

MONTANA

Wildlife

VOL. IV No. 2

Montana Fish and Game Department Official Publication



This Year--Why Not Keep A Fisherman's Log

Almost as important to any fisherman as catching fish is providing data on his success or failures to fisheries technicians who can utilize such valuable information to improve the contents of his creel.

Because many fishermen do not recognize the value of their own individual pleasure or displeasure in fishing, or the importance of placing such information in the proper hands, the Montana Fish and Game Department has published a pocket-sized data book for fishermen who are sincerely interested in improving fishing and who wish to assist in the management of this important resource.

This book can be slipped into a shirt pocket to accompany the angler on every fishing trip. In it he is requested to date each entry, give the name and location of the lake or stream he fishes, the hours he fished, the kinds of fish caught, numbers of each species, average length, and any comment he cares to make on type of bait, success or what he thinks could be done to improve or make more efficient fishing in the area.

From the records voluntarily submitted by cooperating fishermen, the Montana Fish and Game Department compiles an annual creel census report, can determine relative importance of fish abundance, the species most commonly taken, and provides a good starting place for planning more efficient fish planting.

Keeping a "Log" of fishing activities is a simple and rewarding task. Why don't you assist the Montana Fish and Game Department this year? Write today for your personal copy of the "Fisherman's Log" to record your fishing experiences this season. After desired information is recorded, the log books are returned to the owner.

Address inquiries to: Superintendent of Fisheries, Montana Fish and Game Department, Helena, Montana.

MONTANA FISH AND GAME DEPARTMENT

Official



Publication

State of Montana

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The Commissioner's Message

Every person, organization and agency has specific objectives and a program designed for the furtherance of these objectives. This is as true of the Montana Fish and Game Commission as it is of any other group.

Montana law charges the Commission with the responsibility for the protection, propagation and management of the state's wildlife.

This responsibility obviously leads to the conclusion that the Commission must watch very carefully for any action of any group that might in any way jeopardize the future of any fish or game species. At the same time, it must remain aware of the best public interest.

When the Commission takes exception to the construction of certain dams, the invasion of wilderness regions or expresses an opinion in pollution matters, this does not necessarily mean that it opposes all other programs of this nature. But it is an expression of a desire to place recreation and wildlife in its proper perspective among other uses.

The Commission feels very seriously the importance of maintaining Montana's wildlife, scenic and wilderness resources. It believes that the worth of these assets will increase every year. In not too many decades in the future, these recreational resources will have an aesthetic and economic value recognized by all as one of the state's greatest assets.

Ralph D. Shipley

Montana Wildlife

Vol. IV

Marjorie Mitchell, Editor

No. 2

Vernon Craig, Artist

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Spring Issue — 1954

"Montana Wildlife," published quarterly, may be obtained free of charge by writing the Montana Fish and Game Department at Helena. Contents of this magazine may be reproduced in whole or in part if properly credited.

Our Cover

A prize catch for any fisherman is the fighting native Montana black-spotted cutthroat trout. These beauties average 16 to 18 inches in length and will weigh up to 5 or 7 pounds.

They are found in the high, back country of the Flathead River drainage, the Stillwater, upper Blackfoot and Clearwater Lakes, Dearborn, Teton and Marias and catchable numbers are to be had from Crow Creek in Broadwater County.

This and other species of cutthroat trout are rapidly becoming more rare in the West and Montana is one of their last frontiers. More black spotted natives in their pure strain can be found here than in any other western state.

These cutthroats will bite on flies, red meat bait and Colorado spinners. They promise the angler one of the greatest thrills in the realm of fishing, and their superior flavor is deliciously different.

PHOTO CREDITS:

Front, Back and Inside Front Cover, Pages 11, 12, 13, 16, 24 and 25—Vern Craig; Pages 19 and 20—A. E. Burgan, State Personnel Director; Pages 8, 12, 13, 14 and 24—Ken Thompson; Page 9—International Nickel Company; Page 20—Judson Moore, State Board of Health; Pages 24 and 25—Bob Cooney and Hector La-Casse.

EDITORIAL:

PIECEMEAL DESTRUCTION

Selfish interests marked up a major triumph in the ever-increasing attempts to destroy the last remaining national parks, monuments and wilderness areas. Dinosaur National Monument in Utah, a beautiful, unique area set aside to preserve those rare recreational assets, will be flooded with the building of Echo Park Dam by the Bureau of Reclamation.

Conservation groups have fought this proposal all along the way. The final battle is now up to Congress, since the construction of this concrete monument to man's ignorance of real values has received official approval right up to our nation's legislature. This approval is being ballyhooed with the camouflage of the development of a recreational area. Roads and ready access will change this wilderness to a mecca of beer cans, pop bottles and paper.

This they call progress! In a continent where every year the encroachments increase on the few places left where a person can seek solitude and relaxation, we can ill afford to sacrifice even one acre of parks and wilderness.

Why is this important to Montanans? Why should sportsmen and lovers of the outdoors rise to block this destruction? Don't ever kid yourself into believing that the "dam builders" have forgotten Glacier View Dam which would flood a portion of Glacier National Park. Don't think for a minute that they have abandoned plans to flood the Bob Marshall Wilderness Area by a dam on the Sun River.

This same encroachment is evident all over the nation wherever far-sighted men of the past have placed in public trust small areas to be preserved for Americans not yet born.

Montana has a special place in this battle. It is more than sentiment—it involves something far greater, for a nation of people working under the stress of modern civilization needs a place to go to relax—or even if they can't get there, it is comforting to know that there is such a place. This release from tension is more than recreation—it is a necessity for good health.

However, to those who think only in money terms—there is a real cash value in these recreational areas. Hunters, fishermen, nature students and photographers are willing to make substantial financial expenditures to visit and enjoy unspoiled parks and wilderness areas.

This recreational cash value will undoubtedly increase each year, and in a few decades will almost certainly be far greater than possible benefits derived from flooding the scenic region.

So that's why Montanans have a job to do—let's try to save some of the wild areas while there are still some to save. Unless, of course, you want mud flats and carp from the man-made lakes instead of sparkling, fresh trout waters. Or if you want "Coney Islands" on every mountain top.

The choice is ours—but the time is now.

What Will A Sportsman's Dollar Buy?

by

Ken Thompson, Director

Division of Information and Education

Did you ever stack all of your hunting and fishing equipment in a heap and inventory it for investment and upkeep? Try it sometime (when your wife isn't around.)

The average sportsman will be more than a little surprised at the investment he has in guns, fishing tackle, knives, wool clothing and accessories for the outdoor sports. Add to this the ammunition, new flies, a quart or two of good snake-bite remedy, gasoline, meals, lodging, and it soon becomes a considerable yearly sum which when multiplied by the total of the state's outdoorsmen becomes one of the state's largest industries.

Now, take a look at one more essential item—the hunting and fishing license. Its cost of \$3.00 for the general license plus \$2.00 for the big game tags represents each resident's individual contribution to the vast machine needed to produce, protect and manage the wildlife for the hunter, fisherman, outdoor recreation seekers and the wildlife enthusiasts. How that money is used is of concern to every license buyer for it represents his investment in the future of his sports and hobby.

Remembering that **no** tax money is used to finance the Fish and Game Department, let's take a look at how the sportsman's dollar is spent and what it means in the perpetuation of the state's valuable wildlife resources.

A major portion of each dollar, or thirty-one cents, is used to support the 13 fish hatcheries, research-management projects, 40 vehicles, 41 regular and 25 part-time employees

needed to carry out the state's fisheries program.

