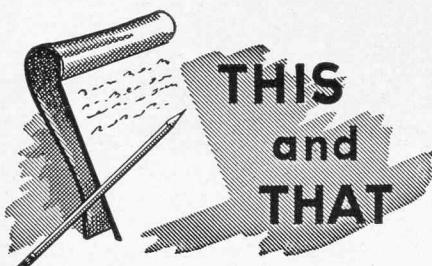


OREGON STATE

GAME COMMISSION BULLETIN

NOVEMBER, 1953





Antelope hunters this fall scored a 48.1 per cent success ratio, according to returns made by 372 of the 400 hunters to whom permits were issued. The kill totaled 179 and was divided evenly between the two open areas.

* * *

A run of brown trout as well as several summer steelhead were observed this fall entering the trap of the Steelhead Falls fishway on the Deschutes River near Redmond. Steelhead had also been checked moving above the falls last spring.

* * *

Eastern Oregon counties received a total of 10,994 chukars this season of which 1,904 were adult birds and 9,090 were young stock. Field agents made several sight records this summer showing that the chukars released last May were successful in bringing off broods in nearly all areas.

* * *

The 261 dove hunters checked by field agents during the 1953 season in both eastern and western Oregon reported a kill of 1,636 birds, an average of 6.2 birds per hunter. The heaviest concentration of hunters and largest average bag were found in the central district.

* * *

One of the rare Columbian sharp-tailed grouse was observed during September in Baker county by a field agent. A high population of Hungarian partridge was noted also in this country in the foothills area.

* * *

The East Lake roach situation appears to be improving since very few hatches of fry were seen during the summer of 1953. The kill of roach for this season amounted to 3,572 pounds. An excellent fishing season was enjoyed at the lake this year.

COVER

Game Commission engineers starting survey at Diamond Lake for drainage canal. (Photo by H. C. Smith.)

Game License Fee Trends

A study of fish and game legislation proposed or acted upon during this year's various legislative sessions indicates an increased trend toward higher state fishing and hunting license fees. Many states are realizing that their present revenues are not sufficient to support their fish and game management programs.

Fee increases for angling and/or hunting licenses were passed in North Dakota, Utah, Washington, Wisconsin, and Kansas.

A forthcoming special session of the Mississippi legislature was expected to be asked to enact emergency legislation to increase the license revenue.

In New Mexico the governor vetoed a bill which would have provided free

hunting and fishing licenses to residents over 65 years and on public welfare rolls. Instead, he started a fund supported by voluntary contributions for purchasing such licenses.

North Carolina abolished its short-term fishing license for nonresidents, who hereafter will have to buy a full season's license. The legislature also rejected a bill which would have permitted persons over 65 to fish or hunt without a license.

The South Carolina legislature turned down a bill to allow their fishermen to purchase one statewide license for \$3.10. Under present law, anglers must buy individual licenses for each of certain bodies of water.

International Assn. Meeting

The forty-third annual convention of the International Association of Game, Fish and Conservation Commissioners held in Milwaukee, Wisconsin on September 14, 15, 16, was attended by P. W. Schneider, state game director.

Main discussion themes included: "The Increase of Wildlife on Private Lands"; "The Waterfowl Situation and the Contribution of the Flyway Councils"; "Policy and Administrative Problems on the State and Provincial Level"; and "Working Relationships between Provincial, State and National Governments."

By formal resolutions the convention:

Urged immediate adoption by the federal government of comprehensive, long-term water use policies;

Reaffirmed its support of the fundamental principle that the public lands, forests and other resources of the nation should be administered primarily for the benefit of all the people.

Requested a review by federal and state governments of legislation authorizing the various flood control, hydroelectric, navigation, irrigation and reclamation projects and to make such corrections as may be found necessary to assure maximum future fish, wildlife and public recreational benefits;

Urged, in the event of consolidation of administration of public lands, it be placed under the Forest Service.

Urged enactment of appropriate federal legislation to protect remaining key waterfowl areas of the Lower Klamath and Tule lake Refuge.

Endorsed the Baker Bill, H. R. 1972.

