



Wilderness News



FROM THE QUETICO-SUPERIOR FOUNDATION • FALL 1968

Forestry Library

INSIDE BWCA

Canoe Country Secrets

Four years ago the Selke Committee issued its monumental report to Agriculture Secretary Freeman on ways and means to improve management of that 200-mile wilderness stretch along the Canadian border known as the Boundary Waters Canoe Area (BWCA). Among its 25 recommendations was a loud, clear call for more research aimed at preserving the primitive character of the country, despite annual inroads by more than 100,000 visitors from all over the world.

Today that call is being answered — not only by the U.S. Forest Service, chief custodian of this rare slice of Superior National Forest, but also by other federal agencies, the state, universities, colleges and even one private organization.

Questions. Leading the research parade is the North Central Forest Experiment Station on U of M's St. Paul campus. Under the eagle eye of Dr. Charles T. Cushwa (see "Outdoor Man," back page) they have at least eight studies going, several of them farmed out to the School of Forestry. Prof. L. C. Merriam, Jr. and his field workers are combing BWCA campsites to assess damage done by campers (and recommend ways to replace the divots). At Superior National Forest headquarters in Duluth Dean Buchanan, BWCA specialist, is also probing people problems, a nine-man team is immersed in water studies and another squad is digging into secrets of the soil.

The state's Department of Conservation is doing its best to keep the BWCA well stocked with fish and game — including that biggest one of all, the moose. Over at Macalester College two professors have taken to the woods to see what happens when timber wolves and deer get together; biologist Laurits W. Krefting, of Interior's Sport Fisheries and Wildlife Bureau, has been working on a small mammal project; and several U of M investigators are spying on the domestic life of the osprey, the bald eagle and the common loon.

Meanwhile the fascinating story of forest ecology — the effects of environment



BULL MOOSE IN THE BOUNDARY WATERS CANOE AREA
The call is being answered.

on living things — is gradually being unfolded by the 20-year-old Quetico-Superior Wilderness Research Center on Basswood Lake. This unique activity, under the genial guidance of Clifford Ahlgren, is the only privately supported ecology research station in all of North America. The Center works hand in hand with the Forest Service, many midwestern schools and its Canadian neighbors who have embarked on research studies of Quetico Provincial Park north of the border.

Answers. A fairly complete listing of current BWCA studies (about 60) is presented on the next two pages. A few findings:

- ▶ When suckers are removed from a lake, walleyes increase.
- ▶ Antimycin helps to rehabilitate trout lakes and remove unwanted species.
- ▶ Strong contenders for additional game fish in the BWCA: splake, ohrid trout, coho salmon.

▶ Beaver are detrimental to trout streams.

▶ Fatal moose disease is caused by a parasitic roundworm conveyed with impunity by white-tailed deer.

▶ There are more timber wolves in the BWCA than in any entire state except Alaska.

▶ Contrary to popular notion, the wolf population remains fairly constant.

▶ Caribou cannot be successfully reintroduced in the BWCA because of unsuitable habitat.

▶ A red pine, born about 1677 near Oyster Lake, bears distinct scars of three big fires during the 18th century.

