

OREGON STATE
GAME COMMISSION

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GAME COMMISSION

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The Cover

The Tenmile Treatment . . . Dead fish and water weeds. See this month's feature article.

photo by Ron Shay

HUNTER SAFETY TRAINING PROGRAM

Instructors Approved

Month of November 15
Total to Date 3,723

Students Trained

Month of November 902
Total to Date 135,498

Firearms Casualties Reported in 1968

Fatal 11
Nonfatal 60

Game Director Resigns



Phil Schneider, state game director for the past 18 years, a career man in the management of Oregon's fish and wildlife resources since 1940, announced today that he is leaving the Oregon Game Commission to take a new position with the National Wildlife Federation.

Schneider said that he has accepted the position of Regional Representative for the Federation, effective February 1, 1969, an assignment which will provide

him with much more time to work directly on natural resource problems. The region which will be under his jurisdiction will be the far western states including Alaska and Hawaii. Schneider said he will be headquartered in Portland.

The National Wildlife Federation is the largest citizen conservation group in the world and concerns itself with the total environmental picture. Schneider will be working with all conservation groups and agencies on natural resource issues.

Pat Metke, Commission chairman from Bend, said that the Commission reluctantly accepted Schneider's decision. "We don't like to see this outstanding conservationist leave the organization," the chairman said, "a man who has received national and international recognition for his work. His loss will be keenly felt here in Oregon."

Metke announced that the Commission appointed John McKean to succeed Schneider as state game director, an appointment which will become effective February 1. McKean has been a career man in fish and wildlife resource management since 1936 and has headed the Commission's game division and its statewide operations since 1949.

'68 HI-LITES

A year ago we reported that decisions of the Legislature highlighted fish and game affairs in 1967. One of these decisions was to grant an increase in certain fishing and hunting license and tag fees, with those for fishing to take effect on January 1, 1968 and those for hunting to become effective a year later. Some of the more important developments in fishery management in 1968 are attributable to additional revenue available from the increase in fishing license fees.

One of the first orders of business was to increase the production of yearling trout by ten percent. A similar increase this year will bring production back to the level that it was prior to a 20 percent reduction in 1964. Production beyond this level will depend largely on the availability of funds and rearing facilities.

The most ambitious fishery project this past year was the chemical rehabilitation of the Tenmile Lakes system. This was accomplished in late summer following many months of planning and pre-treatment work. As of this date, it appears that complete eradication of undesirable fish was accomplished. Restocking commenced last fall as soon as the

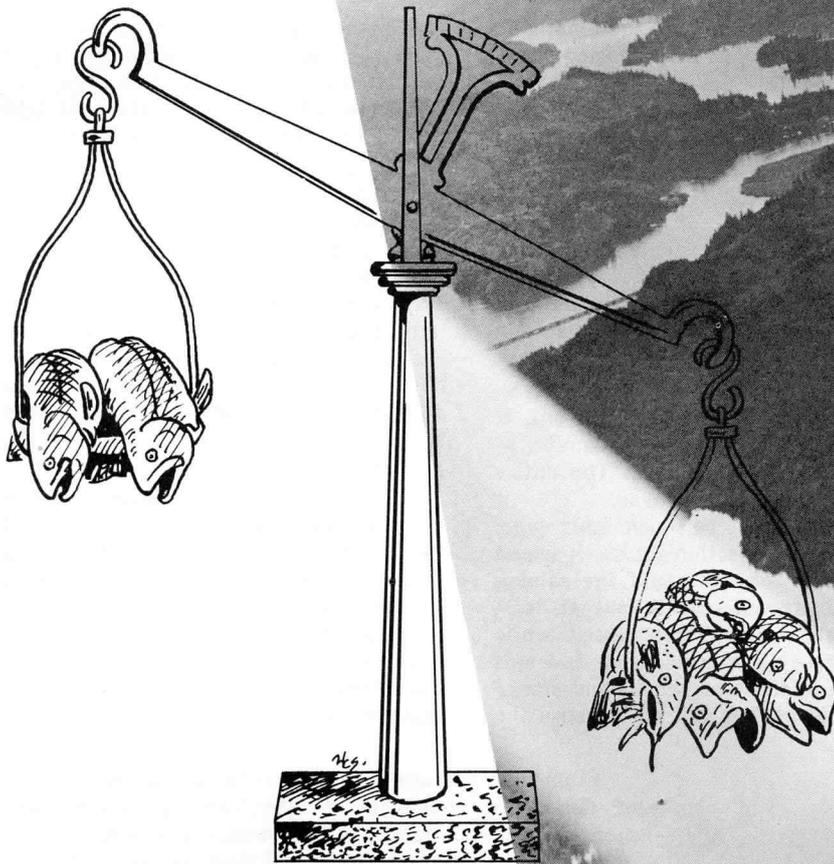
toxicity disappeared, and fishing will be available in the lakes this year.