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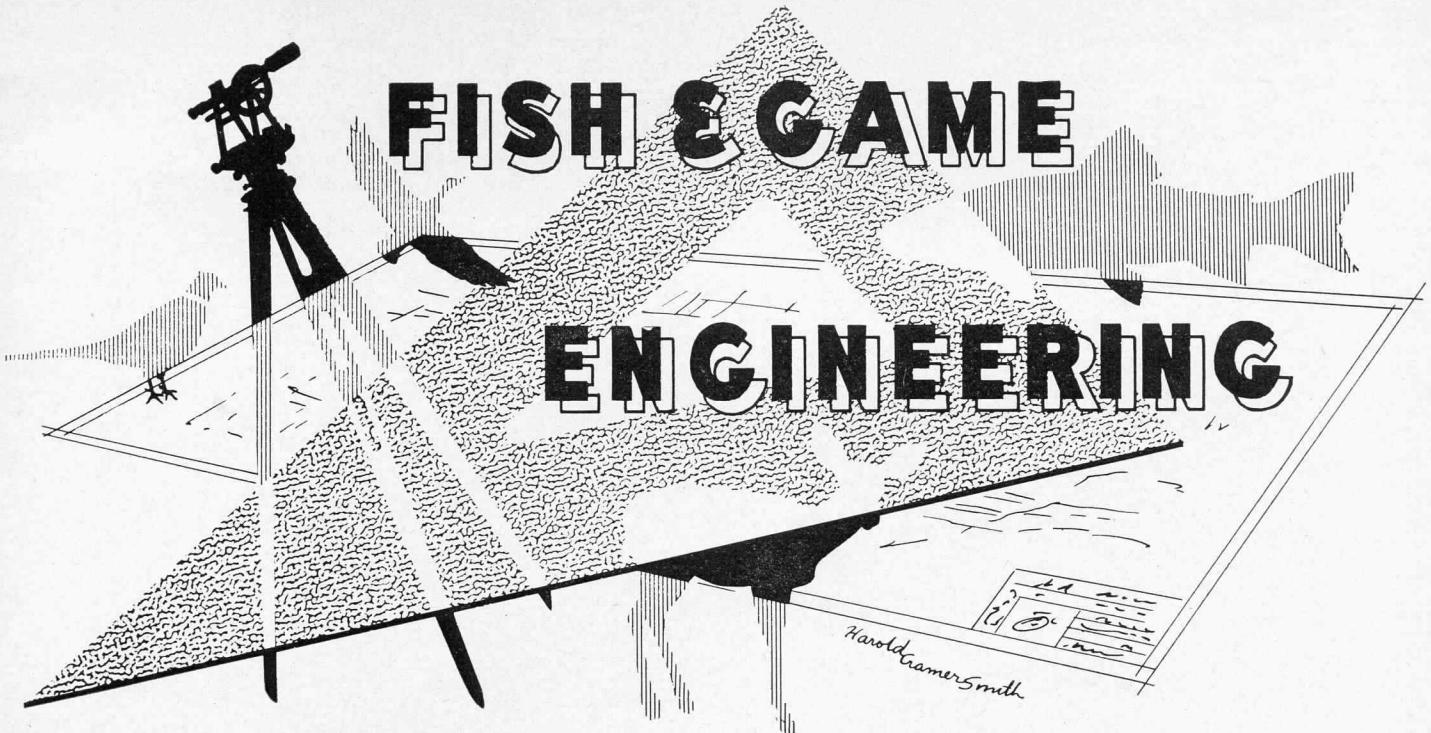
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By GEORGE KERMAN, Engineer

Engineering, as it is related to the Oregon State Game Commission activities, presents problems or projects in almost every field of the profession. The purpose of the engineering division can best be explained by examples of actual projects undertaken in recent months throughout the state.

One of the chief duties is planning and executing any new construction for the Commission. Gathering information and ideas from the various divisions and evolving a plan for the work to be done is the most time-consuming phase. From an engineering point of view, the finished structure or project is the eventual end of all thinking and planning.

The construction program of the past summer provides typical and varied examples of projects requiring skills of an engineering department. The expanded program of the Commission has required an increase in its facilities as well as a replacement of those that have worn out after many years of service.

In the fisheries division, one of the most diversified contracts let this spring was for work at the Klamath hatchery. It included rebuilding of two of the water impounding structures on the main water supply; remodeling of the sewage disposal system; and providing additions to the fish food storage facilities. The increased competition for the available

supply of fresh fish food has necessitated search for supplemental feed. Dry feed has helped to solve this problem but it requires different storage facilities.