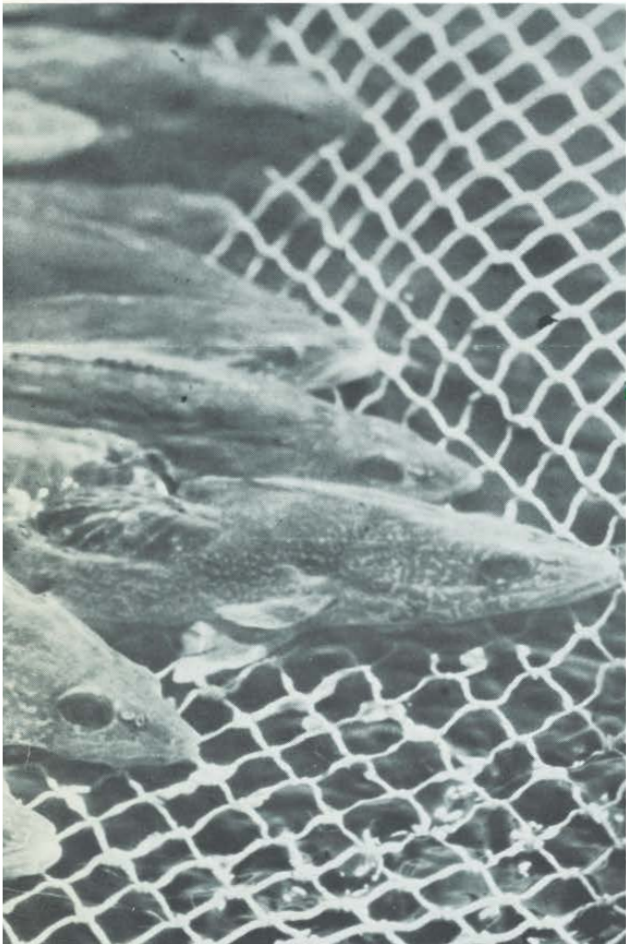
▶ After a forest area is burned white-footed mice move in, redback mice move out.

▶ A new combustion toilet that burns human wastes promises to provide the most important protection of water quality in the BWCA.

RON WINCH

RESEARCH ROUNDUP

JOHN DOBIE, MINN. DEPT. OF CONSERVATION



WALLEYES IN TEST NET

BWCA STUDIES are now under way, or have recently been completed, by the following organizations: U.S. Forest Service (Department of Agriculture); North Central Forest Experiment Station and Superior National Forest; Minnesota Department of Conservation: Division of Fish and Game; Bureau of Sport Fisheries and Wildlife (Department of the Interior); University of Minnesota: School of Forestry, Limnological Research Center and Agriculture Experiment Station; Macalester College; Minnesota Geological Survey; Minnesota Water Pollution Control Commission; Federal Water Pollution Control Administration; National Water Quality Laboratory; Soil Conservation Service (Department of Agriculture); Ontario Department of Lands and Forests; University of Toronto; Q-S Wilderness Research Center.

WILDLIFE

FISH. Walleyes vs. suckers • Walleyes vs. smallmouth bass • Rehabilitation of trout lakes (seven in BWCA completed) • Smelt as forage food for trout • Evaluation of additional game fish • Life history of the steelhead • Trout vs. beaver • Development of spawning areas • Lake surveys (100 in BWCA completed) • Fish survey of Quetico Provincial Park.

ANIMALS AND BIRDS. Management of Minnesota's herd of 7,000 moose (about half in BWCA) • Cause and prevention of moose disease • Aerial census of beaver • Timber wolf vs. deer • Count of bald eagle and osprey nests • Declining loon production • Effect of wildfire on mice, chipmunks and songbirds.

U.S. FOREST SERVICE



A PINE TELLS ITS AGE (371 YEARS)

PLANT LIFE

ECOLOGY. Changes in forest land • Prescribed burning techniques • Weather observations • Collections of plant and insect specimens • Recent vegetation history of BWCA • Upland natural vegetation • Influence of recent burns on plants • Logging and fire history • Lake sediments and fossil history.

TREES. Selection of white pine breeding stock to resist blister rust • Establishment of pine seed orchards through grafting • Controlled pollination of pine cones • Bark inoculation against disease • Forest tree mortality caused by spruce budworm • Planting white spruce and red pine at demolished resort sites • Timber management • Marketing of forest products.



CATCHING KAWISHIWI'S RAINDROPS



DIGGING FOR SOIL FACTS



VISITORS PRESENT THEIR VIEWS

WATER

QUALITY. Monitoring water by chemical and biological analysis of bi-monthly samples • Monthly sampling of bathing and drinking water at beaches and campsites • Establishment of water quality laboratory at Ely • Improved methods of handling sewage wastes at recreation areas • Testing of combustion wilderness latrines • Official classifications and criteria for all boundary waters • Content of ions and sedimentary plant pigments in BWCA lakes.

