and tool handles when seasoned.

CAUTION

Wilted maple leaves should not be fed to livestock. Moss-covered branches can hide decay; test wood before loading.

LOOK-ALIKES

Vine maple is smaller with more delicate, usually seven- to nine-lobed leaves.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

SALAL

DOCUMENTED EDIBLE

Gaultheria shallon

IDENTIFY

Evergreen leathery oval leaves with fine teeth; pink-white urn-shaped flowers; dark purple-black berries in clusters on reddish stems.

HABITAT & SEASON

Forest edges, open conifer woods, rocky bluffs and coastal thickets. Season: Late summer through fall

DOCUMENTED USE

Ripe berries are documented food and can be eaten fresh or mashed and dried. Leaves have published traditional beverage and medicinal uses.

CAUTION

Only consume fully identified ripe fruit. Berries may carry animal contamination; wash or cook when conditions permit.

LOOK-ALIKES

Evergreen huckleberry has smaller pointed leaves and berries with a crown-like calyx scar.

7

SALMONBERRY

DOCUMENTED EDIBLE

Rubus spectabilis

IDENTIFY

Arching prickly canes; three-part or deeply lobed leaves; bright magenta flowers; raspberry-like fruits ranging from yellow to red.

HABITAT & SEASON

Wet thickets, streambanks, slide tracks and forest openings. Season: Late spring to midsummer

DOCUMENTED USE

Ripe fruits are edible and water-rich. Young peeled shoots have documented traditional food use when collected at the proper stage.

CAUTION

Avoid moldy berries and heavily road-sprayed patches. Canes can tear skin and clothing.

LOOK-ALIKES

Thimbleberry lacks prickles and has large soft maple-like leaves.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

EVERGREEN HUCKLEBERRYDOCUMENTED EDIBLE

Vaccinium ovatum

IDENTIFY
Dense evergreen shrub with small glossy sharply toothed leaves; pink urn-shaped flowers; blue-black berries with a small crown.

HABITAT & SEASON
Coastal forest edges, dry hummocks, old logs and openings. Season: Late summer through fall

DOCUMENTED USE
Ripe berries are edible fresh or cooked. Dense twiggy growth also provides light brush material for screening and small brooms.

CAUTION
Do not rely on dark berry color alone. Check the woody shrub, alternate leaves and crown at the fruit tip.

LOOK-ALIKES
Salal leaves are larger and rounder; privet and other garden escapes lack the typical *Vaccinium* flower and fruit crown.

9

RED HUCKLEBERRYDOCUMENTED EDIBLE

Vaccinium parvifolium

IDENTIFY
Fine green angular twigs; small thin oval leaves; translucent red berries borne singly; delicate open shrub.

HABITAT & SEASON
Rotting logs, stumps and moist shaded forest. Season: Midsummer through early fall

DOCUMENTED USE
Ripe berries are edible and tart. The species is an indicator of decayed wood and moist organic microsites.

CAUTION
Fruit is small and easily contaminated by soil splash. Positive identification requires the green twig and *Vaccinium* fruit crown.

LOOK-ALIKES
Red baneberry fruits are in upright clusters and the herb has divided leaves, not woody green twigs.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

PACIFIC CRABAPPLE

DOCUMENTED EDIBLE

Malus fusca

IDENTIFY

Small thorny or spur-branched tree; oval toothed leaves; white-pink apple blossoms; small yellow to reddish apples with a persistent calyx.

HABITAT & SEASON

Estuary margins, wet meadows, stream edges and coastal thickets. Season: Fall

DOCUMENTED USE

Fruit is edible after positive identification, often improved by cooking or drying. Hard wood is suitable for small pegs and tool parts.

CAUTION

Seeds contain cyanogenic compounds and should not be crushed or eaten in quantity. Avoid fruit from polluted estuaries.

LOOK-ALIKES

Hawthorn has more obvious thorns and lobed leaves; ornamental crabapples may occur near settlements.

11

STINGING NETTLE

DOCUMENTED EDIBLE

Urtica dioica subsp. gracilis

IDENTIFY

Opposite sharply toothed leaves on square-ish fibrous stems; translucent stinging hairs; small green hanging flower clusters.

HABITAT & SEASON

Rich disturbed soil, river terraces, old camps and forest openings. Season: Young shoots in spring; fiber later

DOCUMENTED USE

Young tops are documented food only after thorough cooking or drying disables the stings. Mature stems yield strong bast fiber with skilled processing.

CAUTION

Wear gloves. Do not eat raw. Avoid plants after flowering if you have kidney disease or are using medications unless a clinician approves.

LOOK-ALIKES

Dead-nettles have showier flowers and non-stinging hairs; mint relatives smell aromatic.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

WESTERN WATER HEMLOCK

TOXIC - AVOID

Cicuta douglasii

IDENTIFY

Tall wetland perennial with divided leaves, umbrella-like white flower clusters and thick chambered rootstocks; leaf veins often end in the notches between teeth.

HABITAT & SEASON

Marshes, ditches, wet meadows and slow stream margins. Season: Spring through fall

DOCUMENTED USE

No survival use. Treat as a no-touch, no-taste plant and teach its habitat before collecting any wetland roots or celery-like greens.

CAUTION

Extremely poisonous; small amounts can cause violent seizures and death. Roots are especially dangerous. Seek emergency help immediately after suspected exposure.

LOOK-ALIKES

Cow parsnip and angelica also have white umbels but differ in leaf form, stem and root structure. Never resolve this group by smell or taste.

13

DEATH CAMAS

TOXIC - AVOID

Toxicoscordion venenosum

IDENTIFY

Grass-like basal leaves; cream to greenish six-tepaled star flowers in an upright cluster; onion-like bulb but no onion odor.

HABITAT & SEASON

Open meadows, rocky coastal bluffs and seasonally wet grasslands. Season: Spring to early summer

DOCUMENTED USE

No food use. Learn it before harvesting any wild onion or edible bulb.

CAUTION

All parts are poisonous and cooking does not make them safe. Lack of onion smell is a warning, not a complete test.

LOOK-ALIKES

Wild onions have a clear onion odor in leaves and bulbs; blue camas has blue flowers but should still be harvested only by experts.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

PACIFIC YEW

TOXIC - AVOID

Taxus brevifolia

IDENTIFY

Small understory tree with flat dark green needles arranged in two ranks; thin reddish-purple scaly bark; single red cup-like arils around a hard seed.

HABITAT & SEASON

Shaded old forest, ravines and moist slopes. Season: Year-round

DOCUMENTED USE

Dense elastic wood has documented use for bows, wedges and tools where legal and culturally appropriate.

CAUTION

Needles, bark and seeds contain dangerous taxines. The red flesh around the seed does not make the plant safe for casual eating. Never burn yew in a cooking fire.

LOOK-ALIKES

Western hemlock has pale bands under needles and small cones; yew lacks resin canals and cones.

15

FOXGLOVE

TOXIC - AVOID

Digitalis purpurea

IDENTIFY

Tall spike of purple, pink or white tubular flowers with spotted throats; large soft gray-green wrinkled basal leaves.

HABITAT & SEASON

Roadsides, clearcuts, old homesteads and disturbed coastal ground. Season: Late spring through summer

DOCUMENTED USE

No field medicinal use. Remove from children's camp areas only with gloves and lawful disposal.

CAUTION

All parts contain potent cardiac glycosides; ingestion can cause dangerous heart rhythm disturbances. Do not make tea or poultices.

LOOK-ALIKES

First-year rosettes can resemble comfrey or mullein. Flowering stalks are much easier to recognize.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

DEVIL'S CLUB

TRADITIONAL-USE

Oplopanax horridus

IDENTIFY

Large maple-like leaves on thick stems densely armed with yellow spines; red berries in upright clusters; sprawling shrub.

HABITAT & SEASON

Wet ravines, seepage slopes, stream edges and old-growth forest. Season: Year-round stems; leaves in growing season

DOCUMENTED USE

A culturally important plant with extensive documented Indigenous ceremonial and medicinal uses. In a survival context, its dense spines make effective visual barriers and route markers without cutting the plant.

CAUTION

Spines break in skin and can cause infection. Internal use is not advised; respect local cultural protocols and do not harvest without permission.

LOOK-ALIKES

Thimbleberry has similar leaves but soft unarmed stems and raspberry-like fruit.

17

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY

Aromatic finely divided fern-like leaves; flat-topped clusters of small white to pink flower heads; tough creeping rhizomes.

HABITAT & SEASON

Dry openings, shore gravel, trails and disturbed soil. Season: Summer through fall

DOCUMENTED USE

Published traditional uses include external wound washes and aromatic preparations. The dry flowering tops can also serve as emergency tinder when fully dry.

CAUTION

Do not use internally during pregnancy or with anticoagulant therapy. Contact allergy is possible. External wound care still requires clean water and proper medical assessment.

LOOK-ALIKES

Poison hemlock has larger glossy divided leaves, purple-spotted hollow stems and umbrella-shaped flowers.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

BLACK COTTONWOOD

TRADITIONAL-USE

Populus trichocarpa

IDENTIFY

Tall tree with triangular to heart-shaped leaves, flattened leaf stalks and sticky aromatic winter buds; gray bark becomes deeply furrowed.

HABITAT & SEASON

River floodplains, estuaries and wet valley bottoms. Season: Buds late winter to spring; wood year-round

DOCUMENTED USE

Light wood for expedient carving and dry kindling. Resinous buds have documented traditional external preparations.

CAUTION

Bud resins can trigger salicylate or fragrance sensitivity. Do not strip bark from living trees or rely on wet cottonwood as primary fuel.

LOOK-ALIKES

Balsam poplar is similar and replaces it farther north; red alder has cone-like catkins and rounded leaf tips.

19

LICORICE FERN

TRADITIONAL-USE

Polypodium glycyrrhiza

IDENTIFY

Evergreen once-divided fern with separate leathery leaflets; round orange sori beneath; creeps over mossy trunks and rocks with a sweet-tasting rhizome.

HABITAT & SEASON

Mossy bigleaf maple trunks, logs, cliffs and humid coastal forest. Season: Fall through spring

DOCUMENTED USE

Published traditional use includes small amounts of cleaned rhizome as a flavoring or throat preparation.

CAUTION

Do not harvest from contaminated bark or cliffs. Rhizome use is not appropriate for people with kidney, heart or blood-pressure conditions without clinical advice.

LOOK-ALIKES

Sword fern is much larger and rooted in soil; deer fern has separate fertile fronds.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Western redcedar, Western hemlock, Sitka spruce	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Douglas-fir, Red alder, Bigleaf maple	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Western water hemlock, Death camas	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Salal, Salmonberry, Evergreen huckleberry, Red huckleberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Western water hemlock	Tall wetland perennial with divided leaves, umbrella-like white flower clusters and thick chambered rootstocks; leaf veins often end in the notches between teeth.	Extremely poisonous; small amounts can cause violent seizures and death. Roots are especially dangerous. Seek emergency help immediately after suspected exposure.
Death camas	Grass-like basal leaves; cream to greenish six-tepaled star flowers in an upright cluster; onion-like bulb but no onion odor.	All parts are poisonous and cooking does not make them safe. Lack of onion smell is a warning, not a complete test.
Pacific yew	Small understory tree with flat dark green needles arranged in two ranks; thin reddish-purple scaly bark; single red cup-like arils around a hard seed.	Needles, bark and seeds contain dangerous taxines. The red flesh around the seed does not make the plant safe for casual eating. Never burn yew in a cooking fire.
Foxglove	Tall spike of purple, pink or white tubular flowers with spotted throats; large soft gray-green wrinkled basal leaves.	All parts contain potent cardiac glycosides; ingestion can cause dangerous heart rhythm disturbances. Do not make tea or poultices.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. E-Flora BC: Electronic Atlas of the Flora of British Columbia
University of British Columbia - regional flora

<https://linnet.geog.ubc.ca/Atlas/Atlas.aspx>

2. Tree Species Compendium and identification resources
Government of British Columbia - government tree reference

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/plant-species/tree-species-compe>

3. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

4. Plants of the World Online
Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

5. Plants of Coastal British Columbia
Pojar, MacKinnon and Alaback; Lone Pine Publishing - regional field guide

6. Food Plants of Coastal First Peoples
Nancy J. Turner; Royal BC Museum - ethnobotany

<https://publications.royalbcmuseum.bc.ca/product/food-plants-of-coastal-first-peoples/>

7. Plant Technology of First Peoples in British Columbia and related works
Nancy J. Turner; Royal BC Museum / UBC Press - ethnobotany

<https://publications.royalbcmuseum.bc.ca/>

8. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

INDEPENDENT PUBLICATION NOTICE

This guide is an independent educational reference and is not affiliated with HISTORY, the Alone television series, local Indigenous governments or protected-area authorities. Traditional-use notes summarize published sources and do not transfer cultural authority. Local knowledge holders, current regulations and qualified medical or botanical professionals take precedence.

PATAGONIA AND NAHUEL HUAPI PLANT FIELD GUIDE

Nahuel Huapi Andean lakes • Season 3



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Coihue forest, Patagonian berries, toxic invaders and traditional-use plants of the Andean lakes.

Filming region: Andean lake district near Nahuel Huapi National Park, northern Patagonia, Argentina

Alone season(s): 3

Ecology: Valdivian and North Patagonian forest, Andean foothills, lake margins, steppe transition and disturbed homesteads

The Season 3 region sits where wet Andean forest meets colder mountain slopes and dry Patagonian steppe. Nothofagus forests, cypress woodland, bamboo thickets and berry-producing shrubs can occur within a short walk, but elevation, fire history and exposure strongly change what is present. Several European toxic plants are now naturalized around roads, old farms and settlements.

FIELD PRIORITIES

- Separate the major southern beeches by leaf size, bark, elevation and whether foliage is evergreen or deciduous.
- Treat all white-flowered carrot-family plants as unsafe until a local expert rules out poison hemlock.
- Learn calafate and michay as whole shrubs, not just as dark berries.
- Do not harvest culturally important medicinal shrubs without local permission and conservation review.
- Cold rain and ash-colored bark make visual identification harder; use multiple traits and a hand lens.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

- No tasting to identify.
- No wetland roots.
- No unknown white umbels.
- No unknown bulbs.
- No unknown milky sap.
- No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

COIHUE

TREE / WOODY

Nothofagus dombeyi

IDENTIFY

Large evergreen southern beech with small glossy serrated leaves, dark scaly bark and tiny cupules holding three nuts; crown remains green through winter.

HABITAT & SEASON

Moist lower mountain slopes, lake shores and stream valleys. Season: Year-round

DOCUMENTED USE

Dense wood can provide durable poles and long-burning fuel when seasoned. Fallen bark and branches shelter dry tinder under wet conditions.

CAUTION

Do not cut living old trees in protected areas. *Nothofagus* nuts are small and not a dependable calorie source.

LOOK-ALIKES

Lenga and nire are deciduous; coihue leaves are generally smaller, darker and persistent.

1

LENGA

TREE / WOODY

Nothofagus pumilio

IDENTIFY

Deciduous southern beech with small oval leaves, rounded paired lobes along the margin and copper-red autumn color; often wind-shaped near treeline.

HABITAT & SEASON

Cool upper slopes, snow belts and subalpine forest. Season: Spring through fall foliage; wood year-round

DOCUMENTED USE

Hard wood is useful for stakes, wedges and fuel. The species marks colder, snowier sites and can help interpret elevation and exposure.

CAUTION

Krummholz forms may be rooted and twisted; do not assume small stems are safe structural poles. Protected forests require permits.

LOOK-ALIKES

Nire leaves are usually smaller and more variable, and the tree favors wetter flats or steppe margins.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

NIRE

TREE / WOODY

Nothofagus antarctica

IDENTIFY

Deciduous small tree or shrub with irregularly toothed, often crinkled leaves; gray bark; highly variable wind-pruned form.

HABITAT & SEASON

Wet flats, frost hollows, bog margins and the forest-steppe transition. Season: Spring through fall

DOCUMENTED USE

Flexible small stems can serve as light wattle, pegs and brush windbreaks where collection is legal. Dry wood is useful fuel.

CAUTION

Nire thickets can conceal boggy ground and deadfall. Do not cut living shrubs needed for bank stabilization.

LOOK-ALIKES

Lenga is usually taller at comparable age and has more evenly lobed leaves.

3

CORDILLERAN CYPRESS

TREE / WOODY

Austrocedrus chilensis

IDENTIFY

Narrow conifer with flattened sprays of tiny scale leaves, reddish fibrous bark and small oval cones; crown often columnar.

HABITAT & SEASON

Drier rocky slopes and the eastern Andean forest margin. Season: Year-round

DOCUMENTED USE

Aromatic, decay-resistant wood has traditional construction value and makes durable small stakes from deadfall.

CAUTION

Populations have been affected by disease and fire; harvesting may be restricted. Do not confuse scale foliage with ornamental cypress near settlements.

LOOK-ALIKES

Arrayan has smooth cinnamon bark and broad leaves; coihue has toothed leaves, not scales.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

ARRAYAN

TREE / WOODY

Luma apiculata

IDENTIFY

Evergreen tree with exceptionally smooth cinnamon-orange bark that peels in patches; opposite glossy leaves; white brush-like flowers and dark berries.

HABITAT & SEASON

Moist lake margins, sheltered forest and streambanks. Season: Year-round leaves; flowers summer; fruit late summer to fall

DOCUMENTED USE

Hard fine-grained wood is suitable for small carved tools from deadfall. Bark color makes the tree an excellent landmark.

CAUTION

Arrayan groves are protected in several parks. Do not strip bark or cut living wood. Fruit edibility varies in published accounts and is not recommended here without local confirmation.

LOOK-ALIKES

Maiten has alternate leaves and gray bark; myrtle relatives share opposite leaves but not the same smooth orange trunk.

5

CHILEAN FIREBUSH / NOTRO

TREE / WOODY

Embothrium coccineum

IDENTIFY

Small evergreen or semi-evergreen tree with narrow leathery leaves and brilliant red tubular flower clusters; dark bark and open branching.

HABITAT & SEASON

Forest openings, burned ground, lake shores and rocky slopes. Season: Flowers spring to early summer

DOCUMENTED USE

Light wood and straight branches can be used for small non-load-bearing camp projects where legal. Flowers are a strong seasonal landmark.

CAUTION

Proteaceae pollen and sap may irritate sensitive people. Do not use as food or medicine based on flower color.

LOOK-ALIKES

Escallonia has smaller clustered flowers and toothed leaves; planted ornamentals may resemble notro near towns.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

MAQUI

DOCUMENTED EDIBLE

Aristotelia chilensis

IDENTIFY

Evergreen shrub or small tree with opposite-to-subopposite toothed leaves, reddish petioles and clusters of small deep purple berries.

HABITAT & SEASON

Forest edges, disturbed clearings, streambanks and second growth. Season: Late summer through fall

DOCUMENTED USE

Ripe berries are documented food and can be eaten fresh, cooked or dried after confident identification.

CAUTION

Dark berries stain strongly and can hide mold. Avoid roadside or sprayed plants. Leaves and concentrated extracts are not automatically safe medicines.

LOOK-ALIKES

Arrayan berries occur on a tree with smooth orange bark; elder has compound leaves and larger flat fruit clusters.

7

CALAFATE

DOCUMENTED EDIBLE

Berberis microphylla

IDENTIFY

Spiny shrub with small leathery leaves in clusters, yellow flowers and blue-black berries with a waxy bloom; usually one to three sharp spines at nodes.

HABITAT & SEASON

Open forest, rocky slopes, steppe margins and lake terraces. Season: Late summer through fall

DOCUMENTED USE

Ripe berries are a well-documented Patagonian food, commonly eaten fresh or cooked into preserves.

CAUTION

Spines cause eye and skin injuries. Confirm the clustered leaves and barberry flower/fruit structure; do not eat unripe fruit or large amounts of other plant parts.