Law enforcement with an organization of seven district supervisors, 52 wardens plus 10 vehicles, radios, airplanes and special equipment needed to do an effective enforcement job, takes twenty-four cents out of each dollar spent for licenses.

Nineteen cents of each dollar expended by the State Fish and Game Department is for the wildlife restoration program which consists of wildlife management and research, development of habitat for game and birds, and acquisition of important areas for waterfowl and big game. An important feature of this program is that for each 25 cents the State Fish and Game Department spends, an additional 75 cents is added from the Pittman-Robertson fund, a federal excise tax on arms and ammunition. Thus, an important \$283,801.03 was added to the regular income of the Department for the 1953 fiscal year.

A similar ratio of federal reimbursement with state funds is provided under the Dingell-Johnson program which derives its funds from a federal excise tax on fishing equipment. Through this program, the fisheries division of the Department received \$99,591.52 in 1953.

Administration of the large fish and game organization has become an increasingly greater job. The mechanics of accounting and bookkeeping which involves nearly 500 separate accounts of license dealers from every section of the state, is a big job. Handling the thousands of permits, trappers licenses, beaver tags, hunting and fishing licenses in addi-

tion to the salaries of more than 150 regular employees and the disbursement of funds involving purchases of equipment, materials and services requires a staff of 27 and takes nine cents from the sportsman's dollar.

Rearing and releasing Chukar partridges and Chinese pheasants in 1953 cost \$60,438.20 or five cents out of every dollar. Predator control, which is a contribution of the Fish and Game Department to the state's predator control program, amounts to four cents per dollar.

Information and education, a new program which includes the Department magazine, news service, moving pictures, fairs and exhibits, school educational programs, as well as information distribution to all state and national requests, is a developing program which at present receives only one cent from every sportsman's dollar spent in Montana.

A fraction of a penny goes for the travel and per diem expenses of the Fish and Game Commission during their two-day meetings held each month at Helena.

This, then, is how the license money is pro-rated, but in addition there are some special expenditures not generally known by the average citizen or sportsman.

Each year the Fish and Game Department pays \$6,000 to the State Purchasing Department to cover expenses of that department in handling bids and purchasing the thousands of dollars worth of equipment used annually by the Fish and Game projects. This is certainly a justified expenditure when the money saved by this procedure is considered.

Taxes on the property or lands owned by the State Fish and Game Department are paid to the counties in which the lands are located. Thus, contrary to many popular beliefs, lands reserved for game use are not

taken from the tax rolls, but continue to provide income for schools and county administrations.

Much comment is raised by the fact that the Fish and Game Department has approximately one million dollars in the bank. Part of this has been invested as required by the 1953 legislature. A businessman would look upon this reserve as a good financial security. Since the Fish and Game Department is self-supporting and does not receive any appropriation from general tax funds, it has operated each year on the income anticipated from the sales of hunting and fishing licenses.

This makes planning and sound operation precarious at best, since income could drop seriously. Fortunately, it has not and each year much of the increase over anticipated budgeted expenses has been laid aside for emergencies. Today this fund is almost large enough to permit financing of the next year's program.

Few people today realize what a growth the Fish and Game Department has had to make to keep pace with the ever-greater increase in the interest in Montana's wildlife. A state-wide organization with specialists, including aviators, mechanics, biologists, engineers, officers, accountants, stenographers and photographers is essential to conduct the program needed and demanded by the state's outdoor enthusiasts.

This program is being capably handled by persons qualified for their specialty. The sportsmen's investment in the future of hunting and fishing is being wisely managed.

For a closer look at "What A Sportsman's Dollar Will Buy" see the detailed summary of income and expenditures on the following pages.

STATEMENT OF INCOME

Hunting and Fishing Licenses and Permits:

Resident Bird and Fish.....	181,560	@	\$ 3.00	\$ 544,680.00
Resident Big Game.....	117,984	@	2.00	235,968.00
Non-Resident Fishing.....	4,080	@	10.00	40,800.00
Non-Resident 6-Day Fishing.....	31,295	@	3.00	93,885.00
Non-Resident Bird.....	149	@	25.00	3,725.00
Non-Resident Big Game.....	1,607	@	100.00	160,700.00
Shipping Permits.....	5,200	@	.60	3,120.00
Certificates of Identification.....	1,395	@	.50	697.50
Bow and Arrow.....	535	@	2.00	1,070.00
Special Antelope Permits.....	23,677	@	5.00	118,385.00
Special Moose Permits.....	142	@	25.00	3,550.00
Special Mountain Sheep.....	30	@	15.00	450.00
Special Mountain Goat.....	50	@	5.00	250.00
Special Buffalo.....	3	@	25.00	75.00

\$1,207,355.50

Less Dealers' Fees..... 33,929.80

Net Income from Sale of 1953 Licenses..... \$1,173,425.70
 1952 Accounts paid during 1953..... 4,872.20

Total Income from Hunting and Fishing License Sales..... \$1,178,297.90

Miscellaneous Sales:

General Trappers.....	1,069	@	\$ 10.00	\$ 10,690.00
Land Owner Trappers.....	370	@	1.00	370.00
Beaver Tags.....	11,522	@	.50	5,764.00
Beaver Permits.....	796			11,559.00

(Permit for ten beaver \$10.00)
 (Each additional beaver 1.00)

Guides' and Outfitters' Licenses.....	123	@	10.00	1,230.00
Resident Fur Dealers' Licenses.....	33	@	10.00	330.00
Taxidermist Licenses.....	12	@	15.00	180.00
Fur Dealer Agent Licenses.....	22	@	10.00	220.00
Non-Resident Fur Dealers' Licenses.....	4	@	50.00	200.00
Minnow Seining Permits.....	7	@	10.00	70.00
Rough Fish Seining Permit.....	1	@	50.00	50.00
Alien Gun Permit.....	1	@	25.00	25.00

\$ 30,688.00

Miscellaneous Revenue:

Fines.....	\$ 37,781.37
Sale of Confiscated Fish and Meats.....	5,346.20
Other Revenue.....	106,317.39
Sale of Confiscated Furs and Hides.....	7,214.35
Royalty on Live Beaver Sold.....	18.50
General Season Beaver Royalties.....	1,903.00
Additional Beaver Granted.....	217.00
Sale of Fish Eggs.....	4,140.00