QUANTITY. Establishment of Kawishiwi Barometer Watershed • Precipitation and lake level measurements • Stream-gauging on three BWCA rivers.

SOILS & ROCKS

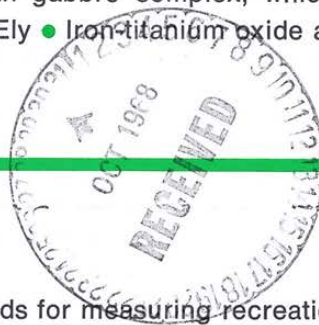
SOILS. Capabilities, limitations and potentials for better land management • Soil management services relating to campgrounds, recreation facilities, roads, water run-off, septic systems, timber harvest and reforestation • Complete reconnaissance soil survey of BWCA • Mapping 10,000 acres of Kawishiwi Watershed • Quarter-mile survey along major canoe routes • Analysis of soil cores to determine ecological changes in forest land.

ROCKS. Mapping of Duluth gabbro complex, which underlies over half of BWCA east of Ely • Iron-titanium oxide and copper-nickel deposits in BWCA.

PEOPLE

ATTITUDES. Testing methods for measuring recreation attitudes • Influence of outfitters on campers • Recreational research: attitudes toward crowding, vegetation, facilities, etc. • Recreational research and long-range plans in Quetico Provincial Park.

BEHAVIOR. Private pleasure boating in BWCA: where boaters come from, where they go • Present and future use of BWCA in summer and winter • Origin of visitors: first attempt to obtain 100 per cent census • Visitor capacity • Distribution of campers among auto campgrounds adjacent to BWCA • Campsite management • Campsite conditions • Deterioration of newly established campsites • New BWCA management handbook.



New Leader

When Bob Lucas, who headed wilderness research for the North Central Forest Experiment Station, was transferred last year to Montana, the Forest Service reached way down south for his replacement. Somewhere among the pines between Virginia and Florida they found and tapped Charles T. Cushwa, Ph.D., who was running a wildlife research project for the Southeastern Experiment Station. One of his activities: banding wild turkeys caught in a "cannon net".

Now at 33 Dr. Cushwa is coordinating wilderness research in the Boundary Waters Canoe Area. He came north last April



RESEARCHER CUSHWA & WILD TURKEY
From southern pines to northern pines.

with his wife, Nancy, three children and a friendly southern drawl. Already he has paddled many a mile through his new domain, finds it "beautiful, fascinating and full of problems."

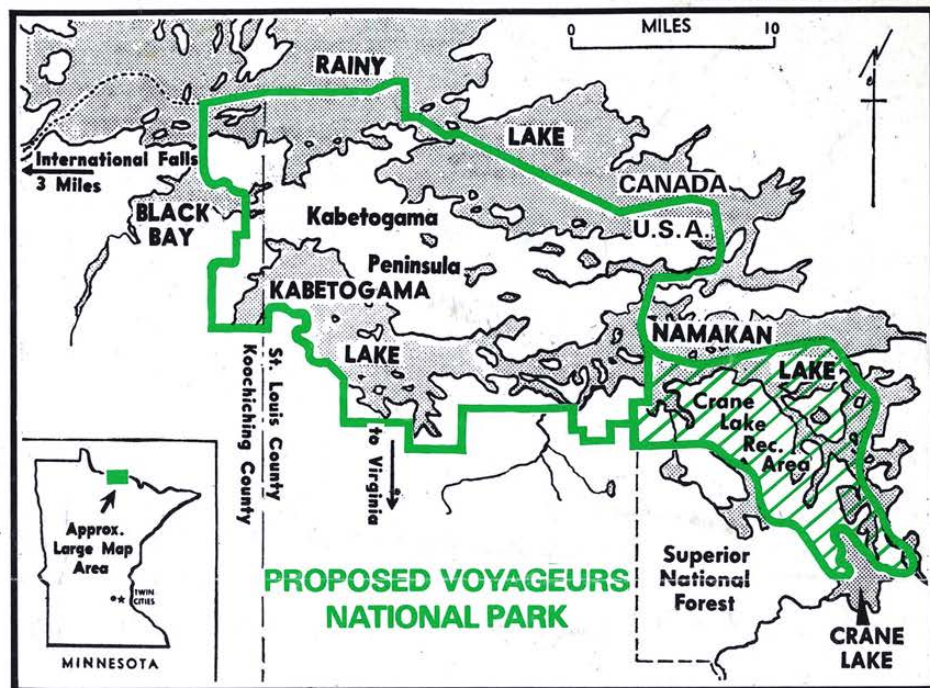
A native Virginian, he earned his doctor's degree at V.P.I. in 1967 (after a four-year hitch with the Navy's submarine service), and has published a dozen articles on such woodsy topics as forest recreation and the effects of burning on quail habitat.