LOOK-ALIKES

Michay has larger holly-like leaves and often larger flower clusters.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

MICHAY / DARWIN'S BARBERRYDOCUMENTED EDIBLE

Berberis darwinii

IDENTIFY
Dense evergreen spiny shrub with small glossy holly-like leaves, orange-yellow flower clusters and blue-purple berries.

HABITAT & SEASON
Forest margins, disturbed woodland and moist slopes. Season: Late summer through fall

DOCUMENTED USE
Fully ripe berries are documented food and can be cooked or strained to remove seeds.

CAUTION
Sharp three-part spines make harvesting hazardous. Some *Berberis* species contain alkaloids in roots and bark; this guide recommends only confidently identified ripe fruit.

LOOK-ALIKES
Calafate leaves are smaller and less holly-like; ornamental barberries may occur near settlements.

9

CHAURADOCUMENTED EDIBLE

Gaultheria mucronata

IDENTIFY
Low evergreen shrub with tiny pointed leaves and white, pink or purple berry-like fruits; small urn-shaped flowers.

HABITAT & SEASON
Heaths, open forest, bog edges and windswept slopes. Season: Late summer through winter

DOCUMENTED USE
Ripe fruits are documented food, usually mild to sweet and useful when other berries are finished.

CAUTION
Fruit color is highly variable. Confirm the woody evergreen shrub and *Gaultheria* flowers; avoid plants in contaminated roadside sites.

LOOK-ALIKES
Pernettya/*Gaultheria* relatives are similar; local taxonomic treatment may combine several forms.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

MAGELLAN CURRANT

DOCUMENTED EDIBLE

Ribes magellanicum

IDENTIFY

Spineless shrub with three- to five-lobed currant leaves, hanging flower clusters and dark purple to black berries.

HABITAT & SEASON

Moist forest openings, streambanks and cool mountain slopes. Season: Late summer

DOCUMENTED USE

Ripe berries are documented food and can be eaten fresh or cooked.

CAUTION

Confirm Ribes leaf shape and hanging fruit clusters. Do not confuse with black-berried nightshades, which have different flowers and unlobed leaves.

LOOK-ALIKES

Other native currants and gooseberries vary in hairiness and spines; all require local confirmation.

11

CHILEAN STRAWBERRY

DOCUMENTED EDIBLE

Fragaria chiloensis

IDENTIFY

Low runner-forming plant with three thick toothed leaflets, white five-petaled flowers and small aromatic red fruits.

HABITAT & SEASON

Sunny lake terraces, dunes, open forest and disturbed ground in the broader Andean region. Season: Summer

DOCUMENTED USE

Fully ripe fruit is documented food. Leaves can help locate sandy, well-drained camp edges.

CAUTION

Fruit is easily contaminated by soil and animal feces; wash or cook. Do not assume every trifoliate groundcover is strawberry.

LOOK-ALIKES

Cinquefoils often have five leaflets and dry seed heads; strawberry fruit is fleshy with seeds on the outside.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

PALQUI

TOXIC - AVOID

Cestrum parqui

IDENTIFY

Shrub with narrow alternate leaves that smell unpleasant when crushed, clusters of greenish-yellow tubular flowers and dark berries.

HABITAT & SEASON

Disturbed ground, roadsides, old fields and settlement edges. Season: Spring through fall

DOCUMENTED USE

No food or medicinal use in this guide.

CAUTION

All parts are poisonous, especially unripe fruit and foliage; livestock deaths are well documented. Smoke from burning foliage may also be irritating.

LOOK-ALIKES

Nightshades share tubular flowers but differ in leaf and fruit arrangement. Never identify by odor alone.

13

DEU / HUIQUE

TOXIC - AVOID

Coriaria ruscifolia

IDENTIFY

Shrub or climber with opposite small leaves on arching stems and dense dark berry-like fruit clusters.

HABITAT & SEASON

Forest edges, stream gullies and moist disturbed sites in parts of southern Chile and Argentina. Season: Summer through fall

DOCUMENTED USE

No survival use. Treat dark clustered fruits on opposite-leaved shrubs as unsafe until this species is excluded.

CAUTION

Fruit and seeds contain potent neurotoxins and can cause seizures. There is no safe field preparation.

LOOK-ALIKES

Maqui is a woody shrub with different leaf venation and looser fruit clusters; elder has compound leaves.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

FOXGLOVE

TOXIC - AVOID

Digitalis purpurea

IDENTIFY

Tall spike of purple, pink or white tubular flowers with spotted throats; soft wrinkled basal leaves.

HABITAT & SEASON

Roadsides, old farms, clearings and other disturbed ground. Season: Late spring through summer

DOCUMENTED USE

No field medicinal use.

CAUTION

All parts contain cardiac glycosides and can cause life-threatening heart rhythm changes. Do not make tea, salve or smoke from it.

LOOK-ALIKES

Comfrey and mullein rosettes can look similar before flowering.

15

POISON HEMLOCK

TOXIC - AVOID

Conium maculatum

IDENTIFY

Tall smooth hollow stems commonly blotched purple; finely divided glossy leaves; many white umbrella-shaped flower clusters.

HABITAT & SEASON

Roadsides, wet ditches, old fields and stream margins near disturbed areas. Season: Spring through fall

DOCUMENTED USE

No use. Make it a mandatory identification before gathering any wild carrot-family greens.

CAUTION

Highly poisonous by ingestion. Sap can contaminate hands and tools. Do not burn in a cooking fire.

LOOK-ALIKES

Wild celery and other Apiaceae can look similar; positive identification requires several structural traits and local expertise.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

MATICO

TRADITIONAL-USE

Buddleja globosa

IDENTIFY

Shrub with opposite lance-shaped gray-green leaves and round orange flower heads made of many tiny tubular flowers.

HABITAT & SEASON

Sunny streambanks, forest edges and disturbed slopes. Season: Flowers summer; leaves growing season

DOCUMENTED USE

Published Mapuche and regional traditional uses include external washes and aromatic preparations.

CAUTION

Traditional use is not proof of safety or clinical effectiveness. Avoid internal use, pregnancy use and application to deep wounds without medical guidance.

LOOK-ALIKES

Other *Buddleja* species have elongated flower clusters; matico's round orange heads are distinctive.

17

PARAMELA

TRADITIONAL-USE

Adesmia boronioides

IDENTIFY

Low aromatic resinous shrub with small compound leaves and yellow pea-like flowers; strong balsamic scent in warm sun.

HABITAT & SEASON

Dry rocky slopes and steppe margins east of the forest. Season: Summer

DOCUMENTED USE

A well-known Patagonian aromatic plant with documented traditional tea and external uses; dry twigs may scent smoke but are not primary fuel.

CAUTION

Do not self-dose. Essential oils and concentrated infusions may interact with medications or irritate the stomach. Harvest pressure can damage local stands.

LOOK-ALIKES

Other *Adesmia* shrubs share yellow pea flowers; scent and leaf structure must be confirmed.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

NALCA / GIANT RHUBARB

TRADITIONAL-USE

Gunnera tinctoria

IDENTIFY

Huge rough round leaves on thick prickly stalks; reddish-green flower spikes; grows in dense colonies in wet ground.

HABITAT & SEASON

Streambanks, springs, wet slopes and road cuts. Season: Spring through fall

DOCUMENTED USE

Peeled young stalks have documented food use in southern Chile and Argentina. Large leaves can serve as temporary work-surface covers.

CAUTION

Stalks require correct species and preparation; leaves and roots are not recommended as food. The plant is invasive outside its native range and may be protected or controlled.

LOOK-ALIKES

True rhubarb has different flower stalks and leaf attachment; butterbur lacks the same coarse prickly petioles.

19

PICHI-PICHI

TRADITIONAL-USE

Fabiana imbricata

IDENTIFY

Erect resinous shrub with tiny overlapping scale-like leaves and small white to pale violet tubular flowers.

HABITAT & SEASON

Dry forest margins, rocky slopes and Patagonian steppe. Season: Summer

DOCUMENTED USE

Published regional traditional uses include urinary and digestive preparations; the aromatic stems have also been used as incense or smoke material.

CAUTION

Internal use is not recommended without qualified local medical guidance. Resinous smoke may irritate lungs and eyes.

LOOK-ALIKES

Young cypress twigs also have scale-like foliage but grow on a tree and bear cones.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / EARLY RAINS	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / DORMANT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Coihue, Lenga, Nire	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Cordilleran cypress, Arrayan, Chilean firebush / notro	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Palqui, Deu / huique	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Maqui, Calafate, Michay / Darwin's barberry, Chaura	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Palqui	Shrub with narrow alternate leaves that smell unpleasant when crushed, clusters of greenish-yellow tubular flowers and dark berries.	All parts are poisonous, especially unripe fruit and foliage; livestock deaths are well documented. Smoke from burning foliage may also be irritating.
Deu / huique	Shrub or climber with opposite small leaves on arching stems and dense dark berry-like fruit clusters.	Fruit and seeds contain potent neurotoxins and can cause seizures. There is no safe field preparation.
Foxglove	Tall spike of purple, pink or white tubular flowers with spotted throats; soft wrinkled basal leaves.	All parts contain cardiac glycosides and can cause life-threatening heart rhythm changes. Do not make tea, salve or smoke from it.
Poison hemlock	Tall smooth hollow stems commonly blotched purple; finely divided glossy leaves; many white umbrella-shaped flower clusters.	Highly poisonous by ingestion. Sap can contaminate hands and tools. Do not burn in a cooking fire.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Flora Argentina

Instituto de Botanica Darwinion, CONICET - national scientific flora

<https://buscador.floraargentina.edu.ar/>

2. Parque Nacional Nahuel Huapi

Administracion de Parques Nacionales, Argentina - protected-area ecology

<https://www.argentina.gob.ar/parquesnacionales/nahuelhuapi>

3. Plants of the World Online

Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

4. Published ethnobotanical studies of Mapuche and Patagonian plant use

Molares, Ladio and colleagues; peer-reviewed literature - ethnobotany

<https://scholar.google.com/scholar?q=Molares+Ladio+Patagonia+ethnobotany>

5. Medicinal and food plants of Patagonia: peer-reviewed regional literature

CONICET and regional universities - ethnobotany

<https://scholar.google.com/scholar?q=Patagonia+medicinal+plants+ethnobotany>

6. Centro Nacional de Intoxicaciones

Hospital Nacional Prof. Alejandro Posadas, Argentina - poison safety

<https://www.argentina.gob.ar/salud/hospitalposadas/centronacionaldeintoxicaciones>

INDEPENDENT PUBLICATION NOTICE

This guide is an independent educational reference and is not affiliated with HISTORY, the Alone television series, local Indigenous governments or protected-area authorities. Traditional-use notes summarize published sources and do not transfer cultural authority. Local knowledge holders, current regulations and qualified medical or botanical professionals take precedence.

KHONIN NUGA, MONGOLIA PLANT FIELD GUIDE

Khonin Nuga taiga • Season 5



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Taiga trees, forest berries, dangerous wetland plants and documented Mongolian traditional-use species.

Filming region: Khonin Nuga valley near the Khentii Mountains, Selenge Province, northern Mongolia

Alone season(s): 5

Ecology: Siberian taiga and forest-steppe with larch, pine, birch, river meadow and rocky mountain slopes

Khonin Nuga lies where Siberian taiga meets Mongolian forest-steppe. Larch is often dominant, with pine, spruce, birch and aspen depending on slope, fire history and moisture. River meadows support rich herbs, while dry south-facing slopes shift quickly toward steppe vegetation. Autumn frost and snow can erase many identification features.

FIELD PRIORITIES

- Separate larch, spruce and the two pines by needle arrangement, cones and winter behavior.
- Never collect celery-like roots or shoots from marshes; water hemlock occurs in Eurasian wetlands.
- Learn monkshood and false hellebore before gathering leafy mountain herbs.
- Pine nuts are valuable but cone harvest may be regulated and is ecologically important to wildlife.
- Published Mongolian medicinal use does not make a plant safe for unsupervised dosing.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.

No wetland roots.

No unknown white umbels.

No unknown bulbs.

No unknown milky sap.

No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

SIBERIAN LARCH

TREE / WOODY

Larix sibirica

IDENTIFY

Deciduous conifer with soft needles in dense clusters on short spur shoots; small upright cones; needles turn yellow and fall in autumn.

HABITAT & SEASON

Cool slopes, valley forests and much of the northern taiga. Season: Year-round wood; needles spring through fall

DOCUMENTED USE

Strong resinous wood for poles, pegs and durable fuel. Fallen fine twigs can provide dry interior kindling beneath dense crowns.

CAUTION

Standing dead larch can be brittle and dangerous in wind. Resin may irritate skin. Do not mistake needle drop for a dead tree.

LOOK-ALIKES

Spruce keeps needles in winter and has sharp single needles; Siberian pine has bundles of five.

1

SIBERIAN PINE

TREE / WOODY

Pinus sibirica

IDENTIFY

Five soft needles per bundle, stout rounded crown and large egg-shaped cones with thick scales and edible seeds.

HABITAT & SEASON

Cool moist taiga slopes and mixed conifer forest. Season: Cones late summer to fall

DOCUMENTED USE

Mature seeds are a documented high-energy food. Resinous dead wood is useful for fire starting and durable small repairs.

CAUTION

Do not fell seed trees or raid all cones; seeds are critical wildlife food. Confirm five needles per bundle and mature sound seeds.

LOOK-ALIKES

Scots pine has two needles per bundle and smaller cones.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

SCOTS PINE

TREE / WOODY

Pinus sylvestris

IDENTIFY

Two blue-green twisted needles per bundle; orange-red upper bark; small conical cones; open crown on dry sites.

HABITAT & SEASON

Sandy terraces, dry forest margins and fire-prone slopes. Season: Year-round

DOCUMENTED USE

Straight poles, resin-rich kindling and durable fuel. Inner resin pockets can yield dependable fire-starting shavings from dead wood.

CAUTION

Fresh resin is messy and flammable. Burning resinous wood in an enclosed shelter increases smoke and creosote.

LOOK-ALIKES

Siberian pine has five needles per bundle; larch needles occur in large clusters.

3

SIBERIAN SPRUCE

TREE / WOODY

Picea obovata

IDENTIFY

Sharp four-sided single needles attached on woody pegs; long hanging cones; narrow spire-shaped crown.

HABITAT & SEASON

Moist valley forest, north-facing slopes and stream corridors. Season: Year-round

DOCUMENTED USE

Spruce roots and straight poles have documented utility for lashings and frames after careful preparation. Dry lower twigs can remain sheltered under the crown.

CAUTION

Needles are sharp and resin can injure eyes. Root harvest damages living trees; use exposed or windthrown material.

LOOK-ALIKES

Larch has soft clustered needles; fir needles are flat and cones stand upright.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

ASIAN WHITE BIRCH

TREE / WOODY

Betula platyphylla

IDENTIFY

White papery bark with dark horizontal marks; triangular toothed leaves; hanging catkins; slender dark twigs.

HABITAT & SEASON

Burns, forest edges, river terraces and mixed taiga. Season: Year-round bark and wood; leaves growing season

DOCUMENTED USE

Loose dead bark is excellent tinder even in damp weather. Wood is useful for utensils and moderate-quality fuel.

CAUTION

Never girdle living trees. Bark flame spreads quickly. Several birches hybridize, so use genus-level identification for material use.

LOOK-ALIKES

Aspen bark is smoother green-gray and leaves have flattened stalks; alder has persistent cone-like catkins.

5

EURASIAN ASPEN

TREE / WOODY

Populus tremula

IDENTIFY

Round leaves with wavy teeth on strongly flattened stalks that tremble in light wind; smooth green-gray bark on young trees.

HABITAT & SEASON

Burns, clearings, lower slopes and river terraces. Season: Spring through fall foliage; wood year-round

DOCUMENTED USE

Light wood for carving, dry boards and quick-burning fuel. Clonal groves can mark past fire or disturbance.

CAUTION

Dead aspen can rot internally while standing. Test every pole. Concentrated bark preparations are not advised.

LOOK-ALIKES

Birch leaves are more triangular and bark peels; poplar relatives may have more pointed leaves.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LINGONBERRYDOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY
Low evergreen shrub with leathery oval leaves, pale dotted undersides, pink urn-shaped flowers and bright red berries.

HABITAT & SEASON
Open conifer forest, mossy ground, heath and bog margins. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are a documented food, often persisting after frost and suitable for cooking or drying.

CAUTION
Confirm evergreen leaves and Vaccinium fruit crown. Avoid berries from animal latrine sites.

LOOK-ALIKES
Bearberry has mealy fruit and leaves with netted veins but no pale gland dots beneath.

7

BILBERRYDOCUMENTED EDIBLE

Vaccinium myrtillus

IDENTIFY
Low shrub with green angular stems, thin finely toothed leaves and blue-black berries that stain purple throughout.

HABITAT & SEASON
Cool conifer forest, openings and moist acidic slopes. Season: Mid- to late summer

DOCUMENTED USE
Ripe berries are documented food and can be eaten fresh, cooked or dried.

CAUTION
Dark berries alone are not enough for identification. Check the green angled twigs and solitary Vaccinium flowers/fruit.

LOOK-ALIKES
Bog bilberry has rounder bluish leaves and berries with paler flesh; poisonous black-berried herbs lack woody green twigs.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

ORIENTAL STRAWBERRY

DOCUMENTED EDIBLE

Fragaria orientalis

IDENTIFY
Low runner-forming herb with three toothed leaflets, white five-petaled flowers and small red aggregate fruits.

HABITAT & SEASON
Meadows, forest edges, river terraces and disturbed ground. Season: Summer

DOCUMENTED USE
Fully ripe fruits are documented food.

CAUTION
Wash or cook fruit where animal contamination is likely. Confirm the external seeds and three-leaflet growth habit.

LOOK-ALIKES
Cinquefoils may have similar leaves but dry seed heads rather than fleshy strawberries.

9

STONE BRAMBLE

DOCUMENTED EDIBLE

Rubus saxatilis

IDENTIFY
Low creeping bramble with three leaflets, small white flowers and a few large bright red drupelets forming a loose berry.

HABITAT & SEASON
Moist forest, rocky slopes and stream edges. Season: Summer

DOCUMENTED USE
Ripe fruit is documented food, tart and small but easy to recognize once the loose cluster is learned.

CAUTION
Sparse prickles can snag skin. Do not confuse red fruit with upright clusters of baneberry-like toxic herbs.

LOOK-ALIKES
Wild strawberry has many external seeds and no separate large drupelets.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

PRICKLY ROSE

DOCUMENTED EDIBLE

Rosa acicularis

IDENTIFY
Arching prickly stems, pinnate leaves with toothed leaflets, pink five-petaled flowers and red oval hips.

HABITAT & SEASON
Open forest, river terraces, thickets and burns. Season: Hips late summer through winter

DOCUMENTED USE
Fleshy hip walls are documented food after hairs and seeds are removed; they can be simmered or dried.

CAUTION
Internal seed hairs are strongly irritating. Avoid moldy hips and plants exposed to livestock chemicals.

LOOK-ALIKES
Hawthorn has woody thorns and lobed simple leaves; rose leaves are compound.

11

WILD ONION

DOCUMENTED EDIBLE

Allium senescens

IDENTIFY
Clumping narrow leaves with a clear onion odor, round heads of pink-purple flowers and small bulbs or rhizomes.

HABITAT & SEASON
Dry meadows, rocky slopes and forest-steppe openings. Season: Spring through fall

DOCUMENTED USE
Leaves and bulbs of positively identified Allium are documented food and seasoning.

CAUTION
Onion smell must be present in all sampled parts, but odor alone is not sufficient. Avoid plants from contaminated grazing areas.

LOOK-ALIKES
False hellebore and iris relatives lack onion odor and have broader folded leaves.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

NORTHERN MONKSHOOD

TOXIC - AVOID

Aconitum septentrionale

IDENTIFY

Tall herb with deeply divided palmate leaves and blue-violet hood-shaped flowers on an upright spike.

