

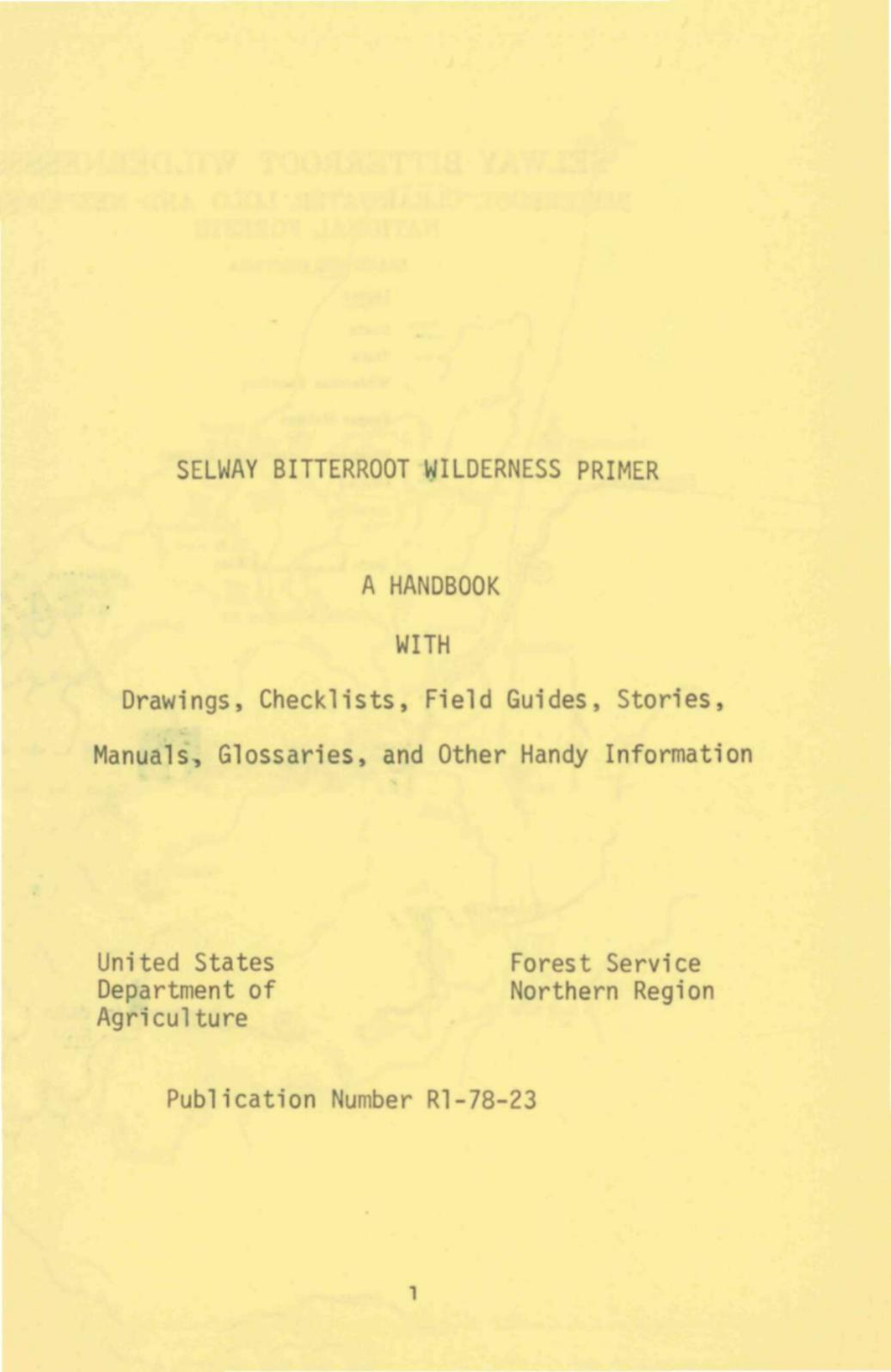
*Schuy
Bitterroot
Wilderness
Primer
2nd Edition*

This book belongs to

"The earth was created with the assistance of the sun and it should be left as it was. I never said the land was mine to do with it as I chose. The only one with that right is the one who made it."

Chief Joseph of the Nezperce, 1870

This Handbook was written by Jim Bradley
and illustrated by Bob Svec



SELWAY BITTERROOT WILDERNESS PRIMER

A HANDBOOK

WITH

Drawings, Checklists, Field Guides, Stories,
Manuals, Glossaries, and Other Handy Information

United States
Department of
Agriculture

Forest Service
Northern Region

Publication Number R1-78-23

SELWAY BITTERROOT WILDERNESS

BITTERROOT, CLEARWATER, LOLO AND NEZPERCE NATIONAL FORESTS

IDAHO AND MONTANA

Legend

-  Roads
-  Trails
-  Wilderness Boundary
-  Ranger Stations
-  Wilderness Information Stations
(W.I.S.)
-  Airstrips

Scale 0 1 2 Miles

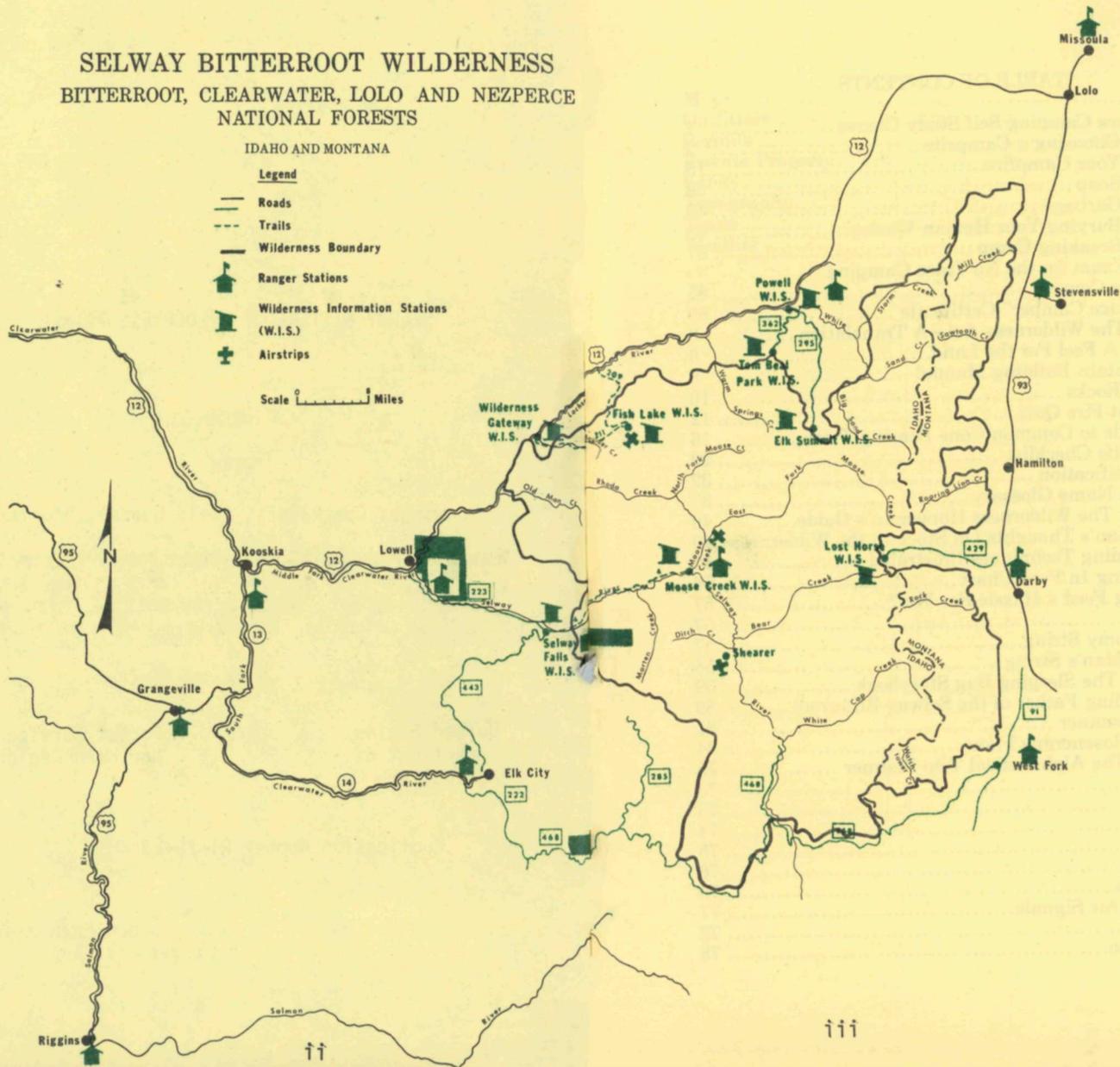


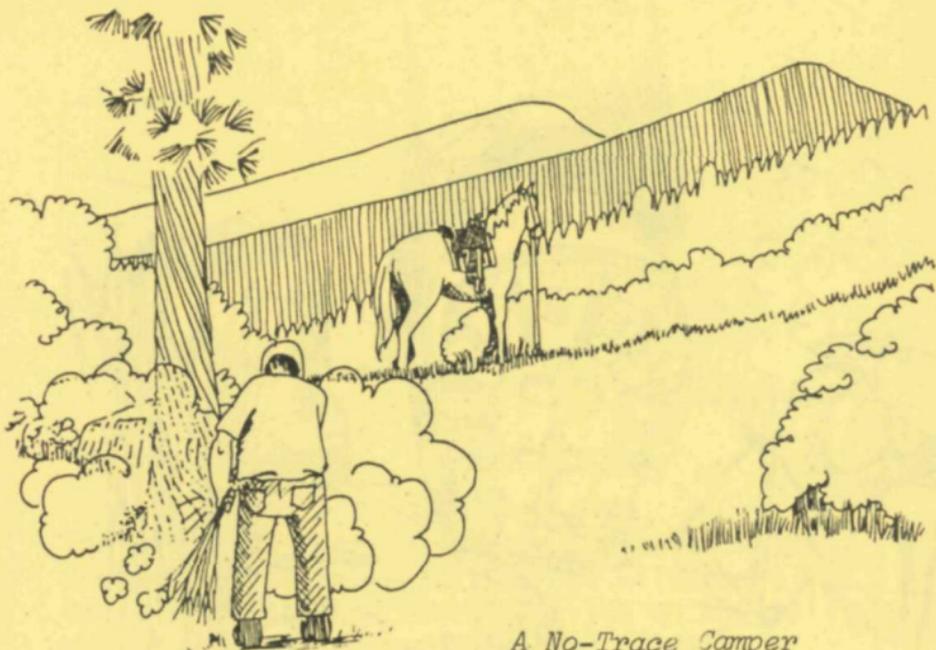
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"A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

The Wilderness Act, 1964

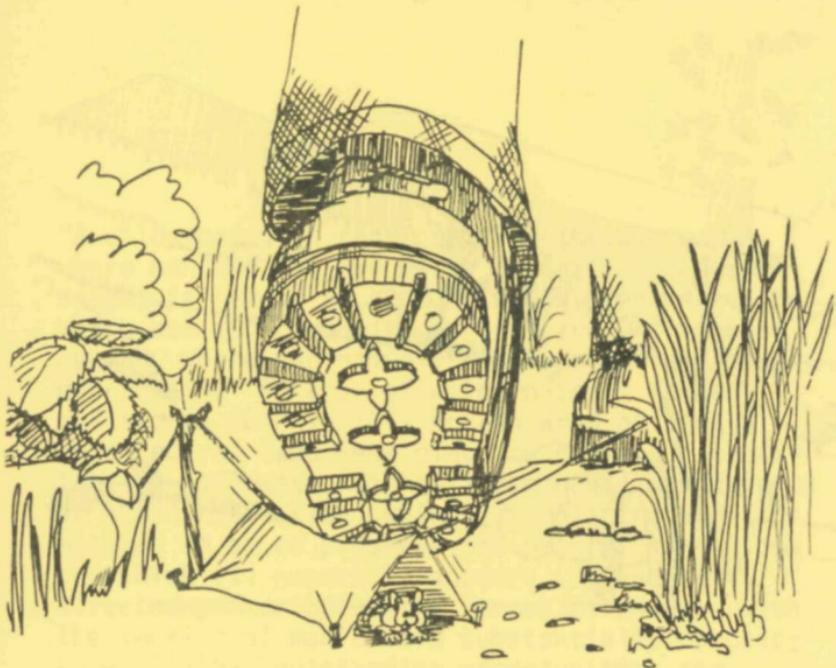


A No-Trace Camper

THE NO-TRACE CAMPING SELF STUDY COURSE

There are six lessons on No-Trace Camping scattered through The Wilderness Primer. These pages have dark borders so you can find them easily. The object of the course is to teach you how to protect the beauty of the Selway-Bitterroot Wilderness during your visit. At the end of the Primer is a final exam.

Lesson #1 begins on the next page.



The Wrong Choice

NO-TRACE CAMPING

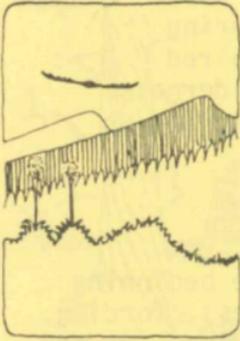
LESSON #1: CHOOSING A CAMPSITE

Look for a site that:

*is invisible from the main trail. Tents and packs with subdued earth toned colors can help hide your campsite from nearby campers and travelers on the trail. This will give other visitors a greater feeling of solitude.

*is at least 200 feet from a lakeshore. Plants along the shore are easily trampled and killed by tents and campfires.

*has a good place for a tent where you will not have to destroy vegetation by trenching or leveling.



Chapter I *The Wilderness Act* *A Translation*

The Wilderness Act, passed by Congress in 1964, designated the Selway-Bitterroot Wilderness and today instructs the Forest Service on how to manage this and every designated wilderness.

AN ENDURING RESOURCE

The Wilderness Act gives the American people the world's only National Wilderness Preservation System, a gift to unborn Americans as well as to us. On the first page, the Act states that "the benefits of an enduring resource of wilderness" are "for the American people of present and future generations." Designated to remain forever wild are some lands inside National Forests, National Parks, National Monuments, and National Wildlife Refuges. Today, because of further legislation, Bureau of Land Management lands, National Grasslands, and eastern roadless areas are eligible for wilderness designation as well. Only Congress can designate a wilderness.

The Selway-Bitterroot Wilderness' 1,240,000 acres lie within the boundaries of four National Forests and seven Ranger Districts.

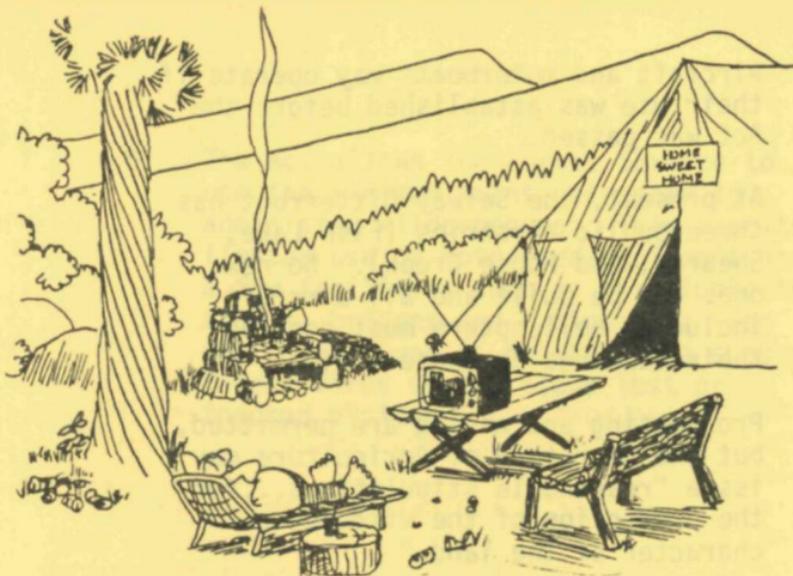
Section 2 of the Act gives the U.S. Forest Service a mandate. We must manage these acres so they actually are "an enduring resource," one that remains "unimpaired for future use and enjoyment as wilderness." This entails much more than just picking up garbage.