\$ 162,937.81

Misc. Remittances Direct to State Treasurer..... 2,254.74

\$1,374,178.45

283,801.03

99,591.52

TOTAL INCOME TO DEPARTMENT

FOR PERIOD MAY 1, 1953 - APRIL 30, 1954..... \$1,757,571.00

RECAPITULATION OF DISBURSEMENTS

COMMISSIONERS	\$ 5,750.67
ADMINISTRATION	109,017.51
STATE TRAPPER	5,649.68
PUBLIC INFORMATION AND EDUCATION.....	24,907.95
PREDATOR CONTROL	45,248.57
UNIVERSITY RESEARCH UNIT.....	7,242.77
PURCHASING DEPARTMENT ACCOUNT.....	826.83
FISH AND GAME LAW COMMITTEE.....	190.81
MISCELLANEOUS ACCOUNTS:	
Game Damage Expense.....	\$ 7,333.38
Game Patrol and Herding Expense.....	954.28
Printing Licenses and Permits.....	27,037.89
Refunds	832.41
Feed, Salt, Etc.....	275.43
Patrol Cabins	317.84
Elk Transplanting.....	887.17
Checking Station Expense.....	1,199.09
Insurance: Autc, Bldg. and Equipment.....	1,590.95
TOTAL MISCELLANEOUS.....	40,428.44
ENFORCEMENT	368,271.33
FISHERIES DIVISION:	
Anaconda Hatchery	40,240.72
Arlee Hatchery	26,967.26
Bluewater Springs Hatchery.....	30,077.31
Big Timber Hatchery.....	25,429.32
Creston Hatchery (Federal).....	5,004.86
Emigrant Hatchery	17,353.73
Ennis Hatchery (Federal).....	4,944.03
Great Falls Hatchery.....	54,418.38
Hamilton Hatchery	14,040.93
Lewistown Hatchery	38,248.82
Libby Hatchery	12,939.27
Miles City Hatchery (Federal).....	3,879.32
McNeil Hatchery	8,089.50
Ovando Hatchery	5,264.06
Polson Hatchery	11,427.68
Somers Hatchery	15,891.18
Spawning Stations	5,651.50
Other Field Projects.....	24,881.03
Federal Aid Program.....	64,927.12
TOTAL FISHERIES DIVISION.....	409,676.02
GAME FARMS:	
Billings	17,705.28
Fort Peck	17,137.80
Warm Springs	19,800.38
Moiese	5,794.74
TOTAL GAME FARMS.....	60,438.20
WAREHOUSE STORES ACCOUNTS.....	809.17
SHOP AND WAREHOUSE ACCOUNTS.....	20,190.57
WILDLIFE RESTORATION (Federal Aid).....	584,783.30
TOTAL EXPENDITURES—MAY 1, 1953 - APRIL 30, 1954.....	\$ 1,683,431.92

In-Service Training School for Wardens

To keep its personnel abreast of new techniques and to give each man a solid background with specific information on many subjects in the operation of the highly complex business which fish and game management has become in recent years, the Montana Fish and Game Department now conducts an annual intensive "In-Service Training" program.

This school which has previously been three to five days in duration, was extended in 1954 to nearly two weeks. Main emphasis in the curriculum varies each year and is designed to give employees information on new techniques and findings in fish and game management and to prepare them for new, more detailed assignments.

Leaders in their respective fields from Montana State University and Montana State College, as well as department personnel, present the courses which include lectures on public speaking, biology, research,

ageing techniques and other subjects related to fish and game management.

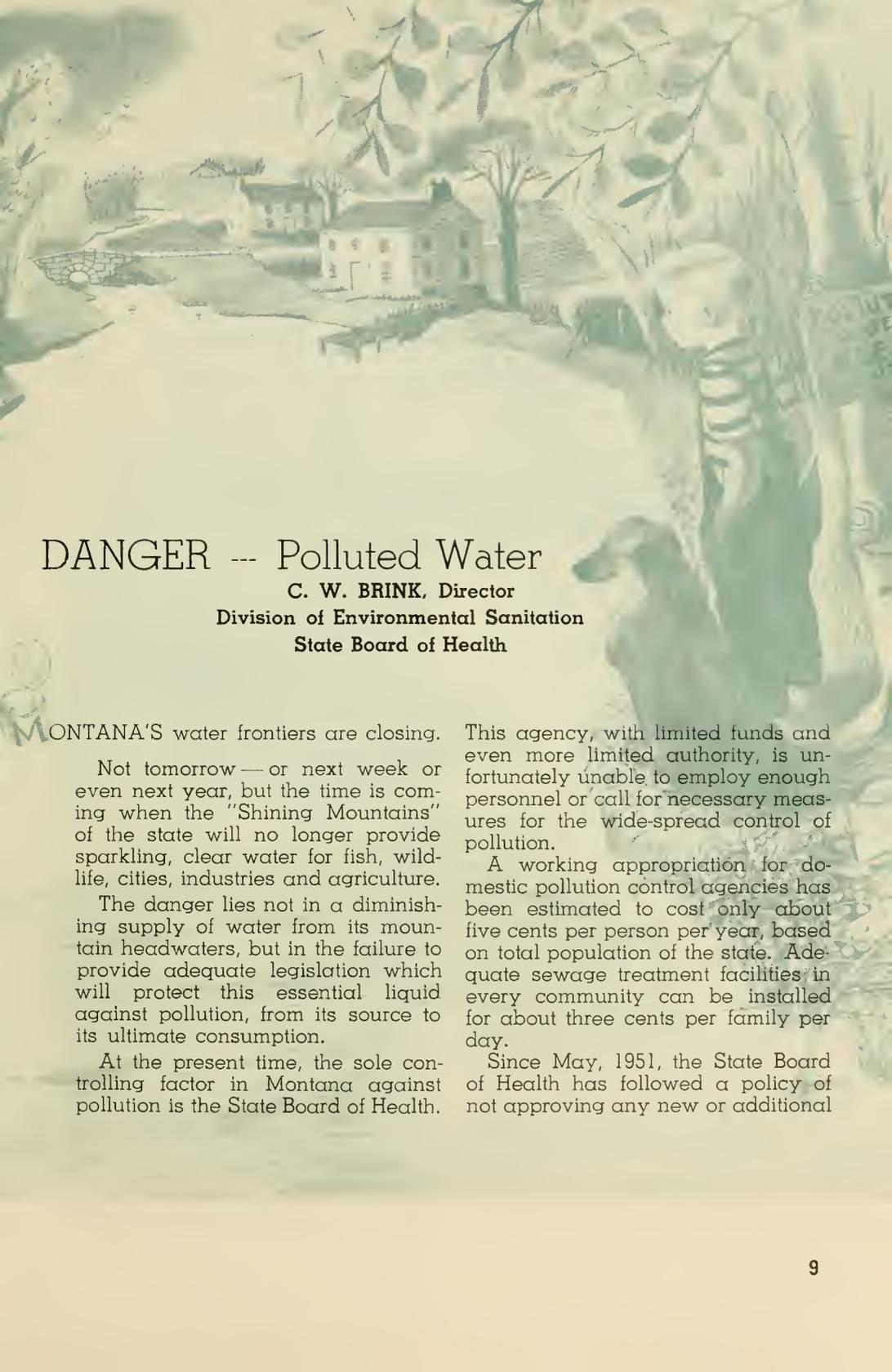
This year, 15 deputy game wardens completed the course which was held at the headquarters of the Blackfoot-Clearwater Game Range near Ovando.

Those attending the school are required to keep notebooks, and after meeting certain requirements, each receives a "diploma" certifying that the course has been satisfactorily completed.

In future years, the Fish and Game Department hopes to provide all employees with a working knowledge of divisions other than the one for which they were trained. Next year, the school is tentatively scheduled to concentrate on law enforcement and most of the "students" will be non-enforcement personnel who will receive intensive training in this important phase of fish and game work.

Using laboratory rats (below), game wardens learned proper techniques of preparing animal skin mounts as part of the 1954 In-Service Training School. The course also included courses in population dynamics, biology, research, ageing techniques, principles of speech, evaluation of news and other subjects related to fish and game work.





DANGER --- Polluted Water

C. W. BRINK, Director

**Division of Environmental Sanitation
State Board of Health**

MONTANA'S water frontiers are closing.

Not tomorrow — or next week or even next year, but the time is coming when the "Shining Mountains" of the state will no longer provide sparkling, clear water for fish, wildlife, cities, industries and agriculture.