HABITAT & SEASON

Moist forest, mountain meadows and stream valleys. Season: Summer

DOCUMENTED USE

No food or field medicinal use.

CAUTION

All parts contain potent aconitine-type alkaloids; handling damaged roots or sap can be hazardous. Ingestion can cause fatal heart and nerve effects.

LOOK-ALIKES

Larkspurs have spurred flowers but not the distinctive helmet; leafy roots should never be tasted.

13

NORTHERN WATER HEMLOCK

TOXIC - AVOID

Cicuta virosa

IDENTIFY

Wetland perennial with divided leaves, white umbrella flower clusters and thick hollow-chambered roots; often at water edges.

HABITAT & SEASON

Marshes, oxbows, slow streams and wet meadows. Season: Spring through fall

DOCUMENTED USE

No use. Make wetland root gathering a prohibited activity unless a qualified botanist is present.

CAUTION

One of the most poisonous Eurasian plants. Roots are especially dangerous and can cause seizures and death.

LOOK-ALIKES

Angelica and other edible Apiaceae can appear similar; never distinguish by taste.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

FALSE HELLEBORE

TOXIC - AVOID

Veratrum lobelianum

IDENTIFY

Tall plant with broad pleated leaves arranged alternately around a stout stem and a branched cluster of greenish flowers.

HABITAT & SEASON

Moist meadows, forest seeps and stream margins. Season: Spring through summer

DOCUMENTED USE

No food use.

CAUTION

All parts are poisonous and may cause severe vomiting, slow heart rate, low blood pressure and collapse.

LOOK-ALIKES

Young shoots can resemble wild leek or other edible greens, but false hellebore leaves are broad, strongly pleated and lack onion odor.

15

MEZEREON

TOXIC - AVOID

Daphne mezereum

IDENTIFY

Small shrub with fragrant pink-purple flowers appearing on bare twigs before leaves and bright red berries close to the stem.

HABITAT & SEASON

Open forest, rocky slopes and thickets. Season: Flowers spring; fruit summer

DOCUMENTED USE

No food or medicine use.

CAUTION

Berries and bark are highly irritant and poisonous. Sap can blister skin and eyes.

LOOK-ALIKES

Red currants hang in clusters and have lobed leaves; mezereon fruit sits close to an unbranched leafy stem.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

SIBERIAN BERGENIA

TRADITIONAL-USE

Bergenia crassifolia

IDENTIFY

Thick evergreen rounded leaves in basal clumps, creeping woody rhizomes and pink flower clusters on leafless stalks.

HABITAT & SEASON

Rocky forest slopes, cliffs and talus. Season: Year-round leaves; flowers spring

DOCUMENTED USE

A major documented Siberian and Mongolian traditional plant. Naturally fermented overwintered leaves have been used as tea in some regions.

CAUTION

Do not improvise fermentation or concentrated extracts. Tannin-rich preparations may upset the stomach and interact with medicines.

LOOK-ALIKES

Other saxifrages are smaller and lack the large leathery leaves.

17

GOLDEN ROOT

TRADITIONAL-USE

Rhodiola rosea

IDENTIFY

Fleshy blue-green leaves on upright stems, yellow flower clusters and a thick aromatic rhizome; often forms clumps.

HABITAT & SEASON

Cold rocky slopes, streambanks and alpine meadows. Season: Summer

DOCUMENTED USE

Widely documented in Eurasian traditional medicine and modern herbal commerce.

CAUTION

Wild populations can be overharvested. Do not dig roots. Concentrated products may affect mood, sleep and medications; no survival dosing is provided.

LOOK-ALIKES

Other *Rhodiola* and *Sedum* species are similar; flower sex and leaf shape require expert confirmation.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

FRINGED SAGEWORT

TRADITIONAL-USE

Artemisia frigida

IDENTIFY

Low silvery aromatic mat with finely divided leaves and small yellowish flower heads; woody at the base.

HABITAT & SEASON

Dry steppe, rocky slopes and disturbed campsites. Season: Summer through fall

DOCUMENTED USE

Documented Mongolian and steppe traditions include aromatic smoke and external or digestive preparations.

CAUTION

Artemisia oils can be neurotoxic in concentration and may affect pregnancy or medications. Do not use as a substitute for medical care.

LOOK-ALIKES

Several wormwoods occur together; identification to species can be difficult without flowers.

19

BROADLEAF PLANTAIN

TRADITIONAL-USE

Plantago major

IDENTIFY

Basal rosette of broad leaves with strong parallel ribs and long leafless spikes of tiny green flowers and seeds.

HABITAT & SEASON

Trails, camps, trampled meadows and settlement edges. Season: Spring through fall

DOCUMENTED USE

Published traditional use includes clean crushed leaves applied externally to minor skin irritation; young leaves are also documented food when properly identified and cooked.

CAUTION

Do not apply dirty leaves to open wounds. Avoid internal use if taking anticoagulants or if seeds may obstruct the gut.

LOOK-ALIKES

Young dock leaves have netted veins; plantain veins run strongly from the leaf base.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Siberian larch, Siberian pine, Scots pine	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Siberian spruce, Asian white birch, Eurasian aspen	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Northern monkshood, Northern water hemlock	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Lingonberry, Bilberry, Oriental strawberry, Stone bramble	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Northern monkshood	Tall herb with deeply divided palmate leaves and blue-violet hood-shaped flowers on an upright spike.	All parts contain potent aconitine-type alkaloids; handling damaged roots or sap can be hazardous. Ingestion can cause fatal heart and nerve effects.
Northern water hemlock	Wetland perennial with divided leaves, white umbrella flower clusters and thick hollow-chambered roots; often at water edges.	One of the most poisonous Eurasian plants. Roots are especially dangerous and can cause seizures and death.
False hellebore	Tall plant with broad pleated leaves arranged alternately around a stout stem and a branched cluster of greenish flowers.	All parts are poisonous and may cause severe vomiting, slow heart rate, low blood pressure and collapse.
Mezereon	Small shrub with fragrant pink-purple flowers appearing on bare twigs before leaves and bright red berries close to the stem.	Berries and bark are highly irritant and poisonous. Sap can blister skin and eyes.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Plants of the World Online

Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

2. Flora of China

Missouri Botanical Garden and Harvard University Herbaria - scientific flora

http://www.efloras.org/flora_page.aspx?flora_id=2

3. Key to the Vascular Plants of Mongolia and modern Mongolian floristic literature

V. I. Grubov and Mongolian botanical institutions - regional flora

<https://powo.science.kew.org/>

4. Khonin Nuga Research Station and northern Mongolian forest research

University of Goettingen and Mongolian partners - regional ecology

<https://www.uni-goettingen.de/en/khonin+nuga/171572.html>

5. Medicinal Plants in Mongolia

World Health Organization, Western Pacific Region - medicinal plant monograph

<https://iris.who.int/handle/10665/207609>

6. Toxic-plant records in Flora of China, Kew POWO and veterinary literature of Mongolia

Multiple scientific sources - toxicology support

<https://powo.science.kew.org/>

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GREAT SLAVE LAKE EAST ARM PLANT FIELD GUIDE

East Arm subarctic shield • Seasons 6, 7



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Boreal trees, persistent berries, muskeg hazards and traditional-use plants of the subarctic shield.

Filming region: East Arm of Great Slave Lake, Northwest Territories, Canada

Alone season(s): 6, 7

Ecology: Boreal Shield and subarctic taiga with exposed bedrock, black spruce muskeg, jack pine, birch and cold lake shorelines

The East Arm combines deep cold water, granitic bedrock, thin soils, fire-shaped jack pine woodland and extensive black spruce wetlands. Plant growth is slow, woody stems are often small, and edible fruit production varies sharply with frost, fire history and exposure. Wetland plants deserve special caution because the most dangerous species often grow beside useful berries and roots.

FIELD PRIORITIES

- Learn black spruce, white spruce and jack pine by needles, cones and site moisture.
- Do not dig or taste roots from marshes, sedge beds or slow water margins.
- Use persistent berries only after confirming the whole shrub and fruit crown.
- Protect thin organic soils and lichens; travel and harvesting damage can last for years.
- Treat all traditional medicinal uses as cultural documentation, not field prescriptions.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

BLACK SPRUCE

TREE / WOODY

Picea mariana

IDENTIFY

Narrow spire-like crown, short four-sided blue-green needles, small dark cones that may remain for years, and scaly gray-brown bark.

HABITAT & SEASON

Muskeg, peatlands, cold wet flats and thin rocky soils. Season: Year-round

DOCUMENTED USE

Small straight poles, roots and resinous dry twigs can support shelter, lashings and fire systems. Lower dead branches often remain dry beneath the crown.

CAUTION

Shallow roots make trees prone to windthrow. Dense smoky wood should not be burned in poorly ventilated shelters.

LOOK-ALIKES

White spruce has longer needles, larger cones and usually favors better-drained ground.

1

WHITE SPRUCE

TREE / WOODY

Picea glauca

IDENTIFY

Sharp single needles with a pungent odor when crushed, larger flexible cones and a fuller crown than black spruce.

HABITAT & SEASON

Well-drained lake terraces, river mouths, slopes and sheltered valleys. Season: Year-round

DOCUMENTED USE

Strong poles, roots and wood for frames, utensils and fuel. Young flexible roots have documented lashing and basketry use.

CAUTION

Do not strip living roots. Spruce pitch can irritate skin and contaminate wounds.

LOOK-ALIKES

Black spruce cones are smaller and persistent; white spruce bark is often lighter and flaky.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

JACK PINE

TREE / WOODY

Pinus banksiana

IDENTIFY
Two short twisted needles per bundle, irregular crown and strongly curved cones that often remain closed on branches.

HABITAT & SEASON
Dry sandy ridges, burned areas and exposed bedrock. Season: Year-round

DOCUMENTED USE
Resin-rich dead wood is excellent kindling and fuel. Straight saplings can provide light poles where collection is legal.

CAUTION
Pitchy wood produces sparks and soot. Standing fire-killed trees can fall without warning.

LOOK-ALIKES
Lodgepole pine is similar but generally has longer needles and more symmetrical cones; its range overlaps only locally.

3

PAPER BIRCH

TREE / WOODY

Betula papyrifera

IDENTIFY
White peeling bark with dark horizontal lenticels; oval doubly toothed leaves; hanging catkins.

HABITAT & SEASON
Burns, lake terraces, sheltered slopes and mixed forest. Season: Year-round bark and wood

DOCUMENTED USE
Loose dead bark is dependable tinder and a short-term waterproofing material. Wood carves well and burns hot when dry.

CAUTION
Never peel bark around a living trunk. Birch bark burns rapidly and can spread fire beyond the hearth.

LOOK-ALIKES
Aspen bark is smooth green-gray and does not peel in papery sheets.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

TAMARACKTREE / WOODY

Larix laricina

IDENTIFY
Soft needles in clusters on short spur shoots, tiny upright cones and bright yellow autumn foliage that falls before winter.

HABITAT & SEASON
Fens, muskeg margins and wet lowlands. Season: Year-round wood; needles spring through fall

DOCUMENTED USE
Rot-resistant poles and roots have documented use in snowshoes, frames and lashings. Dry wood makes durable fuel.

CAUTION
Wet tamarack is difficult to ignite. Small bog trees may be centuries old; harvest only dead or permitted material.

LOOK-ALIKES
Spruces retain needles in winter and have single sharp needles.

5

BALSAM POPLARTREE / WOODY

Populus balsamifera

IDENTIFY
Tall river-valley tree with pointed oval leaves, pale undersides and sticky fragrant buds; gray bark becomes furrowed.

HABITAT & SEASON
Floodplains, river mouths, lake shore benches and moist valleys. Season: Buds late winter to spring; wood year-round

DOCUMENTED USE
Light wood for carving and quick fuel. Aromatic buds have documented traditional external preparations.

CAUTION
Bud resin may trigger salicylate or fragrance reactions. Dead trunks can rot internally.

LOOK-ALIKES
Trembling aspen has rounder leaves and flattened stalks; willow leaves are narrower.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LINGONBERRY / MOUNTAIN CRANBERRYDOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY
Low evergreen shrub with leathery oval leaves, pale dotted undersides, pink urn-shaped flowers and bright red berries.

HABITAT & SEASON
Open spruce forest, rocky heaths and bog hummocks. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food and often persist beneath early snow. They can be cooked, dried or eaten fresh after cleaning.

CAUTION
Confirm the evergreen leaves and fruit crown. Avoid berries from animal latrines or polluted shorelines.

LOOK-ALIKES
Bearberry fruit is drier and mealy; its leaves have netted veins and lack pale underside dots.

7

BOG BLUEBERRYDOCUMENTED EDIBLE

Vaccinium uliginosum

IDENTIFY
Low woody shrub with blue-green oval leaves, pink urn flowers and blue berries with a waxy bloom and crown.

HABITAT & SEASON
Muskeg hummocks, tundra-like heaths and moist open forest. Season: Late summer

DOCUMENTED USE
Ripe berries are documented food and an important seasonal resource.

CAUTION
Fruit production varies. Check woody stems, leaf arrangement and the fruit crown; never identify only by color.

LOOK-ALIKES
Bilberry has green angular stems and usually darker juice; black-berried herbs lack woody stems.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

CROWBERRYDOCUMENTED EDIBLE

Empetrum nigrum

IDENTIFY
Mat-forming evergreen shrub with tiny needle-like leaves grooved beneath and shiny black berries nestled along the stems.

HABITAT & SEASON
Rocky heaths, windswept shorelines, bog margins and open spruce woodland. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food, water-rich but mild. They often remain after frost.

CAUTION
Berries can accumulate animal contamination close to the ground. Confirm the creeping evergreen mat.

LOOK-ALIKES
Juniper has sharper leaves in whorls and blue cones with a bloom; crowberry fruit is glossy black.

9

CLOUDBERRYDOCUMENTED EDIBLE

Rubus chamaemorus

IDENTIFY
Low unarmed plant with one rounded lobed leaf per flowering stem and a single amber-orange raspberry-like fruit.

HABITAT & SEASON
Peatlands, bog edges and wet tundra-like openings. Season: Mid- to late summer

DOCUMENTED USE
Fully ripe amber fruit is a prized documented food and can be eaten fresh or cooked.

CAUTION
Unripe red fruit is sour and firm. Bog travel may be hazardous; harvest without trampling moss hummocks.

LOOK-ALIKES
Dwarf raspberry species may have red fruit and more divided leaves; cloudberry fruit is solitary and amber when ripe.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

PRICKLY ROSE

DOCUMENTED EDIBLE

Rosa acicularis

IDENTIFY

Prickly stems, compound toothed leaves, pink five-petaled flowers and red oval hips.

HABITAT & SEASON

Open woods, burns, shore terraces and thickets. Season: Hips late summer through winter

DOCUMENTED USE

Hip flesh is documented food after irritating hairs and seeds are removed; suitable for simmering or drying.

CAUTION

Seed hairs irritate mouth and skin. Avoid moldy fruit. Thorns can damage hands and inflatable gear.

LOOK-ALIKES

Hawthorns have simple lobed leaves and woody thorns; roses have compound leaves.

11

FIREWEED

DOCUMENTED EDIBLE

Chamerion angustifolium

IDENTIFY

Tall colony-forming herb with narrow willow-like leaves, magenta four-petaled flowers and long capsules releasing silky seed.

HABITAT & SEASON

Burns, shore gravel, disturbed camps and forest openings. Season: Young shoots spring; flowers summer

DOCUMENTED USE

Young shoots and leaves have documented food use after correct identification and cooking. Dry seed fluff and stalk fiber have limited craft uses.

CAUTION

Older leaves become fibrous and bitter. Do not confuse young shoots with toxic wetland plants before leaves unfold.

LOOK-ALIKES

Purple loosestrife has opposite leaves and many smaller flowers; fireweed flowers have four broad petals.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

SPOTTED WATER HEMLOCK

TOXIC - AVOID

Cicuta maculata

IDENTIFY

Wetland perennial with divided leaves, white umbrella-shaped flower clusters and thick chambered roots; veins often end between leaf teeth.

HABITAT & SEASON

Marshes, wet meadows, stream mouths and sedge margins. Season: Spring through fall

DOCUMENTED USE

No use. Establish a strict no-root-harvest zone in wet ground.

CAUTION

Extremely poisonous; roots are especially dangerous and may cause seizures and death. Do not taste.

LOOK-ALIKES

Angelica and cow parsnip can appear similar; this family requires expert identification.

13

RED BANEERRY

TOXIC - AVOID

Actaea rubra

IDENTIFY

Woodland herb with divided compound leaves, small white flower clusters and glossy red berries on stout stalks, often with a dark dot.

HABITAT & SEASON

Moist spruce-birch forest, rich slopes and streambanks. Season: Fruit late summer

DOCUMENTED USE

No food use.

CAUTION

Berries and roots are poisonous and can affect the gastrointestinal and cardiovascular systems. Children are especially at risk.

LOOK-ALIKES

Red huckleberry is a woody shrub with simple leaves and translucent berries, not a divided-leaved herb.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

BOG ROSEMARY

TOXIC - AVOID

Andromeda polifolia

IDENTIFY

Low evergreen bog shrub with narrow rolled-edge leaves, white beneath, and small pink urn-shaped flowers.

HABITAT & SEASON

Sphagnum bogs and peatland hummocks. Season: Year-round leaves; flowers early summer

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxin-type compounds; ingestion may cause vomiting, dizziness and heart effects.

LOOK-ALIKES

Labrador tea has broader rusty-haired leaf undersides and terminal white flower clusters.

15

NORTHERN MONKSHOOD

TOXIC - AVOID

Aconitum delphiniifolium

IDENTIFY

Deeply divided palmate leaves and dark blue to purple hood-shaped flowers on upright stems.

HABITAT & SEASON

Moist tundra, streambanks, mountain meadows and rich open forest. Season: Summer

DOCUMENTED USE

No food or medicinal use.

CAUTION

All parts contain potent aconitine alkaloids. Ingestion can cause fatal heart and nerve effects; sap from roots should be avoided.

LOOK-ALIKES

Larkspur flowers have a distinct rear spur; both are unsafe.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY

Evergreen shrub with narrow leathery leaves rolled under at the edges and densely rusty-woolly beneath; white flower clusters.

HABITAT & SEASON

Muskeg, wet spruce forest and peatland margins. Season: Year-round leaves; flowers early summer

DOCUMENTED USE

A culturally important plant with documented use as a beverage and for other traditional purposes.

CAUTION

Use only with local expert guidance. Strong or repeated infusions may cause illness, and bog rosemary is a dangerous look-alike.

LOOK-ALIKES

Bog rosemary leaves are narrower and pale beneath, not rusty-woolly.

17

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY

Aromatic finely divided leaves and flat clusters of small white to pink flower heads.

HABITAT & SEASON

Dry shore gravel, trails, burns and disturbed soil. Season: Summer through fall

DOCUMENTED USE

Published traditional uses include external washes and aromatic preparations. Fully dry flower tops can serve as light tinder.

CAUTION

Possible allergy, pregnancy and anticoagulant concerns. Do not use dirty plant material on open wounds.

LOOK-ALIKES

Poison hemlock is much taller with hollow purple-spotted stems and umbrella flower clusters.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

WILLOW

TRADITIONAL-USE

Salix species

IDENTIFY
Woody shrubs or small trees with alternate narrow leaves, flexible twigs and catkins; species identification can be difficult.

HABITAT & SEASON
Shorelines, wet thickets, river mouths and tundra valleys. Season: Year-round twigs; catkins spring

DOCUMENTED USE
Flexible stems for baskets, wattle and light bindings. Published traditional uses include bark preparations related to salicylates.