UNTRAMMELED BY MAN

A puzzling word stands out near the beginning of the Act's definition of wilderness, forcing readers to dust off their dictionaries. Howard Zahniser of the Wilderness Society carefully selected "untrammelled" to be a key word in this definition. When the Act defines wilderness as "an area where the earth and its community of life are untrammelled by man," many readers confuse trammeling with trampling and think that Congress simply asked us not to beat down the vegetation. The actual meaning is more profound. Defined as "uncontrolled or unrestricted," "untrammelled" as used in the Act creates a concept that makes a designated wilderness unlike any other land in the Nation. Here, man and his technology cannot attempt to control or restrict the plants, animals and natural forces. By Congressional decree, nature dominates and man cannot interfere with natural processes. The land must be managed "to preserve its natural conditions."

THE WILDERNESS EXPERIENCE

Before you enter the Selway-Bitterroot Wilderness, or any wilderness, ask yourself if you actually want a wilderness experience. The Act states that you can "use and enjoy" these lands "as wilderness." Since few people can agree on just what a wilderness experience is, Congress defined it as "outstanding opportunities for



A Wilderness Experience???

solitude or a primitive and unconfined type of recreation." Furthermore, "the imprint of man's work" must remain "substantially unnoticeable." Certain activities do not meet this criteria and a special paragraph prohibits them. They are...

- * Commercial enterprises
- * Roads and structures
- * The landing of aircraft
- * Motorized equipment
- * Motor or mechanical transport

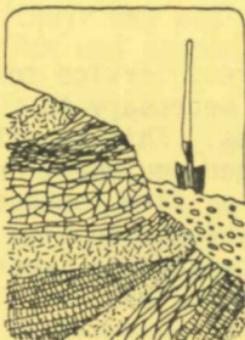
The remaining pages of the Act include exceptions to each of these prohibitions. Called special provisions, they are compromises, the result of eight years of debate between pro-and anti-wilderness forces. If Congress had not compromised, the Act never would have passed. The rewrite that finally triumphed on Capitol Hill allows bits of civilization inside wildernesses...

- * Aircraft and motorboats may operate if their use was established before the Act was passed.

At present, the Selway-Bitterroot has three public airstrips (Fish Lake, Shearer, and Moose Creek). No new ones can be built and all aircraft including helicopters must confine their landings to these strips.

- * Prospecting and mining are permitted, but the Secretary of Agriculture may issue "reasonable stipulations...for the protection of the wilderness character of the land."
- * The Act allows hunting and fishing, but sportsmen must follow State fish and game regulations.
- * Outfitters can operate commercial businesses so long as they provide services that "are proper for realizing the recreational or other wilderness purposes of the areas."
- * Livestock can graze if this use was established before the Act was passed.
- * The President can authorize water developments and power projects. These could include reservoirs, transmission lines, and roads.
- * Owners of private property surrounded by wilderness are allowed "adequate access" to their land and wilderness regulations do not apply to their property. The Selway-Bitterroot has four private homesteads, each with buildings and an airstrip. The Burlington Northern Railroad also has holdings inside the Wilderness boundary.

- * The Act allows the Forest Service to use the minimum means necessary to administer wildernesses. This permits limited use of motorized equipment and a few facilities such as fire lookouts, trails, bridges and cabins. We also can do whatever is necessary to suppress forest fires or to rescue lost or injured visitors.



Chapter II

A Feel For the Land

THE MOUNTAIN BUILDING MANUAL

After visiting the Selway-Bitterroot Wilderness, many people wish they had their own Bitterroot Mountains back home. Now, with this do-it-yourself manual, you can build a replica of the Bitterroots using the same five steps developed by nature.

Helpful hints:

1. Rope off a 14,000-square mile work area.
2. Don't rush! You will need three billion years to do a quality job.
3. Guard against burns. You must heat your rocks to 1600^oF. or more to melt them into magma (molten rock).
4. Stay alert when carving with glaciers. They crush everything in their paths.

Materials:

1. The earth's crust (the 25-mile thick outer skin that covers the planet)
2. Hot, semi-solid rock below the crust

3. A shallow ocean

4. Rain and snow

Step 1: Allow silt to collect on the bottom of the ocean for 2.9 billion years. Layers of mud and sandstones will pile up until they are so heavy that heat and pressure will change the rocks on the bottom into gneisses and schists. If your results are similar to the gneisses and schists on the eastern slopes of the Bitterroot Mountains, go to step 2.

Step 2: Work faster! You have only 100 million years to complete your project. Push against the earth's crust with the hot, semi-solid rock that is below. The crust will break into blocks. Stack up these blocks to build mountains.

Step 3: Melt the rocks inside these blocks into magma. As this molten rock rises, the magma will cool and crystalize. The result will be a buried mass of granitic rocks. The older rocks on top will erode and gradually expose the granitics below until pink granite and quartz monzonite become the dominant rocks in the mountains.

Step 4: The heavy construction is done. Concentrate the last three or four million years of the project on polishing and refining. Two tools are necessary -- rivers and glaciers. Make them yourself by increasing the rain and snowfall. Rivers will begin to carve steep "V-shaped" canyons. Soon more snow will fall in the mountains than the summer heat can melt, and glaciers will move down from the peaks. These ice dozers will scoop out lake basins (glacial cirques) and wide "U-shaped" valleys. When they reach 4,000 feet above sea level, melt the glaciers by decreasing the precipitation. Repeat this ice age four times.

Step 5: Let the mountains erode on their own for ten thousand years. If not satisfied with the final product, start a fifth ice age.

Warning: The mountains are not as sturdy as they look. The soils formed from granitic rocks erode easily, particularly if horses and mules graze steep hillsides or cut switchbacks. If your neighbors visit your mountains, make sure they appreciate the work involved in building them -- otherwise, you may discover initials painted on your favorite antique rocks, granitic crystals blackened by campfires, and garbage in the "U-shaped" valleys.

TRAILSIDE ROCKS

There are three types of rocks -- igneous, sedimentary, and metamorphic. Igneous rocks dominate the Selway-Bitterroot Wilderness. These are formed when hot liquid rock (magma) cools either above or below the ground. Look for...

1. Granitics (pink granite, quartz monzonite, and granodiorite). Its large crystals indicate that the liquid rock cooled very slowly beneath the earth's surface. These are the most common rocks in the Selway-Bitterroot.

Clues

- * Large crystals or grains
 - * Salt and pepper coloring (light colored grains mixed in with dark colored ones.
 - * No linear bands
 - * Quartz (looks glassy)
 - * Mica
2. Rhyolite/Dacite. Its tiny crystals indicate that the molten rock cooled rapidly on the earth's surface.

Clues

- * Tiny grains or crystals sometimes surrounding a large crystal
- * Light-colored

Metamorphic rocks are formed from older rocks when heat and pressure from the layers of rocks above change their appearance and structure. In Montana, east of the Bitterroot Divide, look for...

1. Gneiss (pronounced "nice")

Clues

- * Medium-sized grains or crystals in parallel dark and light bands
- * Hard, difficult to break apart in your hands

2. Schist

Clues

- * Medium-sized grains and crystals arranged in a jumble
- * Variety of colors
- * Soft and flaky, often easy to break apart in your hands

Sedimentary rocks are formed when shells or pieces of older rocks such as sand cement together. They are rare in the Selway-Bitterroot.

THE FOREST FIRE QUIZ

Imagine a forest fire. Do you picture a sweeping wall of flames, torching trees, fleeing animals, death and destruction everywhere? Do you picture a black, lifeless landscape afterwards? If you are like most people, you probably think of fire as an enemy of the wilderness. But is this the truth? Is fire the villain we always assumed it to be? We challenge you to test how much you really know about fire by taking the "Forest Fire Quiz."

(Mark each statement true or false)

1. Most forest fires in the Selway-Bitterroot Wilderness are caused by careless campers.

Lightning ignites over 90 percent of the forest fires in the Selway-Bitterroot and in most of the Northern Rockies. Charcoal found in ancient bogs indicates that lightning fire has been a natural force for at least 11,000 years. False.

2. Most fires burn an acre or more.

Two-thirds of the fires in the Selway-Bitterroot Wilderness are less than one quarter of an acre. False.

3. Due to modern firefighting techniques, the potential for large forest fires today is smaller than in the past.

By suppressing all forest fires, we have created a potential for the fires of the future to be bigger and hotter. Dead branches, logs, and needles pile up on the forest floor. The debris accumulates until it becomes dangerous fuel that finally explodes into a major blaze. False.

4. Because fire destroys the cones with their seeds, many years pass before tree seedlings grow on a burned mountain slope.

Many cones survive that are buried in the forest floor or are still hanging in the treetops. The cones of lodgepole pines actually need fire to release their seeds. Each cone is glued shut by a resinous coating. Squirrels sometimes pry the scales apart, but usually heat from the sun or, more often, a fire must melt the resin before the seeds can spill to the ground. A forest fire can release so many seeds that in only a few years, 30,000 lodgepole seedlings may cover each acre of the old burn. False.

5. Fire kills most of the animals that live in the burning forest.

Fire does not deserve its reputation as a killer. Most warm-blooded animals escape. False.

6. For years after a forest fire, there is little food for wildlife.

The surprising truth is there often is more food after a fire than before. In only a few weeks, hillsides are not black, but green. In only a few years, they are not barren and eroding, but jungles of shrubs. By opening up the forest so more sunlight reaches the ground, fire allows these shrubs to sprout and thrive. Many bushes, such as redstem ceanothus, are important browse for elk and deer. Not only is there more browse after a fire, but now it is richer in protein. Before a blaze, important nutrients are locked up in dead logs and branches. The flames release them to filter into the soil, be absorbed by new plants, and eventually become nutritious food for wildlife. False.

8. Even though the Wilderness Act of 1964 prohibits motorized equipment, the Forest Service can use chainsaws and helicopters to put out forest fires.

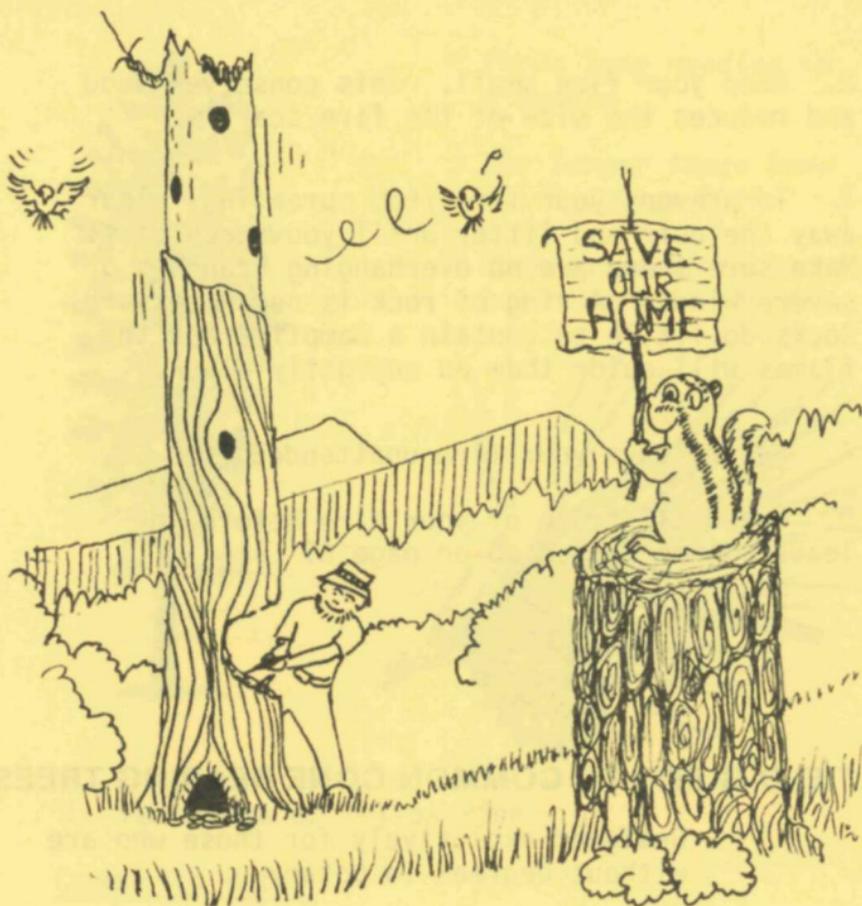
The Act allows the Forest Service to use motorized equipment in emergencies, in wilderness administration, and in fire suppression. See Chapter I. True.

9. The Forest Service should help the plants and animals by suppressing all fires in the Selway-Bitterroot Wilderness.

Fire in the wilderness is like the wind, snow, and rain -- neither good nor bad for living things, simply a force of nature. The Wilderness Act instructs the Forest Service to manage the Selway-Bitterroot "so as to preserve its natural conditions." Instead of eliminating lightning fires, we are partially restoring them to their natural role. In carefully selected drainages of the Selway-Bitterroot Wilderness, we have established a natural fire program. This does not mean that huge fires roar unchecked through the mountains. All fires are closely observed by specially trained fire monitors. Some are suppressed to protect property and to prevent flames from crossing the wilderness boundary. False.

10. It is just as important to prevent man-caused fires inside the wilderness as in forests with valuable commercial timber.

Man-caused forest fires are not a force of nature. They do not belong inside or outside wildernesses. The Forest Service will continue to suppress them and we hope that you will continue to prevent them. True.



NO-TRACE CAMPING LESSON #2: YOUR CAMPFIRE

Campfires can leave unnecessary signs of man's presence in the Wilderness. The best way to prevent a campfire scar is to use a portable stove and not build a fire at all. If you build a fire, here are some ways to lessen its impact.

1. Use only fallen dead wood. Avoid cutting down snags. These standing dead trees provide homes for many animals.

2. Keep your fire small. This conserves wood and reduces the size of the fire scar.
3. To prevent your fire from spreading, clear away the duff and litter until you reach dirt. Make sure there are no overhanging branches or severe winds. A ring of rock is not necessary. Rocks do little to contain a campfire and the flames will color them an unsightly black.
4. Never leave your fire unattended.
5. Erase all trace of your fire before you leave. (See Lesson #6 on page 67 .)

FIELD GUIDE TO COMMON CONE BEARING TREES

- * Designed exclusively for those who are without degrees in botany
- * No unreadable Latin names, no complicated keys
- * Includes only the needle and cone-bearing trees that are easy to see along the trail

PINES

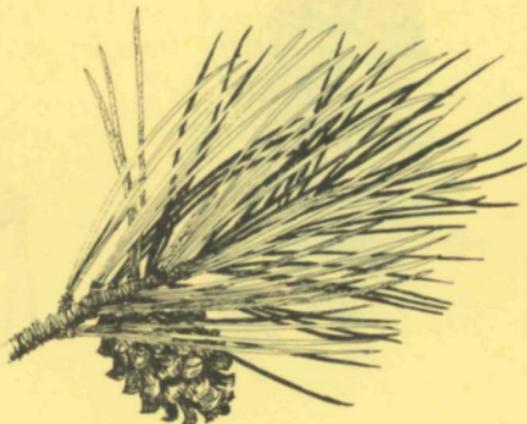
Needles attached to the twig in bundles (fascicles) of two or more



* *Three long needles in a bundle*

* *The larger trees have thick orange bark*

* *Each scale of the cone has a barb at the tip*



1. Ponderosa or Yellow Pine

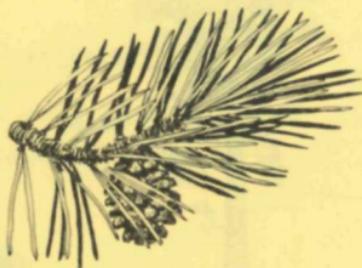
Community Notes

- * Elevation - 1,000 to 3,500 feet
- * When overgrazed by stock, the grasses are slow to recover. Elk and deer need this browse when the high country is snowed in.
- * Ponderosas dominate some slopes because of natural forest fires. While the flames kill other species of trees that would compete for space and water, the ponderosa pine survives because of its special bark. As the bark's outer layers burn, they flake off, carrying away the heat. This protects the growing parts of the trunk. Layers of paint protect space capsules re-entering the atmosphere in the same way.



* *Two needles in a bundle*

* *Cones smaller than those of ponderosa but otherwise similar*



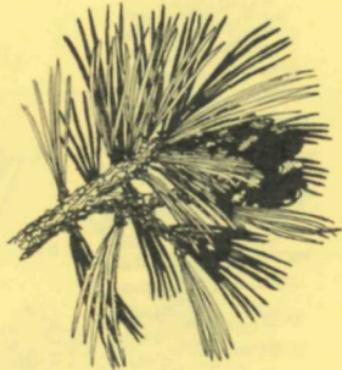
2. Lodgepole Pine

Community Notes

- * Elevation - 3,500 to 7,000 feet
- * These trees indicate the presence of past forest fires. Fire opens the cones and releases the seeds. The seedlings which thrive in sunlight are the first trees to grow in a burned area.
- * Without fire, lodgepole pines eventually are replaced by trees whose seedlings grow in shade.
- * Too often these trees are killed for tent poles, meat racks, and makeshift furniture.