The danger lies not in a diminishing supply of water from its mountain headwaters, but in the failure to provide adequate legislation which will protect this essential liquid against pollution, from its source to its ultimate consumption.

At the present time, the sole controlling factor in Montana against pollution is the State Board of Health.

This agency, with limited funds and even more limited authority, is unfortunately unable to employ enough personnel or call for necessary measures for the wide-spread control of pollution.

A working appropriation for domestic pollution control agencies has been estimated to cost only about five cents per person per year, based on total population of the state. Adequate sewage treatment facilities in every community can be installed for about three cents per family per day.

Since May, 1951, the State Board of Health has followed a policy of not approving any new or additional

disposals of raw sewage in any Montana stream, except under unusual circumstances.

But directing long-range programs toward the solution of the domestic sewage problem is not enough.

Statewide and nationwide, populations are mushrooming and industries are expanding at a rate unprecedented in history. Industrial pollution alone in the Missouri River Basin (Eastern portion of Montana) has been estimated to be equivalent to a domestic pollution of 900,000 people. Including the small industries which have not as yet been completely studied in the area, the total population equivalent for Montana industries in the Missouri River Basin would exceed one million people. (Studies of industrial pollution in the Pacific watershed or western portion of Montana have not as yet been completed.)

If this is the picture in 1954, what will it be in 1964—or 1984 or fifty years from now when the calendar proclaims the twenty-first century?

Water is essential for life and it is also one of the essentials of industrial production. The sugar beet industry alone consumes 3400 gallons of water in the processing of one ton of beets, another 17 gallons for the production of one pound of sugar, and the four plants in the state have current operating capacities of 8,860 tons per day, using over 30 million gallons of water. Approximately 770 gallons of water are required in the refining of a 42-gallon drum of crude oil and 20 gallons are needed in refining a gallon of gasoline. Other industries use proportionately large amounts of water in the manufacture of various commodities.

With increased industrial production, Montana can look forward to increased pollution unless the proverbial ounce of prevention is administered.

Montana's economy needs new industries and expansion of existing establishments but not at a cost paid by the industrial eastern states. There, flagrant examples of pollution clearly point up the necessity for pollution control measures to prevent a repetition in the west.

Water pollution in Montana deserves a close examination and attention should be focused on this potential danger. More than attention, action must be taken to assure adequate legislation to protect water—one of Montana's most precious heritages.

If this is the picture in 1954, what will it be in 1964—or 1984 or fifty years from now when the calendar proclaims the twenty-first century?



This sanitary engineer from the State Board of Health's division of Environmental Sanitation is taking a sample of water from an eastern Montana stream for laboratory study in one of several stream pollution studies being conducted.

1953



TROPHY AWARD

To stimulate sportsmen's interest in trophy animals of this state, the Montana Fish and Game Department this year offered its first Certificates of Award (reproduced in part at the top of this page) for winners in the heads and horns competition. The initial response from Montana hunters is considered exceptionally good with 28 entries on official scoring sheets in the eight classifications, and 64 others submitted incomplete entry information.

Although it is generally believed that larger, higher scoring heads exist in Montana than many of those shown on the following pages, for this first attempt at selecting winners, the Montana Fish and Game Department had to rely on the voluntary information supplied by hunters interested in comparing their trophy with records for other North American game animals.

It is hoped in future years to bring to light many heads and horns of unusual proportions as the contest is not limited to animals taken during any immediately past hunting season. One of the primary objectives of the Fish and Game Department's quest for trophy animals is to bring to light heretofore unrecorded heads and horns to compile a listing of record animals for the state and also to urge submission of large specimens for national competition.

Several Montana hunters submitted their trophies directly to the Boone and Crockett Club for consideration in the 1953 competition. Among those who received prizes or honorable mention in this latest competition were H. E. Lillis, Billings, who won first prize for bison horns; Elmer Keith, Missoula, who won two honorable mentions for two entries of bison horns; M. Sgt. LeFleur, Great Falls, was awarded second prize for a non-typical white-tailed deer; Lowell Hayes, Darby, received first prize for a cougar; and Frank Haacke, Granite County, won honorable mention for a cougar.

These annual awards should not be confused with standing world records. An animal can win first prize over other entries in a yearly contest but still not exceed the world record for the species.

Official entry blanks for recording possible trophy heads will again be available with the opening of the 1954-55 hunting season. Hunters are urged to obtain these scoring sheets and submit their entries for state certificates. Any record specimen approaching national rank can be sent to the Boone and Crockett Club for consideration in their next national or world record awards in 1955.



ROCKY MOUNTAIN GOAT

Taken by: L. D. Buhmann, Zurich Length: (R) 9-5/8 (L) 9-6/8
 Present Owner: Same Basal Circumference: (R) 5
 Date: 1953 (L) 4-7/8
 Place: Canyon Creek near Melrose Score: 44-1/8
 World Record Score: 55-6/8; International Rank of this trophy: None
 Second Place Winner: E. V. Payne, Livingston
 Third Place Winner: S. J. Seidensticker, Twin Bridges



SHIRAS MOOSE

Taken by: C. M. Sehmauch, Dillon Greatest Spread: 55-7/8
 Present Owner: Same Length of Palm: (R) 43-1/8
 Date: October, 1952 (L) 35-6/8
 Place: Red Rock Lakes Area Width of Palm: (R) 15-1/8
 (L) 14-5/8
 Normal Points: (R) 14 (L) 14
 Score: 195-1/8
 New World's Record Score: 205-4/8; International Rank of this trophy: Third
 Second Place Winner: Walter Banka, Conrad—Third Place Winner:
 Walter Nuxoll, Volberg



WHITE TAILED DEER

Taken by: Ken Thompson, Helena Length: (R) 22-2/8 (L) 21-6/8
 Present Owner: Same Inside Spread: 18
 Date: November, 1949 Circumference: (R) 4-2/8
 Place: Gold Creek (L) 4-2/8
 Points: (R) 4 (L) 5
 Score: 127-6/8

New World's Record Score: 183-7/8; International Rank of this trophy: None
 Second Place Winner: No Entries—Third Place Winner: No Entries



Trophies

Taken by: H. E. Lillis
 Owner: Same
 Date: September, 1951
 Place: Absaroka Wilder
 World Record Score: 136
 Second Place Winner: No 1

Trophies are scored by a simple, standard measurements of the right side, the left side and from the total of right and left side for the final score.

The scoring for elk, white-tailed deer and moose is based on greatest spread, inside spread of main beams, length of beam, circumference at smallest place between burr and base, greatest spread, number of abnormal points on both sides, circumference of beam at smallest place.

For the true horned animals (sheep, goats and antelope) length of horn, circumference of base, circumference of horn must be recorded for antelope as well as the inside circumference.

Diagrams showing exactly where and how to measure are to simplify recording. All measurements must be taken on animals that have been killed. (Pictures of heads and horns appear on this page.)