CAUTION
Do not self-dose willow bark, especially with aspirin allergy, bleeding risk, kidney disease or in children with viral illness.

LOOK-ALIKES
Dwarf birch has round toothed leaves; alder bears woody cone-like female catkins.

19

COMMON JUNIPER

TRADITIONAL-USE

Juniperus communis var. depressa

IDENTIFY
Low spreading evergreen with stiff sharp needles in whorls of three, each with a pale band; blue-black berry-like cones.

HABITAT & SEASON
Dry rocky ridges, open pine forest and exposed shore terraces. Season: Cones late summer through winter

DOCUMENTED USE
Small amounts of ripe cones have documented culinary and traditional uses; resinous twigs can scent smoke but are not primary fuel.

CAUTION
Not for pregnancy or kidney disease, and not for unsupervised medicinal use. Confirm whorled sharp needles; other junipers vary.

LOOK-ALIKES
Crowberry has softer tiny leaves tightly pressed to creeping stems and glossy black berries.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Black spruce, White spruce, Jack pine	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Paper birch, Tamarack, Balsam poplar	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Spotted water hemlock, Red baneberry	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Lingonberry / mountain cranberry, Bog blueberry, Crowberry, Cloudberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Spotted water hemlock	Wetland perennial with divided leaves, white umbrella-shaped flower clusters and thick chambered roots; veins often end between leaf teeth.	Extremely poisonous; roots are especially dangerous and may cause seizures and death. Do not taste.
Red baneberry	Woodland herb with divided compound leaves, small white flower clusters and glossy red berries on stout stalks, often with a dark dot.	Berries and roots are poisonous and can affect the gastrointestinal and cardiovascular systems. Children are especially at risk.
Bog rosemary	Low evergreen bog shrub with narrow rolled-edge leaves, white beneath, and small pink urn-shaped flowers.	Contains grayanotoxin-type compounds; ingestion may cause vomiting, dizziness and heart effects.
Northern monkshood	Deeply divided palmate leaves and dark blue to purple hood-shaped flowers on upright stems.	All parts contain potent aconitine alkaloids. Ingestion can cause fatal heart and nerve effects; sap from roots should be avoided.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

2. Plants and biodiversity resources of the Northwest Territories
Government of the Northwest Territories - regional flora and ecology

<https://www.gov.nt.ca/ecc/en/services/biodiversity>

3. Aboriginal Plant Use in Canada's Northwest Boreal Forest
Marles, Clavelle, Monteleone, Tays and Burns; Canadian Forest Service - ethnobotany

<https://publications.gc.ca/site/eng/9.611374/publication.html>

4. Plants of the World Online
Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

5. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

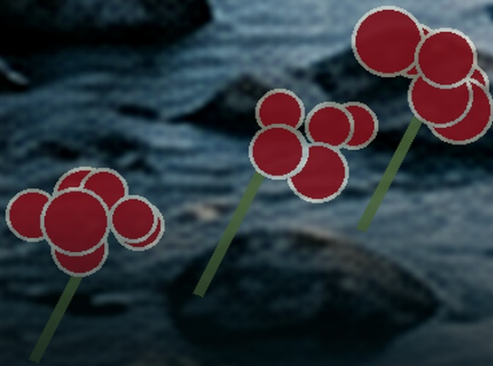
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CHILKO LAKE PLANT FIELD GUIDE

Tâilhqox Biny mountain forest • Season 8

FIND IT. PURIFY IT. STORE IT.



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Mountain forest trees, interior berries, poisonous meadow plants and high-elevation traditional-use species.

Filming region: Tâilhqox Biny / Chilko Lake and the eastern Coast Mountains, British Columbia, Canada

Alone season(s): 8

Ecology: High-elevation interior lake, dry Douglas-fir and lodgepole pine forest, spruce-fir slopes, burns and alpine transition

Chilko Lake sits high on the dry eastern side of the Coast Mountains. Lower benches can support Douglas-fir, lodgepole pine and aspen, while colder slopes carry Engelmann spruce and subalpine fir. Fire, wind and elevation create a patchwork of berry fields, meadows and dense conifer stands. Several highly toxic bulb and wet-meadow plants occur in the same openings used for food gathering.

FIELD PRIORITIES

- Learn lodgepole pine, Douglas-fir, Engelmann spruce and subalpine fir before selecting poles or fuel.
- Rule out death camas before collecting any onion-like bulb or grass-like leaf.
- Rule out water hemlock and monkshood before gathering wet-meadow greens.
- Berries can be abundant after fire, but harvest must respect Tâilhqot'in stewardship and wildlife needs.
- High elevation shortens the season; record slope aspect and frost exposure with every plant observation.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

LOGEPOLE PINE

TREE / WOODY

Pinus contorta var. latifolia

IDENTIFY
Two needles per bundle, slender often straight trunk and small prickly cones that may remain closed for years; bark thin and scaly.

HABITAT & SEASON
Dry benches, burns, sandy soils and mountain slopes. Season: Year-round

DOCUMENTED USE
Straight poles, resinous kindling and dependable fuel. Fire-killed wood may be dry and easy to process.

CAUTION
Dead pine can fall suddenly and may contain beetle galleries. Resinous smoke needs good ventilation.

LOOK-ALIKES
Jack pine has more curved irregular cones and generally occurs farther east.

1

INTERIOR DOUGLAS-FIR

TREE / WOODY

Pseudotsuga menziesii var. glauca

IDENTIFY
Single soft needles; cones with three-pointed bracts extending beyond the scales; thick furrowed bark on older trees.

HABITAT & SEASON
Warm dry lower slopes and well-drained lake terraces. Season: Year-round

DOCUMENTED USE
Strong structural poles and dense long-burning fuel. Resinous dead twigs can support ignition.

CAUTION
True firs have upright cones and no protruding three-pointed bracts. Avoid enclosed smoky fires.

LOOK-ALIKES
Subalpine fir has smooth gray bark with resin blisters and flat needles.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

ENGELMANN SPRUCE

TREE / WOODY

Picea engelmannii

IDENTIFY

Sharp four-sided blue-green needles, thin flaky bark and long flexible hanging cones; narrow spire crown.

HABITAT & SEASON

Cool moist slopes, creek valleys and higher elevations. Season: Year-round

DOCUMENTED USE

Straight poles, roots and sheltered lower twigs for shelter and fire systems.

CAUTION

Shallow roots and snow loading create falling-tree hazards. Resin can irritate wounds.

LOOK-ALIKES

White spruce is similar; location, cone scales and twig hair require close inspection.

3

SUBALPINE FIR

TREE / WOODY

Abies lasiocarpa

IDENTIFY

Flat soft needles often swept upward, smooth gray bark with resin blisters and upright purple-brown cones that disintegrate on the tree.

HABITAT & SEASON

Cold high slopes, snow pockets and subalpine forest. Season: Year-round

DOCUMENTED USE

Flexible boughs make springy bedding and insulation when legally and lightly harvested. Wood is light and easy to carve.

CAUTION

Bough harvest can kill small trees. Fir burns quickly and produces less durable coals than dense Douglas-fir.

LOOK-ALIKES

Spruce needles are sharp and roll between fingers; fir needles are flat and soft.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

TREMBLING ASPEN

TREE / WOODY

Populus tremuloides

IDENTIFY

Round finely toothed leaves on flattened stalks that tremble, smooth pale green-white bark and clonal groves.

HABITAT & SEASON

Burns, avalanche tracks, meadows and lower mountain slopes. Season: Spring through fall foliage; wood year-round

DOCUMENTED USE

Light carving wood and quick fuel. Groves can indicate deeper soils and past disturbance.

CAUTION

Standing dead stems often rot internally. Bark preparations are not recommended without clinical guidance.

LOOK-ALIKES

Birch leaves are more pointed and bark peels; cottonwood leaves are larger and more triangular.

5

BLACK COTTONWOOD

TREE / WOODY

Populus trichocarpa

IDENTIFY

Tall tree with large triangular to heart-shaped leaves, pale undersides and sticky aromatic buds.

HABITAT & SEASON

River mouths, floodplains and moist lake tributaries. Season: Buds late winter to spring; wood year-round

DOCUMENTED USE

Light wood for utensils and temporary boards. Buds have documented traditional external preparations.

CAUTION

Bud resin can trigger salicylate or fragrance reactions. Wet cottonwood is poor fuel.

LOOK-ALIKES

Aspen leaves are rounder and smaller; balsam poplar replaces cottonwood farther north.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

SASKATOON

DOCUMENTED EDIBLE

Amelanchier alnifolia

IDENTIFY

Shrub with oval toothed leaves, white five-petaled flowers and purple-blue berries with a small crown, borne in clusters.

HABITAT & SEASON

Dry openings, rocky slopes, forest edges and burns. Season: Mid- to late summer

DOCUMENTED USE

Ripe berries are a documented food and can be eaten fresh, cooked or dried.

CAUTION

Seeds contain small amounts of cyanogenic compounds; normal food use is traditional, but do not grind and consume large quantities of seeds.

LOOK-ALIKES

Chokecherry has longer flower clusters and a single hard pit; Saskatoon fruit has several small seeds and a crown.

7

SOAPBERRY / SOOPOLALLIE

DOCUMENTED EDIBLE

Shepherdia canadensis

IDENTIFY

Opposite oval leaves with silvery or rusty scales, small yellowish flowers and translucent red-orange berries.

HABITAT & SEASON

Open conifer forest, dry slopes and burns. Season: Midsummer

DOCUMENTED USE

Ripe berries are a documented Indigenous food, traditionally whipped with water into a foam. They are bitter and rich in saponins.

CAUTION

Large amounts may upset the stomach. Cultural preparation knowledge matters; do not treat traditional foods as novelty challenges.

LOOK-ALIKES

Buffaloberry relatives vary; confirm opposite scaly leaves and translucent fruit.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

BLACK HUCKLEBERRY

DOCUMENTED EDIBLE

Vaccinium membranaceum

IDENTIFY
Deciduous shrub with thin sharply toothed leaves, angular twigs and dark purple-black berries with a crown.

HABITAT & SEASON
Open forest, avalanche tracks and burned mountain slopes. Season: Late summer

DOCUMENTED USE
Ripe berries are documented food and can be eaten fresh, cooked or dried.

CAUTION
Bears rely on berry patches. Make noise, scan frequently and leave most fruit. Confirm woody *Vaccinium* stems and crown.

LOOK-ALIKES
Black nightshade is an herb with star-shaped flowers, not a woody shrub.

9

KINNIKINNICK / BEARBERRY

DOCUMENTED EDIBLE

Arctostaphylos uva-ursi

IDENTIFY
Low trailing evergreen with leathery spoon-shaped leaves, pink urn flowers and bright red mealy berries.

HABITAT & SEASON
Dry sandy terraces, open pine forest and rocky ground. Season: Fruit late summer through winter

DOCUMENTED USE
Ripe berries are documented emergency food but are dry and usually improved by cooking. Leaves have extensive traditional uses.

CAUTION
Do not make strong medicinal tea or use during pregnancy/kidney disease. Confirm the trailing woody mat.

LOOK-ALIKES
Lingonberry leaves are more oval with pale dots beneath and fruit with a clearer crown.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

WILD STRAWBERRY

DOCUMENTED EDIBLE

Fragaria virginiana

IDENTIFY
Low runners, three toothed leaflets, white five-petaled flowers and small red fruit with seeds on the surface.

HABITAT & SEASON
Meadows, open forest, burns and shore terraces. Season: Summer

DOCUMENTED USE
Fully ripe fruit is documented food.

CAUTION
Low fruit can be contaminated by animals; wash or cook. Do not identify from leaves alone.

LOOK-ALIKES
Cinquefoils often have five leaflets or dry seed heads.

11

FIREWEED

DOCUMENTED EDIBLE

Chamerion angustifolium

IDENTIFY
Tall colonies with narrow leaves, magenta four-petaled flowers and long capsules filled with silky seed.

HABITAT & SEASON
Burns, roadsides, avalanche tracks and disturbed shorelines. Season: Young shoots spring; flowers summer

DOCUMENTED USE
Young shoots and leaves are documented food after positive identification and cooking. Dry stalks yield light fiber and tinder.

CAUTION
Older plants become tough. Early shoots can be confused with other herbs before leaves expand.

LOOK-ALIKES
Purple loosestrife has opposite leaves and dense many-flowered spikes.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

WESTERN WATER HEMLOCK

TOXIC - AVOID

Cicuta douglasii

IDENTIFY

Tall wetland herb with divided leaves, white umbrella flower clusters and thick chambered roots.

HABITAT & SEASON

Wet meadows, marshes, ditches and slow tributaries. Season: Spring through fall

DOCUMENTED USE

No use. Prohibit wetland root gathering.

CAUTION

Extremely poisonous; small amounts can cause seizures and death. Roots are especially dangerous.

LOOK-ALIKES

Cow parsnip and angelica also have white umbels. Never distinguish by taste.

13

DEATH CAMAS

TOXIC - AVOID

Toxicoscordion venenosum

IDENTIFY

Grass-like leaves from a bulb and a cluster of cream-green six-part star flowers; no onion odor.

HABITAT & SEASON

Dry to seasonally wet meadows and open slopes. Season: Spring to early summer

DOCUMENTED USE

No use. Learn before harvesting any wild onion.

CAUTION

All parts are poisonous and cooking does not make them safe.

LOOK-ALIKES

Wild onions smell strongly of onion in leaves and bulbs; blue camas has blue flowers but still requires expert identification.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

FALSE HELLEBORE

TOXIC - AVOID

Veratrum viride

IDENTIFY

Tall herb with broad pleated leaves wrapped around a stout stem and greenish branched flower clusters.

HABITAT & SEASON

Wet mountain meadows, seepage slopes and streambanks. Season: Spring through summer

DOCUMENTED USE

No food use.

CAUTION

All parts are poisonous and may cause severe vomiting, slow pulse, low blood pressure and collapse.

LOOK-ALIKES

Young shoots can resemble edible wild leeks, but lack onion odor and have broad pleated leaves.

15

MOUNTAIN MONKSHOOD

TOXIC - AVOID

Aconitum delphiniifolium

IDENTIFY

Deeply divided palmate leaves and dark blue-purple hood-shaped flowers.

HABITAT & SEASON

Moist subalpine meadows, streambanks and avalanche tracks. Season: Summer

DOCUMENTED USE

No use.

CAUTION

All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

LOOK-ALIKES

Larkspurs also have blue flowers and are likewise unsafe.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY

Aromatic fern-like leaves and flat white to pink flower clusters.

HABITAT & SEASON

Dry openings, trails, burns and lake gravel. Season: Summer through fall

DOCUMENTED USE

Published traditional uses include external washes and aromatic preparations; fully dry tops can be light tinder.

CAUTION

Allergy and drug-interaction concerns apply. Do not put dirty leaves on wounds.

LOOK-ALIKES

Poison hemlock is taller with hollow spotted stems and umbrella flowers.

17

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY

Evergreen shrub with rolled-edge leaves and rusty wool beneath; white terminal flower clusters.

HABITAT & SEASON

Wet spruce forest, bogs and cold seepage areas. Season: Year-round leaves

DOCUMENTED USE

A documented traditional beverage and medicinal plant.

CAUTION

Strong or repeated infusions can cause illness; bog rosemary is a toxic look-alike. Use only with local expert guidance.

LOOK-ALIKES

Bog rosemary leaves are narrower and pale beneath without rusty wool.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

WILLOW

TRADITIONAL-USE

Salix species

IDENTIFY

Flexible woody shrubs with alternate leaves and catkins; many species occur from shorelines to alpine slopes.

HABITAT & SEASON

Wet thickets, lake margins, streams and avalanche tracks. Season: Year-round twigs

DOCUMENTED USE

Flexible rods for baskets, wattle, stakes and repair splints. Bark has documented salicylate-related traditional uses.

CAUTION

Do not self-dose bark, especially with aspirin allergy, anticoagulants, kidney disease or in children with viral illness.

LOOK-ALIKES

Alder has cone-like female catkins; dwarf birch has rounder toothed leaves.

19

HEARTLEAF ARNICA

TRADITIONAL-USE

Arnica cordifolia

IDENTIFY

Low perennial with opposite heart-shaped leaves near the base and yellow daisy-like flower heads.

HABITAT & SEASON

Open conifer forest, dry slopes and disturbed mountain ground. Season: Summer

DOCUMENTED USE

Published traditional and herbal uses are primarily external for bruising and soreness.

CAUTION

Do not ingest. Arnica can be toxic internally and may irritate broken skin or people allergic to the daisy family.

LOOK-ALIKES

Several yellow asters look similar; flower and leaf details require expert confirmation.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Lodgepole pine, Interior Douglas-fir, Engelmann spruce	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Subalpine fir, Trembling aspen, Black cottonwood	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Western water hemlock, Death camas	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Saskatoon, Soapberry / soopolallie, Black huckleberry, Kinnikinnick / bearberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Western water hemlock	Tall wetland herb with divided leaves, white umbrella flower clusters and thick chambered roots.	Extremely poisonous; small amounts can cause seizures and death. Roots are especially dangerous.
Death camas	Grass-like leaves from a bulb and a cluster of cream-green six-part star flowers; no onion odor.	All parts are poisonous and cooking does not make them safe.
False hellebore	Tall herb with broad pleated leaves wrapped around a stout stem and greenish branched flower clusters.	All parts are poisonous and may cause severe vomiting, slow pulse, low blood pressure and collapse.
Mountain monkshood	Deeply divided palmate leaves and dark blue-purple hood-shaped flowers.	All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

SUSPECTED POISONING

1. Stop exposure.
2. Remove material from mouth; rinse.
3. Do not induce vomiting.
4. Save a sample/photo.
5. Call emergency services or poison control.
6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.
Never girdle a tree.
Avoid roots and whole plants.
Leave wildlife food.
Follow Indigenous and protected-area rules.
Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. E-Flora BC: Electronic Atlas of the Flora of British Columbia
University of British Columbia - regional flora

<https://linnet.geog.ubc.ca/Atlas/Atlas.aspx>

2. Tree Species Compendium and identification resources
Government of British Columbia - government tree reference

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/plant-species/tree-species-compe>

3. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

4. Food Plants of Interior First Peoples
Nancy J. Turner; Royal BC Museum - ethnobotany

<https://publications.royalbcmuseum.bc.ca/product/food-plants-of-interior-first-peoples/>

5. Plants of Coastal British Columbia
Pojar, MacKinnon and Alaback; Lone Pine Publishing - regional field guide

6. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

7. Plants of the World Online
Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

INDEPENDENT PUBLICATION NOTICE

This guide is an independent educational reference and is not affiliated with HISTORY, the Alone television series, local Indigenous governments or protected-area authorities. Traditional-use notes summarize published sources and do not transfer cultural authority. Local knowledge holders, current regulations and qualified medical or botanical professionals take precedence.

NORTHERN LABRADOR PLANT FIELD GUIDE

Big River and Nunatsiavut • Season 9



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Spruce-fir forest, bakeapples, Labrador tea, bog toxins and river-valley materials of northern Labrador.

Filming region: Lower Big River and the Nunatsiavut region south of Makkovik, Labrador, Canada

Alone season(s): 9

Ecology: Subarctic spruce-fir boreal forest, muskeg, peatland, river terrace, coastal influence and exposed barrens

The Big River filming region is a wet, cold mosaic of spruce-fir forest, muskeg, peatland and exposed barrens. Black spruce dominates many saturated sites, while balsam fir, white birch and alder occupy richer slopes and river terraces. Berries can be locally abundant, but a cold summer or early frost may reduce fruit sharply. Bog shrubs include both useful species and plants that can cause serious poisoning.