* *Five needles in a bundle*

* *Long cones with no barbs*



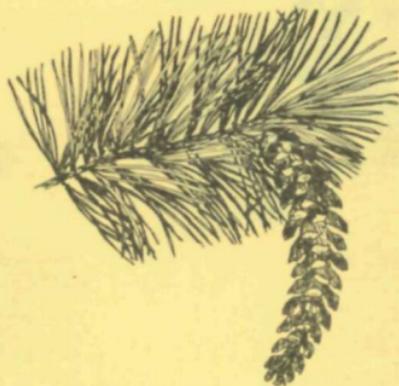
3. Whitebark Pine

Community Notes

- * High elevations near timberline
- * Harsh conditions: wind, snow, cold, short growing season.
- * Plants grow slowly. A four or five foot tree may be over 100 years old.
- * Destroyed vegetation may take decades to recover. Protect even the smallest plants.

* Five long soft needles
in a bundle

* The longest cone in the
Selway-Bitterroot



4. Western or Idaho White Pine

Community Notes

- * Elevation - 3,500 to 5,500 feet
- * Rare in the Selway-Bitterroot.
- * Protect these trees and their seedlings to ensure their continued survival in the Selway-Bitterroot.

LARCHES

Needles arranged in circles at the end of short spurs jutting out from the branch.

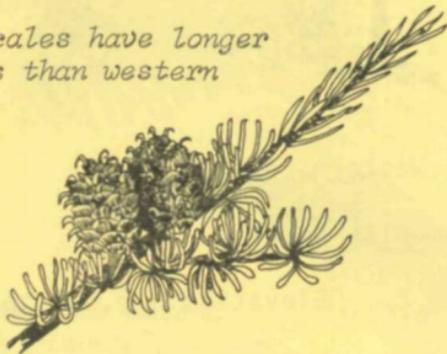
Needles turn bright yellow in autumn.

Loses all needles by winter.

Cones less than an inch long.

* *Four sided needles*

* *Cone scales have longer fringes than western larch*



1. Alpine Larch

Community Notes

- * High elevations near timberline on the Bitterroot Crest.
- * Harsh conditions: wind, snow, cold, short growing season.
- * Plants grow slowly. A four or five foot tree may be over 100 years old.
- * Destroyed vegetation may take decades to recover. Protect even the smallest plants.



* *Three sided needles*

* *Tiny fringes on the scales of cones*

* *Thick bark*



2. Western Larch

Community Notes

- * Elevation - 3,500 to 5,500 feet
- * Moist conditions, long growing season.
- * These trees indicate a past forest fire. Their seedlings thrive when fire has opened the forest floor to sunlight. The thick bark of the mature trees helps protect them from the flames.
- * Sometimes a good site for stock because plants in the area recover quickly.

FIRS

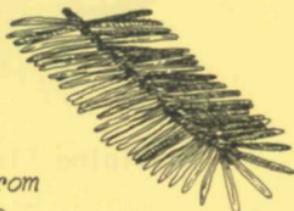
Needles attached to twig singly -- not in clusters or circles.

Needles flat, not triangular, with blunt, not sharp, tips.

Cones erect on the branch instead of hanging down.

Usually no cones on the ground. They fall apart while still attached to the branch (sometimes squirrels cut them off intact).

Round -- not sharp pointed -- buds.



** Needles extend horizontally from the twig on two sides*

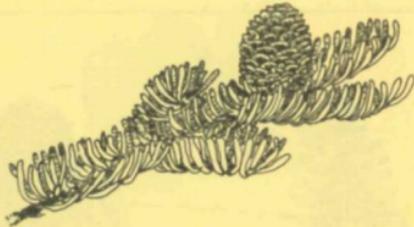
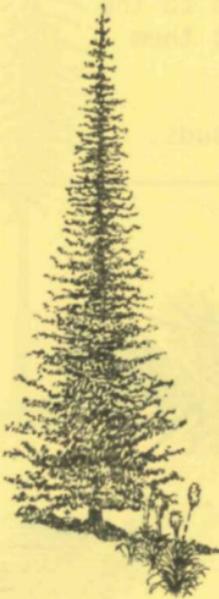
1. Grand Fir

Community Notes

- * Elevation - 1,000 to 5,500 feet
- * Moist conditions, long growing season, plants grow rapidly.
- * Sometimes a good site for stock because plants in this area recover quickly.
- * These trees grow close to streams. Human wastes, washing with soap, and holding stock too close to the bank can pollute the water.

* *Needles encircle
the twig*

* *Tree is shaped like a
spire*



2. Subalpine Fir

Community Notes

- * Elevation - 4,000 feet to timberline
- * Cold climate, short growing season.
- * Vegetation recovers slowly when disturbed. The many lakes and meadows in this community have man-made scars that have lasted for years. When the vegetation is killed, the soils erode easily.
- * Protect the plants and prevent erosion by limiting your grazing, not cutting switchbacks, and by camping and containing stock well away from a lakeshore.

* *Needles triangular and thin*

* *Cones have paper thin bracts (wings) with a long tip extending out from between scales*

* *Buds end in a sharp point*



DOUGLAS-FIRS

There is only one species of this genus in the Selway-Bitterroot

Community Notes

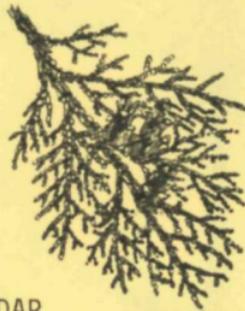
- * Elevation - 1,000 to 5,500 feet.
- * This community needs frequent small lightning-caused ground fires to clean up dead debris on the forest floor. Without fire, dead logs, branches, and needles pile up, eventually becoming fuel for a much bigger fire.
- * So many mice, moles, squirrels, chipmunks, insects and birds eat Douglas-fir seeds that some years few survive to sprout.



* *Foliage is composed of small scale-like leaves less than 1/4 inch long*

* *Twig slender, flattened and drooping*

* *Cones very small and erect*



WESTERN REDCEDAR

Only one species is found in the Selway-Bitterroot.

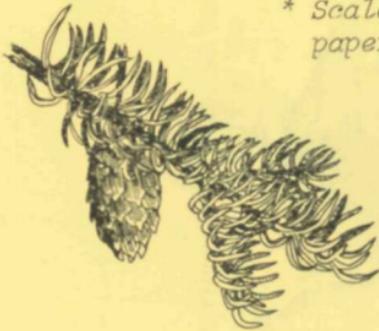
Community Notes

- * Along creeks at low elevations
- * Very moist conditions.
- * Some small plant species on the forest floor are unique. Several have been recommended for classification as threatened species. Protect even the smallest plants.
- * Horses and mules eat redcedar bark. Prevent them from stripping the bark from the trees and killing them.

* Needles are angular with sharp tips that prick when touched

* Cones hang from the branch

* Scales of cones are paper-like



ENGELMANN SPRUCE

Only one species is found in the Selway-Bitterroot.

Community Notes

- * Elevation - 3,500 to 7,000 feet
- * Cold climate, short growing season.
- * Vegetation recovers slowly when disturbed. The many lakes and meadows in this community have man-made scars that have lasted for years. When the vegetation is killed, the soils erode easily.
- * Protect the plants and prevent erosion by limiting your grazing, by not cutting switchbacks, and by camping and containing stock well away from a lakeshore.
- * Spruce have shallow roots and topple over easily in a windstorm. Be careful in choosing a spot to place your tent!



PIKA

- * Found in rock slides at high elevations.
- * Listen for a high pitched squeaking.
- * Makes hay from flowers and grasses by curing them in the sun and then storing them under the rocks.
- * Does not hibernate in the winter, but travels under the snow in tunnels that connect its "hay barns." Tiny ears and feet and no tail help preserve the pika's body heat.

THE WILDLIFE CHECKLIST

To show you the great diversity of animal life in the Selway-Bitterroot Wilderness, we have included all animals found in the Wilderness except insects. The species underlined use standing snags as part of their habitats.

I. Mammals

A. Ungulates

(hoofed animals)

1. ___ elk
2. ___ whitetailed deer
3. ___ mule deer
4. ___ moose
5. ___ mountain goat
6. ___ bighorn sheep

B. Rodents & Lagomorphs
(gnawing mammals)

1. ___ porcupine
2. ___ muskrat
3. ___ beaver
4. ___ yellowbelly marmot
5. ___ hoary marmot
6. ___ pika

7. ___ mountain cottontail
8. ___ snowshoe hare
9. ___ Columbian ground squirrel
10. ___ golden mantled squirrel
11. ___ red or pine squirrel
12. ___ northern flying squirrel
13. ___ least chipmunk
14. ___ yellow pine chipmunk
15. ___ northern pocket gopher
16. ___ deer mouse
17. ___ bushy tail woodrat
18. ___ boral redback vole
19. ___ mountain phenacomys
20. ___ meadow vole
21. ___ mountain vole
22. ___ longtail vole
23. ___ Richardson vole

C. Carnivorous mammals
(meat eaters)

1. ___ black bear (also eats berries & roots)
2. ___ mountain lion
3. ___ coyote
4. ___ badger
5. ___ fisher
6. ___ spotted skunk
7. ___ striped skunk
8. ___ lynx
9. ___ bobcat
10. ___ otter
11. ___ wolverine
12. ___ pine marten
13. ___ short tailed weasel
14. ___ long tailed weasel

D. Shrews

1. ___ masked shrew
2. ___ vagrant shrew
3. ___ dusky shrew
4. ___ northern water shrew

E. Bats

1. ___ little brown myotis
2. ___ yuma myotis
3. ___ long eared myotis
4. ___ fringed myotis
5. ___ long legged myotis
6. ___ California myotis
7. ___ silver haired bat
8. ___ big brown bat
9. ___ hoary bat
10. ___ western big eared bat

II. Birds

A. Raptorials (birds with sharp curved claws)

1. ___ Goshawk
2. ___ sharp-shinned hawk
3. ___ Cooper's hawk
4. ___ redtailed hawk
5. ___ golden eagle
6. ___ osprey

7. ___ prairie falcon
8. ___ merlin (pigeon hawk)
9. ___ screech owl
10. ___ flamulated owl
11. ___ great horned owl
12. ___ pygmy owl
13. ___ long eared owl
14. ___ boreal owl
15. ___ saw whet owl
16. ___ sparrow hawk

B. Grouse

1. ___ Blue grouse
2. ___ Franklin's grouse
3. ___ ruffed grouse

C. Insect & Seed Eaters

1. ___ gray jay
2. ___ Stellar's jay
3. ___ blackbilled magpie
4. ___ common raven
5. ___ Clark's nutcracker
6. ___ black-capped chickadee
7. ___ mountain chickadee
8. ___ chestnut-backed chickadee
9. ___ white-breasted chickadee
10. ___ red-breasted nuthatch
11. ___ pygmy nuthatch

12. ___ brown creeper
13. ___ water ouzel (dipper)
14. ___ house wren
15. ___ winter wren
16. ___ canon wren
17. ___ rock wren
18. ___ catbird
19. ___ robin
20. ___ varied thrush
21. ___ hermit thrush
22. ___ Swainson's thrush
23. ___ veery
24. ___ western bluebird
25. ___ mountain bluebird
26. ___ Townsend's solitaire
27. ___ golden-crowned kinglet
28. ___ ruby-crowned kinglet
29. ___ cedar waxwing
30. ___ warbling vireo
31. ___ orange-crowned warbler
32. ___ yellow warbler
33. ___ Nashville warbler
34. ___ Audubon's warbler
35. ___ Townsend's warbler
36. ___ Wilson's warbler
37. ___ yellow-breasted chat
38. ___ American redstart
39. ___ Bullock's oriole

40. ___ Brewer's blackbird
 41. ___ Brown-headed cowbird
 42. ___ common nighthawk
 43. ___ Vaux's swift
 44. ___ broad-tailed hummingbird
 45. ___ Rufous hummingbird
 46. ___ Calliope hummingbird
 47. ___ belted kingfisher
 48. ___ red-shafted flicker
 49. ___ pileated woodpecker
 50. ___ Lewis woodpecker
 51. ___ hairy woodpecker
 52. ___ downy woodpecker
 53. ___ black-backed 3-toed woodpecker
 54. ___ northern 3-toed woodpecker
 55. ___ western tanager
 56. ___ black-headed grosbeak
 57. ___ Lazuli bunting
 58. ___ evening grosbeak
 59. ___ Cassin finch
 60. ___ house finch
 61. ___ pine grosbeak
 62. ___ pine siskin

63. ___ American goldfinch
 64. ___ red crossbill
 65. ___ Rufous-sided towhee
 66. ___ Savannah sparrow
 67. ___ chipping sparrow
 68. ___ Brewer's sparrow
 69. ___ White-crowned sparrow
 70. ___ fox sparrow
 71. ___ Lincoln's sparrow
 72. ___ song sparrow
 73. ___ Oregon junco
 74. ___ yellow-bellied sapsucker
 75. ___ Williamson's sapsucker
 76. ___ Trail's flycatcher
 77. ___ Hammond's flycatcher
 78. ___ dusky flycatcher
 79. ___ olive-sided flycatcher
 80. ___ western-wood pewee
 81. ___ violet-green swallow
 82. ___ tree swallow

III. Amphibians

1. ___ Pacific giant salamander
 2. ___ blotched tiger salamander

3. ___ northern long-toed salamander
 4. ___ Coeur d'Alene salamander
 5. ___ western (boreal) toad
 6. ___ tailed frog
 7. ___ Pacific tree frog
 8. ___ spotted frog

IV. Reptiles

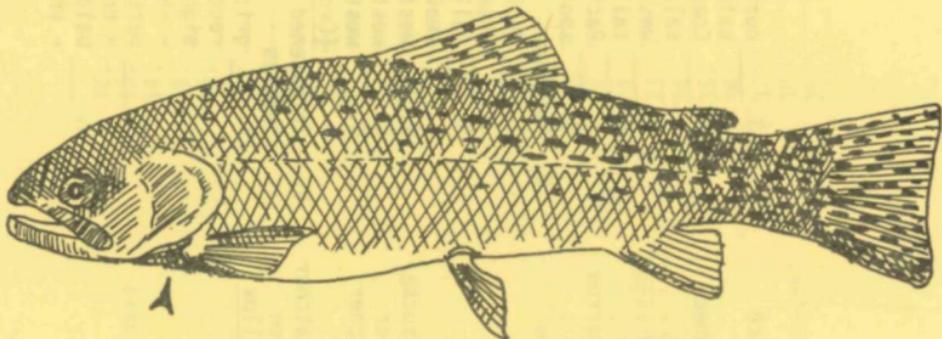
1. ___ Rocky Mt. rubber boa
 2. ___ Great Basin garter snake
 3. ___ valley (common) garter snake
 4. ___ western garter snake
 5. ___ western skink
 6. ___ western rattlesnake (Crotalus viridis)

V. Threatened & Endangered Species

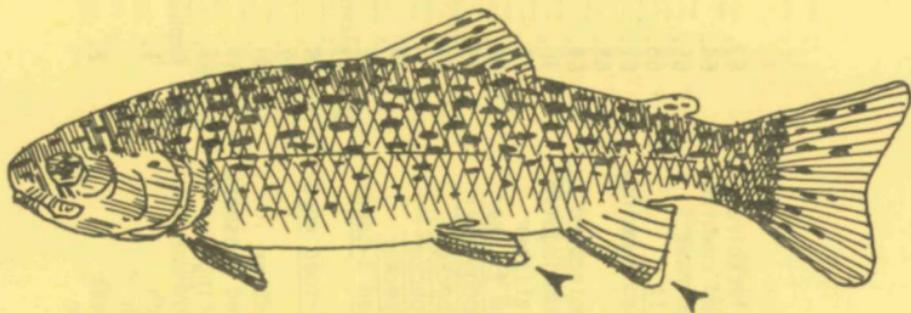
1. ___ grizzly bear (no recent confirmed sightings)
 - threatened
 2. ___ peregrine falcon
 - endangered
 3. ___ bald eagle
 - endangered

FISH IDENTIFICATION

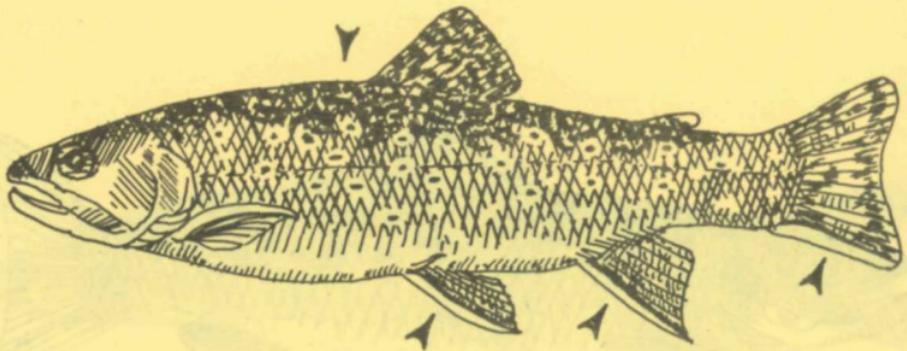
* See arrow on illustrations.