WAP

Taken by: John A. Willard, Helena
 Present Owner: Mrs. Keith Evans, Boulder
 Date: November, 1953
 Place: Jefferson County near Boulder
 World Record Score: 441-6/8; International Rank of this trophy: None
 Second Place Winner: Jack H. Moore, (This animal ranks a probable 2)
 Third Place Winner: Joe Monroe, (This animal ranks a probable 2)

ROCKY MOUNTAIN BIGHORN SHEEP

Taken by: Ted Williamson Length: (R) 36-7/8 (L) 41-7/8
 Present Owner: Bob Scriver, Browning Basal Circumference: (R) 14 (L) 14
 Date: January, 1953 Score: 176-2/8
 Place: 18 miles south of Browning
 World Record Score: 207-2/8; International Rank of this trophy: Probable tie for 43rd place
 Second Place Winner: C. L. Thompson, Butte
 — Third Place Winner: J. Kilaore, Three Forks



BISON

Length: (R) 20-5/8 (L) 20-4/8
 Basal Circumference: (R) 13-7/8 (L) 13-4/8
 Score: 122-2/8
 International Rank of this trophy: Prob. 7th
 — Third Place Winner: No Entries

Trophies



Method developed by the Boone and Crockett Club which calls for total difference between the two. The total difference is subtracted from the greater.

Deer must include number of points on each antler, tip to tip spread, length of abnormal points, length of main beam, length of each point, first point, second point, etc. Moose measurements require the greatest spread, number of normal points, within the length of palm and circumference.

Bison measurements must include greatest spread, tip to tip spread, length of first, second and third quarters. These same measurements apply to pronghorn measurements.

Measure an animal head appear at the top of official entry blanks taken with a steel tape and at least sixty days after the animal has been killed. Measurements on these pages are not necessarily actual photographs of winners.

PRONGHORN ANTELOPE

Taken by: Jim Henderson, Sidney Length: (R) 16-4/8 (L) 16
 Owner: Same Basal Circumference: (R) 6-1/3 (L) 6-1/8
 Date: September, 1953 Length of Prong: (R) 4-4/8 (L) 4-4/8
 Place: Southwest of Ekalaka Score: 78-4/8
 World Record Score: 101-6/8; International Rank of this trophy: Probable tie for 38th place
 Second Place Winner: L. L. Waring, Glacier Park
 Third Place Winner: No Entries



MULE DEER

(Elk)
 Length: (R) 59-4/8 (L) 58-5/8
 Inside Spread: 17
 Circumference: (R) 8-7/8 (L) 8-7/8
 Points: (R) 6 (L) 6
 Score: 406-6/8
 International Rank of this trophy: Probably 2nd place
 Present Owner: Bob Scriver, Browning
 Date: October, 1949
 Place: Dupuyer Creek, Teton County

Taken by: Charles A. Krall, Conrad Length: (R) 25 (L) 23-1/3
 Present Owner: Same Inside Spread: 24-7/8
 Date: October, 1949 Circumference: (R) 5-4/8 (L) 5-6/8
 Place: Dupuyer Creek, Teton County Points: (R) 5 (L) 5
 Score: 196-2/8

New World's Record Score: 203-7/8; International Rank of this trophy: None
 Second Place Winner: I. T. Maki, Butte — Third Place Winner: No Entries
 (One non-typical head was entered by Nate's Sports Shop, Lewistown, taken by Joe Coffey. It did not rank nationally.)



Montana's Young Outdoor Americans

by

Larry Wilson, Kalispell

(Editor's Note: Larry Wilson (above), 16-year-old Kalispell high school student and Eagle Scout, was named Montana's Outstanding Young Outdoor American during a state meeting of teen-aged conservationists at Helena in February. With his selection from a group of delegates representing every district in the state, he received an all-expense paid trip to Chicago in March where he met with other young outdoor Americans from all over the nation. His own account of the exchange of viewpoints by those attending the Chicago meeting is an interesting insight on what teen-agers are thinking in terms of conservation practices.)

Montana's representative was chosen for his accomplishments in conservation work by a committee appointed by Governor J. Hugo Aronson. District delegates for the state were selected by the Montana Wildlife Federation and its cooperating sportsmen's clubs, which financed the cost incurred by state delegates at the Helena meeting. The Chicago trip and meeting were sponsored by the Isaac Walton League of America, Inc.

Present plans call for similar annual competitions among the state's young conservationists.)

It is still almost impossible to believe that I was chosen to represent all of Montana's teen-age conservationists at a national convention in Chicago. Things had happened fast after the Flathead Sportsmen's Association selected me as their candidate to attend the meeting in Helena. The Helena conference was a pretty nice opportunity to meet with a small group of young conservationists and to hear talks by many of the state's professional workers in the field of conservation. The national meeting is an experience I'll never forget.

After my arrival a day early on March 9, I went with four Future Farmers of America, the next morning for a tour of Chicago's Union Stockyards, world's largest. After lunch, we visited the Museum of Science and Industry.

On Thursday, March 11, things really started, and the various youth organizations represented met together from 9:00 a. m. until noon. During this time we got acquainted

with each other and discussed some of the main conservation problems in the different states.

At this time, I asked the group whether or not they thought that large dams which would conserve water, but which destroy the scenic value of the area and permanently ruin hunting and fishing of the surroundings, were worthwhile projects. (This is the same problem which confronts the people of Montana in the case of the proposed Glacier View Dam in Glacier National Park.) We had quite a lengthy discussion on this subject and decided that such dams were not to the best interests of the people, and that all such dams were only a temporary cure for a permanent problem.

At noon that day, we attended the kick-off luncheon with the delegate from each state carrying in his state flag and placing it in

a socket arrangement on each side of the American flag.

Immediately after lunch, all of the YOA delegates attended an adult session of the Izaak Walton League and heard speeches by several outstanding conservationists. After this session, the YOA members met in the actual conference groups for the first time to discuss nation-wide conservation problems. One of the problems which our group discussed was the value of shelter belts. We concluded that such shelters are good and that more of them should be built. However, we felt that available literature on this subject contains too much technical information and should be written in more understandable terms.

Another problem which was brought out was that of litterbugs in our national parks. Our group thought that the blame for this problem could be laid both upon the National Park Service for not having adequate authority to punish offenders, and inadequate staffs for enforcement, and, more directly, upon city dwellers for their inconsiderate attitude.

Our suggested remedy for this major problem would be stricter laws, printing offenders' names in newspapers and for youth organizations in the larger cities to start a conservation education program to illustrate the point.

The next morning we were the guests of the National Sports Show for breakfast and then attended the Don McNeil Breakfast Club

which is broadcast and telecast over the ABC network. Miss America of 1954 was also a guest, so after we obtained her autograph, we returned to the hotel and to our discussion groups at 9:30 a. m.

The first question that we discussed was: How to stimulate awareness of the great out-of-doors among city dwellers. We decided that youth groups should initiate an education program in the schools, make up handbills for insertion in water and light bills and conduct contests to further increase conservation practices.

One of the adults present asked whether or not we thought that logging and recreational roads into a wilderness area would do more harm than good. It was our unanimous decision that such roads were not good because we have too few places now where nature can be observed in its natural state and we felt that such areas were important controlling factors of hunting and fishing in the surrounding areas.

This was the last of our discussion periods and we then attended a luncheon as guests of the Sears, Roebuck Foundation. We had a free afternoon, so I went to the Museum of Natural History.

That evening, we attended the closing banquet which marked the end of a swell time and a wonderful experience.

Montana's delegates (below) to the state meeting of Young Outdoor Americans in Helena, selected Larry Wilson as the state's representative to attend a similar meeting of teen-age conservationists in Chicago. Meeting with Governor Aronson in the Senate Chambers of the State Capitol are (front row): Alfred Kalland, Baker; Carol Coey, Livingston; Betty Jo Tubb, Belgrade; Governor J. Hugo Aronson; Larry Wilson, Kalispell youth who represented Montana at the national meeting of Young Outdoor Americans; Colleen Dunn, Livingston; Jacob DeBray, Glasgow; Dan Rovig, Kalispell; Joe Pepper, Wilsall; Tommy Edgell, Forsyth, and Richard Greenward, Opheim.