Another project completed this summer was the building of a new cold storage plant and a residence at the Bandon hatchery. Modern cold storage facilities were needed to take advantage of a source of fresh fish food. The size and type of building, the type of insulation and the manner of refrigeration requires research and investigation of all materials. To get the most economical structure possible, the first cost must be carefully weighed against maintenance and eventual replacement.

Additional residences were built this summer at the Roaring River, Wizard Falls and Willamette hatcheries. A hatchery can never be left unattended so most hatchery employees live at the station to make it possible, by rotation, to have someone on the grounds at all times.

The maintenance and repair of the Game Commission installations fall under the watchful eye of the engineering division's maintenance unit. The statewide stations, amounting to small villages nestled in out of the way places, had presented in the past a problem in maintenance. Too often minor remodeling or repair projects were too costly to be contracted separately. The employment of competent,

experienced workmen to make regular inspections of the various facilities and make repairs as soon as needed is cutting down on the maintenance cost. The training of these men enables them to discover defects sooner than the regular station personnel whose training is more along the line of fish or game propagation.

Surveying of property owned or to be acquired by the Game Commission is another activity of the engineering division. The varied topography of the state does not always call for the same approach to a surveying job. When the Commission purchased a large marsh area in Klamath county which was to be opened for hunting, it fell to the engineering division to determine the property boundaries so that proper signs could be posted. The reeds were about 12 feet high and cutting a line all around the property would have been a gigantic task. Setting up the surveying instruments on the unstable marsh was impractical so triangulation seemed to be the most feasible method. The distance involved prevented communication between the instrument man and the head chainman but this was solved by borrowing radios from the state forestry department. The posting was then completed with a minimum of effort.

The filing of water rights, screening of irrigation ditches and the construction of fish ladders over natural

(Continued on Page Six)



The new Leaburg Hatchery on the McKenzie River, rated as one of the largest trout hatcheries in the world.

Leaburg Trout Hatchery



Honorable Harris Ellsworth is the main speaker at the Leaburg Hatchery dedication ceremonies.

The new Leaburg Hatchery on the McKenzie River was formally dedicated and turned over to the Game Commission by the United States Corps of Engineers in ceremonies held at the hatchery on Sunday, September 27. Financed by the federal government, the plant is one of the largest of its kind in the world, being designed to produce 500,000 catchable size trout annually.

The Honorable Harris Ellsworth, Representative from the Fourth Congressional District, gave the dedication address. He stressed the importance of recreation to the economy of the state and to the personal welfare of the individual. He pointed out the growing importance of angling as a recreational pastime and stressed the necessity of planning and proper management to meet the increased demand.

Colonel T. H. Lipscomb, District Engineer for the United States Corps of Engineers, explained the physical plant to the audience and outlined some of the construction details.

Kenneth G. Denman, Chairman of the Oregon State Game Commission, accepted the hatchery on behalf of the Commission. His acceptance speech is printed on page 5.

(Continued on Page Five)

Hatchery Dedication

Talk by Kenneth G. Denman, Chairman
Oregon State Game Commission

This is indeed a happy occasion for all people who are interested in the preservation of the trout fishery in the Willamette River watershed. This particular hatchery will be devoted to the raising of only trout. It will be operated by the Oregon State Game Commission but the truly significant thing is that the funds for the building of this hatchery and for its operation have been and will be furnished by the federal government through the Army Engineer Corps. Also, it should be remembered that the fish raised in this hatchery may be liberated only in the Willamette watershed on certain streams therein.

When we consider the fisheries of Oregon in relation to the tremendous and growing use that is being made of the same, such makes us realize that the time is upon us when we must give a great deal of sober and serious thought to these fisheries. We are told that one out of every four citizens in the state of Oregon is a fisherman. In 1951 we know that over 270,000 people bought fishing licenses and over 220,000 bought hunting licenses. In 1952 these numbers increased substantially. The people of Oregon have been informed that by 1960 this state will have an additional half million new residents. Sportsmen and commercial use of wildlife resources is constantly growing by giant leaps and bounds. Nature's ability to produce fish and game is being diminished by the programs of man. We find our land and waters affected by pollution, dams, mining, lumbering, farming, grazing and many other man-made practices. Yet the use of these lands and waters by recreation seeking people is increasing.