FIELD PRIORITIES

- Separate black spruce, white spruce and balsam fir by needles, cones and bark.
- Learn cloudberry, lingonberry, blueberry and crowberry as complete plants before fruiting season ends.
- Never make tea from an evergreen bog shrub until Labrador tea and bog rosemary are confidently separated.
- Do not disturb deep peat or lichen mats for minor harvests.
- Respect Nunatsiavut land-use rules and local knowledge; published uses do not replace community permission.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

- No tasting to identify.
- No wetland roots.
- No unknown white umbels.
- No unknown bulbs.
- No unknown milky sap.
- No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

BLACK SPRUCE

TREE / WOODY

Picea mariana

IDENTIFY

Narrow spire crown, short four-sided blue-green needles, small persistent cones and scaly dark bark.

HABITAT & SEASON

Muskeg, peatlands, cold flats and thin rocky soils. Season: Year-round

DOCUMENTED USE

Small straight poles, sheltered dead twigs, roots and resinous wood support shelter and fire systems.

CAUTION

Shallow roots create windthrow hazards. Smoky resinous fires need ventilation.

LOOK-ALIKES

White spruce has longer needles and larger cones and favors better-drained sites.

1

WHITE SPRUCE

TREE / WOODY

Picea glauca

IDENTIFY

Sharp single needles with a pungent odor when crushed, larger flexible cones and a fuller crown.

HABITAT & SEASON

River terraces, sheltered valleys, lake margins and better-drained forest. Season: Year-round

DOCUMENTED USE

Strong poles, roots and fuel. Dry lower branches are often available beneath the crown.

CAUTION

Root stripping kills trees; use exposed or dead material. Pitch may irritate skin.

LOOK-ALIKES

Balsam fir needles are flat and soft; spruce needles roll between fingers.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

BALSAM FIR

TREE / WOODY

Abies balsamea

IDENTIFY

Flat fragrant needles with two pale bands below, smooth gray bark with resin blisters and upright cones that break apart on the tree.

HABITAT & SEASON

Cool moist forest, sheltered slopes and river valleys. Season: Year-round

DOCUMENTED USE

Springy boughs for bedding and insulation, light poles and easy-to-carve wood.

CAUTION

Bough harvest can damage small trees. Fir wood burns fast and does not make long coals.

LOOK-ALIKES

Spruce needles are sharp and cones hang; fir cones stand upright.

3

PAPER BIRCH

TREE / WOODY

Betula papyrifera

IDENTIFY

White peeling bark with dark lenticels, oval toothed leaves and hanging catkins.

HABITAT & SEASON

Burns, river terraces and mixed spruce-fir forest. Season: Year-round

DOCUMENTED USE

Loose dead bark is reliable tinder and can serve as a short-term waterproof layer. Wood burns hot when dry.

CAUTION

Never girdle living trees. Bark fires spread quickly.

LOOK-ALIKES

Mountain alder has gray bark and cone-like catkins; aspen bark is smooth and does not peel.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

TAMARACK

TREE / WOODY

Larix laricina

IDENTIFY

Soft needles in clusters, small upright cones and yellow autumn foliage that drops before winter.

HABITAT & SEASON

Fens, bog margins and wet lowlands. Season: Year-round wood

DOCUMENTED USE

Rot-resistant poles and roots have documented use in frames, snowshoes and lashings.

CAUTION

Small bog trees grow slowly. Use dead or permitted material. Wet wood is difficult to ignite.

LOOK-ALIKES

Spruces retain sharp single needles in winter.

5

SPECKLED ALDER

TREE / WOODY

Alnus incana subsp. rugosa

IDENTIFY

Multi-stem shrub or small tree with oval toothed leaves, pale speckled bark and persistent woody cone-like female catkins.

HABITAT & SEASON

Riverbanks, wet thickets, pond edges and floodplains. Season: Year-round wood; leaves growing season

DOCUMENTED USE

Straight stems for wattle, racks and light poles. Seasoned alder gives even heat and is commonly used for smoking.

CAUTION

Wet alder smokes heavily. Dense thickets can hide unstable banks and animal trails.

LOOK-ALIKES

Birch bark peels and lacks woody cone-like catkins.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

CLOUDBERRY / BAKEAPPLE

DOCUMENTED EDIBLE

Rubus chamaemorus

IDENTIFY

Low unarmed herb with rounded lobed leaves and a single raspberry-like fruit that ripens from red to amber-orange.

HABITAT & SEASON

Peatlands, wet barrens and bog edges. Season: Mid- to late summer

DOCUMENTED USE

Fully ripe amber fruit is a documented and culturally important food.

CAUTION

Unripe red fruit is hard and sour. Harvest lightly and avoid trampling peat hummocks.

LOOK-ALIKES

Dwarf raspberry species may have red fruit and more divided leaves.

7

PARTRIDGEBERRY / LINGONBERRY

DOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY

Low evergreen shrub with leathery oval leaves, pale dotted undersides and bright red berries with a crown.

HABITAT & SEASON

Open spruce forest, barrens, heaths and bog hummocks. Season: Late summer through winter

DOCUMENTED USE

Ripe berries are documented food and often persist after frost.

CAUTION

Confirm evergreen leaves and fruit crown. Avoid berries beside animal scat or contaminated shorelines.

LOOK-ALIKES

Bearberry has netted leaf veins and mealy fruit.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LOWBUSH BLUEBERRY

DOCUMENTED EDIBLE

Vaccinium angustifolium

IDENTIFY
Low deciduous shrub with fine toothed leaves, green twigs and blue berries with a waxy bloom and crown.

HABITAT & SEASON
Burns, open barrens, rocky forest and dry peat edges. Season: Late summer

DOCUMENTED USE
Ripe berries are documented food and can be eaten fresh, cooked or dried.

CAUTION
Black bears feed heavily in berry patches. Maintain visibility and do not monopolize fruit.

LOOK-ALIKES
Bog blueberry has rounder blue-green leaves and wetter habitat.

9

CROWBERRY

DOCUMENTED EDIBLE

Empetrum nigrum

IDENTIFY
Creeping evergreen mat with tiny grooved needle-like leaves and shiny black berries along the stems.

HABITAT & SEASON
Exposed barrens, coastal heaths, bog margins and rocky ground. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food, mild and water-rich.

CAUTION
Low fruit is easily contaminated. Confirm creeping stems and tiny leaves.

LOOK-ALIKES
Juniper has sharp needles in whorls and blue waxy cones.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

SMALL CRANBERRY

DOCUMENTED EDIBLE

Vaccinium oxycoccos

IDENTIFY

Very slender trailing stems over sphagnum, tiny evergreen leaves pale beneath and red berries on fine curved stalks.

HABITAT & SEASON

Open bogs and sphagnum mats. Season: Fall through spring

DOCUMENTED USE

Ripe berries are documented food and often improve after frost.

CAUTION

Bog travel can be hazardous. Fruit yield is low; avoid damaging the moss mat.

LOOK-ALIKES

Lingonberry is a more upright woody shrub with larger leaves.

11

FIREWEED

DOCUMENTED EDIBLE

Chamerion angustifolium

IDENTIFY

Tall colonies with narrow leaves, magenta four-petaled flowers and long seed capsules with silky fluff.

HABITAT & SEASON

Burns, river gravel, old camps and disturbed ground. Season: Young shoots spring; flowers summer

DOCUMENTED USE

Young shoots and leaves have documented food use after correct identification and cooking. Dry stems yield light fiber and tinder.

CAUTION

Older stems become tough. Early shoots can resemble other herbs before leaves expand.

LOOK-ALIKES

Purple loosestrife has opposite leaves and dense spikes of smaller flowers.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

SPOTTED WATER HEMLOCK

TOXIC - AVOID

Cicuta maculata

IDENTIFY

Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.

HABITAT & SEASON

Marshes, wet meadows, river margins and ditches. Season: Spring through fall

DOCUMENTED USE

No use. Do not harvest wetland roots.

CAUTION

Extremely poisonous; roots are especially dangerous and can cause seizures and death.

LOOK-ALIKES

Angelica and other carrot-family plants can look similar. Never taste to decide.

13

RED BANEERRY

TOXIC - AVOID

Actaea rubra

IDENTIFY

Woodland herb with divided leaves, small white flower clusters and glossy red berries on stout stalks.

HABITAT & SEASON

Rich moist forest and streambanks. Season: Fruit late summer

DOCUMENTED USE

No food use.

CAUTION

Berries and roots are poisonous and can cause severe gastrointestinal and cardiovascular effects.

LOOK-ALIKES

Red huckleberry is a woody shrub with simple leaves, not a divided-leaved herb.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

BOG LAUREL

TOXIC - AVOID

Kalmia polifolia

IDENTIFY

Low evergreen shrub with opposite narrow leathery leaves and bright pink saucer-shaped flowers.

HABITAT & SEASON

Bogs, peatlands and wet heaths. Season: Flowers early summer

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxins; ingestion can cause vomiting, weakness, low blood pressure and heart effects.

LOOK-ALIKES

Labrador tea has alternate leaves rusty beneath and white flower clusters.

15

BOG ROSEMARY

TOXIC - AVOID

Andromeda polifolia

IDENTIFY

Low evergreen bog shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.

HABITAT & SEASON

Sphagnum bogs and peat hummocks. Season: Year-round leaves

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxin-type compounds and may cause serious illness.

LOOK-ALIKES

Labrador tea leaves are broader and rusty-woolly beneath.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY

Evergreen shrub with narrow rolled-edge leaves densely rusty-woolly below and clusters of white flowers.

HABITAT & SEASON

Muskeg, bog edges and wet spruce forest. Season: Year-round leaves

DOCUMENTED USE

A culturally important documented beverage and traditional-use plant.

CAUTION

Strong or repeated infusions can cause illness. Bog rosemary and bog laurel are dangerous look-alikes.

LOOK-ALIKES

Bog rosemary is pale beneath; bog laurel has opposite leaves and pink open flowers.

17

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY

Aromatic finely divided leaves and flat white to pink flower clusters.

HABITAT & SEASON

Dry barrens, river gravel, trails and disturbed ground. Season: Summer through fall

DOCUMENTED USE

Published traditional uses include external washes and aromatic preparations; dry tops can be light tinder.

CAUTION

Possible allergy, pregnancy and anticoagulant concerns. Clean wound care is still required.

LOOK-ALIKES

Poison hemlock is taller with hollow spotted stems and umbrella flower clusters.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

COMMON JUNIPER

TRADITIONAL-USE

Juniperus communis var. *depressa*

IDENTIFY

Low evergreen shrub with stiff sharp needles in whorls of three and blue-black berry-like cones.

HABITAT & SEASON

Dry barrens, rocky slopes and open woodland. Season: Cones late summer through winter

DOCUMENTED USE

Small amounts of mature cones have documented culinary and traditional uses; resinous twigs can scent smoke.

CAUTION

Not for pregnancy, kidney disease or unsupervised medicinal use. Concentrated oils are unsafe.

LOOK-ALIKES

Crowberry has softer tiny leaves pressed to creeping stems and glossy black fruit.

19

GOLDTHREAD

TRADITIONAL-USE

Coptis trifolia

IDENTIFY

Tiny evergreen three-part leaves close to the ground, slender white star-like flowers and bright yellow thread-like rhizomes.

HABITAT & SEASON

Cool mossy spruce-fir forest and rotting wood. Season: Spring through fall

DOCUMENTED USE

A documented Indigenous medicinal plant, especially associated with bitter yellow rhizomes.

CAUTION

Do not dig or self-dose. Concentrated berberine-type alkaloids can interact with medications and pregnancy, and harvest damages slow-growing colonies.

LOOK-ALIKES

Threeleaf goldthread is smaller than clover and remains evergreen; flowers and yellow rhizomes confirm identity.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Black spruce, White spruce, Balsam fir	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Paper birch, Tamarack, Speckled alder	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Spotted water hemlock, Red baneberry	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Cloudberry / bakeapple, Partridgeberry / lingonberry, Lowbush blueberry, Crowberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Spotted water hemlock	Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.	Extremely poisonous; roots are especially dangerous and can cause seizures and death.
Red baneberry	Woodland herb with divided leaves, small white flower clusters and glossy red berries on stout stalks.	Berries and roots are poisonous and can cause severe gastrointestinal and cardiovascular effects.
Bog laurel	Low evergreen shrub with opposite narrow leathery leaves and bright pink saucer-shaped flowers.	Contains grayanotoxins; ingestion can cause vomiting, weakness, low blood pressure and heart effects.
Bog rosemary	Low evergreen bog shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.	Contains grayanotoxin-type compounds and may cause serious illness.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Digital Flora of Newfoundland and Labrador

Memorial University and regional botanical collaborators - regional scientific flora

<https://newfoundland-labradorflora.ca/>

2. Newfoundland and Labrador native-plant education resources

Memorial University Botanical Garden - regional education

<https://www.mun.ca/botanicalgarden/>

3. Flora of North America North of Mexico

Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

4. Aboriginal Plant Use in Canada's Northwest Boreal Forest

Marles, Clavelle, Monteleone, Tays and Burns; Canadian Forest Service - ethnobotany

<https://publications.gc.ca/site/eng/9.611374/publication.html>

5. Canadian Poisonous Plants Information System and poison-safety resources

Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

6. Plants of the World Online

Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

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REINDEER LAKE PLANT FIELD GUIDE

Northern Saskatchewan boreal shield • Season 10



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Boreal Shield trees, productive berry patches, muskeg toxins and useful shrubs of northern Saskatchewan.

Filming region: Reindeer Lake region of northern Saskatchewan, Canada

Alone season(s): 10

Ecology: Boreal Shield with jack pine ridges, black spruce muskeg, white spruce terraces, burns, islands and rocky lake shore

Reindeer Lake is a vast Boreal Shield landscape of exposed rock, islands, burns and peatland. Jack pine dominates many dry ridges, black spruce occupies cold wet ground, and white spruce, birch and aspen appear on better soils. Berry crops can be important but are inconsistent and heavily used by wildlife. A few wetland and woodland plants present severe poisoning risks.

FIELD PRIORITIES

- Separate jack pine from spruce and tamarack before selecting fuel or poles.
- Treat berry patches as shared wildlife feeding areas and maintain bear awareness.
- Do not dig wetland roots or eat umbrella-flowered plants.
- Use the entire shrub - twigs, leaves, flowers and fruit - for berry identification.
- Avoid harvesting slow-growing muskeg plants where a common substitute exists.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

1**1. PLACE**

Record habitat, moisture, slope, elevation and nearby dominant plants.

2**2. FORM**

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.

3**3. LEAVES**

Check arrangement, shape, edge, veins, hairs, odor and underside.

4**4. STEM & BARK**

Look for thorns, sap, pith, lenticels, buds, twig color and texture.

5**5. FLOWER / FRUIT**

Count petals, inspect clusters, seed structures and fruit attachment.

6**6. CROSS-CHECK**

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

BLACK SPRUCE

TREE / WOODY

Picea mariana

IDENTIFY
Narrow spire crown, short sharp blue-green needles, small persistent cones and scaly dark bark.

HABITAT & SEASON
Muskeg, peatland, cold flats and thin soils. Season: Year-round

DOCUMENTED USE
Straight small poles, sheltered dead twigs, roots and resinous fuel for camp systems.

CAUTION
Shallow roots make windthrow common. Resinous smoke needs ventilation.

LOOK-ALIKES
White spruce has longer needles, larger cones and better-drained habitat.

1

WHITE SPRUCE

TREE / WOODY

Picea glauca

IDENTIFY
Sharp single needles with a strong odor when crushed, larger flexible cones and a fuller crown.

HABITAT & SEASON
Lake terraces, sheltered islands, river mouths and richer slopes. Season: Year-round

DOCUMENTED USE
Strong poles, roots, carving wood and fuel. Dry lower branches are often protected by the crown.

CAUTION
Do not strip living roots. Pitch can irritate skin and wounds.

LOOK-ALIKES
Balsam fir has flat soft needles and upright cones; black spruce cones are smaller.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

JACK PINE

TREE / WOODY

Pinus banksiana

IDENTIFY

Two short twisted needles per bundle, irregular crown and curved cones that often remain closed on branches.

HABITAT & SEASON

Dry sandy ridges, islands, burns and exposed bedrock. Season: Year-round

DOCUMENTED USE

Resin-rich dead wood is excellent kindling and fuel; straight saplings provide light poles.

CAUTION

Fire-killed trees can fall without warning. Resinous fires create sparks and soot.

LOOK-ALIKES

Lodgepole pine has generally longer needles and more symmetrical cones.

3

TAMARACK

TREE / WOODY

Larix laricina

IDENTIFY

Soft needles in dense clusters, tiny upright cones and yellow autumn foliage that drops before winter.

HABITAT & SEASON

Fens, bog margins and wet lowlands. Season: Year-round wood

DOCUMENTED USE

Rot-resistant poles, roots and small frames; dry wood makes durable fuel.

CAUTION

Bog trees grow slowly and may be old despite small size. Wet wood is hard to ignite.

LOOK-ALIKES

Spruce retains sharp single needles in winter.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

PAPER BIRCH

TREE / WOODY

Betula papyrifera

IDENTIFY

White peeling bark with dark horizontal marks, oval toothed leaves and hanging catkins.

HABITAT & SEASON

Burns, island interiors and mixed forest on better soils. Season: Year-round

DOCUMENTED USE

Loose dead bark is dependable tinder and a temporary waterproof material; dry wood burns hot.

CAUTION

Never peel around a living trunk. Bark flame can escape the hearth.

LOOK-ALIKES

Aspen bark is smooth and does not peel in sheets.

5

TREMBLING ASPEN

TREE / WOODY

Populus tremuloides

IDENTIFY

Round finely toothed leaves on flattened stalks that tremble, smooth pale bark and clonal groves.

HABITAT & SEASON

Burns, shore terraces, clearings and richer slopes. Season: Spring through fall foliage; wood year-round

DOCUMENTED USE

Light carving wood and quick fuel. Groves can indicate deeper mineral soil.

CAUTION

Standing dead stems frequently rot internally. Test every pole.

LOOK-ALIKES

Birch leaves are pointed and bark peels; balsam poplar leaves are more pointed and sticky-budded.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LINGONBERRY / LOWBUSH CRANBERRYDOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY
Low evergreen shrub with leathery oval leaves, pale dotted undersides and bright red berries with a crown.

HABITAT & SEASON
Open conifer forest, rocky heaths and bog hummocks. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food and often persist after frost.

CAUTION
Confirm evergreen leaves and fruit crown. Avoid berries near animal latrines.

LOOK-ALIKES
Bearberry has netted veins and drier mealy fruit.

7

LOWBUSH BLUEBERRYDOCUMENTED EDIBLE

Vaccinium angustifolium

IDENTIFY
Low deciduous shrub with fine toothed leaves, green twigs and blue berries with a waxy bloom and crown.

HABITAT & SEASON
Burns, open jack pine forest and rocky shore uplands. Season: Late summer

DOCUMENTED USE
Ripe berries are documented food and can be eaten fresh, cooked or dried.

CAUTION
Bear activity is common in productive patches. Check the woody *Vaccinium* stem and crown.

LOOK-ALIKES
Black nightshade is herbaceous with star-shaped flowers, not a woody shrub.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

SASKATOONDOCUMENTED EDIBLE

Amelanchier alnifolia

IDENTIFY
Shrub with oval toothed leaves, white five-petaled flowers and purple-blue clustered fruits with a small crown.

HABITAT & SEASON
Dry openings, rocky slopes, burns and forest edges, more frequent in the southern part of the region. Season: Midsummer

DOCUMENTED USE
Ripe fruit is documented food and can be dried or cooked.

CAUTION
Seeds contain cyanogenic compounds; normal traditional food use is established, but do not grind and consume seeds in bulk.

LOOK-ALIKES
Chokecherry has elongated fruit clusters and a single hard pit.

9

CROWBERRYDOCUMENTED EDIBLE

Empetrum nigrum

IDENTIFY
Creeping evergreen mat with tiny grooved needle-like leaves and shiny black berries.

HABITAT & SEASON
Rocky heaths, peat margins, exposed islands and open spruce forest. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food, mild and water-rich.