State conservation leaders who spoke to the youngsters on various phases of conservation activities in the state are (back row, left to right): State Game Warden A. A. O'Claire; Louis Hagener, Havre; Professor Cliff Davis, Montana State College; Senator Winton Weydemeyer, Fortine; Extensionist Rex Campbell, Bozeman; Carolyn Madden, Secretary of the Montana Conservation Council; Walter Staves, President of the Montana Wildlife Federation; A. E. Riegal, a director of the National Wildlife Federation, and Ken Thompson, Fish and Game Department.



What's Robbing Us Of Our Fishing?

by

Charles K. Phenicie, Chief Fisheries Biologist

Although still good by modern standards, it must be admitted that fishing in Montana is not like it once was in the "good old days." What has happened to this fishing of yester-year? Can we blame the fisherman himself for all of the decline in today's angling success?

The latter question can be answered with a resounding NO—although in most states, Montana included, the major part, if not all, of the fisheries program has been developed upon the theory that fishing pressure is the chief factor in fish reduction.

Unfortunately, fewer fish in the creel is not a result of a simple, easily remedied cause such as fishing pressure but rather has been caused by at least three very complex, deep-seated reasons.

When Lewis and Clark came to Montana, they found good fishing and not many fishermen. But they found something else far more important: Waters were clear, productive and ran from a steady source of well-vegetated drainages; fish were native to the area, adapted to existing conditions without competition from introduced species; and finally the water habitat was undisturbed by roadways, dams and other structural changes.

Difference—Past and Present

In other words, the main difference between the fishing present and past can be summarized as: (1) Introduction of new and undesirable species of fish, (2) improper land use in watersheds, and (3) destruction of the aquatic habitat itself. Taking these points separately, fishermen will get a clear picture of what is meant.

First, as to introduction of fish. There are a great many instances of unwise introductions of fish, particularly rough fish, but some game fish might be considered rough fish when they are found in habitats not suited to them. Perch, sun fish and bass have been introduced quite universally in our fine trout lakes and in a few of the larger trout streams such as the Missouri River.

They do not do well in Montana on the whole from the fisherman's viewpoint. They grow slowly and become stunted, usually producing very large populations of fish that do not attain large enough size for fishermen to bother with.

Trout Cannot Compete

In the face of competition with these fish, trout often fall off in abundance until fishermen almost completely quit using the water. It is plain that fishing pressure is not the reason for poor fishing in this large segment of our trout waters.

Almost everyone is familiar with the presence of chubs in Hebgen Lake, carp and perch in the main stem impoundments of the Missouri River, carp in Dead Man's Basin, carp and sunfish in Cooney Reservoir, and many similar instances.

These rough fish are not native to Montana and have contributed markedly to poor fishing. Over abundance of some of our native rough fish also accounts for poor fishing, such as suckers in Cooney Reservoir, Sutherland Lake, Lake Martensdale, Harris Lake, and innumerable other waters. Adjustment in management and development of new management measures, not reduction of fish-

ing pressure will again make fishing good in these waters.

The eastern brook trout has also caused many problems in Montana. These are not isolated instances, but are problems common to every bit of our trout waters in the western part of the state. The brook trout does well in very few waters. There are, however, a few parts of the state, particularly in the central part of Montana, where the brook trout while it does not do too well, nevertheless is furnishing fishing where other trout would not do well at all.

On the whole, however, where eastern brook trout have been introduced and have established themselves, upwards of 90 percent of the population is below legal size and does not contribute to the angler's bag. Fishermen prefer to fish elsewhere rather than catch tiny brook trout. An unwise introduction, not fishing pressure, has caused the trouble. In fact, heavier fishing pressure on the sub-legal fish might help.

While it would be a very bold statement to say that the brown trout was a completely unwise introduction, nevertheless, it has caused trouble. It was not even native to the United States, but was brought here from Europe. Native species have declined in abundance wherever it has been established.

Takes Skill

It is a good fish, but the average fisherman is not skilled enough to catch him. The average fisherman finds fishing poor in these brown trout waters, even though there are large populations of trout present.

In Rock Creek in Carbon County the brown trout constitutes 81 percent of the population of trout in the stream, and yet it makes up only about 45 percent of the catch. In Prickley Pear Creek in Lewis and Clark County, the brown trout constitutes about three-quarters of the

population of trout in streams, and yet it makes up only one-third of the catch. The Shields River in Park County has been reported as being a very poor fishing stream, and yet this stream has been found by biologists to contain an average of 50 pounds of brown trout in 300 feet of stream, an extremely high population of fish.

Again, it is evident that fishing is poor, not because of heavy fishing pressure, but in this case because the fishermen are not skilled enough to take fish from large populations of brown trout.

Effects of Watershed Use

Now, second, what effect does use in the watersheds have on fishing?

The ideal, of course, is no land use for with virgin stands of grass and timber, spring run-off will be spread over longer periods of time and the largest proportion of water possible will filter into the ground to come out through the entire year as springs to keep up water flows.

Of course, civilization demands that this ideal not be maintained. The land must be used. The more wisely it is used, the better will be conditions in our streams. Fishing can be no better than the aquatic habitat, and the aquatic habitat can be no better than the watershed from which it derives its flow.

Over-grazing, poor timber management, and other adverse agricultural practices all allow rapid spring run-off which in itself is damaging to fish populations and which also causes untenably low water flows in the streams through the balance of the year. This is a major cause of declining fishing success, and it is not related to fishing pressure at all.

Aquatic Habitat

Then third, the aquatic habitat itself must be considered. There must

be water in streams to produce fish. How many miles of fishing stream in Montana have had all the water removed for irrigation purposes? These streams are removed from production. How many miles of fishing streams, while not completely dewatered, have had the normal stream flow greatly reduced by irrigation uses?

Small Stream—Small Fish

While fish can live in these streams, nevertheless the reduced stream size will produce a corresponding reduced fish population. It is realized that this water must be used for irrigation; but fishing opportunities are thereby reduced and fishing success is also reduced. Civilization then, not fishing pressure, is responsible.

Think also of the thousands of miles of stream along which the brush has been removed by highway and road construction, by cattle grazing and by general agricultural and flood control activities. This has a drastic effect.

Experiments done by Marvin F. Boussu ("Relationship between trout populations and cover on a small stream," Master of Science Thesis submitted at Montana State College, June, 1953, and accepted for publication by the Journal of Wildlife Management) have shown for Trout Creek in the Gallatin Valley that removal of brush alone, without making any other change in the stream, reduced the population of trout by 58 percent in the face of a general 36 percent increase in the population of the stream.

Removal of undercut banks alone, without making any other change in the stream, reduced the population by 33 1/3 percent in the face of a general 20 percent increase in the population of the stream.

Changes such as these have been made on thousands of miles of streams in Montana and have made corresponding reductions in the trout populations. Again, here is a situation which has affected the trout populations but which cannot be credited to fishing pressure.

Hundreds of miles of good fishing water have been lost in the past to dams for the purposes of power generation and irrigation. Additional hundreds of miles are destined for similar purposes. Before long, water will be pumped from our lakes for irrigation, reducing fish productivity. Many more dams will be built for the purposes of power, irrigation and flood control.