Formerly it was thought that hatcheries could take the place of nature in that regard. We have found that such is not true and that if we depend on hatcheries alone, we will be disappointed. Now hatcheries are ordinarily built to supplement the natural spawning of fish in a given watershed and to mitigate damage that may have been done therein. Hatcheries are the best answer that have been devised up to the present time for such purposes.

We can well ask the question, "Why was this hatchery and other hatcheries built in the Willamette Basin?"

To answer this, we must consider what has been happening in this watershed. Certain dams have been built and will be built in the future on the Willamette River or on its tributaries. These dams undoubtedly have and will result in serious damage to the trout and salmon fisheries here due to the

following: Large spawning and habitat areas will be flooded out above the dams; upstream and downstream free passage of anadromous runs of fish will be impeded or prevented; and areas below the dams are left in an abnormal condition due to fluctuation of stream flows and in some cases a warming of stream temperatures. Growth of scrap fish in the reservoirs is increased. Therefore, we see that these dams have caused and will cause damage!! Such is one of the effects of this type of development.

Therefore, the answer to the question is: THIS HATCHERY WAS BUILT AND WILL BE OPERATED TO MITIGATE THE DAMAGE CAUSED BY THESE DAMS. The Leaburg hatchery exists for the purpose of furnishing restitution for the said damage. That is the reason that the fish raised here must be released in the Willamette River or its tributaries so affected.

Therefore, we of the Oregon State Game Commission feel that the building of this hatchery and the furnishing of the funds for its operation is a recognition of the federal government, through the Army Engineer Corps, that these dams cause damage and that an obligation exists to mitigate and furnish restitution for the same.

On behalf of the Oregon State Game Commission, I wish to congratulate the Engineer Corps on its recognition of this obligation. Also the Willamette River Basin Commission is to be complimented for its part in the same. This Committee worked with the Game Commission and other recreationally minded groups to the end that this and other hatcheries would be built and operated at federal expense to furnish restitution for the damage occasioned by said dams.

At the present time, **the law** affords but little protection for fish insofar as the use of water is concerned for multi-purpose projects. However, and because of that, we are happy to note that in

the over-all water policy which is being developed for the use of the water in this basin, the fisheries are being seriously considered. We feel that procedures should be adopted and followed which will preserve and protect our God-given fisheries. This recognition should be ever present in the planning, construction and operation of projects which affect our wildlife resources and in the formation of the water policy for this and other states.

In closing, I wish to leave this thought with you: The Oregon State Game Commission strongly believes that whenever dams or other structures are built in streams or waters which have substantial wildlife resources, a definite obligation exists on the part of the contracting, constructing, or operating agency to furnish restitution for the resulting damage by doing whatever things are necessary and will be most suited to mitigate the damage. Also, we feel that in the future planning of the various uses of our water resources, that our wildlife be given an important place and be fully considered and recognized so that adequate provisions can be made in time to preserve such resources.

This obligation we feel is a continuing one and should be recognized at all times. The public is increasing its use of our fish and game and expects this obligation to be fulfilled.

Again, we of the Oregon State Game Commission extend to the Army Engineers, to the Willamette River Basin Commission, and to all other persons or groups that helped bring this hatchery about, a hearty "**THANK YOU**" for recognizing this obligation and cooperating in the building of this hatchery and in the providing for its future operation.

We trust that this attitude will continue in the future and I sincerely assure you that the Oregon State Game Commission will cooperate fully to the end that we shall preserve our fish, game and all other wildlife resources for all generations to come.

Leaburg Hatchery

(Continued from Page Four)

Several hundred people attended the dedication ceremonies and inspected the new hatchery facilities.

Rainbow trout fingerlings have been placed in the ponds and initial plantings of fish from the station will take place the early part of next year. Fish from the Leaburg hatchery will be released in Willamette Valley streams affected by the dam building program.



Excavating canal at Diamond Lake through which water will be drained next summer into Lake Creek to lower level of lake.

Engineering

(Continued from Page Three)

and man-made barriers come under the jurisdiction of the engineering division.

There is a screen manufacturing plant located at Central Point in Jackson county where fabrication of the rotary screens for small irrigation ditches is accomplished. The construction of the concrete boxes for the installation of these rotary screens is done by a crew also headquartered at Central Point. At the present time the screen crew is busy installing boxes on the upper John Day River, the funds being provided by the federal government's Lower Columbia River Program.