CAUTION
Low fruit is prone to animal contamination. Confirm creeping evergreen stems.

LOOK-ALIKES
Juniper has sharp needles in whorls and blue waxy cones.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

PRICKLY ROSE

DOCUMENTED EDIBLE

Rosa acicularis

IDENTIFY
Prickly stems, compound toothed leaves, pink flowers and red oval hips.

HABITAT & SEASON
Open woods, burns, shore terraces and thickets. Season: Hips late summer through winter

DOCUMENTED USE
Hip flesh is documented food after hairs and seeds are removed; suitable for simmering or drying.

CAUTION
Seed hairs irritate mouth and skin. Avoid moldy fruit.

LOOK-ALIKES
Hawthorn has simple lobed leaves and woody thorns.

11

WILD RED RASPBERRY

DOCUMENTED EDIBLE

Rubus idaeus subsp. strigosus

IDENTIFY
Arching prickly canes, compound leaves silvery beneath, white flowers and red raspberry fruit that pulls free from the core.

HABITAT & SEASON
Burns, clearings, shore thickets and disturbed ground. Season: Midsummer

DOCUMENTED USE
Fully ripe berries are documented food.

CAUTION
Check for mold and animal contamination. Canes tear skin and gear.

LOOK-ALIKES
Thimbleberry fruit is broader and softer and grows on unarmed canes.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

SPOTTED WATER HEMLOCK

TOXIC - AVOID

Cicuta maculata

IDENTIFY

Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.

HABITAT & SEASON

Marshes, wet meadows and slow stream margins. Season: Spring through fall

DOCUMENTED USE

No use. Do not harvest wetland roots.

CAUTION

Extremely poisonous; roots can cause seizures and death.

LOOK-ALIKES

Angelica and other carrot-family plants may resemble it. Never taste.

13

RED BANEERRY

TOXIC - AVOID

Actaea rubra

IDENTIFY

Woodland herb with divided leaves, small white flowers and glossy red berries on stout stalks.

HABITAT & SEASON

Moist mixed forest and rich streambanks. Season: Fruit late summer

DOCUMENTED USE

No food use.

CAUTION

Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.

LOOK-ALIKES

Red huckleberry is a woody simple-leaved shrub and is not typical of this region.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

BOG LAUREL

TOXIC - AVOID

Kalmia polifolia

IDENTIFY

Low evergreen shrub with opposite narrow leaves and bright pink saucer-shaped flowers.

HABITAT & SEASON

Bogs, muskeg and wet heaths. Season: Flowers early summer

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxins that may cause vomiting, weakness and dangerous heart effects.

LOOK-ALIKES

Labrador tea has alternate leaves rusty beneath and white flower clusters.

15

NORTHERN MONKSHOOD

TOXIC - AVOID

Aconitum delphiniifolium

IDENTIFY

Deeply divided palmate leaves and blue-purple hood-shaped flowers.

HABITAT & SEASON

Moist meadows, streambanks and cool open woods in the broader north. Season: Summer

DOCUMENTED USE

No food or medicinal use.

CAUTION

All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

LOOK-ALIKES

Larkspurs are also toxic and have spurred rather than helmet-shaped flowers.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY
Evergreen shrub with rolled-edge leaves densely rusty-woolly beneath and white terminal flower clusters.

HABITAT & SEASON
Muskeg and wet spruce forest. Season: Year-round leaves

DOCUMENTED USE
A culturally important documented beverage and traditional-use plant.

CAUTION
Strong or repeated infusions may cause illness. Bog rosemary and bog laurel must be ruled out.

LOOK-ALIKES
Bog rosemary is pale beneath; bog laurel has opposite leaves and pink flowers.

17

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY
Aromatic finely divided leaves and flat white to pink flower clusters.

HABITAT & SEASON
Dry shore gravel, trails, burns and disturbed ground. Season: Summer through fall

DOCUMENTED USE
Published traditional uses include external washes and aromatic preparations; dry tops can be light tinder.

CAUTION
Possible allergy, pregnancy and anticoagulant concerns.

LOOK-ALIKES
Poison hemlock is taller with hollow spotted stems and umbrella flowers.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

WILLOW

TRADITIONAL-USE

Salix species

IDENTIFY
Flexible shrubs or small trees with alternate leaves and catkins; species-level identification is difficult.

HABITAT & SEASON
Shorelines, wet thickets and stream margins. Season: Year-round twigs

DOCUMENTED USE
Rods for wattle, baskets, stakes and repair splints. Bark has documented salicylate-related traditional uses.

CAUTION
Do not self-dose bark with aspirin allergy, bleeding risk, kidney disease or in children with viral illness.

LOOK-ALIKES
Alder bears woody cone-like catkins; dwarf birch has rounder toothed leaves.

19

KINNIKINNICK / BEARBERRY

TRADITIONAL-USE

Arctostaphylos uva-ursi

IDENTIFY
Low trailing evergreen with spoon-shaped leathery leaves, pink urn flowers and red mealy berries.

HABITAT & SEASON
Dry sandy ridges, open pine forest and rocky ground. Season: Year-round leaves; fruit late summer

DOCUMENTED USE
Ripe fruit is a documented emergency food; leaves have extensive Indigenous ceremonial and medicinal uses.

CAUTION
Do not make strong medicinal tea or use during pregnancy or kidney disease. Respect cultural protocols.

LOOK-ALIKES
Lingonberry leaves have pale dots beneath and berries with a clearer crown.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Black spruce, White spruce, Jack pine	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Tamarack, Paper birch, Trembling aspen	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Spotted water hemlock, Red baneberry	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Lingonberry / lowbush cranberry, Lowbush blueberry, Saskatoon, Crowberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Spotted water hemlock	Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.	Extremely poisonous; roots can cause seizures and death.
Red baneberry	Woodland herb with divided leaves, small white flowers and glossy red berries on stout stalks.	Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.
Bog laurel	Low evergreen shrub with opposite narrow leaves and bright pink saucer-shaped flowers.	Contains grayanotoxins that may cause vomiting, weakness and dangerous heart effects.
Northern monkshood	Deeply divided palmate leaves and blue-purple hood-shaped flowers.	All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Saskatchewan Conservation Data Centre biodiversity explorer
Government of Saskatchewan - regional occurrence and conservation

<https://biodiversity.sk.ca/>

2. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

3. Aboriginal Plant Use in Canada's Northwest Boreal Forest
Marles, Clavelle, Monteleone, Tays and Burns; Canadian Forest Service - ethnobotany

<https://publications.gc.ca/site/eng/9.611374/publication.html>

4. Published ethnobotanical references for the Canadian Prairies and boreal transition
Regional Indigenous plant-use literature - ethnobotany

<https://publications.gc.ca/>

5. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

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MACKENZIE DELTA AND INUVIK PLANT FIELD GUIDE

Inuvik and the Arctic delta • Season 11



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Delta trees, tundra berries, wetland toxins and culturally important plants north of the Arctic Circle.

Filming region: Mackenzie River Delta near Inuvik, Northwest Territories, Canada

Alone season(s): 11

Ecology: Arctic delta and taiga-tundra transition with white spruce islands, willow floodplain, peatland, lakes and tundra heaths

The Mackenzie Delta is a vast network of channels, lakes, peatlands and alluvial islands. White spruce can form surprisingly tall forests on better-drained islands, while black spruce, tamarack, willow and dwarf birch dominate colder or wetter ground. Tundra berries and sour greens may persist into autumn, but plant growth is slow and flood history can shift communities from one island to the next.

FIELD PRIORITIES

- Use landform and drainage to predict plants: spruce on raised islands, willow on flood edges, berries on heaths and peat.
- Never collect roots from delta marshes or white-umbel plants.
- Learn bog rosemary before making any Labrador tea.
- Leave dwarf shrubs and peat mats intact; recovery is exceptionally slow.
- Local Gwich'in and Inuvialuit knowledge and harvest protocols take priority over general guidebook summaries.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

WHITE SPRUCE	TREE / WOODY
<i>Picea glauca</i> IDENTIFY Sharp single needles with a pungent odor when crushed, flexible hanging cones and gray scaly bark; may be tall on raised delta islands. HABITAT & SEASON Well-drained alluvial islands, river terraces and sheltered valleys. Season: Year-round DOCUMENTED USE Strong poles, roots, carving wood and fuel. Spruce islands also indicate relatively firm, elevated ground. CAUTION Shallow permafrost and eroding banks can undermine trees. Do not strip living roots. LOOK-ALIKES Black spruce is narrower with shorter needles and smaller persistent cones.	
1	
BLACK SPRUCE	TREE / WOODY
<i>Picea mariana</i> IDENTIFY Narrow spire crown, short four-sided needles and small dark cones that remain on branches. HABITAT & SEASON Peatlands, cold flats and poorly drained delta margins. Season: Year-round DOCUMENTED USE Small straight poles, sheltered dead twigs and resinous fuel. CAUTION Shallow roots create windthrow hazards. Smoky fires require ventilation. LOOK-ALIKES White spruce is fuller-crowned and favors better-drained islands.	
2	

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

TAMARACK

TREE / WOODY

Larix laricina

IDENTIFY

Soft needles in clusters, tiny upright cones and yellow autumn foliage that drops before winter.

HABITAT & SEASON

Fens, wet lowlands and peat margins. Season: Year-round wood

DOCUMENTED USE

Rot-resistant poles, roots and frames; dry wood makes durable fuel.

CAUTION

Small trees can be old and slow-growing. Wet tamarack is difficult to ignite.

LOOK-ALIKES

Spruces keep needles in winter and have sharp single needles.

3

BALSAM POPLAR

TREE / WOODY

Populus balsamifera

IDENTIFY

Tall tree with pointed leaves, pale undersides and sticky strongly aromatic buds; furrowed gray bark on older stems.

HABITAT & SEASON

Floodplains, channel banks and young alluvial islands. Season: Buds late winter to spring; wood year-round

DOCUMENTED USE

Light carving wood and quick fuel. Aromatic buds have documented traditional external uses.

CAUTION

Riverbank trees may be undercut. Bud resin can trigger salicylate or fragrance sensitivity.

LOOK-ALIKES

Willows usually have narrower leaves; aspen has rounder leaves on flattened stalks.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

DWARF BIRCH

TREE / WOODY

Betula glandulosa

IDENTIFY

Low many-branched shrub with small round toothed leaves, resin-dotted young twigs and tiny catkins.

HABITAT & SEASON

Tundra heaths, peatland margins and wind-exposed slopes. Season: Spring through fall leaves; twigs year-round

DOCUMENTED USE

Fine twigs make light brush, bedding and small bundles; dense patches can mark firmer hummocks.

CAUTION

Do not strip large areas for bedding. Shrubs are slow-growing and important snow traps.

LOOK-ALIKES

Dwarf willow leaves are often narrower; alder has larger cone-like catkins.

5

FELTLEAF WILLOW

TREE / WOODY

Salix alaxensis

IDENTIFY

Tall shrub or small tree with long lance-shaped leaves, dark green above and densely white-felted beneath; flexible yellow-brown twigs.

HABITAT & SEASON

Riverbanks, floodplains, gravel bars and moist valleys. Season: Spring through fall leaves; twigs year-round

DOCUMENTED USE

Straight flexible rods for wattle, stakes, baskets and repair splints. Willow thickets can provide wind protection.

CAUTION

Flood edges may collapse. Do not self-dose bark; salicylate risks apply.

LOOK-ALIKES

Other willows are common; feltleaf is recognized by the strongly white-woolly underside.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LINGONBERRY

DOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY

Low evergreen shrub with leathery oval leaves, pale dots beneath and bright red berries with a crown.

HABITAT & SEASON

Open spruce woodland, tundra heath and peat hummocks. Season: Late summer through winter

DOCUMENTED USE

Ripe berries are documented food and often persist after frost.

CAUTION

Confirm evergreen leaves and fruit crown. Avoid animal-contaminated patches.

LOOK-ALIKES

Bearberry has mealy fruit and leaves with netted veins.

7

BOG BLUEBERRY

DOCUMENTED EDIBLE

Vaccinium uliginosum

IDENTIFY

Low woody shrub with blue-green oval leaves and blue berries with a waxy bloom and crown.

HABITAT & SEASON

Tundra heath, peat margins and open taiga. Season: Late summer

DOCUMENTED USE

Ripe berries are documented food.

CAUTION

Check woody stems and fruit crown. Berry color alone is not enough.

LOOK-ALIKES

Bilberry has green angular stems and darker-staining flesh.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

CLouDBERRY

DOCUMENTED EDIBLE

Rubus chamaemorus

IDENTIFY
Low unarmed herb with rounded lobed leaves and a single amber-orange raspberry-like fruit.

HABITAT & SEASON
Peatlands, wet tundra and bog margins. Season: Mid- to late summer

DOCUMENTED USE
Fully ripe amber fruit is documented food and culturally important.

CAUTION
Unripe red fruit is firm and sour. Avoid trampling peat hummocks.

LOOK-ALIKES
Dwarf raspberry species may have more divided leaves and red fruit.

9

CROwBERRY

DOCUMENTED EDIBLE

Empetrum nigrum

IDENTIFY
Creeping evergreen mat with tiny grooved needle-like leaves and shiny black berries.

HABITAT & SEASON
Wind-exposed tundra, gravel ridges, heaths and bog margins. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food, water-rich and persistent.

CAUTION
Low berries collect grit and animal contamination. Confirm creeping woody stems.

LOOK-ALIKES
Juniper has sharp needles in whorls and blue waxy cones.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

MOUNTAIN SORREL

DOCUMENTED EDIBLE

Oxyria digyna

IDENTIFY
Low perennial with kidney-shaped leaves on long stalks and reddish branching flower/seed stems.

HABITAT & SEASON
Moist gravel, streambanks, talus and snowbed edges. Season: Summer

DOCUMENTED USE
Young leaves are documented sour food and a source of flavor in Arctic diets.

CAUTION
High oxalate content means small portions only; avoid with kidney disease. Confirm leaf shape and habitat.

LOOK-ALIKES
Young dock species may be similar but are larger and have different seed structures.

11

FIREWEED

DOCUMENTED EDIBLE

Chamerion angustifolium

IDENTIFY
Tall colonies with narrow leaves, magenta four-petaled flowers and long silky-seeded capsules.

HABITAT & SEASON
River bars, burns, disturbed ground and open spruce woodland. Season: Young shoots spring; flowers summer

DOCUMENTED USE
Young shoots and leaves have documented food use after correct identification and cooking; dry stems yield light fiber.

CAUTION
Older shoots become tough. Do not identify very young shoots without leaves.

LOOK-ALIKES
Dwarf fireweed species are shorter and favor wet gravel but are generally similar at genus level.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

NORTHERN WATER HEMLOCK

TOXIC - AVOID

Cicuta virosa

IDENTIFY

Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.

HABITAT & SEASON

Marshes, slow channels, lake margins and wet sedge meadows. Season: Spring through fall

DOCUMENTED USE

No use. Never dig or taste wetland roots.

CAUTION

Extremely poisonous and may cause seizures and death. Roots are especially dangerous.

LOOK-ALIKES

Angelica and other Apiaceae can resemble it. Expert identification is essential.

13

NORTHERN MONKSHOOD

TOXIC - AVOID

Aconitum delphiniifolium

IDENTIFY

Deeply divided palmate leaves and blue-purple hood-shaped flowers.

HABITAT & SEASON

Moist tundra, river valleys and mountain meadows. Season: Summer

DOCUMENTED USE

No food or medicinal use.

CAUTION

All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

LOOK-ALIKES

Larkspurs have a rear spur but are also toxic.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

BOG ROSEMARY

TOXIC - AVOID

Andromeda polifolia

IDENTIFY

Low evergreen bog shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.

HABITAT & SEASON

Sphagnum bogs and peat hummocks. Season: Year-round leaves

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxin-type compounds and may cause vomiting, dizziness and heart effects.

LOOK-ALIKES

Labrador tea leaves are broader and rusty-woolly beneath.

15

RED BANEERRY

TOXIC - AVOID

Actaea rubra

IDENTIFY

Woodland herb with divided leaves, white flower clusters and glossy red berries on stout stalks.

HABITAT & SEASON

Moist spruce woodland and rich river-valley sites near treeline. Season: Fruit late summer

DOCUMENTED USE

No food use.

CAUTION

Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.

LOOK-ALIKES

Red berries on woody *Vaccinium* shrubs have simple leaves, not divided herb leaves.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY

Evergreen shrub with rolled-edge leaves densely rusty-woolly beneath and white flower clusters.

HABITAT & SEASON

Peatland margins and wet spruce forest. Season: Year-round leaves

DOCUMENTED USE

A culturally important documented beverage and traditional-use plant.

CAUTION

Strong or repeated infusions can cause illness. Bog rosemary must be ruled out.

LOOK-ALIKES

Bog rosemary is narrow and pale beneath; Labrador tea is rusty-woolly.

17

ALASKA WORMWOOD

TRADITIONAL-USE

Artemisia tilesii

IDENTIFY

Tall aromatic perennial with gray-green divided leaves and many small greenish flower heads.

HABITAT & SEASON

River bars, disturbed soil, camps and moist tundra margins. Season: Summer through fall

DOCUMENTED USE

Documented northern Indigenous uses include aromatic washes, steam and external preparations.

CAUTION

Concentrated internal use is not recommended. Artemisia can interact with pregnancy, seizures and medications.

LOOK-ALIKES

Other wormwoods vary in leaf division; smell alone is not a complete identification.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY
Aromatic finely divided leaves and flat white to pink flower clusters.

HABITAT & SEASON
Dry river gravel, trails and disturbed ground. Season: Summer through fall

DOCUMENTED USE
Published traditional uses include external washes and aromatic preparations; dry tops can be light tinder.

CAUTION
Allergy and anticoagulant concerns apply. Do not put dirty leaves on wounds.

LOOK-ALIKES
Poison hemlock is taller with hollow spotted stems and umbrella flowers.

19

MOUNTAIN AVENS

TRADITIONAL-USE

Dryas integrifolia

IDENTIFY
Low evergreen mat with small leathery leaves, white flowers usually with eight petals and feathery seed heads.

HABITAT & SEASON
Calcareous gravel, tundra slopes and windswept ridges. Season: Summer flowers; leaves year-round

DOCUMENTED USE
Leaves have documented traditional beverage and medicinal uses in some northern communities; mats help stabilize gravel and indicate exposed, well-drained ground.

CAUTION
Do not uproot mats. Internal use is not recommended without local knowledge and medical guidance.

LOOK-ALIKES
Other *Dryas* species differ in leaf teeth and flower details; hybrids occur.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	White spruce, Black spruce, Tamarack	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Balsam poplar, Dwarf birch, Feltleaf willow	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Northern water hemlock, Northern monkshood	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Lingonberry, Bog blueberry, Cloudberry, Crowberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Northern water hemlock	Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.	Extremely poisonous and may cause seizures and death. Roots are especially dangerous.
Northern monkshood	Deeply divided palmate leaves and blue-purple hood-shaped flowers.	All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.
Bog rosemary	Low evergreen bog shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.	Contains grayanotoxin-type compounds and may cause vomiting, dizziness and heart effects.
Red baneberry	Woodland herb with divided leaves, white flower clusters and glossy red berries on stout stalks.	Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Plants and biodiversity resources of the Northwest Territories
Government of the Northwest Territories - regional flora and ecology

<https://www.gov.nt.ca/ecc/en/services/biodiversity>

2. Flora of the Canadian Arctic Archipelago
Canadian Museum of Nature - scientific Arctic flora

<https://nature.ca/aaflora/data/index.htm>

3. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

4. Aboriginal Plant Use in Canada's Northwest Boreal Forest
Marles, Clavelle, Monteleone, Tays and Burns; Canadian Forest Service - ethnobotany

<https://publications.gc.ca/site/eng/9.611374/publication.html>

5. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

6. Plants of the World Online
Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

INDEPENDENT PUBLICATION NOTICE

This guide is an independent educational reference and is not affiliated with HISTORY, the Alone television series, local Indigenous governments or protected-area authorities. Traditional-use notes summarize published sources and do not transfer cultural authority. Local knowledge holders, current regulations and qualified medical or botanical professionals take precedence.