In the planning of these dams, fish should be given not simply consideration, but an active seat. The fish resource must be conserved. In the past, and unfortunately at present also, the policy is to salvage some remnant of the fish resource after other interests have been given more than their share of consideration. Fish have not even been considered until after construction has been completed. How can this be overcome?

Other proponents of water use speak in dollars and cents to justify their actions. Fisheries interests must do the same.

Monetary Potential

Instead of talking about present use, the potential value of this water in dollars and cents when used for recreation must be pointed out. It does appear to interested negotiators for these projects that unless greater fishermen's use on waters affected by proposed water projects is forthcoming, these waters will be lost by the sportsmen.

This will be far more disastrous to the fishing public than added fishing pressure.



Connover Reservoir near Billings (above) showing fenced area which was planted to provide winter cover for pheasants and other game birds. Strip type wheat farming nearby provides ample food in the form of waste grain.

Montana Sportsmen's Projects

(Eighth In a Series)

Ring-necked pheasants, the most popular of Montana's upland game, seem to be more or less restricted to the irrigated sections where water, food and cover exist in nearly ideal proportions. Attempts to broaden or expand pheasant range by transplanting birds have been largely unsuccessful if these habitat factors did not occur in satisfactory proportions.

In an attempt to increase the amount of suitable pheasant habitat, members of the Billings Rod and Gun Club, under the leadership of President Al Burgan, considered and started a project to see if an assist for Mother Nature might increase their own hunting pleasure.

An area near Broadview was selected for the experiment, and local landowners were contacted to see if land could be obtained for a habitat development project.

Landowners along Sand Creek, including Harold Beeman, Victor Lehfeldt, R. C. Connover and Don Easton, agreed to 25-year leases on their property. The Montana Fish and Game Department provided metal posts and wire and constructed fences around the areas to be planted. This is essential in areas where livestock trample or browse any newly planted shrubs.

Members of the Billings Rod and Gun Club went to work in 1948 and

cut about 10,000 willow slips plus wild rose, buffalo berry and cottonwood cuttings, and transplanted these on the fenced tracts. An additional 5,000 caragana and Russian olive plants were planted.

To promote aquatic growth, 1,000 sago pond weed tubers and 500 smartweed root sections were secured from a commercial nursery.

A second planting session was held in May of 1949 when 20 club members, 50 Boy Scouts and several farmers of the Broadview area planted four truckloads of willow and 7,000 other trees and shrubs.

The 1950 planting of caragana, Russian olive, chokecherry, willow and cottonwood were made to augment the original stock.

This became the first major effort on the part of a Montana sportsmen's group to develop game bird habitat in their area. As a project, it gave

members a chance to get better acquainted with ranchers and farmers on whose land they wished to hunt. In fact, one feature of the project was a special meeting and program at which the landowners were special guests.

Members had a real chance to work together as neighbors on an outdoor project and the youngsters were included to strengthen their appreciation of sportsmanship.

The final chapter of this project is yet to be written. Vegetation grows slowly and results must be expected only on a long-range plan. But incidental dividends from cooperative effort, youth education and farmer-sportsmen relationships have already been collected.

Giving nature an assist by providing natural food and cover for wildlife is an ideal sportsmen's club project.



Tree plantings in 1949 and 1950 by the Billings Rod and Gun Club members, farmers and Boy Scouts, included willow slips, wild rose, buffalo berry, cottonwood cuttings, caragana and Russian olive. The Montana Fish and Game Department provided metal posts and wire and constructed fences around the areas planted.



EROSION---AND FISHING

by

R. W. Eschmeyer, Executive Vice President
Sport Fishing Institute

(Excerpts from talk given at an annual meeting of the League of Ohio Sportsmen at Columbus, Ohio. Because the subject is applicable to an almost every locality, it is reprinted here by special permission of the author to inform Montana sportsmen of the problems and dangers of erosion.)

As children we developed a very strong feeling about mud. The feeling didn't come of its own accord. It was prompted—vigorously. Mud was something which was **not** to be tracked into the kitchen or the living room.

The really important thing about mud was never mentioned. We were not taught that the washing of our soil from our fields and into our streams was a major catastrophe. It never occurred to us that this seemingly normal phenomenon would destroy our fishing and, what is much more important, would eventually lower our standard of living and threaten our security. Mud was simply something to be avoided—to be kept off our shoes.

Our early attitude was so firmly ingrained that it never left us. It shouldn't. But it is of utmost importance that we develop another, and far stronger, attitude toward "mud." It is something which must be kept on the land, and out of the streams.

Nationally, siltation has probably been the biggest single contributor to the gradual decline in our fish catch on inland waters. In some localities, of course, municipal and industrial pollution have been bigger factors.

In the early days our land was covered with forest or with prairie vegetation. The rain which fell

soaked into the soil, to reappear gradually as flowing springs. Any run-off during heavy rain was clear water. The soil remained on the land.

Most of the siltation which has taken place can be attributed directly to human activity—farming and ranching, road building, cutting and burning of the forest.

Strangely enough, we have almost no exact information on the harm of siltation to fishing. Perhaps this lack of information can be attributed to the difficulties involved in studying such a big problem. More probably, the inadequate training of fishery biologists has been the important factor. That training has consisted mostly of courses in zoology and botany, with very little stress on the importance of farm and forestry practices to our fish habitat and our fishing.

We do know that siltation is a major destroyer of fish habitat. As an example, a survey made by the Soil Conservation Service in the Whitewater River Watershed in Minnesota indicates that originally this watershed had 150 miles of good trout stream. By 1941, as a result of erosion, the watershed had only 60 miles of trout streams and this mileage was in poor condition.

The rapid run-off of water, even without siltation, is injurious to fishing. Floods destroy fish food, fish, spawn and fish habitat. Where the water runs from the land, instead of

being absorbed by the soil, our springs cease to flow, causing a warming of the water, and the drying up of streams during periods of drought. In place of a reasonably even flow of cool water we have alternate periods of flood and low water-levels, with decided variations in temperature.

Where silt is washed into the streams with the run-off, our waters become muddy, shutting out the light needed by the microscopic plant life. Too, the game fish, which feed by sight, are hampered in their feeding. Spawn is destroyed. Muddy water supports few fish, and is an unsuitable habitat for those species which are especially prized. The shifting mud bottom, too, destroys food and fills the pools needed by the fish.

Many lakes and reservoirs have been filling with silt, permanently destroying these waters for fishing.

Evils of Siltation

The evils of siltation to fishing are many. Our important question now is—can the conditions be restored. A lake or reservoir completely silted in, cannot be improved at any practicable cost. But the streams can be revamped. If we stop the siltation, and allow the rain to be absorbed by the soil, Mother Nature will do a good job of restoring fish habitat.

There is a less direct, but even more significant, relationship between sport fishing and keeping the soil on the land. When we have lost the soil from a farm we can no longer move to new frontiers to "start over." Now loss of the all-important topsoil can lead only to loss in farm productivity, and to a lower standard of living.

Where standards of living are low, fishing for fun is non-existent.

Some few years ago I talked with many representatives from countries such as China and India. They seemed to be unimpressed with our sport fishing, and our rods and reels. They asked one question with almost monotonous regularity: "How can we produce more fish to feed hungry people?" Hungry people don't go sport fishing; they seek food—not relaxation. Without our high standard of living, which can be maintained only if we use our soil wisely, there would be no sport fishing.

Human Indifference

Suitable methods of watershed protection have now been developed and tested. Our major obstacle to progress is human indifference. Fortunately, that obstacle is gradually being overcome. We would still be immensely more concerned about losing a hundred dollar bill than about losing a hundred dollars worth of soil; but we do realize, finally, that soil has some value.