Stream clearance is another phase of the program. One man is employed to check the accumulation of debris in the streams of Oregon. When the debris reaches the proportion that migratory fish are blocked in their efforts to go upstream, such debris is removed.

Decidedly different is the project undertaken at Diamond Lake this year. Several years ago, the fishery personnel of the Game Commission noticed a definite decline in the fishing success at Diamond Lake. More extensive surveys showed the presence of a small minnow called the roach. Partial poisoning was tried for several years with an apparent lack of success. The thought of total eradication appeared to be the only satisfactory solution and this could be done only by reducing the volume of water in the lake.

The engineering division was con-

sulted to determine the amount of water in the lake and the possibilities of lowering the level of the lake. A study was made of the various methods and their approximate cost. The project was of such magnitude that outside advice from a consulting firm of engineers was obtained to supply the Game Commission with a report on the feasibility of a draining project, methods of draining the lake and the estimated cost. Three possible methods were proposed: digging a canal through the rocky lake shore; siphoning the water over the lake shore; and pumping the water down Lake Creek, the existing channel. Digging a canal was the method chosen and the finished plan called for draining the top eight feet from the lake.

The next step was the actual survey on the ground to determine the location of the canal and the amount of excavation necessary under water and on dry land. The late snowfall this past spring necessitated surveying through the snow. After the survey was completed, the plans and specifications were completed at the office. These plans and specifications were submitted to the United States Fish and Wildlife Service for approval as federal Dingell-Johnson funds are being used for the project. The same plans were presented to the U. S. Forest Service in applying for a special use permit for construction on the land under its jurisdiction. Consultations have been held likewise with other interests, including California - Oregon

Power Company, Diamond Lake Lodge and the home owners, all of whom in one way or another are interested in the project.

The next step was the advertisement for bids. Notices were placed in the local papers as well as those having statewide circulation to attract the attention of all contractors equipped for this type of work. The climax of this preparatory work was the opening of the bids to determine which contractor would be awarded the job. The supervision of the actual construction became the task of the resident engineer. It was his responsibility to see that the plans and specifications were followed closely. The decisions that had to be made on the ground were his to make. The interpretation of the plans and specifications were made by him as the construction progressed. Refilling of the lake, following eradication of the fish next year, will mark the conclusion of the engineering division's active participation in this project.

In 1954 the schedule is just as full. During the coming year, many miles will be travelled and much time spent in performing the engineering tasks required for the operation of the fish hatcheries, game farms, game management areas, fishways, screens, or whatever else may come up in connection with the Game Commission's complex job of managing the state's fish and wildlife resources.

About the Author



George Kerman, after receiving in 1947 his degree in agricultural engineering from Oregon State College, joined the engineering staff of the Oregon State Game Commission. He passed the examination for professional engineer in 1951.

Now in charge of the Commission's engineering division, he and his staff are called upon to perform a variety of tasks in the course of a year's Operations, which keeps an engineer's life far from dull. During the summer, particularly when construction work is at its peak, the life of a game engineer seems to be one trip after another into all sections of the state with occasional brief stops in the office to take care of accumulated desk work.

Canada Geese

Prior to 1952 there were no known records of any species of geese nesting in the wild in Oregon west of the Cascade Range. With the acquisition and development of the Sauvie Island Game Management Area, the Game Commission felt it was an opportune time and place to transplant Canada geese in an attempt to establish this bird as a breeding species.