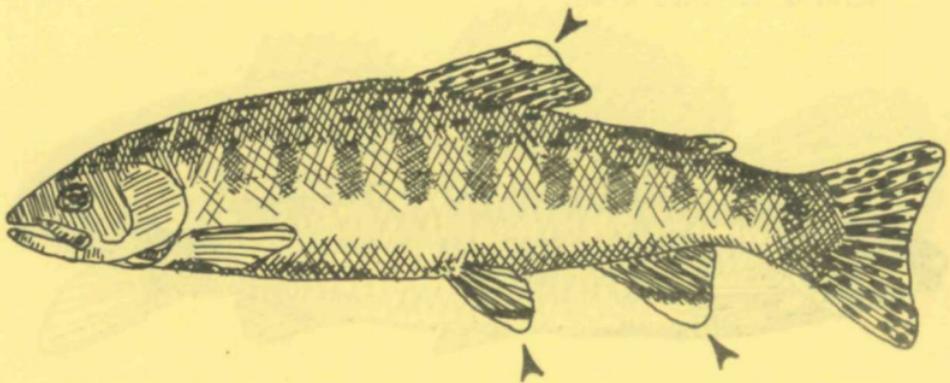
Cutthroat Trout - Back is grey to greenish, sides yellow brown; belly pink; lower *edge of gills and under lower jaw bright red-orange; irregular dark spots mostly on posterior portions of back and sides. They are native to this area.



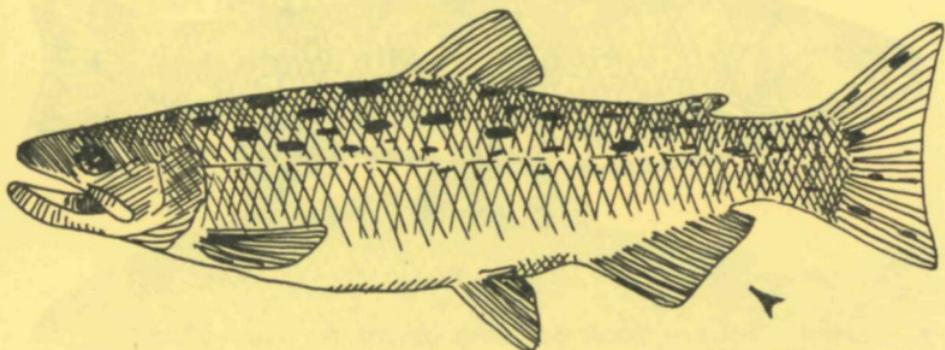
Rainbow Trout (Steelhead Trout)- Color variable -- silvery in lakes -- otherwise, back is olive to blue-green; sides pink shading; irregular small dark spots on back and sides from head to tail; *white tip on anal and pelvic fins. Steelhead are trout which migrate to sea and return in 1-2 years as adults. They are native to this area.



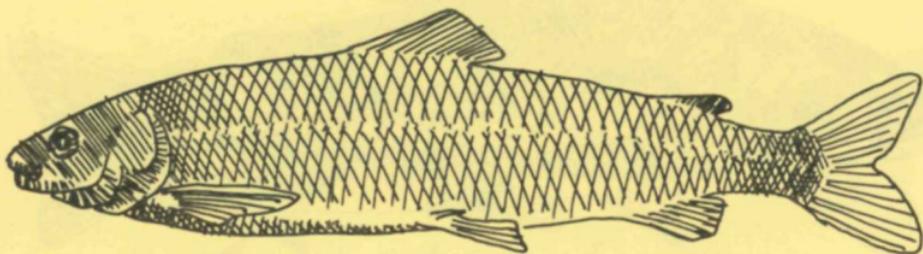
Brook Trout - Back is dark green to blue-black, shading to white on belly. Males may have red on belly and lower fins when spawning; *upper body and dorsal fin have a dark mottled wormlike pattern; sides have yellow and pink spots with a bluish halo; *all lower fins have white then dark stripe on leading edge. Originally native to eastern U.S.



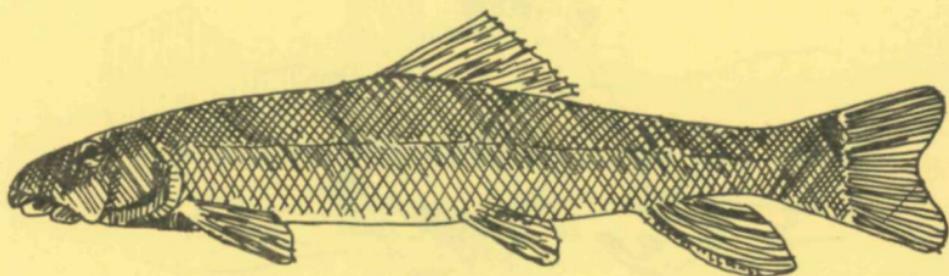
Golden Trout - Back is green or olive; red-pink band on sides interrupted by large bluish spots, remaining area on sides light gold; red shading on lower surfaces; *dorsal, pelvic and anal fins have white tip offset by black bar. Found only in certain high elevation lakes, originally native only to California.



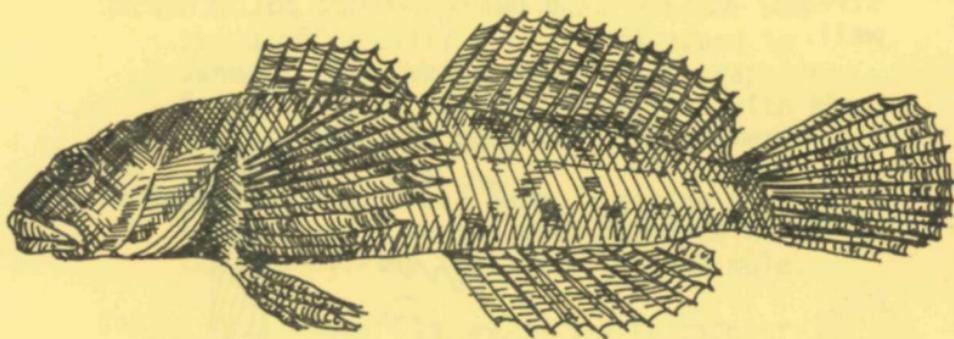
Chinook Salmon - *(All salmon have more than 12 rays in the anal fin -- all trout have less than 12.) Back is dark olive, shading to light brown on sides; irregular black spots on back dorsal fin and tail; adult fish are usually larger than 18 inches and have well-developed teeth. They are native to this area.



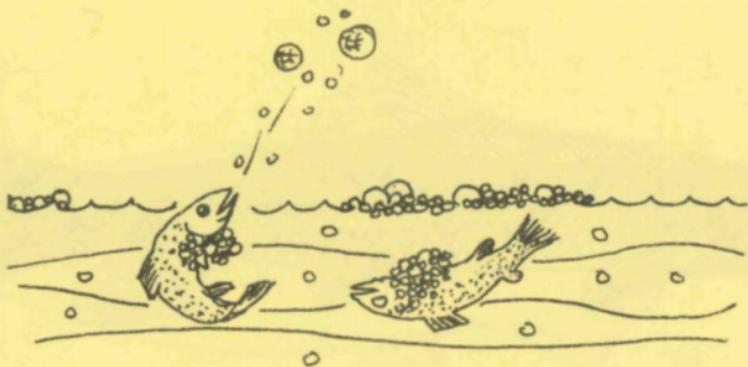
Mountain Whitefish - Back greyish blue to silver on sides, dull white on belly; no black markings; very small mouth without teeth. They are native to this rea.



Mountain Sucker - Back dark grey-green shading to white below; fine black spots on back and sides. Breeding males have orange and dark green stripes along sides. Adults are 4 to 7 inches long. They are native to this area.

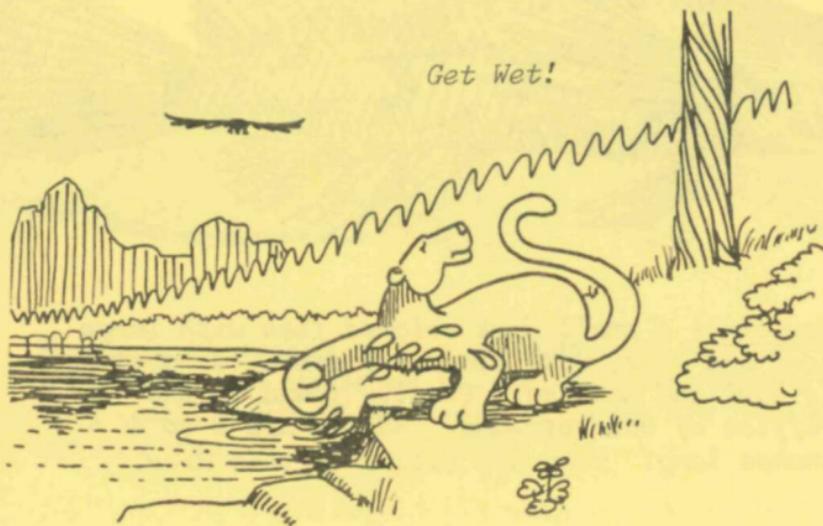


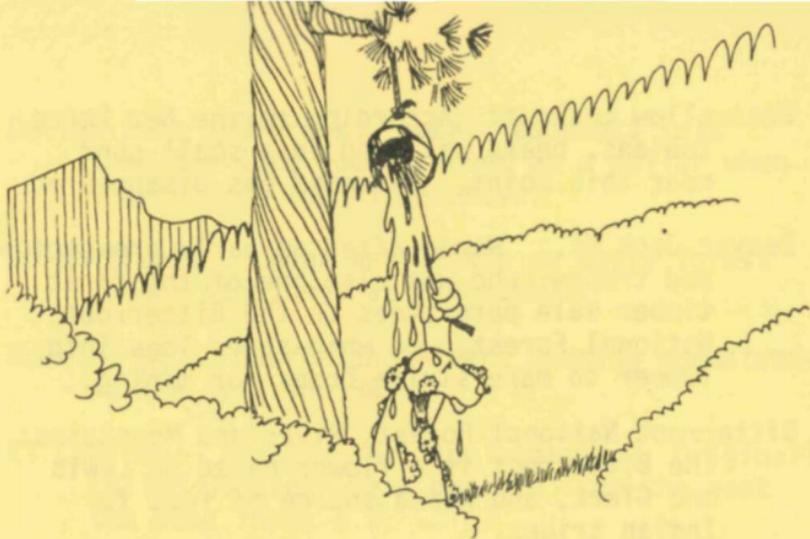
Sculpin - A small dark colored fish with large head and eyes, with wing-like fins. Coloration is dark and mottled. Usually found in the riffles of cold streams. Adults are 2 to 4 inches long. They are native to this area.



NO-TRACE CAMPING LESSON #3: SOAP

Fish and soapy water do not mix. Please wash your dishes on shore in a pot of water and then dump the water on the ground far from a lake or stream. You can take baths without polluting as well.





Soap up and rinse off on shore with pots of water. The soapy water will percolate through the soil and purify itself.

THE PLACE NAME GLOSSARY

Archer Mt.: George Archer was a trapper who skied off a cliff during a blizzard in January 1909, while running his trap lines. A small boy picking huckleberries with his mother found his body the next summer.

Army Mule Saddle: Near here, a string of army mules enroute to the Bald Mt. fire of 1929 tumbled off the trail killing one mule.

Bailey Mt.: Robert Bailey was a Forest Service employee in 1910.

Bass Creek and Lake: D.C. Bass settled on the creek in 1864. He built the first irrigation ditch in Montana and operated one of the first two sawmills in the State. Bass Lake was dammed in 1898.

Bear Mt.: Originally Beargrass Mt. The name was changed in 1924 because another National Forest had a mountain with the same name.

- Bearwallow Lookout: According to the Nez Perce Indians, bears wallowed in a small pond near this point. The pond has disappeared.
- Beaver Jack Mt.: Named after an early prospector and trapper who was also one of the first timber sale permittees on the Bitterroot National Forest. He whip-sawed logs into lumber to make sluice boxes for mining.
- Bitterroot National Forest, River and Mountains: The Bitterroot is a flower named by Lewis and Clark, and was a source of food for Indian tribes.
- Blodgett Lake, Mt., Pass, and Creek: Joseph Blodgett settled on this creek in the late 1800's. Originally named George Red Crow Creek after an Indian.
- Boyd Lake: Robert Boyd was a trapper who poached marten in the area.
- Chaffin Creek: John S. Chaffin homesteaded at the creek's mouth in the 1880's.
- Como Lake and Peaks: Father Ravalli, one of the first Jesuit Priests in Montana, named the lake after Lake Como in his native country, Italy.
- Cooperation Creek: Until 1934, this stream formed the boundary between the Powell and Lochsa Ranger Districts. The name commemorates the close cooperation between the two districts in controlling forest fires.
- Cox Creek: Cox was an early homsteader on the Selway River.
- Crew Creek: James Crew homesteaded the mouth of this creek in 1916.

- Dollar Lake and Creek: Local residents felt that the lake looked round as a dollar when viewed from the ridge above.
- Dolph Creek: Adolph Weholt was an early forest ranger stationed at Elk Summit.
- Downing Mt.: George and Albert Downing homesteaded in the area in 1881.
- El Capitan: Spanish for "the captain." Originally called Gunsight Peak because from the east the peak forms a V.
- Elizabeth Lake: Elizabeth MacGregor was the wife of an early forest ranger.
- Fay Creek: Fay Smith homesteaded at the mouth of this creek.
- Fenn Mt.: In the 1920's, Major Fenn was the Supervisor of the now disbanded Selway National Forest.
- Fitting Creek: In 1900, Lew Fitting was the first Forest Service employee stationed in the Moose Creek area.
- Fox Park and Point: Charley Fox worked as the Maple Lake Lookout in the early 1920's.
- Freeman Peak: Frank Freeman was hired by the Forest Service in 1908. He established the first lookout on the peak. Later, in 1919, he homesteaded in East Moose Creek.
- Fred Burr Creek and Lake: Burr settled in the Bitterroot Valley in 1856. He spent time working as an engineer with the Mullan survey party, one of the first in western Montana. At one time, he had been a horse and cattle trader for travelers on the Oregon Trail.

Freezeout Saddle: Two Forest Service employees, Ralph Hand and Fred Madison, were camped in the saddle in the fall of 1929. Their horses ran off. Caught in a blizzard, they hiked through snow six feet deep before reaching the Lochsa River.

Friday Pass: Named after Lloyd Fenn, who in 1917 was on a survey crew in the area. The crew nicknamed him "Man Friday."

Gash Creek and Point: Jim Gash settled on the creek in 1873.

Ghost Mt.: The divide between the Selway and Lochsa Rivers was a Nez Perce hunting trail. Several Indian names and legends are part of this area. Ghost Mt. commemorates a spirit that the Nez Perce believe lives near here.