GREAT KAROO PLANT FIELD GUIDE

South African semi-arid interior • Season 12



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Drought-adapted trees, edible succulents, livestock-toxic plants and documented Karoo traditional-use species.

Filming region: Great Karoo semi-arid interior, South Africa

Alone season(s): 12

Ecology: Nama-Karoo and adjacent semi-arid shrubland, rocky koppies, dry watercourses, farm disturbance and succulent thicket transition

The Great Karoo is a semi-arid landscape where plant distribution follows water, soil depth, rock type and grazing history. Woody trees cluster along drainage lines and farm water points, while low shrubs, grasses and succulents dominate open ground. Many species survive drought by storing water or producing potent defensive chemicals. Several of the region's most dangerous plants are well known because they poison livestock.

FIELD PRIORITIES

- Do not equate succulent with safe; several Karoo succulents cause serious poisoning.
- Use thorns, leaf arrangement, bark and pods together to identify thorn trees.
- Avoid harvesting protected or slow-growing succulents, bulbs and medicinal roots.
- Treat all milky sap, tobacco-like leaves and iris-like bulbs as hazardous until identified.
- Water stress concentrates salts, oxalates and plant toxins; published edibility does not guarantee safe emergency use.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

1**1. PLACE**

Record habitat, moisture, slope, elevation and nearby dominant plants.

2**2. FORM**

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.

3**3. LEAVES**

Check arrangement, shape, edge, veins, hairs, odor and underside.

4**4. STEM & BARK**

Look for thorns, sap, pith, lenticels, buds, twig color and texture.

5**5. FLOWER / FRUIT**

Count petals, inspect clusters, seed structures and fruit attachment.

6**6. CROSS-CHECK**

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

SWEET THORN

TREE / WOODY

Vachellia karroo

IDENTIFY

Thorn tree with paired straight white spines, feathery twice-compound leaves, round golden flower heads and dark curved pods; bark becomes rough and dark.

HABITAT & SEASON

Dry riverbeds, drainage lines, old fields and water points. Season: Year-round wood; flowers spring-summer

DOCUMENTED USE

Hard wood for durable stakes, tool handles and excellent fuel. Gum has documented food and traditional uses when correctly sourced.

CAUTION

Thorns cause deep punctures. Do not eat pods or browse without local knowledge; cyanogenic risk and livestock effects vary.

LOOK-ALIKES

Other *Vachellia* species differ in spine form, pod shape and gland placement.

1

KAREE

TREE / WOODY

Searsia lancea

IDENTIFY

Evergreen tree with narrow leathery three-part leaves, gray-brown bark and small yellow-brown fruits in clusters.

HABITAT & SEASON

Dry watercourses, rocky slopes and farm margins. Season: Year-round

DOCUMENTED USE

Tough wood for handles, pegs and fuel; dense foliage can provide shade and wind reduction.

CAUTION

Searsia sap may irritate sensitive skin. Fruit edibility varies among species; this guide does not recommend casual consumption.

LOOK-ALIKES

Pepper trees and other three-leaved shrubs may resemble karee; leaf texture and fruit structure matter.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

WILD OLIVE

TREE / WOODY

Olea europaea subsp. africana

IDENTIFY

Small evergreen tree with opposite narrow gray-green leaves, silvery scales beneath, tiny white flowers and small purple-black drupes.

HABITAT & SEASON

Rocky slopes, kloofs and sheltered drainage lines. Season: Year-round leaves; fruit variable

DOCUMENTED USE

Dense hard wood for pegs, handles and small durable implements. Foliage is browsed by wildlife.

CAUTION

Fruit is bitter and not equivalent to cultivated table olives without processing. Do not ingest leaves as medicine without guidance.

LOOK-ALIKES

Karee has three leaflets; wild olive leaves are single and opposite.

3

BUFFALO THORN

TREE / WOODY

Ziziphus mucronata

IDENTIFY

Zigzag twigs with paired thorns, one straight and one hooked; glossy three-veined leaves; small yellow-green flowers and reddish-brown fruits.

HABITAT & SEASON

Dry river courses, thickets and rocky slopes. Season: Fruit summer to autumn

DOCUMENTED USE

Hard flexible wood for handles and strong pegs. Ripe fruit has documented food and cultural uses.

CAUTION

Hooked thorns snag eyes, skin and fabric. Seeds are hard; fruit quality varies and must be positively identified.

LOOK-ALIKES

Other *Ziziphus* species differ in fruit size and leaf hairiness.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

SHEPHERD'S TREE

TREE / WOODY

Boscia albitrunca

IDENTIFY

Evergreen tree with pale trunk, small leathery leaves often clustered on short shoots, greenish flowers and yellow-brown fruits.

HABITAT & SEASON

Open plains, dry savanna margins and deep sandy soils in the broader Karoo region. Season: Year-round

DOCUMENTED USE

Dense shade, hard wood and documented traditional food use of roots or fruit in some regions.

CAUTION

Root harvest can kill the tree and may be illegal or culturally inappropriate. Do not dig without local authority and expert preparation knowledge.

LOOK-ALIKES

Young karee and other evergreen shrubs lack the characteristic pale trunk and clustered leaves.

5

SPEKBOOM

TREE / WOODY

Portulacaria afra

IDENTIFY

Succulent shrub or small tree with reddish stems and small opposite round fleshy leaves; tiny pink flowers after favorable rain.

HABITAT & SEASON

Rocky slopes and succulent thicket, especially toward the eastern Great Karoo. Season: Year-round

DOCUMENTED USE

Leaves are documented edible with a tart flavor and can add moisture and acidity in small amounts. Flexible branches are useful for light screens.

CAUTION

Do not confuse with jade plants or toxic Tylecodon species. Large quantities may cause stomach upset; habitat and legal status vary.

LOOK-ALIKES

Jade plant has larger thicker leaves; Tylecodon often has alternate leaves and thick peeling stems.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

SOUR FIG

DOCUMENTED EDIBLE

Carpobrotus edulis

IDENTIFY
Ground-hugging succulent with large triangular cross-section leaves, bright yellow to pink daisy-like flowers and fleshy fig-like fruits.

HABITAT & SEASON
Sandy or rocky disturbed ground, roadsides and some Karoo settlements; more common toward coastal and southern margins. Season: Fruit summer to autumn

DOCUMENTED USE
Ripe fruit and leaf preparations have documented food and traditional uses.

CAUTION
Location matters: several *Carpobrotus* species hybridize. Avoid plants exposed to road salt, herbicide or livestock waste. Leaves are very salty.

LOOK-ALIKES
Mesembryanthemum species are smaller and may have bladder-like leaf cells.

7

PRICKLY PEAR

DOCUMENTED EDIBLE

Opuntia ficus-indica

IDENTIFY
Large flattened pads with clusters of fine glochids and sometimes spines; showy flowers; oval red, orange or yellow fruits.

HABITAT & SEASON
Farm edges, roadsides, abandoned homesteads and dry slopes; invasive in parts of South Africa. Season: Fruit summer to autumn; pads year-round

DOCUMENTED USE
Ripe fruit and properly prepared young pads are documented food. Fruits can provide moisture.

CAUTION
Invisible glochids embed in skin, eyes and mouth. Remove them with proper tools and never handle bare-handed. Check local invasive-species rules.

LOOK-ALIKES
Other *Opuntia* species vary in spine density and fruit quality.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

COMMON PURSLANE

DOCUMENTED EDIBLE

Portulaca oleracea

IDENTIFY

Low spreading herb with smooth reddish stems, small opposite or clustered succulent leaves and tiny yellow flowers.

HABITAT & SEASON

Disturbed soil, gardens, livestock areas and seasonally moist flats. Season: Warm season after rain

DOCUMENTED USE

Young leaves and stems are widely documented food, usually cooked or eaten in modest amounts.

CAUTION

High oxalate content; avoid large quantities with kidney disease. Do not collect from contaminated kraals, roads or chemical-treated ground.

LOOK-ALIKES

Spurges may be low and succulent but exude milky sap; purslane sap is clear.

9

OLD MAN SALTBUSH

DOCUMENTED EDIBLE

Atriplex nummularia

IDENTIFY

Gray-green shrub with broad triangular to oval mealy leaves, inconspicuous flowers and salt-tolerant growth.

HABITAT & SEASON

Farm plantings, saline flats and disturbed dry ground; introduced in South Africa. Season: Year-round leaves

DOCUMENTED USE

Leaves are documented forage and have limited food use after correct identification and preparation.

CAUTION

High salt and oxalate levels make this a small-portion food only. Avoid if dehydrated, kidney-impaired or collecting from saline wastewater areas.

LOOK-ALIKES

Native Atriplex and other gray shrubs require flowers/fruits for confident species identification.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

KAROO CROSSBERRYDOCUMENTED EDIBLE

Grewia robusta

IDENTIFY
Shrub with rough toothed leaves, pink to mauve star-like flowers and small lobed reddish-brown fruits.

HABITAT & SEASON
Rocky slopes, dry thicket and Karoo scrub. Season: Fruit summer to autumn after rain

DOCUMENTED USE
Ripe fruits are documented edible in southern African ethnobotanical sources.

CAUTION
Positive species identification is essential; fruit yield is irregular and wildlife depends on it.

LOOK-ALIKES
Other *Grewia* species differ in leaf hair and fruit lobing.

11

BLUEBUSHDOCUMENTED EDIBLE

Diospyros lycioides

IDENTIFY
Many-stemmed shrub or small tree with narrow blue-green leaves, small cream bell-shaped flowers and rounded reddish to dark fruits.

HABITAT & SEASON
Dry watercourses, rocky scrub and open woodland in the broader Karoo. Season: Fruit late summer to autumn

DOCUMENTED USE
Fully ripe fruit is documented food in parts of southern Africa; hard wood can serve small implements.

CAUTION
Unripe fruits are strongly astringent. Several *Diospyros* species are similar; confirm leaf, flower and fruit traits.

LOOK-ALIKES
Lycium shrubs often have spines and tubular purple flowers; bluebush lacks paired acacia thorns.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

YELLOW TULP

TOXIC - AVOID

Moraea pallida

IDENTIFY

Iris-like plant with narrow sword leaves, underground corm and yellow to cream three-part flowers with patterned inner segments.

HABITAT & SEASON

Open veld, overgrazed ground and seasonally moist flats. Season: Flowers spring after rain

DOCUMENTED USE

No food use. Learn before digging any corm or collecting onion-like leaves.

CAUTION

Highly poisonous to livestock and people; cooking does not make corms safe. Symptoms can include severe digestive and cardiovascular effects.

LOOK-ALIKES

Edible bulbs and wild onions differ in flower structure and odor; expert identification is mandatory.

13

KRIMPSIEKTE PLANT

TOXIC - AVOID

Tylecodon wallichii

IDENTIFY

Succulent shrub with thick knobby stems, peeling bark, seasonal fleshy leaves and tall flower stalks.

HABITAT & SEASON

Rocky Karoo slopes and dry shrubland. Season: Leaves mainly cool/wet season

DOCUMENTED USE

No food or medicinal use.

CAUTION

Contains cumulative bufadienolide toxins that cause krimpsiekte in livestock and serious heart effects. Dried plant material remains dangerous.

LOOK-ALIKES

Some Cotyledon and Crassula species are similar; all unknown thick-leaved succulents should be treated as unsafe.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

PIG'S EAR / PLAKKIE

TOXIC - AVOID

Cotyledon orbiculata

IDENTIFY

Succulent shrub with opposite thick rounded gray-green leaves often edged red and hanging orange-red tubular flowers.

HABITAT & SEASON

Rocky slopes and dry thicket, including parts of the Karoo. Season: Year-round leaves

DOCUMENTED USE

No food use. Although it has published traditional external uses, this guide treats it as toxic.

CAUTION

Contains bufadienolides and can poison livestock and people. Do not ingest or use as improvised medicine.

LOOK-ALIKES

Spekboom leaves are much smaller and stems red; *Cotyledon* leaves are large, thick and opposite.

15

TREE TOBACCO

TOXIC - AVOID

Nicotiana glauca

IDENTIFY

Tall shrub or small tree with smooth blue-green leaves and clusters of long yellow tubular flowers.

HABITAT & SEASON

Roadsides, dry riverbeds, disturbed farms and waste ground; invasive. Season: Most of year in warm sites

DOCUMENTED USE

No use. Removal should follow invasive-species guidance and use gloves.

CAUTION

All parts contain toxic anabasine-type alkaloids. Leaves have caused fatal poisonings when mistaken for edible greens.

LOOK-ALIKES

Wild tobacco relatives may have sticky hairy leaves and different flowers; none should be eaten.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

BITTER ALOE

TRADITIONAL-USE

Aloe ferox

IDENTIFY

Large single rosette of thick spiny-edged leaves on a trunk, with tall branched spikes of red-orange flowers.

HABITAT & SEASON

Rocky slopes and dry hills, especially southern and eastern Karoo margins. Season: Flowers winter

DOCUMENTED USE

A documented South African medicinal and commercial species; leaf gel and bitter latex have very different properties.

CAUTION

Do not self-administer latex as a laxative; it can cause severe cramping, dehydration and drug interactions. Harvest may be regulated.

LOOK-ALIKES

Other aloes differ in leaf arrangement, spotting and flower branching.

17

CANCER BUSH

TRADITIONAL-USE

Lessertia frutescens

IDENTIFY

Soft gray-green shrub with compound leaves, bright red-orange pea flowers and inflated papery pods.

HABITAT & SEASON

Dry Karoo scrub, roadsides and disturbed veld. Season: Flowers mainly spring to summer

DOCUMENTED USE

Widely documented in Khoi, San and South African herbal traditions and sold commercially.

CAUTION

It is not a proven cure for cancer. Internal use may interact with medicines and chronic disease; no dosing is provided.

LOOK-ALIKES

Other pea-family shrubs share red flowers; the inflated pods and silky gray leaves are key.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

KATTEKRUIE

TRADITIONAL-USE

Ballota africana

IDENTIFY

Aromatic gray woolly shrub with opposite scalloped leaves and small pink-purple flowers in rings around the stems.

HABITAT & SEASON

Rocky slopes, disturbed ground and dry shrubland. Season: Spring through autumn

DOCUMENTED USE

Documented South African traditional uses include cough, cold and external preparations.

CAUTION

Avoid internal use during pregnancy or with medications. Strong aromatic herbs can irritate stomach and skin.

LOOK-ALIKES

Other mint-family shrubs have square stems and opposite leaves; flower rings and woolly texture help separate this species.

19

WILD ROSEMARY

TRADITIONAL-USE

Eriocephalus africanus

IDENTIFY

Rounded aromatic shrub with narrow gray leaves, small white daisy-like flowers and cottony seed heads.

HABITAT & SEASON

Dry rocky slopes and open Karoo shrubland. Season: Flowers winter to spring

DOCUMENTED USE

Published traditional uses include aromatic cooking, bedding, washes and cold remedies.

CAUTION

Essential oils and concentrated teas can cause irritation or interact with medicines. Do not confuse with true culinary rosemary.

LOOK-ALIKES

Several *Eriocephalus* species occur; flower heads and leaf hair require close inspection.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / EARLY RAINS	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / DORMANT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	Sweet thorn, Karee, Wild olive	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Buffalo thorn, Shepherd's tree, Spekboom	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Yellow tulip, Krimpsiekte plant	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Sour fig, Prickly pear, Common purslane, Old man saltbush	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Yellow tulip	Iris-like plant with narrow sword leaves, underground corm and yellow to cream three-part flowers with patterned inner segments.	Highly poisonous to livestock and people; cooking does not make corms safe. Symptoms can include severe digestive and cardiovascular effects.
Krimpsiekte plant	Succulent shrub with thick knobbly stems, peeling bark, seasonal fleshy leaves and tall flower stalks.	Contains cumulative bufadienolide toxins that cause krimpsiekte in livestock and serious heart effects. Dried plant material remains dangerous.
Pig's ear / plakkie	Succulent shrub with opposite thick rounded gray-green leaves often edged red and hanging orange-red tubular flowers.	Contains bufadienolides and can poison livestock and people. Do not ingest or use as improvised medicine.
Tree tobacco	Tall shrub or small tree with smooth blue-green leaves and clusters of long yellow tubular flowers.	All parts contain toxic anabasine-type alkaloids. Leaves have caused fatal poisonings when mistaken for edible greens.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. PlantZAfrica

South African National Biodiversity Institute - regional species profiles

<https://pza.sanbi.org/>

2. Red List of South African Plants

South African National Biodiversity Institute - distribution and conservation

<http://redlist.sanbi.org/>

3. Plants of the World Online

Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

4. People's Plants: A Guide to Useful Plants of Southern Africa

Ben-Erik van Wyk and Nigel Gericke; Briza Publications - ethnobotany

5. Plant Poisonings and Mycotoxicoeses of Livestock in Southern Africa

Kellerman, Coetzer, Naude and Botha; agricultural toxicology literature - toxicology

<https://www.arc.agric.za/>

6. South African invasive species resources

Department of Forestry, Fisheries and the Environment - invasive species

<https://www.dffe.gov.za/>

7. Agricultural Research Council plant and forage resources

Agricultural Research Council, South Africa - agriculture and forage

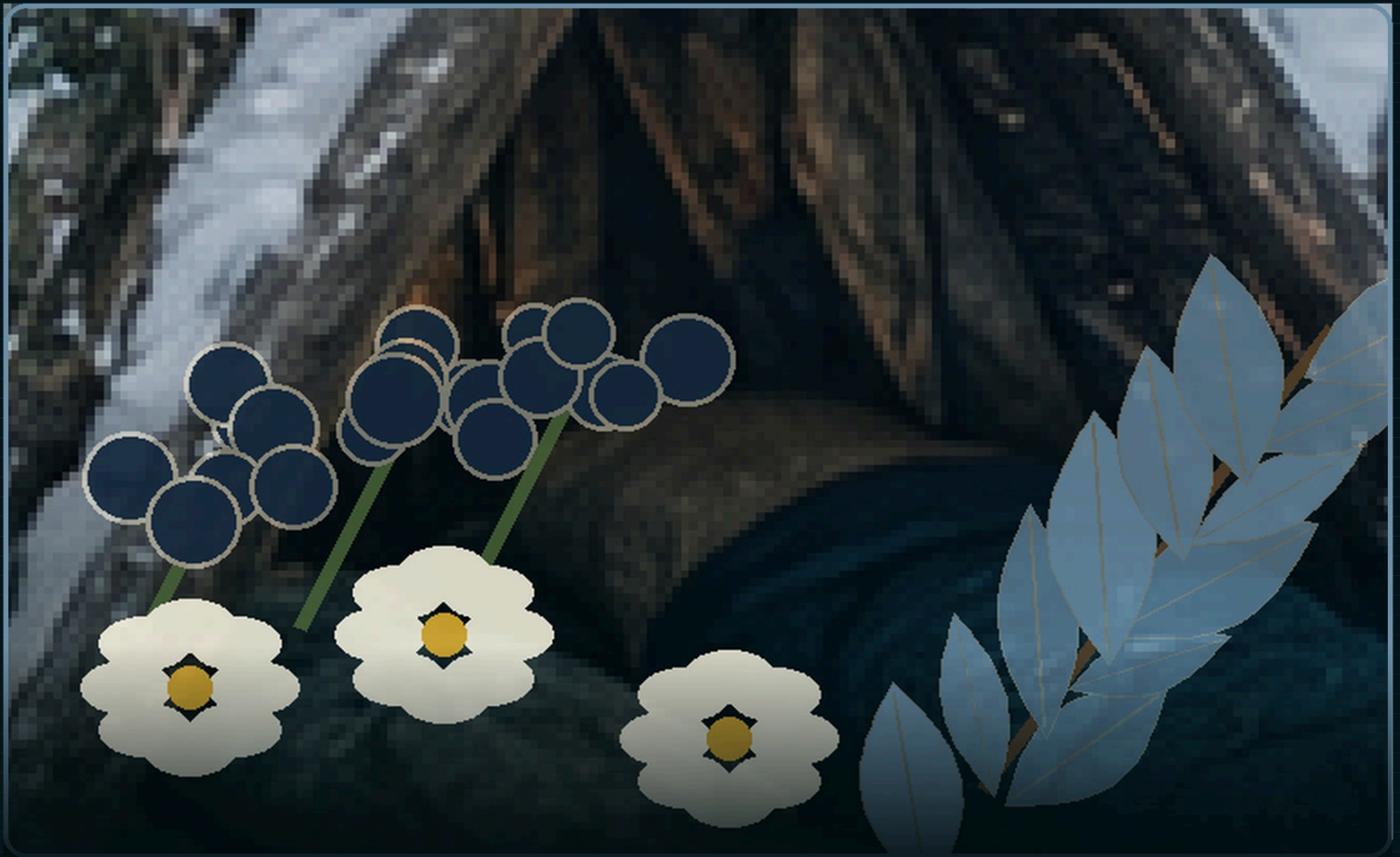
<https://www.arc.agric.za/>

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RICHARDSON MOUNTAINS PLANT FIELD GUIDE

Arctic mountain tundra • Season 13



TREES

EDIBLE

TOXIC

TRADITION

KNOWLEDGE • SKILL • DISCIPLINE • SURVIVAL

Independent educational field guide • verify current laws, local conditions, and expert guidance

REGION AT A GLANCE

Treeline spruce, Arctic shrubs, persistent berries, alpine greens and high-consequence toxic plants.