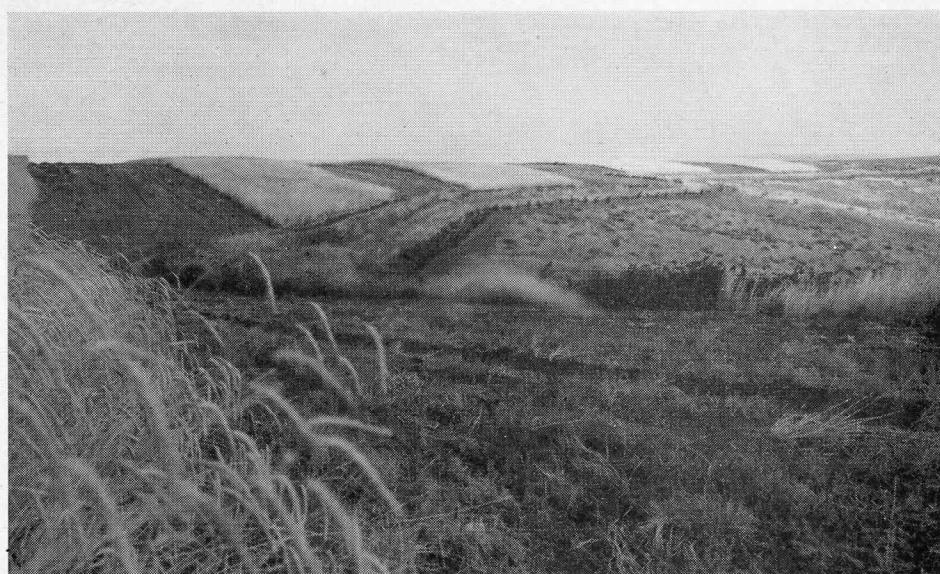
In June of 1950, 32 honkers were captured in Warner Valley. Various aged birds were taken, as at that time of year few could fly. The young had not developed flight feathers and the older birds had lost most of their primaries through molt. These geese were taken to the Corvallis game farm and held until released on Sturgeon Lake on Sauvie's Island in January, 1951. All were banded so that their future fate and travels could be traced upon recovery of the bands.

No broods were found that spring but in 1952, Al Hoffmeister, the resident biologist, observed three broods with a total of 12 young. Although the nests were not found, the broods became the first positive record of nesting in western Oregon.

Band returns show that three of the original plant were shot during the two following hunting seasons. One was killed in the following November across the river in Clark County, Washington and one also in November on Deer Island. A second hunting season band return on the third bird was from Sauvie Island in November, 1952. One bird, an adult female, was trapped and released in June, 1952 at Honey Lake Refuge in northeastern California.

In May, 1953 a brood of three downy young was observed and in June a total of 24 geese observed. With this number remaining it is apparent some reproduction took place and the birds had become residents. On June 30 an additional 32 geese which had been previously captured in Warner Valley were banded and liberated. Later observations show they remained with the established flock.

Honkers usually nest during the latter part of March or early April in their native habitat. From the appearance of the young birds on the island the transplanted geese nested a month later than they do in eastern Oregon. The amount of sunlight is known to affect the reproductive cycle in birds and this could be a factor in the success of the experiment. At this late hatching date flood waters of the Columbia



Food and cover plantings made by habitat improvement crew in the McKay Reservoir area.

McKay Reservoir Habitat Plantings

A federal migratory bird refuge embraces about 2,000 acres on the site of the McKay Reservoir south of Pendleton. A good population of pheasants resides here and many migrating ducks use the area seasonally. By verbal agreement with the U. S. Fish and Wildlife Service, the Game Commission in 1949 began habitat improvement plantings. The federal service planted 40 acres to rye in 1950. The main food crops planted since then have been wheat and barley. However, rye has the advantage of not being used when other feed is available. Approximately 50 acres of grain have been left standing each fall during these past few years for use by game birds. Each year waterfowl and pheasants have practically stripped all the grain from these crops. Sixty-eight acres of several grains seeded in the fall of 1952 were heavily grazed by geese and ducks this spring but good crops are now present on these same fields. This spring the federal agency signified its intention to commence farming this tract and they have now taken over this work.

The availability of this land also afforded an opportunity to test a number of plants which could be used on smaller plots to provide winter food for pheasants. The following proved most successful both as to production of

have already inundated most of the suitable nesting sites.