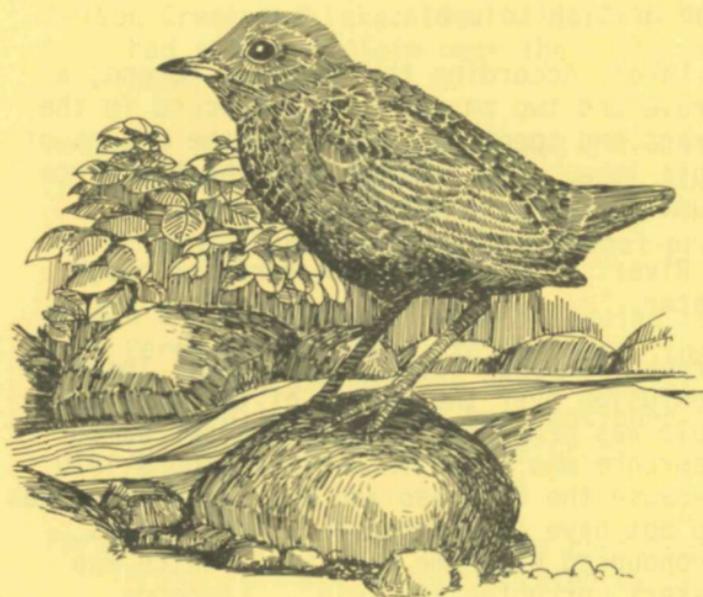
Grave Meadows: A small girl died in these meadows during a fishing expedition with her family (the Parsons) to the Salmon Hole.

Grave Peak: Isaac Hill's grave is near here (See Isaac Creek).

Isaac Creek and Lake: Isaac Hill, a Nez Perce Indian, claimed that he found gold in this creek in 1880. He died in 1887 trying to lead Jerry Johnson to his strike. His last words as he pointed to the southeast were "plenty gold three sleeps away." Prospectors ever since have tried without success to find his strike.

Indian Creek: Named for Indian Blake who supposedly mined for gold on this creek. The location of the mine remains a mystery.

Jesse Pass: The pass was discovered by Jesse Spotted Eagle, a Nez Perce scout.



WATER OUZEL

- * *Found along streams.*
- * *Bobs up and down on rocks.*
- * *Can dive, swim underwater, and walk on the bottom of a swift stream while searching for insects and small fish.*

Koch Mt.: Elers Koch was a former Supervisor of the Bitterroot National Forest.

Kooskooskia Meadows: The Nez Perce word for Clearwater. This was their name for the Lochsa River.

Kootenai Creek and Lake: The Kootenai are a tribe of Indians in Northern Idaho, Montana and British Columbia.

Legend Lake: According to Nez Perce legend, a brave and two squaws were snowbound in the Crags and spent the winter on the shores of this lake. The lake is near the Nez Perce hunting trail to Montana.

Lochsa River: The Snake-Sioux word for rough water.

Lolo Creek, National Forest, and Peak: There is confusion over the origin of the word Lolo. Lolo was probably a French trapper named Lawrence who lived in Montana around 1810. Because the Flathead and Nez Perce languages do not have the letter "n", the Indians pronounced his name "Lou-Lou", which map makers corrupted to "Lolo". Lawrence wounded a grizzly which then charged and mauled him. He died from his injuries. The Flathead name for the creek was Tum Sum Lech, meaning "no salmon." Lewis and Clark called it Traveler's Rest.

Lost Horse Creek and Pass: A party of prospectors in 1881 crossed the creek in high water, drowning one of their horses. Captain Clark of the Lewis and Clark expedition also had trouble crossing this stream.

Lottie Lake: Daughter of William Perry, a homesteader at Lowell.

Maude Lake: Wife of William Perry, a homesteader at Lowell.

Mocus Pt.: Indian word for lonesomeness for female companionship.

Mt. George: Ben George was a trapper and early Forest Service employee.

Nelson Creek and Lake: Jack Nelson, a blacksmith, had a timber claim near the mouth of the creek in 1896.

Nezperce National Forest: Named after the Nez Perce Indian tribe. Translated, these French words mean pierced nose. This, however, has never been a tribal practice.

Oldman Creek and Lake: When following the Nez Perce hunting trail to the east, the women, children, and old men would camp at the lake while the young men continued on into the rugged terrain of the Craggs. (See Ghost Mt.).

Parson's Lake and Spring: Some confusion over which Parsons is commemorated by these landmarks -- probably Billy Parsons, who was a packer based at Selway Falls cabin.

Pettibone Creek and Ridge: Henry Pettibone homesteaded what is now Selway Lodge in the early 1900's. His grave is on the property. Formerly called Indian Creek and Ridge.

Pinchot Creek: Gifford Pinchot was the first Chief of the Forest Service.

Printz Mt.: Fred Printz was a guide and packer who at one time operated a sawmill in the area.

Renshaw Creek: Named after an early homesteader on the Selway.

Rhoda Creek: Major Fenn, Supervisor of the former Selway National Forest, named this creek after his daughter. During a pack trip with her father, she had commented that it was beautiful.

Running Creek: In 1898, Tom Running was the original homesteader at the mouth of this creek. He went blind in 1904 and gave up his claim.

Savage Ridge: Milton Savage was an early trapper.

Schwar Creek: Joe Schwar was an early trapper.

Selway River: A combination of words from the Nez Perce and Snake Indian languages meaning smooth water or good canoeing.

Sheafman Creek: Sometimes spelled Schiffman. He was a settler around 1870.

Shattuck Mt.: Professor Shattuck from Washington State College traveled through this area in 1910.

Sheephead Creek: Named for the mountain sheep in the area.

Shissler Peak: Two brothers, Fred and George Shissler, homesteaded on North Moose Creek in 1903.

Sixty-Two Ridge: In 1900 a Forest Service employee found this date carved on a tree on the ridge.

Soda Springs Creek: There is a small soda springs two miles up the creek from its mouth.

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TAILED FROG

- * *The most primitive of the American frogs.*
- * *Only two inches long.*
- * *Found only in the northwest in cold, swift mountain streams.*
- * *The only species of frog where the male fertilizes the female's eggs internally.*
- * *Nocturnal and spends almost all of its time in the water.*

Stanley Butte and Hot Springs: Martin Stanley trapped this area. He disappeared, and later a human skull was found near the butte.

St. Mary Peak: Originally named St. Mary's Peak on September 24, 1841 by Father Pierre -- Jean De Smet, a Jesuit Priest. In 1965 the Knights of Columbus began an annual pilgrimage to the peak. A shrine has been built near the summit.

Stuart Hot Springs: James Stewart was a Forest Service surveyor. Map-makers misspelled his name.

Sweathouse Creek: The Flathead Indians built special lodges over the hot springs along this creek. They used these structures as a type of sauna for relaxation.

Sweeney Creek, Lake and Peak: J. L. Sweeney came to Montana in 1864 and homesteaded on this creek.

Three Links Creek: In 1890, three large links were found carved in a tree. The Nez Perce called it Warm Springs Creek.

Tin Cup Creek and Lake: In the 1880's, George Sollemder kept a tin drinking cup for travelers where the road crossed the creek.

Tony Creek and Point: Tony was a trapper with a cabin at the creek's mouth. In the winter of 1905, he died alone in his cabin. The Forest Service found his remains in the spring.

Trapper Creek, Lake and Peak: A favorite area for fur trappers.

Twin Buttes: Originally called Squaw Tits. Official geographers did not approve and changed the name.

Vance Mountain and Point: James D. Vance was an early Forest Ranger on the Bitterroot National Forest.

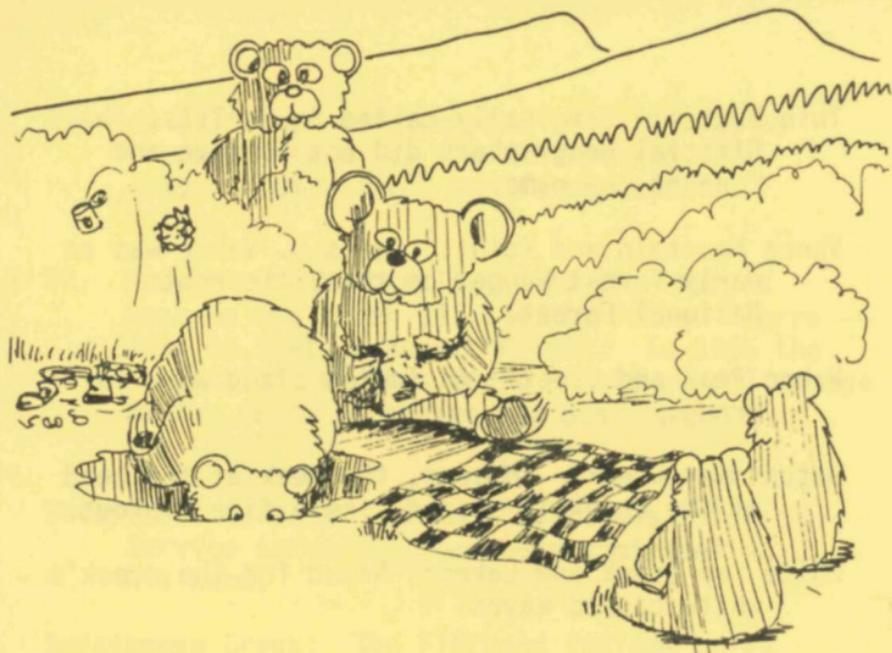
Wahoo Peak and Creek: An Indian slang word for wrong.

Watchtower Creek: To some, the peak at the head of the creek is shaped like a fire lookout.

White Cap Creek and Lakes: Named for the creek's white capped waves.

Whites Mt. and White Lake: Wilfred White was an early Forest Supervisor on the Bitterroot National Forest.

Wylies Peak: William Wylie was a trapper who built a cabin near the peak and trapped the area in 1898 and 1899.



NO-TRACE CAMPING

LESSON #4: GARBAGE

- * Paper and plastic will burn in a campfire. Aluminum cans and foil will not. They break up into small pieces that become litter.
- * Cigarette butts, pull tabs, and candy bar wrappers are litter. Too many of these can be seen along the trails of the Selway-Bitterroot.
- * Pack out your trash instead of burying it. The bears dig up garbage pits and scatter the trash.



Chapter III
The Wilderness
Horseman's Guide

**A HORSEMAN'S THOUGHTS ON
STOCK IN THE WILDERNESS**

By

Red Helton, Independent Horseman
Moscow, Idaho

Backpackers are not fond of stepping around "pasture muffins" and hence, have no great love for the horsemen. Any horseman who, after many hours in the saddle, sleepily rounds a bend in the trail only to find himself scratching leather because a backpacker's dog has leaped yapping from the bushes has to work at being friendly toward the footsoldier. The point is, the basic problem is seldom the equipment a mountain visitor selects but the manner in which he uses it.

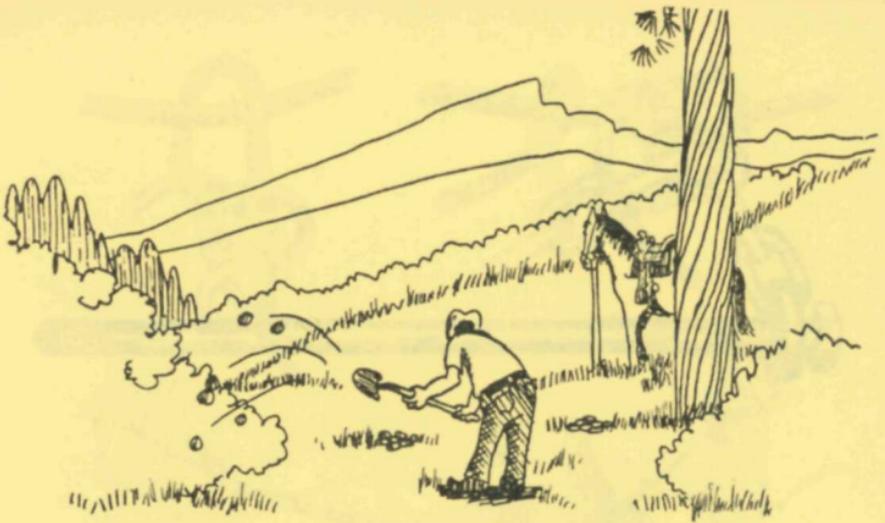
As an "independent" horseman who has spent a good bit of the last twenty years in the Selway-Bitterroot Wilderness, I definitely have my pet peeves. And the most worrisome of them is the actions of some horse people that call down the wrath of others on all of us. Even the most

concerned among us can't do much about the pasture muffins in the trail (horse diapers aren't practical), but we can keep them off the sandy beaches and choice tent and sleeping bag spots. And we can tether our stock far enough away from springs and creeks so that others will not have to worry about whether the water has been polluted.

One of the things that brings harshest criticism down on our heads is the lazy or thoughtless person who tethers his horse or mule up short to a live tree. Most animals get antsy with inactivity, and it only takes a few minutes for one to chew the bark off the tree or paw the soil away from its base exposing the roots. The result is a dying tree standing in a hole. The tree is no longer a bit of the nature that we came to enjoy but an ugly blemish that evokes disgust. There is just no justification for that sort of thing short of an emergency and they are few and temporary.

I don't think kind thoughts about fellow-horsemen when I come upon leftover corrals, fences, stove mounds and fire rings, piles of tent poles, or abandoned platforms and manger structures either. With good tethering techniques and modern lightweight camping gear, I see no reason for such landscape massacre anywhere, not even by the professional packer.

Packing hay is mostly the mistake of the beginner. There are many horse concentrate feeds on the market now, that are better and more convenient and they can be bought nearly anywhere. I prefer the alfalfa brick or pellet. They usually come in 50-pound bags, and two of those mantied on each side of a horse or mule make a very trailworthy pack that can provide up to 16 horse-days of complete ration including vitamins, salt, roughage, and protein. You don't need anything else for livestock but water.

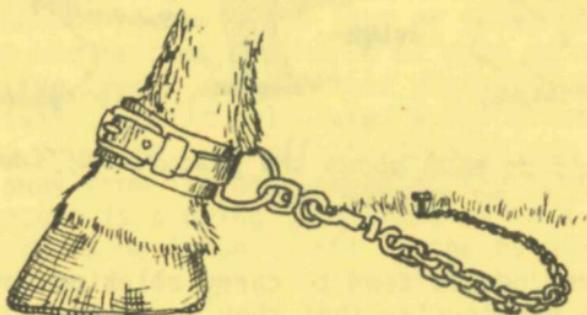
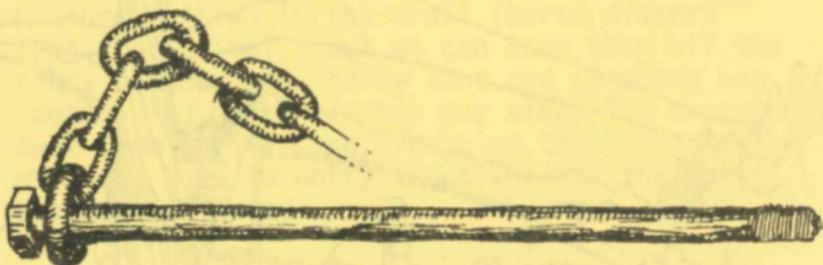


*"We can't do much about the pasture muffins,
so scatter them..."*

Some horse people tend to carry all kinds of stuff into the backcountry that they don't need. I haven't met very many people as eager to pack out the resulting trash (ALL of it) as they were to haul the stuff in there in the first place. I don't mind kicking a few pasture muffins out of the way, but I get pretty hostile when I have to gather up someone else's garbage before I can roll out my sleeping bag. Leaving a clean horse camp requires a little effort but (except for those who have to depart hurriedly because of a snow storm or injury) I see no good excuse for not investing the time to do it. We can't do much about the pasture muffins, except scatter them to minimize the esthetic effect, but we at least ought to pick up everything we brought and take it out -- NOT bury it for animals to dig up and scatter later.

Like everything else in human affairs, most of the user conflict in our wilderness country could be eliminated with a little simple courtesy and thoughtfulness on the part of everyone, livestock people included.