In addition to Tenmile Lakes, undesirable fish populations were eliminated in Ochoco, Beulah, and Thompson Valley Reservoirs; the Blue River Dam impoundment area in the McKenzie drainage; and the lower 21 miles of Thomas Creek, tributary to the South Santiam.

A survey of federal land access problems was completed for the Public Land Law Review Commission. The survey identified 382 cases in which private land closures deny access to a total of 572,000 acres of federal land. It was also disclosed that public access to an additional 57,000 acres was available for a fee.

Formation of a Columbia River Fishery Advisory Council, composed of the directors of the five state fish and game agencies involved, marked an important step in obtaining a more coordinated approach to management of anadromous fish in the Columbia and Snake Rivers. The main purpose of the Council is to advise and counsel the Columbia River Compact Commission on matters pertaining to the anadromous fisheries, sport

(Continued on Page 7)



DON'T TIP THE BALANCE

by **Ralph A. Grenfell**
Warm Water Fishery Biologist

LONG YEARS AGO THE stream talked its way toward the sea. In the deep, brushy canyon its voice was an overtone to the sound of surf echoing in the hills. Fewer years ago, wind-driven sand blocked the stream course and a lake began to fill the canyons. Duff, brush and timber were submerged, rotted and lent their nutrients to the rising lake.

Cutthroat trout, silver salmon, steelhead traveled the stream to the acres of gravel in its headwaters. There they spawned and some died, but their young carried the race through the unending years.

Dissolved nutrients n o u r i s h e d the plants and animals called plankton. They in turn fed the hordes of insects that lived their nymphal lives underwater, and the insects went to the fish. Now the small fish paused in their seaward journey to enjoy this abundance. They grew well and were strong and vigorous when they completed their trip to the sea. So it went for the uncounted years. A balance was struck and nutrients, food and fish numbers were in agreement.

Short years ago, in comparison to the vast reaches of time, man discovered the lake. Then he, too, enjoyed the abun-

dance offered by the natural balance operating in the lake. Trout were big and numerous and, in the spring, fed to bursting on the giant yellow mayflies. Old-timers talk of throwing back any that were less than two-pounders. Silver salmon in great numbers fought up the stream to plow the gravel bars. Hard-bodied steelhead followed them in the winter, and man reaped a golden harvest of the bright, silvery fish.

More men came. They were from a far place, missed the fishes of home, and in their minds thoughts churned. If these waters could nurture trout and salmon

in such magnitude, why could they not also care for other kinds, perhaps the fish from home? Those fish were in a lake to the north called Tahkenitch—there were no roads and a great river to cross, but they could do it. The idea crystallized: Go and bring some to Ten-mile!

So a small number of yellow perch and brown bullhead were carried through the dark timber, over the steep hills and given a new home. The strangers liked their new home, and the dreams of the discontented men were exceeded.

(Continued on Page 4)

Prior to treatment of the main bodies of water, 77 miles of tributary streams had to be treated. This type of tributary was easy. Brush and lack of roads made much back work necessary also.



Balance

(Continued from Page 3)

Perch were two and three pounders, the bullhead grew to five and six pounds; trout and salmon flourished, but not for long. The balance had been tipped.

The perch and bullhead spawned in greater numbers than did the trout and salmon. Their young lived a life span in the lakes while the others only paused in their journey to the sea. The increased numbers of fish in the lake soon diminished the food supply. The great yellow mayfly disappeared and was followed by the cutthroat. Young salmon were preyed upon by the perch and dwindled in number. Perch and bullhead spawned, survived, did not grow, and squeezed the others out in the intense competition for food. Perch died of old age at a length of six inches, the bullhead at ten inches, and the fishermen were unhappy. The balance was completely broken.

Men who were concerned over such things came and documented the situa-

tion. They measured fish and counted their numbers, looked at scales and vertebrae to find the age of the fish, then correlated the size, heft and age. The facts and figures showed there was a steady decline in the growth rate of the perch and bullhead. The lakes were in deep trouble.