An awareness could be created immediately if, just once, the soil which leaves a poorly managed farm after a heavy rain would somehow be deposited on the floor of the farmer's house — provided the house could contain all of it. And, since siltation is a form of pollution, perhaps we are not going too far afield by suggesting that our municipal pollution problems would receive early consideration if, just for a few days, everything which flows down the drain below the kitchen sink would change direction, and flow back into the kitchen.

Siltation is still the major destroyer of fishing in our streams. But, we have some reason for optimism. More

and more attention is being given to the problem by a growing number of agencies and individuals.

Silt from the Farms

On farmland, where most of the silt in our streams originates, the Soil Conservation Service has rendered, and is rendering, an immensely important service to the farmer and to the angler. It operates in a manner which is consistent with our American way. The initiative rests with the home folks—the Soil Conservation District. The Soil Conservation Service provides the technical assistance.

There are now nearly 2,500 soil conservation districts in the nation. They include about four-fifths of all farms and ranches. In these districts, nearly a third of the farmers and ranchers are now installing complete conservation programs to their land. And the number is growing each year. It will probably be another 20 to 30 years, at the present rate of progress, before all farm land is fully treated with the conservation measures needed. But, in the meantime, each farm or ranch that is brought into this conservation program will help lessen the amount of mud our streams receive and thus help create a better habitat for the game fish.

This work of the Soil Conservation Service, and the Soil Conservation Districts with which it cooperates, is doing much toward keeping mud out of the stream. The principal slogan of the Service is: "Use each acre of land within its capabilities and treat it according to its needs." This using

land within its capabilities means that steep, eroding land is not used for cultivated crops, it is planted to grass or trees. Less water runs off during heavy rains and the runoff contains little mud.

On the public lands the watershed improvement work of the Forest Service has been outstanding. This agency has restored cover and stopped erosion on many watersheds.

Our national forests now have about 30 million visits per year by people in quest of recreation. The forests have 81,000 miles of fishing streams and 2,189,857 acres of lakes and reservoirs. The Forest Service program of watershed protection is vital to the fishing in these waters, as well as to the angling in the lower reaches of those streams which have their origin in the forests.

Other Watershed Work

Outstanding work is being accomplished by our watershed organizations. In some states, the conservation departments are active in improving fishing and hunting by restoring cover and preventing silting and excessive run-off.

In isolated instances, sportsmen's groups have helped to control siltation as a means of improving habitat for fish and game.

The important problem will be one of overcoming human lethargy. Since it takes almost no energy to suggest a slogan for our work in siltation control, we gladly make such suggestion.

"Let's keep the soil on the land; the farmer needs it; the fish don't want it!"

DEPARTMENT AWARDS OF MERIT

In recognition of outstanding contributions and achievements of its staff, the Montana Fish and Game Department this year presented awards of merit for the first time.

These awards, based on accomplishments in three different fields of endeavor, were given for outstanding work in wildlife and fisheries research (reports of which must have been published nationally before consideration for an award) and also for contributions in the field of conservation education by a staff member outside the Information and Education Division of the Department.



In addition, by unanimous decision of the judges and all Department employees, a very special award was presented to Bruce Neal for his untiring efforts in fish and game conservation work.

Artist Vernon Craig designed the certificates of award and the bear statues shown on these pages. The certificates were printed on parchment and framed for presentation to the winners. The miniature gilded figures of a charging grizzly bear (symbol of the Montana Fish and Game Department) hold an inscribed tablet with the recipient's name.



Frank A. Stefanich



Joseph E. Townsend

"The Population and Movement of Fish in Prickley Pear Creek, Montana," a scientific treatise published in the 1951 Transactions of The American Fisheries Society, was written by Frank A. Stefanich, now district biologist for the Flathead area with headquarters at Kalispell.

His work consisted of a two-year study of the 15 mile course of Prickley Pear Creek located near Wolf Creek. During this time, he captured fish by means of an electric shocking machine and released them after recording necessary data for all species found.

Stefanich's findings and the techniques he devised for obtaining information have now become the basis for many of the new and advanced recommendations used in the management of Montana's fisheries resources.

For his technical paper titled "Beaver Ecology in Western Montana With Special Reference to Movements," which was published by the Journal of Mammalogy in November, 1953, Joseph E. Townsend studied beaver movement in the Seeley Lake Area of Missoula County during the summers of 1949, 1950, 1951, and the commercial trapping season in the winter of 1952.

His 11-page report represents many hundreds of hours spent live-trapping, individually marking, releasing and recapturing beaver, in addition to preparing tables, charts, maps and the text for his paper. As fur biologist for the Department, he is continuing his study of beaver in Montana with headquarters in Dillon.

Selection of Bruce Neal for a special Department award was based upon his many years of loyal and outstanding service. No one in the Department's employ is more respected by the public than he is.



Bruce Neal

He started work with the Department as a deputy game warden in the Augusta area in 1920. His previous activities as a guide, packer and wolf trapper in the Sun River country represented a valuable background for his Fish and Game career.

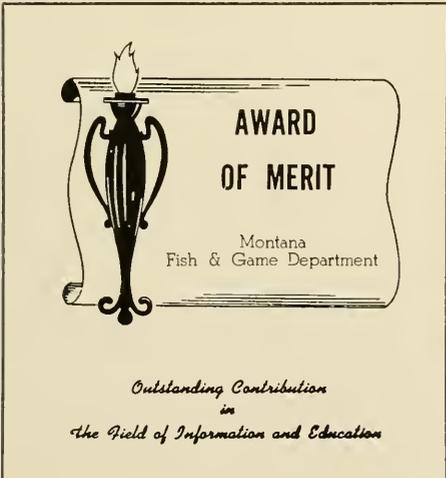
His assignments through the years have been closely tied in with the protection and management of the Sun River elk herd. He was placed in charge of the winter herding program that developed in the early '30's in an effort to hold elk off private lands. Even with the infinite care exerted by Bruce Neal and his crew, elk broke out on the foothills and prairie edge during severe blizzards. Serious controversy with land owners developed.

Realizing that herding represented at best an emergency measure, he advocated for many years the state's purchase of a tract of winter range for the elk in the foothills. He played a leading part in the negotiations for such an area which resulted in the pur-



chase of approximately 20,000 acres in 1948. Thus the Sun River Winter Game Range came into being and for the first time elk were provided with adequate winter range.

The choice of a manager for this new game range was an easy one, and Bruce Neal was given the position by unanimous agreement. Under his care, this area has been developed to a degree that it has become recognized as one of the finest examples of game management on the continent.



As one of the first of any state's agencies to make 16mm sound and color movies entirely within its own organization and with its own personnel, the Montana Fish and Game Department has reached another mile-

stone in its efforts to acquaint the public with its activities and objectives.

This worthwhile project represents an outstanding contribution to conservation education in Montana, and the technical phases of the work have been primarily developed by H. J. LaCasse, head of the graphic arts division.



Hector J. LaCasse

He has developed simple, low-cost production techniques for editing, duplicating and dubbing in narratives and background music on a sound track. When the necessary footage of any subject has been submitted by department personnel, Mr. LaCasse begins the process of making titles, splicing for continuity, editing, shooting additional feet of film for sequence necessary to turn out a finished movie.

The Department has completed one experimental movie on fish shocking operations of fisheries biologists. Present plans call for production of additional films on other wildlife subjects.

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