Red

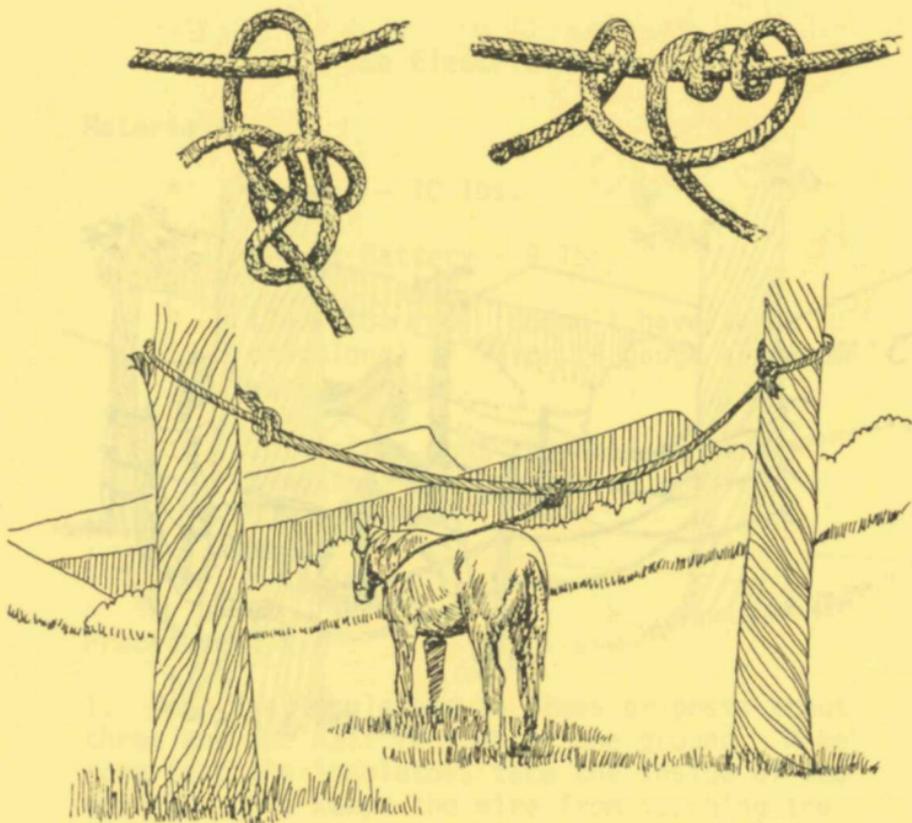


STOCK HOLDING TECHNIQUES ILLUSTRATED

To protect the trees of the wilderness, experienced Selway-Bitterroot packers use the following techniques:

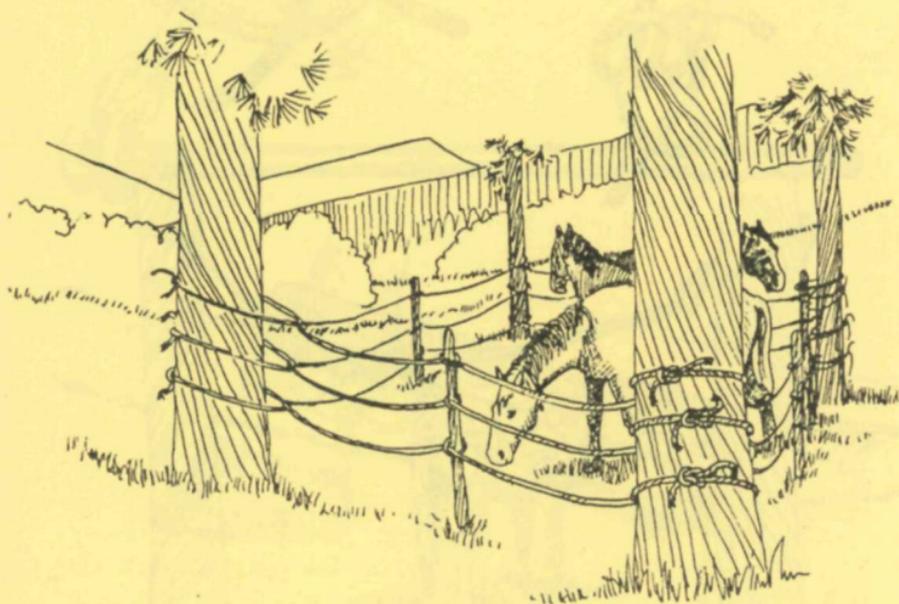
The Picket

- 1. Buckle a single foot hobble (the kind with a chain) to your animal.*
- 2. Hook the chain over a stake or bolt planted firmly into the ground.*
- 3. Remember to move the stake often enough to prevent your animal from overgrazing any one spot. A good guide is to graze no more than 25% of the eatable forage.*



The Highline

1. *Stretch a rope tightly between two trees above your animal's head.*
2. *Tie his halter rope to the line, but leave just enough rope for his head to reach the ground to feed. Too much rope, and you could find an upside down bundle of horseflesh tied up in half hitches in the morning.*
3. *Use one of the two knots illustrated. The bowline lets your horse move up and down the line. The other knot holds him stationary so you can tie more than one animal to the same line.*



The Rope Corral

- 1. Form a corral by tying three one-quarter inch ropes, one above the other, to trees every 20 to 30 feet.*
- 2. By running short tie ropes from the trees to each of the three corral ropes, you can tighten up the corral if it becomes loose.*
- 3. About every 10 feet, tie on a stick or rope stay at right angles to the corral ropes to hold these ropes together. The stays will prevent a well-fed horse or mule from scrambling through.*

The Electric Fence

Materials:

- * Charger - 10 lbs.
- * 6-Volt Battery - 9 lbs.
- * 1320 foot reel (doesn't have to be this long) of 12 or 14 gauge aluminum wire - 23 lbs.
- * Insulators (not the nail or screw kind that damages trees) - a few ounces each.
- * Flagging

Procedures:

1. Rope the insulators to trees or posts about three and one half feet above the ground. Make sure that the insulators face the inside of the corral. This keeps the wire from touching the trees and grounding out.
2. Run the wire through the insulators.
3. To make a gate, form a hook with the end of the wire and use some rubber for a handhold.
4. Hook up the battery and charger.
5. If your animals do not notice the wire at first, tie on some flagging. Be sure your horses are familiar with electric fences before entering the wilderness.

THE PACKING IN FEED CHART						
NUTRITION	BULK	BENEFITS FOR YOU AND YOUR STOCK	BENEFITS FOR THE WILDERNESS	PROBLEMS	SUGGESTED RATION (For Average Animal)	
BALED ALFALFA	Supplemented with oats, alfalfa provides all the nutrition and roughage stock needs.	1 bale is 60-90 pounds & measures 3'x18"x 18".	You can camp in areas with limited grazing.	1. Prevents damage from overgrazing. 2. Alfalfa bales are generally free of seeds and weeds.	1. Bulky to pack some. 2. Stock waste	$\frac{1}{2}$ bale (31 lbs) and 6 lbs of grain per animal per day.
ALFALFA CUBES	1. Supplemented with oats, cubes provide all the nutrients and roughage stock need. 2. 50% protein. 3. Water is the only additive. 4. Keeps 3 yrs.	Cubes are 6" long rectangles & take up 1/2 the space of the same weight of baled hay.	1. You can camp in areas with no grazing. 2. Stock will not chew wood while on cube rations. 3. Cheaper than pellets.	1. Prevents damage from overgrazing. 2. Cubes are generally free of seeds and weeds. This prevents non-native plants from invading the wilderness.	1. More expensive than baled alfalfa, however, less scattered on the ground and wasted. 2. Supply sources are limited.	15 lbs of cubes per day per animal with 5 lbs of oats per day per animal.
COMPLETE HORSE RATION PELLETS	1. Eliminate internal parasites before using pellets. 2. Provides all the nutrients stock needs. 3. Some horsemen complain that pellets do not provide enough roughage.	1/3-1/4 the space of the same weight of baled hay.	1. You can camp in areas with no grazing. 2. Very little is wasted. 3. Stock stay trim. 4. No mold spores. 5. Pellets have little dust.	1. Prevents damage from overgrazing. 2. Can be fed from nose bags preventing unsightly messes at the feeding area. 3. Pellets are digested more completely than hay or grass and less manure is passed.	1. Stock need to be gradually introduced to pellets before leaving home. 2. Some complain that horses chew on wood. 3. Costs more than baled alfalfa, but stock waste less.	20 lbs. of pellets per day per animal or 10 lbs of pellets and 6 lbs of grain.

IS PACKING FEED A HASSLE FOR YOU?

Three reasons to go to the extra trouble anyway:

1. Most of the Selway-Bitterroot Wilderness is brushy or heavily timbered, and there are few good grazing areas. By carrying your own feed, you can find more places to camp.
2. The small areas where forage is available are easily overgrazed, resulting in erosion and invasion of weeds.
3. Sometimes, as a last resort, we have regulations to protect the beauty of the mountains for the generation of packers still growing up. As a result, grazing is not allowed in some meadows and on some lakeshores of the Selway-Bitterroot.

SALT

When you place salt directly on the ground, it leaches into the soil, killing plants and creating artificial salt licks. You can protect the plants by using block instead of loose salt. Place the block on a rock or log or in some type of container. Don't forget to pack it out when you leave.

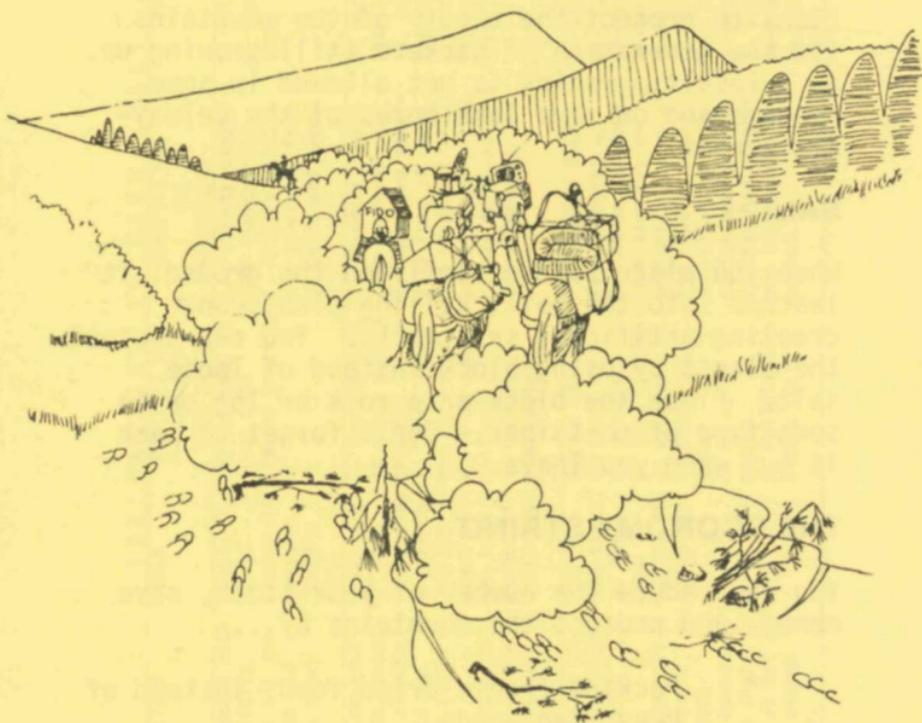
THE ECONOMY STRING

You can reduce the number of your stock, save money, and protect the mountains by...

- * Packing freeze dried foods instead of heavy can goods.
- * Removing ketchup, pickles, coffee, etc. from their jars and placing them in plastic containers.

- * Sleeping on foam pads instead of heavy cots.
- * Cooking on lightweight collapsible stoves.
- * Packing nylon tents with aluminum poles.
- * Feeding pellets instead of bales of hay.

THE RICH MAN'S STRING



The Rich Man's String: A good way to pack -- if your wallet is a bottomless pannier and you care nothing for the land.



Chapter IV *The Sleeping Bag* *Story Book*

THE FOUNDING FATHER OF THE SELWAY-BITTERROOT

He was raised in wealth in New York City, had a weak heart and died when he was only 38. He lived in the 1920's and 30's when most people couldn't have cared less about wilderness. And yet this man became America's leading crusader for wilderness, the individual most responsible for preserving the Selway-Bitterroot, and one of the first backpackers. He often hiked 30 to 70 miles a day in tennis shoes. In his short life, Bob Marshall accomplished more than a dozen less energetic people who live to be eighty. This city-raised millionaire climbed the 46 major peaks of the Adirondacks, embarked on over 250 wilderness expeditions, explored unknown reaches of Alaska's Brooks Range, wrote a bestseller on Eskimos, became an influential official of the Forest Service, founded the Wilderness Society, and established a nation wide system of wilderness areas.

Bob Marshall had a message for the American people and he was never too shy to share it. If roads continued to invade the nation's last wild places, "it will be only a few years until the last escape from society will be barricaded. If that day arrives, there will be countless souls

born to live in strangulation, countless human beings who will be crushed under the artificial ediface raised by man." When asked how much wilderness the country needed, he replied, "How many Brahms' symphonies do we need?"

These arguments impressed Forest Service Chief Silcox and in the mid 1930's the agency protected 5,400,000 acres of National Forests from roads and logging. These acres included the Selway-Bitterroot country Marshall knew personally and wouldn't forget. A grizzly had once chased him up a tree in these mountains.

Unsatisfied with these accomplishments, in 1939 a few months before he died, Marshall achieved his greatest triumph. He convinced Silcox to establish the "U" regulations which created National Forest wilderness areas throughout America that eventually totaled 14 million acres. When Congress passed the Wilderness Act in 1984, these acres became the foundation of today's National Wilderness Preservation System.

An exhausting hike in the North Cascades was too much for Marshall's heart. He died two months later on a train. The only individual to benefit personally from Marshall's will was the old Adirondack guide who had led him on his first wilderness trips. The rest of his fortune went to his favorite causes including wilderness preservation.

THE RIDGERUNNER

He lived in constant fear, convinced all his life that someone was chasing him. For 24 years (1936 - 1960), the ridgerunner fled through the mountains in and around the Selway-Bitterroot, pursued by his imaginary enemies. He hid from everyone, shot at low flying airplanes, and always kept moving. Not even winter and lack of snowshoes stopped his ridgerunning. For warmth, he wore a shirt made from a blanket and socks from dish towels. For food, he broke into backcountry cabins with a key made from the tin of a meat can braced with the broken blade of a jack-knife. To avoid capture he seldom slept in cabins. His shelter even in blizzards was a torn piece of canvas.

Although few had ever seen him, there was no doubt he existed. His unique way of ruining every cabin he visited was his calling card. Opening cans and jars (he especially loved jam), he would eat a little from each container and then leave the covers off so everything would spoil. Instead of removing the outside cap on the stovepipe, he would dismantle the pipe inside and smoke would fill the room, blackening the walls. He dirtied every dish and scattered garbage on the furniture and floor. His fame grew in Central Idaho.

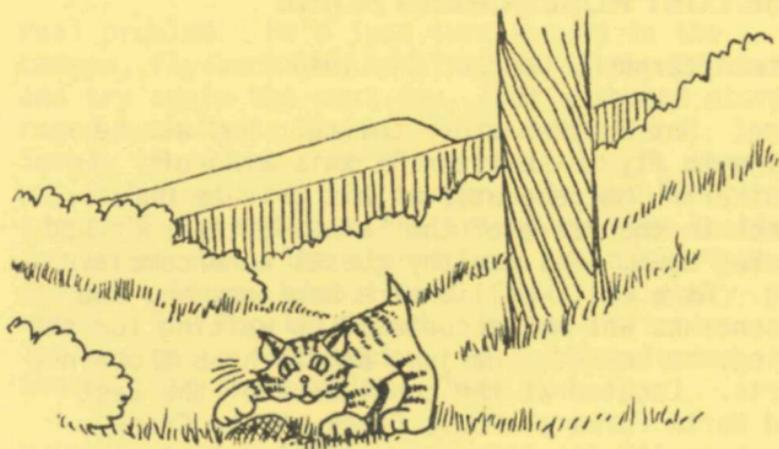
In 1942 rumors spread that the ridgerunner was Baldy Webber, a vicious criminal wanted for attempted murder. By raiding a trail crew camp, he finally pushed the Forest Service too far and they resolved to capture him. But even real enemies couldn't catch the ridgerunner. For three years the Forest Service chased him through the Selway country. He raided a trail maintenance camp on Rhoda Creek. Once when his pursuers were too close, he hid in a hollow tree on Roundtop Mountain. Finally, in February, 1945, after following his tracks in the snow for

miles, the Clearwater National Forest's two best woodsmen, Moton Roark and Lee Horner, spotted smoke from his campfire. Knowing Webber to be dangerous, they armed themselves, separated, and moved towards the camp from two directions. Quietly, they crept closer. When they could almost touch him, the Ridgerunner glimpsed Roark's snowshoe. Roark ordered, "Don't move."

But huddled by the campfire was not Webber, the killer. The ridgerunner was Bill Moreland, a tiny 5'2" man wearing rags and missing most of his teeth.

Nothing ever stopped Moreland - not even arrest. The judge liked him and after serving only 90 days in an Orofino jail, he rushed back to running ridges and messing up cabins. Eventually he acquired another bad habit. He shot at real people. Exasperated, the Forest Service recaptured him in 1958 by outrunning him with a helicopter. This time the courts committed him to the mental hospital in Orofino, but to no avail. He escaped in a year.