Two cures were available for the sick lakes. First, remove part of the fish and give the others room to grow. Second, the most drastic, kill off all the fish and start over with the most desired species.

The first measure was tried and, although tons of fish were taken out, it made no difference to the remainder, so the final move was decided. The entire population would be destroyed.

But it was not to be so suddenly done. A great fog of objection arose—it would ruin business — how could the salmon runs be preserved—please put at least the bullhead back. Time passed while these matters were considered, and still more time in futile argument and smoke screen. Boat rentals fell off because the

fishermen were no longer interested in the lakes; tackle shops folded from lack of customers. Then, 30 years after the balance was tipped and 20 after the lake was deathly sick, the time arrived.

The men who were concerned over such things came again, this time with a smile and tons of equipment. There were boats and motors, barges and pump tanks, drums of gasoline, drums of the fish-killing chemical, eager hands and long, long days of hard work. Wet days and dry days, cool days and hot days until a month had passed and the job was done. In a few weeks' time the fish would be replaced and once again, perhaps, the balance would be restored.

Big cutthroat trout, bigger salmon and bright-bodied steelhead, clouds of the yellow mayflies, fine fishing, thriving businesses, smiles on the faces of the men who are concerned over such things. Not too bad a future, is it? And this time—this time, maybe the discontented man will think again before he topples the balance and steals this future from you.



Small barriers were constructed to keep fish from getting into the fresh water of the tributaries when rotenone was applied to the main lakes. Drip barrels of the chemical at the barriers made doubly sure no fish escaped the treatment.

Final field operations leading to the actual introduction of fish-killing chemical into the Tenmile system commenced in March 1968. All landowners and public health officials were again contacted and made aware of the proposed treatment schedule. Equipment and toxicant were ordered and scheduling of required personnel was initiated. The treatment area was to include Eel, Saunders, Clear (adjacent to Saunders), North Tenmile and South Tenmile Lakes, all tributaries, and Tenmile Creek, the outlet of South Tenmile Lake.

To assure maintaining adequate numbers of native coho salmon, steelhead, and cutthroat trout, personnel of the Fish and Game Commissions conducted a fish salvage program in the tributary streams. This began in mid-March, extending through late April as the newly hatched coho fry were emerging from the gravel. Salvaging of cutthroat and steelhead fry occurred from mid-May through early June. Small coho exceeding 1,000,000 fish were transferred to the Fish Commission's hatcheries for rearing.

Many of the dairy and beef cattle producers located in the project area expressed concern regarding the possibility of the fish toxicant contaminating their animals. After learning that the concentration of rotenone used in fish control was harmless to livestock, outstanding cooperation was received from all landowners.



A&B The old and the new. Marshy areas were treated both by men carrying back-packed spray cans and by the use of a helicopter. Cattle browsing in the grassy areas were not affected by the fish-killing chemical.



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CHEMICAL TREATMENT Tenmile Lakes

LAKE	SURFACE ACRES	DATE OF TREATMENT	GALLONS OF ROTENONE USED
Eel	350	September 4	8,910
Saunders	57	September 10	550
Clear	24	September 10	330
North Tenmile	1,012	September 13	10,230
South Tenmile	1,409	September 16	14,685

Application of rotenone started in mid-June on the tributaries, adjacent ponds, and marsh areas. By mid-August all tributaries were treated with barriers constructed at the mouth of each stream to prevent the re-entry of unwanted species. Then the roof fell in! Mother Nature provided heavy, unseasonal rains for a period of nearly two weeks. The volume of stream flows increased, washing out most of the barriers constructed earlier. Also, approximately 3,600 acre-feet of water was added to the volume contained in Eel, North and South Tenmile Lakes.

This unwanted attention from the elements forced us to reassess the feasibility of continuing the project in 1968. Further delay was of great concern. Sufficient time had to be allowed so that the lakes would no longer be toxic when fall coho salmon moved into the watershed. By postponing treatment of the lakes one week and calling in additional personnel, it was determined that the tributary streams could be rechecked and treated and the project completed in the fall of 1968.

Fish placed in live-boxes at various locations and depths in the lakes tested for penetration of the toxicant and completeness of kill.

Treatment of the lakes required 34,705 gallons of liquid rotenone with 1,045 gallons used in the tributaries. Almost one ton of powdered rotenone was utilized in some of the tributaries and a section of Eel Lake.

The project required 75 men to complete and cost \$176,000, not including the cost of restocking.