Filming region: Richardson Mountains and adjacent Arctic valleys, Northwest Territories, Canada

Alone season(s): 13

Ecology: Arctic mountain tundra, taiga treeline valleys, dwarf-shrub heath, gravel bars, snowbeds and alpine slopes

The Richardson Mountains rise from the taiga-tundra transition into exposed Arctic alpine terrain. True trees are mostly restricted to sheltered valleys and lower slopes; above them, dwarf birch, willow, heath shrubs and mat-forming plants dominate. Wind, snowbeds, permafrost and slope aspect control plant distribution. The growing season is short, and many edible species produce small, irregular crops.

FIELD PRIORITIES

- Recognize that treeline is patchy: a small spruce may be very old and ecologically important.
- Use leaf undersides and flower structure to separate Labrador tea from bog rosemary.
- Keep wet-valley roots off the menu; water hemlock can occur in northern drainage systems.
- Harvest alpine plants sparingly or not at all; mats and cushions recover extremely slowly.
- Document location, elevation, slope aspect and habitat for every identification.

NON-NEGOTIABLE PLANT SAFETY

Never consume a plant from one photo, one common name or one guide. Positive identification requires multiple traits and a reliable regional source. Do not experiment with medicinal dosing. For suspected poisoning, remove plant material from the mouth, preserve a sample or photo, contact emergency services or a poison centre, and do not induce vomiting unless directed.

POSITIVE IDENTIFICATION PROTOCOL

Use a repeatable process. Confidence is built from independent features, not intuition.

- 1

1. PLACE

Record habitat, moisture, slope, elevation and nearby dominant plants.
- 2

2. FORM

Decide tree, shrub, vine, herb, grass-like plant, fern or succulent.
- 3

3. LEAVES

Check arrangement, shape, edge, veins, hairs, odor and underside.
- 4

4. STEM & BARK

Look for thorns, sap, pith, lenticels, buds, twig color and texture.
- 5

5. FLOWER / FRUIT

Count petals, inspect clusters, seed structures and fruit attachment.
- 6

6. CROSS-CHECK

Match at least three reliable sources and rule out every dangerous look-alike.

AUTOMATIC STOP LIST

No tasting to identify.
No wetland roots.
No unknown white umbels.
No unknown bulbs.
No unknown milky sap.
No medicinal experiments.

DOCUMENTATION KIT

Photograph whole plant, leaf top and bottom, stem, bark, flowers, fruit and habitat. Add a scale object. Record date, location and confidence. Never let an AI label overrule a regional botanist.

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

WHITE SPRUCE

TREE / WOODY

Picea glauca

IDENTIFY

Sharp single needles with a pungent odor when crushed, flexible hanging cones and scaly gray bark; forms treeline stands in sheltered valleys.

HABITAT & SEASON

Lower valleys, river terraces and protected south-facing slopes. Season: Year-round

DOCUMENTED USE

Strong poles, roots, carving wood and fuel. Presence often indicates relatively sheltered, better-drained ground.

CAUTION

Treeline trees grow slowly and are vulnerable to cutting. Banks and permafrost can undermine roots.

LOOK-ALIKES

Black spruce is narrower with shorter needles and smaller persistent cones.

1

BLACK SPRUCE

TREE / WOODY

Picea mariana

IDENTIFY

Narrow spire crown, short four-sided needles and small dark cones that remain on branches.

HABITAT & SEASON

Cold peatland pockets and lower poorly drained valleys near the mountain front. Season: Year-round

DOCUMENTED USE

Small poles, sheltered dead twigs and resinous fuel.

CAUTION

Shallow roots create windthrow hazards; smoky fires require ventilation.

LOOK-ALIKES

White spruce is fuller and favors better-drained terraces.

2

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

DWARF BIRCH

TREE / WOODY

Betula glandulosa

IDENTIFY

Low many-branched shrub with small round toothed leaves, resin-dotted twigs and tiny catkins.

HABITAT & SEASON

Tundra heaths, moist slopes and snow-catching hollows. Season: Spring through fall leaves; twigs year-round

DOCUMENTED USE

Fine twigs for light brush, bedding and small bundles. Dense patches can trap snow and reduce wind at ground level.

CAUTION

Do not strip broad areas; shrubs grow slowly and stabilize soil.

LOOK-ALIKES

Dwarf willows often have narrower leaves; alder has larger cone-like catkins.

3

FELTLEAF WILLOW

TREE / WOODY

Salix alaxensis

IDENTIFY

Tall shrub with long leaves dark above and densely white-felted beneath, plus flexible yellow-brown twigs.

HABITAT & SEASON

River valleys, gravel bars and moist lower slopes. Season: Spring through fall leaves; twigs year-round

DOCUMENTED USE

Straight rods for stakes, wattle, baskets and repair splints.

CAUTION

Flood edges and avalanche channels are hazardous. Do not self-dose bark.

LOOK-ALIKES

Other willows lack the strongly white-woolly underside.

4

TREES AND WOODY PLANTS

Identification, practical material properties and conservation cautions.

GRAYLEAF WILLOW

TREE / WOODY

Salix glauca

IDENTIFY

Low to medium shrub with gray-green oval to lance-shaped leaves, often silky beneath, and catkins on short shoots.

HABITAT & SEASON

Tundra slopes, stream terraces and alpine shrub belts. Season: Growing season leaves; twigs year-round

DOCUMENTED USE

Flexible twigs for small lashings, brush screens and basketry. Shrub height can indicate snow depth and exposure.

CAUTION

Species-level willow identification is difficult; avoid medicinal use based on a general willow label.

LOOK-ALIKES

Feltleaf willow is taller with distinctly white-felted leaf undersides.

5

GREEN ALDER

TREE / WOODY

Alnus viridis subsp. crispa

IDENTIFY

Multi-stem shrub with oval sharply toothed leaves, sticky young shoots and persistent woody cone-like female catkins.

HABITAT & SEASON

Avalanche tracks, stream valleys, moist slopes and treeline thickets. Season: Spring through fall leaves; stems year-round

DOCUMENTED USE

Straight stems for wattle, racks and light poles; alder thickets mark moist, often snow-loaded terrain.

CAUTION

Dense thickets hide holes and bear trails. Wet wood smokes heavily.

LOOK-ALIKES

Birch lacks persistent woody cone-like catkins and usually has papery bark.

6

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

LINGONBERRYDOCUMENTED EDIBLE

Vaccinium vitis-idaea

IDENTIFY
Low evergreen shrub with leathery oval leaves, pale dots beneath and bright red berries with a crown.

HABITAT & SEASON
Tundra heath, open treeline woodland and peat hummocks. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food and often persist after frost.

CAUTION
Confirm the evergreen leaves and fruit crown. Avoid animal-contaminated patches.

LOOK-ALIKES
Bearberry fruit is mealier and leaves show netted veins.

7

BOG BLUEBERRYDOCUMENTED EDIBLE

Vaccinium uliginosum

IDENTIFY
Low woody shrub with blue-green oval leaves and blue waxy berries with a crown.

HABITAT & SEASON
Moist tundra heath, snowbed margins and open treeline. Season: Late summer

DOCUMENTED USE
Ripe berries are documented food.

CAUTION
Fruit crops are irregular. Use woody stems, leaf shape and crown together.

LOOK-ALIKES
Bilberry has green angular stems and darker-staining flesh.

8

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

CROWBERRYDOCUMENTED EDIBLE

Empetrum nigrum

IDENTIFY
Creeping evergreen mat with tiny grooved needle-like leaves and shiny black berries.

HABITAT & SEASON
Windswept ridges, tundra heath, scree margins and peatland. Season: Late summer through winter

DOCUMENTED USE
Ripe berries are documented food, water-rich and persistent.

CAUTION
Low fruit collects grit and animal contamination. Confirm creeping woody stems.

LOOK-ALIKES
Juniper has sharp needles in whorls and blue waxy cones.

9

CLOUDBERRYDOCUMENTED EDIBLE

Rubus chamaemorus

IDENTIFY
Low unarmed herb with rounded lobed leaves and a single amber-orange raspberry-like fruit.

HABITAT & SEASON
Peat pockets, wet tundra and sheltered boggy valleys. Season: Mid- to late summer

DOCUMENTED USE
Fully ripe amber fruit is documented food.

CAUTION
Unripe red fruit is hard and sour. Avoid trampling wet moss.

LOOK-ALIKES
Dwarf raspberry species may have red fruit and more divided leaves.

10

DOCUMENTED EDIBLE PLANTS

Documented foods only. Positive identification and safe preparation remain essential.

MOUNTAIN SORREL

DOCUMENTED EDIBLE

Oxyria digyna

IDENTIFY
Low herb with kidney-shaped leaves and reddish branching flower and seed stalks.

HABITAT & SEASON
Moist gravel, talus seeps, streambanks and snowbed edges. Season: Summer

DOCUMENTED USE
Young leaves are a documented sour food and flavoring.

CAUTION
High oxalate content means small portions only; avoid with kidney disease.

LOOK-ALIKES
Docks have larger leaves and different seed valves.

11

ALPINE BISTORT

DOCUMENTED EDIBLE

Bistorta vivipara

IDENTIFY
Slender spike with white or pink flowers above and dark bulbils below; narrow basal leaves and a small thick root.

HABITAT & SEASON
Moist tundra, snowbeds, alpine meadows and stream terraces. Season: Summer

DOCUMENTED USE
Bulbils and roots have documented northern food use after skilled identification and preparation.

CAUTION
Plants are small and slow-growing; harvest is usually not justified. Do not confuse with other bistorts or dig in protected areas.

LOOK-ALIKES
Other Bistorta species may lack bulbils or have broader leaves.

12

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

NORTHERN MONKSHOOD

TOXIC - AVOID

Aconitum delphiniifolium

IDENTIFY

Deeply divided palmate leaves and blue-purple hood-shaped flowers.

HABITAT & SEASON

Moist mountain meadows, streambanks and rich tundra. Season: Summer

DOCUMENTED USE

No food or medicinal use.

CAUTION

All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.

LOOK-ALIKES

Larkspurs have a distinct rear spur but are also toxic.

13

BOG ROSEMARY

TOXIC - AVOID

Andromeda polifolia

IDENTIFY

Low evergreen shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.

HABITAT & SEASON

Peat pockets, bogs and wet tundra hollows. Season: Year-round leaves

DOCUMENTED USE

No food or tea use.

CAUTION

Contains grayanotoxin-type compounds and may cause vomiting, dizziness and heart effects.

LOOK-ALIKES

Labrador tea leaves are broader and rusty-woolly beneath.

14

TOXIC PLANTS - AVOID

High-consequence species to recognize before any gathering begins.

NORTHERN WATER HEMLOCK

TOXIC - AVOID

Cicuta virosa

IDENTIFY

Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.

HABITAT & SEASON

Slow streams, marshy valley bottoms and lake margins in the broader region. Season: Spring through fall

DOCUMENTED USE

No use. Never dig wetland roots.

CAUTION

Extremely poisonous and may cause seizures and death.

LOOK-ALIKES

Angelica and other Apiaceae can resemble it. Never taste.

15

RED BANEERRY

TOXIC - AVOID

Actaea rubra

IDENTIFY

Woodland herb with divided leaves, white flower clusters and glossy red berries on stout stalks.

HABITAT & SEASON

Moist lower valleys and treeline woodland. Season: Fruit late summer

DOCUMENTED USE

No food use.

CAUTION

Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.

LOOK-ALIKES

Red fruits on woody shrubs have simple leaves, not divided herb leaves.

16

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

LABRADOR TEA

TRADITIONAL-USE

Rhododendron groenlandicum

IDENTIFY

Evergreen shrub with rolled-edge leaves densely rusty-woolly beneath and white flower clusters.

HABITAT & SEASON

Peatland margins and wet treeline spruce. Season: Year-round leaves

DOCUMENTED USE

A culturally important documented beverage and traditional-use plant.

CAUTION

Strong or repeated infusions can cause illness. Bog rosemary must be excluded.

LOOK-ALIKES

Bog rosemary is narrow and pale beneath, not rusty-woolly.

17

ALASKA WORMWOOD

TRADITIONAL-USE

Artemisia tilesii

IDENTIFY

Tall aromatic perennial with gray-green divided leaves and many small greenish flower heads.

HABITAT & SEASON

River terraces, disturbed ground and moist lower slopes. Season: Summer through fall

DOCUMENTED USE

Documented northern Indigenous uses include aromatic washes, steam and external preparations.

CAUTION

Concentrated internal use is not recommended; Artemisia may affect pregnancy, seizures and medications.

LOOK-ALIKES

Other wormwoods occur; smell alone is insufficient.

18

TRADITIONAL-USE PLANTS

Published cultural or historical uses - not prescriptions or dosing advice.

YARROW

TRADITIONAL-USE

Achillea millefolium

IDENTIFY
Aromatic finely divided leaves and flat white to pink flower clusters.

HABITAT & SEASON
Dry gravel bars, trails and lower disturbed slopes. Season: Summer through fall

DOCUMENTED USE
Published traditional uses include external washes and aromatic preparations; dry tops can be light tinder.

CAUTION
Possible allergy and anticoagulant concerns. Do not put dirty leaves on wounds.

LOOK-ALIKES
Poison hemlock is taller with hollow spotted stems and umbrella flowers.

19

MOUNTAIN AVENS

TRADITIONAL-USE

Dryas integrifolia

IDENTIFY
Low evergreen mat with small leathery leaves, white usually eight-petaled flowers and feathery seed heads.

HABITAT & SEASON
Calcareous gravel, exposed slopes and alpine tundra. Season: Summer flowers; leaves year-round

DOCUMENTED USE
Leaves have documented traditional beverage and medicinal uses; mats stabilize gravel and indicate exposed, well-drained ground.

CAUTION
Do not uproot mats. Internal use is not recommended without local knowledge and medical guidance.

LOOK-ALIKES
Other Dryas species and hybrids differ in leaf teeth and hairiness.

20

SEASONAL AND HABITAT PLANNING

Availability is local and variable. Use these patterns to plan observation, not to assume harvest.

PHASE	WHAT TO EXPECT	FIELD EMPHASIS
SPRING / THAW	New shoots, flowers, catkins and wetland hazards become visible.	Learn leaves and flowers before fruit; avoid roots and bulbs.
SUMMER / PEAK GROWTH	Maximum foliage; most edible greens and traditional-use herbs are identifiable.	Photograph multiple traits; note habitat and abundance.
AUTUMN / FRUIT & FROST	Most berries, hips, cones and seed structures mature.	Confirm entire plant; leave food for wildlife and regeneration.
WINTER / PERSISTENT	Evergreen shrubs, bark, twigs, cones and persistent fruit remain.	Rely on woody traits; snow and frost obscure herb identification.

HABITAT FORECAST

HABITAT	LIKELY PLANTS	PRIMARY RISK
Dry ridge / exposed slope	White spruce, Black spruce, Dwarf birch	Windthrow, fire, protected slow-growing plants
Moist forest / sheltered valley	Feltleaf willow, Grayleaf willow, Green alder	Look-alikes, falling timber, poor visibility
Wetland / peat / stream edge	Northern monkshood, Bog rosemary	Water hemlock or toxic bog shrubs; unstable ground
Open disturbance / camp edge	Lingonberry, Bog blueberry, Crowberry, Cloudberry	Contamination, invasive species, human chemicals

SEASONAL REALITY

A late frost, drought, fire, flood, browsing pressure or poor flowering year can remove an expected food source. Build plans around several independent resources and assume that every crop may fail.

LOOK-ALIKE AND HAZARD MATRIX

The most important plant knowledge is often knowing what not to touch, taste or dig.

HAZARD	FIELD CUE	RULE
Northern monkshood	Deeply divided palmate leaves and blue-purple hood-shaped flowers.	All parts contain potent aconitine alkaloids and can cause fatal heart and nerve effects.
Bog rosemary	Low evergreen shrub with narrow rolled-edge leaves pale beneath and small pink urn-shaped flowers.	Contains grayanotoxin-type compounds and may cause vomiting, dizziness and heart effects.
Northern water hemlock	Wetland perennial with divided leaves, white umbrella flower clusters and thick chambered roots.	Extremely poisonous and may cause seizures and death.
Red baneberry	Woodland herb with divided leaves, white flower clusters and glossy red berries on stout stalks.	Berries and roots are poisonous and can cause serious gastrointestinal and cardiovascular effects.

SUSPECTED POISONING

1. Stop exposure.

2. Remove material from mouth; rinse.

3. Do not induce vomiting.

4. Save a sample/photo.

5. Call emergency services or poison control.

6. Monitor breathing and consciousness.

HARVEST ETHICS

Take the common, leave the rare.

Never girdle a tree.

Avoid roots and whole plants.

Leave wildlife food.

Follow Indigenous and protected-area rules.

Restore disturbed ground.

SOURCES, SCOPE AND LIMITATIONS

Taxonomy and regional occurrence change. Verify the current name, distribution and legal status before publication or field use.

1. Plants and biodiversity resources of the Northwest Territories
Government of the Northwest Territories - regional flora and ecology

<https://www.gov.nt.ca/ecc/en/services/biodiversity>

2. Flora of the Canadian Arctic Archipelago
Canadian Museum of Nature - scientific Arctic flora

<https://nature.ca/aaflora/data/index.htm>

3. Flora of North America North of Mexico
Flora of North America Association - scientific flora

http://floranorthamerica.org/Main_Page

4. Aboriginal Plant Use in Canada's Northwest Boreal Forest
Marles, Clavelle, Monteleone, Tays and Burns; Canadian Forest Service - ethnobotany

<https://publications.gc.ca/site/eng/9.611374/publication.html>

5. Canadian Poisonous Plants Information System and poison-safety resources
Agriculture and Agri-Food Canada / Canadian poison centres - poison safety

<https://infopoison.ca/>

6. Plants of the World Online
Royal Botanic Gardens, Kew - taxonomy and distribution

<https://powo.science.kew.org/>

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