Only when he was too old to run did Moreland leave the mountains. In 1960, he voluntarily returned to the hospital retiring from ridge-running forever.



NO-TRACE CAMPING

LESSON #5: BURYING YOUR HUMAN WASTES

- * With the heel of your boot, a shovel, or a trowel, dig a hole five or six inches into the humus layer at least 100 feet from water.
- * Afterwards, cover the hole and micro-organisms will decompose the wastes.
- * If you are in a large group, dig a long, but shallow, latrine. Remember to fill it in before you leave.

THE LOST ROSENCRANS PLANE

Late Afternoon, October 24, 1948

Damn! Not another storm coming! How was he going to fly to Lewiston in this kind of weather? The generator at his private dude ranch in the heart of the Selway-Bitterroot had broken down. His wealthy guests were complaining. As a multi-millionaire businessman, Joe Rosencrans was not accustomed to waiting for the things he needed. He just had to have those new parts. Located at the confluence of the East and North Forks of Moose Creek, Moose Creek Ranches with its lodge and gambling tables was an interesting hobby, but it sure was a long way from town when you couldn't fly. The instruments in his Stinson aircraft weren't working right now. Even though he was an experienced pilot, there was no way he could keep from nose diving into a mountain if he couldn't see through the rain and fog. But maybe, just maybe, he could sneak underneath the clouds down the Selway River Canyon and then follow the Clearwater to Lewiston.

He heard a plane take off from Moose Creek Ranger Station a few miles away. So Bert Zimmerly had the same idea. Well, if the president of Lewiston's Empire Airlines thought he could make it, then it must be okay. "Come on, Bolick, let's give it a try."

In fifteen minutes, Rosencrans and Wintsel Bolick, his electrician, were in the air. Rosencrans wore an expensive diamond ring and carried \$2,300 he had won at cards the night before.

Zimmerly made it to Lewiston - just barely. Rosencrans was fifteen minutes too late. A storm had moved across the mouth of the Selway and blocked his path. Pretty irritating, but no

real problem. He'd just turn around in the canyon, fly back to the airstrip at the Ranches, and try again the next day. But a second storm raged over Moose Creek. He couldn't land. Surely there was some place he could go, some way to get out of this canyon. Or was he trapped? Up and down the Selway he flew looking for an escape. The storms grew and his prison shrank. It was almost dark. Rain was everywhere. The fog thickened. He couldn't see. The gas gauge read empty. An opening loomed ahead. Big Fog Saddle. Thank God.

Hunters camped in the Saddle reported that a plane roared by just missing their heads. The engine stalled, then caught fire again. Other hunters heard an explosion. A few saw fire on a distant hillside.

October 25 - 29

The next day, Del Cox, the dispatcher of the Selway-Middle Fork Ranger District, organized the most massive search and rescue in the history of the Selway-Bitterroot, before or since. From eye witnesses, he zeroed in on a small area. Sixty Forest Service men searched on the ground while dozens of planes crisscrossed the sky. Mrs. Rosencrans offered a \$5,000 reward. The Governor called up the National Guard. Everyone knew that they would at least find some wreckage.

October 30

Heavy snowfall. Cox called off the search until the weather improved. It never did. The worst snows in Central Idaho history fell that winter. Thousands of elk starved.

November 4

Rosencrans, still missing, was elected to the State Legislature.

December 3

Rosencrans was declared legally dead.

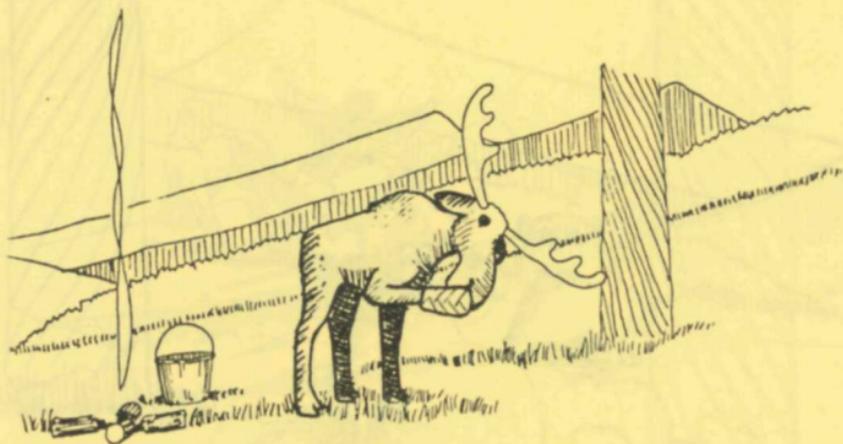
Late Fall, 1952

Zimmerly, against the advice of his friends, took off in a storm from Spokane. He crashed into a butte and died.

Today

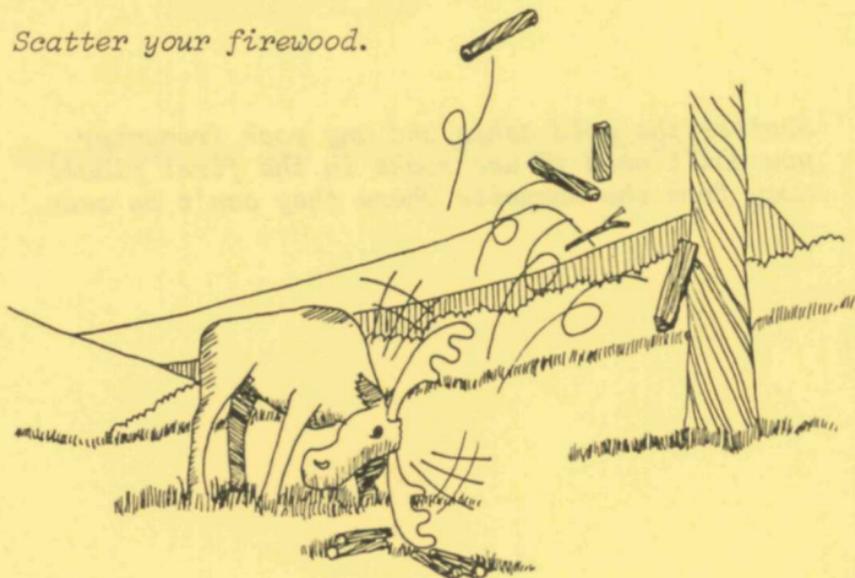
People have never stopped looking for Joe Rosencrans. For some, it's an obsession. Nevertheless, no trace has ever been found of Rosencrans, his electrician, his plane, his money, or his ring. Some say Rosencrans deliberately disappeared and changed his identity. Some say there was \$100,000 on board and Bolick hi-jacked the plane to Mexico. Some say that rescuers found the plane, looted the corpses, and kept quiet. Del Cox laughs at these theories. "Oh, it's out there all right. It's probably on that hillside right in front of us. Men and planes are pretty small in a wilderness."

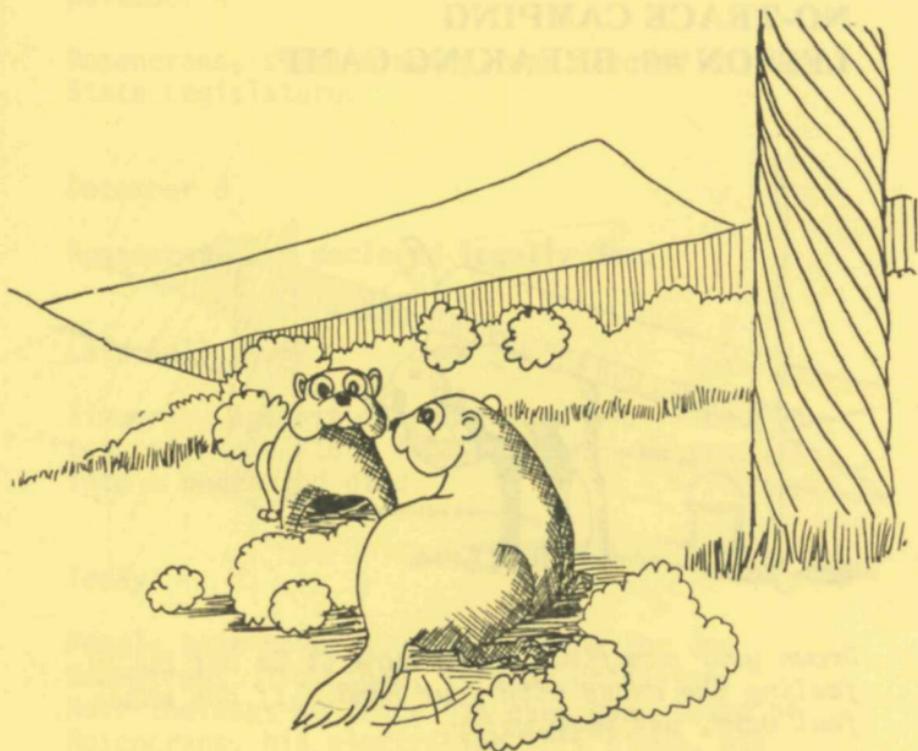
NO-TRACE CAMPING LESSON #6: BREAKING CAMP



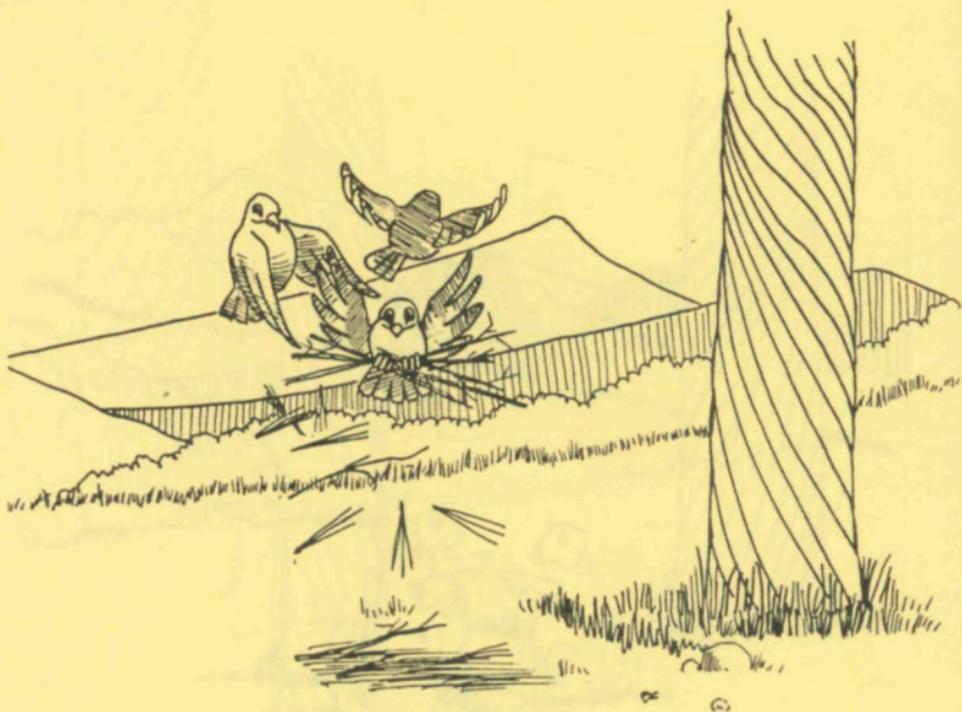
Drawn your campfire. Make sure it is out by feeling the ashes with your hand. If any ashes feel warm, use more water.

Scatter your firewood.

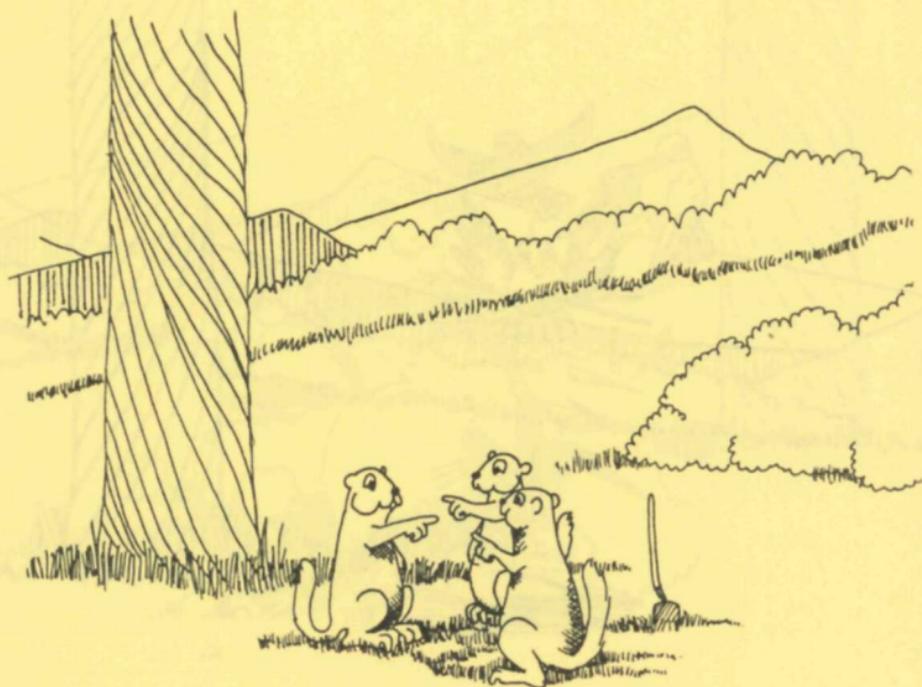




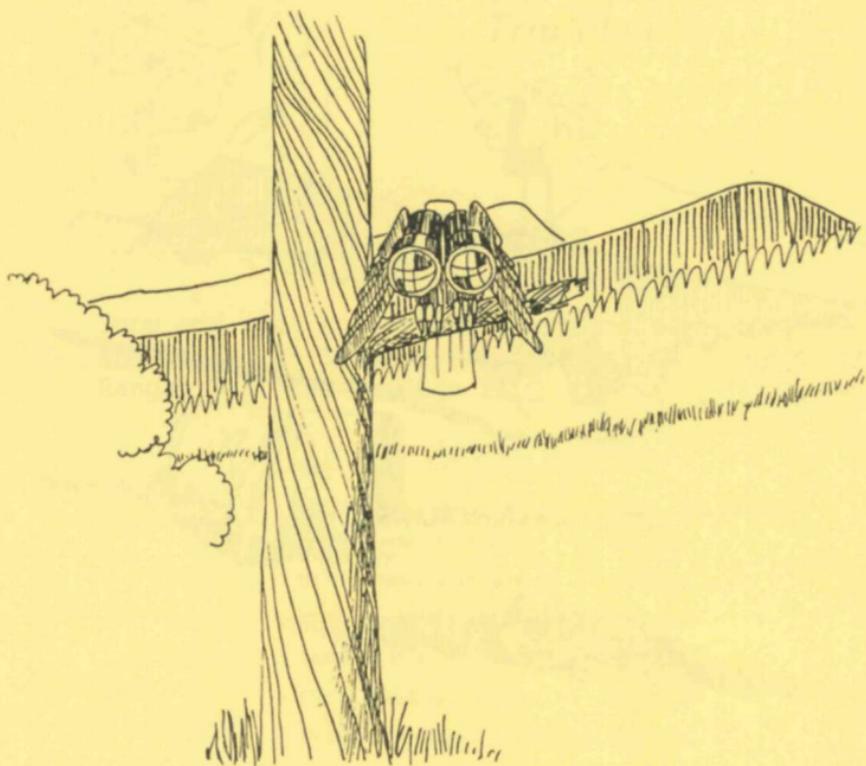
Scatter the cold ashes and any rock (remember you don't need to use rocks in the first place) away from the campsite where they can't be seen.



Spread needles and twigs over the fire scar.



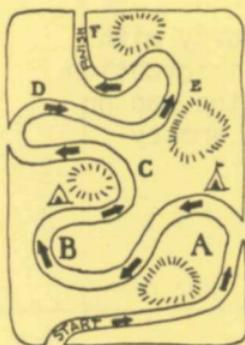
Fill in the latrine (if your group had one).



Search for small bits of trash such as cigarette butts, candy bar wrappers, and pull tabs.



Pack out all garbage.



Chapter V The Alphabetical Trip Planner

ACCESS

Snow and road conditions are not always predictable. For up to date information, call one of the Ranger Stations on page 74.