As North Central's latest research leader Charlie Cushwa is confident that the current surge of studies (see cover story) will help us all "better understand the phenomenon of nature and the impact of people on the flora and fauna of the BWCA."

Wilderness News

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BLATNIK'S BOUNDARIES
Congress will draw the final map.

NATIONAL PARK

Half Way There?

Mr. Speaker, this afternoon the seven other members of the Minnesota House delegation joined me in a non partisan effort, introducing legislation to authorize the establishment in northern Minnesota of a Voyageurs National Park.

Thus in Washington on July 19 John A. Blatnik finally launched the Voyageurs on its legislative voyage, while over in the Senate Walter Mondale and Eugene McCarthy pitched an identical bill into their hopper.

Although Rep. Blatnik's long-awaited offspring was practically still-born (it automatically dies when the 90th Congress is adjourned), it at least puts on paper a definite proposal which he says will enable "everybody in the months ahead to talk about the same proposition, the same boundaries, the same provisions of the law."

Possibilities. Blatnik's boundaries, which embrace the so-called Crane Lake recreation area (but not the lake itself), add 47,000 acres to the Park Service's original map, bringing the total acreage to 211,000 (139,000 by land, 72,000 by water). Since the new addition would require transfer of lands from Superior National Forest, Secretary Freeman's Agriculture Department — as well as some of the local Crane Lake residents — have already raised objections. To say what will happen next is like trying to predict the weather, but here are some of the possibilities:

▶ A park bill will probably be introduced in the next session of Congress.

- ▶ It may follow the Blatnik proposal.
- ▶ It may revert to the Park Service's original plan.
- ▶ It may provide new boundaries and legal provisions.
- ▶ Congress may kill the whole idea.

Land Wanted. One thing is certain: if the Park is approved, Congress will set the boundaries and draw the final map. Also certain: even if authorized, the Park cannot be actually established until the Interior Department gets the land it needs — an agonizing process that may drag on for years. Theoretically the land might be acquired through a combination of half a dozen procedures. C. B. Buckman, director of Minnesota's Lands and Forestry Division, ticks them off this way:

- Purchase:** the most direct method. (Might require \$21 million.)
- Condemnation:** not likely.
- Donations of land:** uncertain.
- Leasing:** would require long terms.
- Transfer between federal departments:** strongly opposed by Agriculture.
- Exchange:** would require consent of the land owners. Very complicated.

Buckman's rather cheerless conclusion: "While acquisition problems should not be considered insurmountable, they would require a considerable amount of effort, strong desire and very close co-operation between Federal agencies, the State, Boise Cascade, individuals, Congress and the State legislature."

Giant strides may have been made toward Kabetogama, but nobody as of now is claiming victory or conceding defeat. Even that indefatigable Park enthusiast, Judge Edwin P. Chapman, will grant only that "we appear to be half way there."