In view of this experimental evidence and the need for additional in-

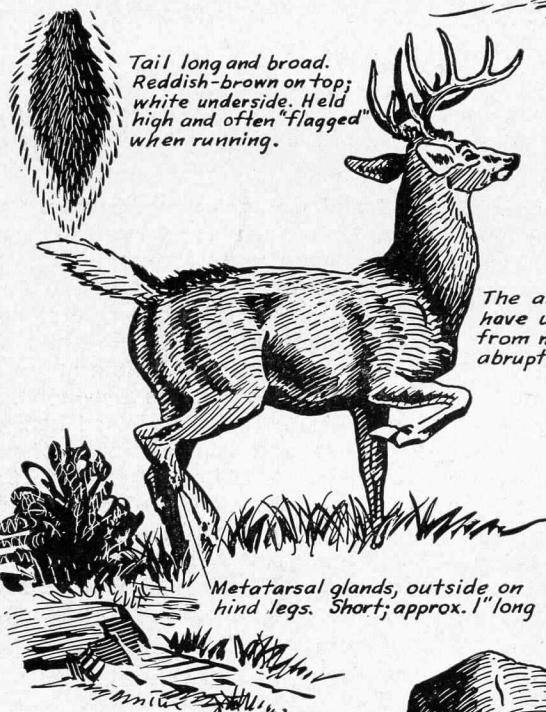
food and utilization by birds on this area: both common and dwarf varieties of sunflower, proso or hog millet, and safflower. Disadvantages of the first two are their tendency to shatter and their palatability which results in heavy utilization long before any emergency food supply is needed. Safflower also is a preferred food item of pheasants and is taken early; however, it does hold its seed well and the plants remain erect and spiny thus affording cover which dog or man hesitates to enter. Black amber cane was successfully raised this season. Use of this highly preferred game food will be observed with interest.

Woody plant cover on this tract and throughout much of the wheat belt is restricted to the vicinity of water. During the past five years drought-tolerant shrub and tree species have been tested on the steep, untilled slopes. Rodents, principally gophers, have caused much damage and control measures have been necessary. Nevertheless, multiflora rose, American plum, snowberry and bladder-senna are producing fruit and cover. Other species are coming along with good possibilities for the future. These plantings now serve as a demonstration area and guide for extensive habitat development throughout the Columbia Basin wheatlands.

formation on all waterfowl, it is imperative that hunters submit all bands taken along with the date and location of kill.

WHITETAIL DEER

Fawns are born in May or June. They are hidden in thickets of willows, cedar or ferns. Their reddish-brown, white polka-dot spattered coat plus lack of strong scent helps concealment from enemies.



Tail long and broad.
Reddish-brown on top;
white underside. Held
high and often "flagged"
when running.

The antlers of Whitetail bucks
have unbranched points rising
from main beams. Main beams form
abrupt angle. Long brow tine.

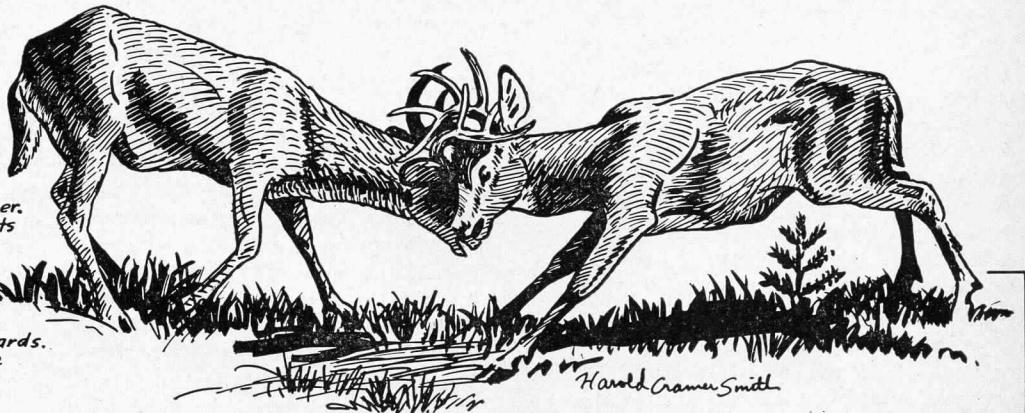
Metatarsal glands, outside on
hind legs. Short; approx. 1" long

At one time Whitetail deer were abundant in the Willamette Valley but settlement of the area crowded them out. They are now found in greatest numbers in an area northeast of Roseburg, and scattered along the Columbia river from Portland to Astoria. They occur in limited numbers on east slopes of Mt. Hood and at widely scattered locations in other parts of the state. They prefer a hardwood type of habitat such as oaks, willows, maple, dogwood, elderberry, rose, ferns, grape and blackberry.

Predators such as
Bobcats, Cougars, and
Coyotes take their toll
as do parasites and diseases.



Bucks run in pairs during summer.
Antlers sprout in April; velvet stage lasts
until late August, when bucks begin
to polish them for battle during
"rutting" season from October into
December. Shoving, eyes rolling,
muscles straining, each strives to
throw the other or push him backwards.
Sometimes the tines and tips of the
antlers lock and the two rivals
starve to death.



Harold Cramer Smith

Oregon State Game
Commission Bulletin

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