Nets set in all the lakes after treatment took none of the unwanted species, indicating a successful rehabilitation program.

Restocking of the lakes commenced in mid-October. The following species and numbers of fish are scheduled for the initial liberation:

Cutthroat, 112,000; rainbow, 869,000; steelhead, 133,000; kokanee, 48,000; and the 1,000,000 coho to be released by the Fish Commission of Oregon.

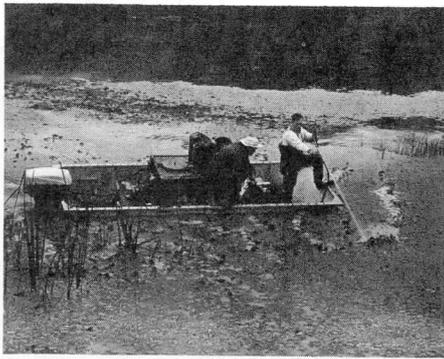
—Monty Montgomery



Weedless center sections of the lake were treated with more speed than the weed-choked shoreline. In all, 46,253 acre-feet of water received the toxicant. Each boatman had a limited section of the lake which he crisscrossed to insure thorough saturation.



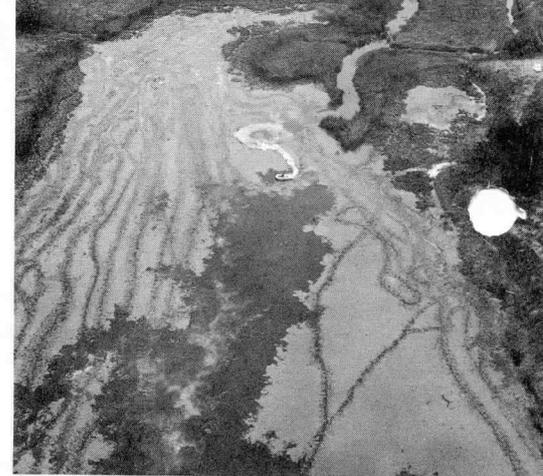
Load up and move out! Several small docks were constructed on the various lakes. This dock at the South Tenmile Yacht Club was already there and served as one of the main refueling stations for outboard gasoline and for rotenone. Pumps transferred the chemical from the shore drums to the boat so handling of the heavy containers was minimized.



Many of the 2,852 surface acres to be treated had a coating of weed called "water shield." A pressurized spray system was used to force chemical through the cover.

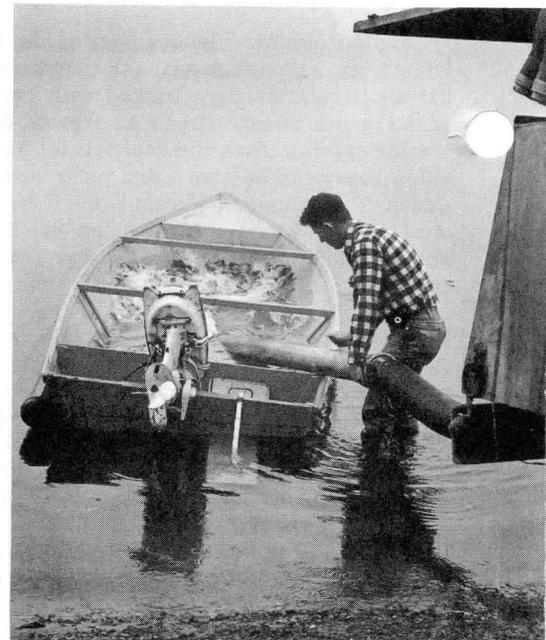


In some areas the lakes were too thick for barges and too thin for trucks to traverse, so the hose was dragged through the weeds by hand. Unexpected holes in the lake bottom often created water-filled wading boots.



Pathways through the weeds. A large boat with a 150-horsepower motor was used to churn through the weed patches and spread the rotenone via a tube which injected the chemical into the water near the propeller. Even this power wasn't enough to keep the weeds from fouling the prop regularly.

Live-boxes containing catfish were used to test the toxicity of the waters during the treatment. Approximately a month later, trout placed in the live-boxes survived, and shortly thereafter initial stocking took place. A planting boat was used to distribute the fish over wider areas in the lakes.