Access Roads

<u>Road Number</u>	<u>Dates Free of Snow</u>
US 12 (Lochsa Highway)	All Year
US 93 (Missoula to Salmon)	All Year
US 95 (North & South Highway)	All Year
Idaho 14 (Elk City Road)	All Year
FS* 91 (West Fork Road)	All Year
FS 222 (Elk City to Red River)	All Year
FS 223 (Selway River Road)	Apr. to Mid-Nov.
FS 285 (Elk Mt. Road)	Mid-Jul. to Mid-Oct.
FS 290 (Indian Hill Road)	Mid-Jul. to Mid-Oct.
FS 295 (Elk Summit Road)	Mid-Jul. to Mid-Oct.
FS 317 (Coolwater Road)	Mid-Jul. to Mid-Oct.
FS 319 (Fog Mt. Road)	Mid-Jul. to Mid-Oct.
FS 429 (Lost Horse Creek Road)	Mid-Jul. to Mid-Oct.
FS 468 from West Fork Ranger Station to Paradise	Jun. to Nov.
FS 468 from Red River Ranger Station to the Upper Selway River	Mid-Jul. to Mid-Oct.

*FS = Forest Service Road

ACCIDENTS

If possible, keep one member of the party with the victim. Find help at one of the information stations or Ranger Stations shown on the map on page ii . As a last resort, build a smokey signal fire.

ADDRESSES

Supervisor's Offices

Forest Supervisor
Bitterroot National Forest
Hamilton, Montana 59840
Phone: 406/363-3131

Forest Supervisor
Clearwater National Forest
Orofino, Idaho 83544
Phone 208/476-4541

Forest Supervisor
Lolo National Forest
Missoula, Montana 59801
Phone: 406/329-3563

Forest Supervisor
Nezperce National Forest
Grangeville, Idaho 83530
Phone: 208/983-1950

Ranger Districts

District Ranger
Darby Ranger Station
Darby, Montana 59829
Phone: 506/821-3236

District Ranger
Stevensville Ranger Station
Stevensville, Montana 59870
Phone: 406/777-5461

District Ranger
Lochsa Ranger Station
Kooskia, Idaho 83539
Phone: 208/926-4275

District Ranger
West Fork Ranger Station
Darby, Montana 59829
Phone: 406/821-3269

District Ranger
Missoula Ranger Station
2801 Russell
Missoula, Montana 59801
Phone: 406/329-3111

District Ranger
Moose Creek Ranger Station
Grangeville, Idaho 83530
Phone: 208/983-2712

District Ranger
Powell Ranger Station
Lolo, Montana 59847
Phone: 208/942-3113

PUBLIC AIRSTRIPS

Location	Length	Elevation	Radio Frequencies For Landing and Take Off	Hazards
Moose Creek Ranger Station	Two Runways 2100 + 4100 Feet Long	2400 feet	Use 122.9	<ol style="list-style-type: none"> 1. No unicom system 2. Grass runway 3. Narrow canyon 4. Hot summer afternoons 5. Heavy weekend traffic 6. Runways soft in late Fall and Spring. Long runway may be closed.
Shearer Guard Station	2000 Feet	2560 Feet	Use 122.9	<ol style="list-style-type: none"> 1. No unicom system 2. Grass runway 3. Narrow canyon 4. Hot summer afternoons
Fish Lake	3600 Feet	5600 Feet	Use 122.9	<ol style="list-style-type: none"> 1. No unicom system 2. High elevation 3. Grass runway 4. Erratic air conditions over the lake

FIRE

Fire is a natural force - as much a part of the Selway Bitterroot Wilderness as are mountains or streams. In recognition of this, the Forest Service has developed a program which allows certain naturally caused fires to burn under predetermined conditions. These fires are technically referred to as "Prescription Fires," but are commonly called natural fires.

If a fire is burning in the wilderness you can get information about it from any Forest Service employee in the area.

Beware of the following hazards:

- Erratic fire behavior.
- Falling snags and trees.
- Rolling rocks and logs.

FISHING

In streams and high mountain lakes.

Idaho and/or Montana State fishing licenses required.

See page 32 for species of fish found in the Selway-Bitterroot Wilderness and how to identify them.

For information on regulations and licenses contact the State Fish & Game Departments. See page 78 .

FLOAT TRIPS

On the Selway River.

Floaters who boat without a commercial outfitter are required to draw for and obtain a permit from the West Fork Ranger Station, Darby, Montana. The District Ranger can also provide a list of commercial outfitters.

GROUND TO AIR SIGNALS

If you need help and cannot travel, you can signal an airplane or helicopter using these FAA Visual Emergency Signals. Construct the signals in an open area using whatever materials are available such as rocks, clothes, flagging, sleeping bags, etc.

Require Doctor, Serious Injury	—
Unable to Proceed	X
All Well	L L
No	N
Yes	Y
Not Understood	J L
Help Urgently Needed	S O S
Require Food and Water	F

If a pilot has received your message, he will rock his plane. If he plans to drop you a message, he will gun his motor three times.

HUNTING

General hunting seasons for elk, deer, bear, cougar, grouse.

Permit hunts for moose, mountain goat, bighorn sheep.

Idaho and/or Montana State hunting licenses and tags required.

For information on regulations, licenses, and tags contact the State Fish & Game Departments.

INFORMATION

Found at Ranger Stations, Supervisors' Offices, and at the Wilderness Information Stations at major trailheads. See map on page ii .

Wilderness information specialists provide up-to-date information on trail conditions, regulations, natural history, and where to find solitude. Maps and free garbage sacks are available. You're always welcome to stop by for a chat and a cup of coffee.

Hunting and Fishing Information and Regulations

Idaho Fish & Game Department
P.O. Box 25
Boise, Idaho 83707

Montana Fish & Game Department
Helena, Montana 59601

Outfitters & Guides

Idaho Outfitters & Guides Association
P.O. Box 95
Boise, Idaho 83701

Supervisor of Outfitting
Montana Department of Fish & Game
1420 East 6th Avenue
Helena, Montana 59601

Topographical Maps

U.S. Geological Survey
Denver Federal Building
Building 41
Denver, Colorado 80255

MAPS

Forest Service maps are available at Supervisor's Offices, Ranger Stations and Wilderness Information Stations. Ranger District maps are free. Full wilderness maps are for sale.

For topographical maps write to the U.S. Geological Survey at least two months in advance.

A diagram showing locations and names of topographical quadrangles pertaining to the Selway-Bitterroot Wilderness is located inside the back cover.

OUTFITTERS

Contact State Outfitter & Guide Associations for lists of outfitters that operate in the Selway-Bitterroot Wilderness. See previous page for addresses. These lists are also available at Ranger Stations.

PERMITS

HIKERS: No permit is required if your party has no more than 20 people and you do not plan to stay longer than 14 days. If you need a permit contact one of the Ranger Districts listed on page 74 .

Horsemen: No permit is required if your party has no more than 20 people, no more than 20 stock, and you do not plan to stay longer than 14 days. If you plan to graze, a permit is required in some portions of the Wilderness. If you need information on grazing or a permit, contact one of the Ranger Districts listed on page 74 .

FLOATERS: A permit obtained from a special drawing is required to float the Wilderness portion of the Selway River from the mouth of White Cap Creek to the mouth of Race Creek. Contact the West Fork Ranger District. See page 74 for address.

PRIVATE PROPERTY

There are a few residences on private land along the Selway River and Moose Creek. The owners value their solitude. Please respect their privacy.

SAFETY

A wilderness area has many dangers and hardships. No one will be looking after you in the Selway-Bitterroot Wilderness. You must be prepared to take care of yourself.

Pests

Stay alert for rattlesnakes. You may encounter mosquitoes, no-see-ums and horseflies. There is no known poison ivy or poison oak. Avoid sleeping under dead trees. They may topple over.

Lost

Calm yourself. By traveling downhill, you eventually will reach the heavily traveled Selway, Lochsa, or Bitterroot River valleys. There often are Forest Service trails on major ridgetops.

Hypothermia

Exposure to the wet and cold is one of the greatest dangers in the wilderness. Even when the temperature is above freezing, prolonged wetness can cause the body temperature to lower and result in death.

The Symptoms:

1. First, shivering and impaired mental and physical ability.

2. Next, irrational conduct and jerky muscle coordination.
3. Finally, unconsciousness and death.

The Treatment

1. Remove the victim from the wind and rain.
2. Strip off clothes and dry victim off.
3. To raise body temperature, skin to skin contact inside a sleeping bag is an effective method. If possible, sandwich the victim between two people.

Prevention

1. Have good rain gear including rain pants or chaps. Keep your sleeping bag dry at all costs. Some people place their bag inside a waterproof stuff sack and place the stuff sack inside a plastic garbage bag.
2. In wet weather wear materials such as wool that can keep you warm when it is wet. Don't forget to cover your head. More than half your heat can be lost when your head is exposed.
3. Use a tent, fly, or some other type of shelter.
4. Keep eating. In wet weather, some people feel too uncomfortable to eat, and fail to provide their body with the fuel it needs to produce heat. Sweets, proteins, fats, and carbohydrates can produce body heat rapidly.
5. Exercise and keep active. This is essential to keeping warm. Be careful, however, not to become exhausted.

TOPOGRAPHY

Elevations range from 1800 feet on the Selway and Lochsa Rivers to 10,000 feet in the Bitterroot Mountains.

Many long ridges between 5,000 and 6,000 feet.

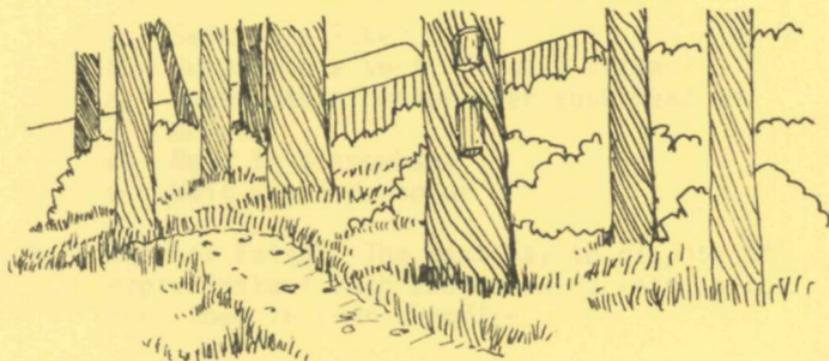
Many steep slopes.

All streams drain into the Selway, Lochsa, or Bitterroot Rivers.

TRAILS

Although hundreds of miles of trails are maintained by the Forest Service each summer, some of the trails shown on the maps may not be passable at the time of your trip. Some trails are especially challenging or unsuitable for stock. Contact a Ranger Station or Wilderness Information Station for trail conditions.

Hikers meeting packstrings can avoid frightening the animals by getting as far away from the trail as possible, talking to each horse or mule as it passes, and making no sudden movements. Horses have the right-of-way over people on foot.



Forest Service trails are marked with distinctive blazes.

WEATHER

The temperature usually drops as you climb in elevation.

Selway and Lochsa River Canyon bottoms: usually free of ground snowpack from April to November. There can be snow squalls in April, May, June, September, and October as well as during the winter months. Temperatures can reach 100° in the summer.

Above 5,000 feet: generally free of ground snow pack from July to Mid-October; however, there can be snow squalls any month of the year. Summer temperatures can change from warm to cold and back to warm again in the course of one day. Be prepared for rain.

FINAL EXAM FOR THE NO-TRACE CAMPING SELF STUDY COURSE

1. Which one of the following is a poor location for a no-trace campsite?
 - a. Out of sight of the main trail
 - b. On a lake shore
 - c. In a well drained grove of trees
 - d. On a rocky flat between the boulders
 - e. In a spot used by previous campers
2. True or False. Always ring your campfire with rocks to keep it from spreading.
3. Circle which of the following animals need standing snags as part of their habitat.
 - a. Pine squirrels
 - b. Long tailed weasels
 - c. Great horned owl
 - d. Bluebirds
 - e. Silver haired bats
4. Which is the best method for rinsing soap off your body?
 - a. Swim in a lake
 - b. Jump into a swift-flowing stream
 - c. Pour pots of water over your head on shore
 - d. Roll in a snowbank
 - e. Wait for a downpour
5. True or False. The best way to dispose of empty instant soup and cocoa packets is to burn them in your campfire.
6. True or False. Garbage that will not burn should be buried.

7. How deep should you bury human wastes?
 - a. One foot
 - b. Over a foot
 - c. Leave on the surface
 - d. Five to six inches
 - e. One inch

8. Which is the best method for making sure that your campfire is out?
 - a. Look for smoke
 - b. Blow on it and see if any coals turn red
 - c. Listen for the sound of wood crackling
 - d. Feel the ashes with your bare hand
 - e. Spit on it and wait for a hissing sound

9. True or False. When breaking camp, you should leave a pile of wood at the campsite for the next camper.

10. List three steps for erasing all trace of your campfire.
 - a.
 - b.
 - c.

ANSWERS

1. b. On a lake shore. Plants on lake shores are easily damaged because these areas are so popular. People fish, dive, and walk next to the water. If you camp at least 200 feet away, you can prevent your tent and campfire from contributing to the general trampling.
2. False. If you build your fire in a safe location after clearing away the needles and duff and watch it, it will not spread with or without rocks. Any rocks that you do use will turn black.
3. All of these animals need snags either as a home or as a source of food.
4. c. Pour pots of water over your head on shore. This prevents soap from polluting the water.
5. False. Soup and drink packets usually are lined with aluminum foil. Aluminum breaks up but does not burn. You can find it abandoned in almost any fire ring left behind in the Wilderness. It should be packed out.
6. False. The bears almost always dig up these pits and scatter the garbage. This garbage should be packed out.
7. d. Five to six inches. This keeps the wastes in the humus layer where there are countless microorganisms to decompose it.
8. d. Feel the ashes with your bare hands. If the ashes still feel warm, drown the fire with more water.

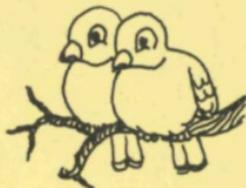
9. False. The nicest thing you can do for the next camper is to leave no trace that you were ever there. The Wilderness Act states that "the imprint of man's work" should be "substantially unnoticeable."
10. Any three of the following:
 - a. Make sure the fire is out
 - b. Pick out any unburned trash
 - c. Scatter the rocks
 - d. Scatter the ashes
 - e. Spread needles and twigs over the site

8 to 10 Right Answers: "Mountaineer" -- you have earned the title "No-Trace Camper".

5 to 7 Right Answers: "Explorer" -- study some more before you begin your trip.

Less than 5 Right Answers: "Duffer" -- you need to re-take the course before entering the wilderness.

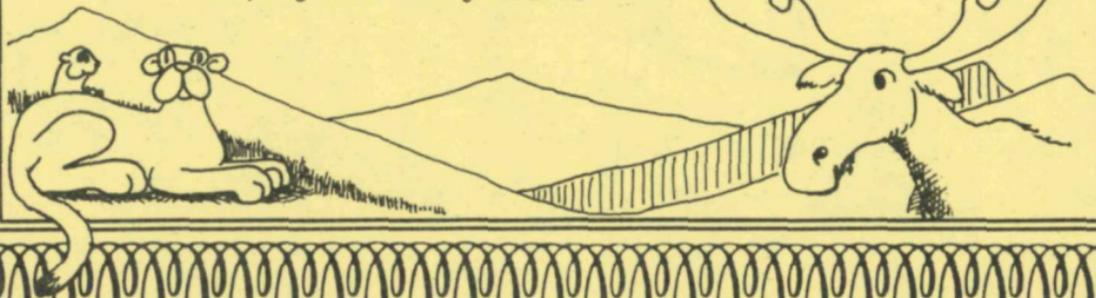
The Wildlife
of the Selway-Bitterroot Wilderness
Hereby Confer Upon



The Honorable Title Of

No-Trace Camper

In Appreciation for Your Sensitivity to the
Needs of the Plants and Animals of the
Wilderness and In Recognition of Your
Completing With Honors the No-Trace
Camping Self Study Course



Metric Measurements

10 mm = 1 cm; 100 cm = 1 m;
1000m = 1 km

Metric \longrightarrow English

1 mm = .039 in.

1 cm = .393 in.

1 m = 39.37 in.

1 m = 1.093 yd.

1 km = .621 mi.

English \longrightarrow Metric

1 in = 25.4 mm

1 in. = 2.54 cm

1 ft. = 30.48 cm

1 yd. = .914 m

1 mi. = 1.609 km