Commission Resolves on Deschutes

At their November 16 public hearing regarding the 1969 angling regulations, the Game Commission heard considerable discussion regarding the use of power boats on the Deschutes River. Though the Commission does not have the authority to restrict the use of certain types of boats except where it directly concerns angling from them, they did pass the following resolution following the hearing:

"In recognition of great public con-

cern for the welfare of the Deschutes River, one of the outstanding free flowing trout, salmon, and steelhead streams of the United States and the State of Oregon, that the professional staff and the Commissioners of the Oregon State Game Commission take immediate and personal action to research, acquaint themselves and report conclusions and recommendations to the 1969 Oregon State Game Commission angling hearings with respect to the following:

1. Restricting all or part or parts of the river to fly fishing only;
2. Consult with the Oregon Marine Board concerning restricting navigation of all or part of the river to drift boats only;
3. Preventing fishing from designated islands within the river;
4. Preventing the keeping of fish in excess of certain prescribed limits; and
5. Preventing the carrying of fishing gear or fish in power operated boats.



Among the many elements of our state's renewable natural resources, that represented by our anadromous fishes holds a high and conspicuous place. This resource, although highly sensitive to environmental changes, has an inherent capacity to maintain and renew itself with remarkable ability. It is a resource that is essentially unique to our region of the continent. For this reason alone, it holds a position of extraordinary importance as a value to be safeguarded and enhanced.

Accordingly, the many activities carried out on our rivers which possess in themselves necessary impingements upon water quality and volume are of deep concern to the fishery agencies of the region. Great effort has been made to prevent excesses in one or more influence being imposed upon our rivers which would further depress their character insofar as fish are concerned. In recent years the factor of increased temperature has emerged as one of growing importance and concern.

It has been because of the foregoing that the relatively recent advent of planned large thermal plants for the generation of electricity with their need for both cooling water and discharge of large quantities of heat posed an additional threat to the environment so fundamental in maintaining our cold water fishes such as salmon and steelhead.

The challenge of meeting this region's power needs in the immediate future is, we are told, a formidable one. A current assessment of this need forecasts a 20-year construction program costing \$15 billion for new thermal, hydro, and transmission facilities. This is to be met, at least in part, with the construction of large nuclear plants which must, in one way or another, dispose of large quantities of heat.

The first of these scheduled for the lower Columbia is the one planned and under design by Portland General Electric Company designated the Trojan site downstream from Portland. Its requirement of cooling water and its discharge of heat presented, in our opinion, a potential to the fishery resources worthy of serious concern. In addition, the principles employed in handling the heat and

cooling water in this first plant could establish a general indication how subsequent plants would handle this problem.

Early consultations with the company indicated that a once-through cooling system would be used where large volumes of water from the Columbia would be pumped through the plant for cooling purposes and the disposable heat would be carried by the water directly to the river for dissipation.

Although elaborate studies have been made with regard to the effect of this heat upon the river environment, many fisheries and water quality experts held strong reservations as to the wisdom of such a practice. Of equal importance was their concern if subsequent additional plants were to add further to this heat load.

The recent announcement of the company that cooling towers would be employed to discharge this heat into the atmosphere rather than to the river is, in our view, a most heartening and far-reaching decision insofar as fishery considerations are concerned. We are most gratified that this aspect of the design and operation of this plant has been made in this manner.

We are cognizant of the fact that many factors must be considered in arriving at a decision of this nature. Of these, environmental quality of the river is an important one. Furthermore, this decision should set a pattern which will have a salutary effect upon future developments of this nature with respect to the problem of maintaining water quality so important to the future destiny of our magnificent fish resources.

—P. W. Schneider

'68 Hi Lites

(Continued from Page 2)

and commercial, of mutual concern to the states of Oregon, Washington, and Idaho. The Council will serve until the existing law can be changed to make all five agencies of the three states party to the compact.

Weather, as usual, played a key role in the production and harvesting of fish and game. One of the mildest winters in recent years assured a good carryover of game birds and mammals. However, an exceptionally dry spring limited forage production on many big game ranges. Rains in late May and early June brought some relief, but many streams and reservoirs remained uncommonly low. A return to hot, dry weather in July further exhausted water supplies in the more arid portions of the state. The situation changed completely by mid-August when unprecedented rainfall filled reservoirs,

improved stream flows, lowered temperatures, generated new plant growth, and resulted in wide dispersal of big game and game birds. There was no need to consider postponement or elimination of hunting seasons as had been done under extreme fire hazard conditions in 1967.

In the spring a serious fish passage problem arose at John Day Dam in conjunction with filling of the reservoir area behind the dam. An undetermined but substantial number of spring chinook salmon was lost as a result. Immediately prior to filling of the reservoir the Commission cooperated in salvaging goose eggs from nests on islands that would be inundated.



Offshore salmon anglers found the going somewhat more difficult in 1968, with sport landings down substantially at the majority of coastal ports. The only major port reporting an increase over the 1967 catch was Winchester Bay. Adverse weather conditions and distribution of fish had some influence in limiting the total catch.

In 1967 the Commission initiated a pilot project involving regulated hunting access to about 110,000 acres of private land in Morrow County. The project was



considered a success, and two additional areas embracing about 22,000 acres were added in 1968. These were located in Crook County.

Progress was made toward the eventual development of a public warm-water fishing complex adjacent to Interstate 5 north of Salem. Test drilling revealed that an adequate water supply to fill the proposed ponds is available on the site.

'68 Hi Lites

(Continued from Page 7)

Development of additional public fishing impoundments received increased emphasis. The Jubilee Meadows impoundment in Umatilla County went into production in the spring. As the year ended, work was progressing on Pine Hollow impoundment in Wasco County and Willow Creek impoundment in Harney County.

The program of trapping and transplanting Roosevelt elk to preselected sites in western Oregon was continued. Several transplantings have been made with additional ones scheduled for the future. This effort should substantially increase elk hunting opportunities in the Cascades and Coastal Mountains.

The High Mountain Sheep Dam issue received a great deal of attention. Much time and effort went into assembling information for and submitting testimony to the Federal Power Commission in connection with the application of a combination of public and private power interests to build a dam in the middle Snake area.

There were other important developments, and the foregoing by no means covers all of the many activities conducted by the Commission in 1968. This year will witness further expansion of management programs for fish and game to assure a continuation of productive fishing and hunting opportunities for Oregon citizens.

—R. C. Holloway

HUNTING DATES TO BE CONSIDERED

A public hearing will be held by the Game Commission on January 9, 1969 at 10 a.m. to consider the opening dates for several of next year's hunting seasons.

Though the length of the seasons won't be set until May and June when biological data has been assembled by the staff, the Commission is considering the opening dates in January to assist vacation planners.

Staff recommendations to be presented to the Commission for consideration as opening dates are:

Deer season	October 4
Eastern Oregon Elk	November 1
Western Oregon Elk	November 15
Pheasant and Quail	October 18



The White-breasted Nuthatch

The white-breasted nuthatch is the largest and most widely distributed species of nuthatches in North America. It is a permanent resident of the wooded sections from coast to coast and from southern Canada to southern Mexico.

In Oregon it is a common, but not abundant, resident of all of the timbered areas in the state, being most plentiful in the yellow pine forests on the east slope of the Cascades and in southern Oregon. In the Willamette Valley it frequents both the coniferous and deciduous timber but shows a definite preference for the stands of oaks and cottonwoods.

The nuthatch derives its peculiar name from a habit of wedging nuts and other hard foods into tree crevices and "hatching" or hacking them with its sturdy bill until they are opened.

The white-breasted nuthatch is about the size of a small sparrow but is a longer and slimmer bird with a short neck and a long, slender bill. The back is slate blue with a shiny black crown and neck, while the underparts and face are a snowy white. The characteristic hoarse call note—"yank yank"—which the bird frequently utters provides positive identification.

The creeping and tree climbing ability of the nuthatch is a wonderful accomplishment. The bird travels upwards or downwards, forwards or backwards, or even along the underside of a branch like a fly on the ceiling. The apparent ease with which it assumes this inverted position is due chiefly to a lack of dependence for support on its tail. Unlike the woodpecker, which must use its stiff bristly tail as a climbing prop to slowly work its way up a tree, the nuthatch is able to move about effortlessly. It is most often seen traveling head first down the trunk of a tree in search of food.

Even though the nuthatch has many of the characteristics of the woodpecker, it does not excavate holes but confines its activities to flicking off loose bark scales and prying into cavities and seams for insects. An abandoned woodpecker hole or natural cavity in a tree is, however, usually selected for a site in which to construct a soft nest of fur, leaves, and feathers.

Although much of the diet of the nuthatch is composed of insect pests which it locates in the forms of eggs, larvae, and adults, it is also fond of suet, nuts, sunflowers, and other seeds frequently placed out in winter feed stations. Any food not eaten is stored away in the cracks and crevices of large trees where it will be available at a later date when natural food supplies are exhausted.

—C. E. Kebbe



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