

A BRIEF HISTORY OF THE OREGON STATE GAME COMMISSION

By Frank B. Wire, State Game Supervisor, 1938

Although previous to 1911 there was no state body in existence for the purpose of administering the game interests of the state, as early as 1872 interest had been expressed in maintaining the fish runs in the streams of the state. The first fish cultural station was established on the Clackamas River in 1877 by Livingston Stone for the United States Fish Commission. This work was carried on by the federal government alone until 1887 when the State of Oregon leased a site on the Clackamas River and operated a hatchery. In the same year the first State Board of Fish Commissioners was appointed by Governor Pennoyer, and this Commission began to consider the suitability of other streams for fish culture work, such as the Columbia, Nehalem, Tillamook, Nestucca, Yaquina, Alsea, Siuslaw, Umpqua, Rogue River and Coos Bay. However, the state failed to appropriate funds for this purpose and arrangements were made to turn over the Clackamas station to the federal government, who continued the work by itself for the next few years.

In 1899 Governor T. T. Geer appointed another Commission and also appointed Hollister McGuire as Fish Commissioner, who was drowned shortly afterwards and was succeeded by F. C. Reed. The office of Master Fish Warden was created around 1901 to replace that of the Fish Commissioner. H. G. Van Dusen held this office from 1901 to 1907.

The 1905 legislature appropriated \$15,000 for erection of hatcheries, and the construction of the Wallowa station near Minam was begun at this time. In 1908 H. C. McAllister succeeded to the office of Master Fish Warden and at that time the state had in operation ten hatcheries. All of these were for the propagation of salmon as trout were not given any consideration then. The menace of pollution was foreseen as early as this and its detrimental effects on fish life feared. The present fish hatchery at the mouth of Tanner Creek was established in 1909.

For a number of years non-resident hunters had been required to pay a license fee of \$10 but resident hunters paid no fee until the 1906 legislature passed a law requiring residents to pay \$1 for a hunting license. Prior to this time there had been established bag limits for

animals and birds. Deer hunters were limited to five deer of either sex and the open season extended from August 16 to October 31. The records also show that there was an open elk season until about 1907.

Prior to 1905 the limit on ducks had been 50 a day or 100 a week, but at that time this was reduced to 50 a week, the open season extending from September to January. Grouse, quail, and Chinese pheasants carried a limit of ten birds a day during the open season from October 1 to November 30.

The first angling license law was passed in 1909, which required residents to pay \$1 and non-residents \$5 for an angling license.

Interest had been gradually growing in conserving the wild birds and animals of the state, and in 1911 the legislature passed a law creating the State Board of Fish and Game Commissioners, which replaced the former Board of Fish Commissioners. This increasing interest in the wildlife and the resultant change in the Commission at this time was largely due to the acumen and foresight of the governor of the state, Oswald West. Governor West served as chairman of the Board and appointed the following other members: George Kelly, M. J. Kinney and J. F. Hughes. This Board was charged with the protection and propagation of the fish and game of the state and was given the exclusive power to spend the moneys accumulated in the Hatchery and Game Protection Funds. William L. Finley served as State Game Warden.

When this Board took office, about \$60,000 had accumulated in the Game Protection Fund from the sale of angling and the hunting licenses for prior to this time there had been no provision in the law for the spending of angling license fees for trout propagation. In 1911 the total game receipts was between \$70,000 and \$80,000, it being difficult to ascertain the exact amount due to the fact that the licenses were issued by the counties and no separate accounts were kept. This was remedied by the new Board in 1912 when it issued and paid for the printing of all license forms from the Game Fund. The income that year increased to \$85,700, received from the sale of 39,267 resident hunting, 43,433 resident angling, 152 non-resident hunting and 310 non-resident angling licenses. The income was further increased this period by a check instituted of the moneys collected by the counties for licenses and fines during the period from 1905 to 1912. Although it was not possible

to account for all the money, a shortage of \$21,090.86 in license and fine money was found and this amount was turned in to the Game Fund.

Governor West was an outdoor man and had a definite and special interest in all of the wildlife. It was realized by the Governor and his Board of Commissioners that owing to the increased surface of open land as a result of cutting away of timber and brush, the habitat and breeding places of many of the native birds and animals was being destroyed. Owing to the inability to artificially propagate grouse and native pheasants, it was feared that they would eventually be doomed. Back in 1880 and 1882, Judge O. N. Denny, then serving as Consular General in Shanghai, conceived the idea that the Willamette Valley, being similar in climatic conditions to that of China, might be a suitable place for Chinese pheasants. He sent fifty of these birds to be released on his old home place at Peterson Butte, a few miles from Albany. They were protected for a period of ten years, after which an open season of six weeks was permitted, which was later lengthened to two months. These birds increased very rapidly and a report states that in 1893 more than 30,000 were killed in one county.

Gene M. Simpson saw the possibility of rearing Chinese pheasants in captivity and in 1900 established five miles north of Corvallis the first private game farm in the United States. He had been successful in his efforts so the Board of Fish and Game Commissioners in 1911 leased his farm for a period of three years and employed Mr. Simpson to raise pheasants for the state. During the fall of 1911, 1206 pheasants were reared and released in 1912. These birds were distributed in such sections where pheasants were not plentiful. During this time the Commission also purchased 120 pairs of Hungarian Partridge for liberation.

It is interesting to note that in 1912 thirty settings of pheasant eggs were furnished to private individuals but this experiment was not considered very successful, although at the present day this plan is used with good results owing to the education of the people and more knowledge gained on raising of the birds.

The native elk of the state were fast disappearing and in many localities had become a thing of the past. In 1911 the Board of Fish and Game Commissioners received from the Forest Service a tract of land to be

used as an elk refuge. This land, known as the Billy Meadows Pasture and located in Wallowa county, had been fenced by the government for purpose of carrying on experiments in sheep grazing and consisted of 2,560 acres. Arrangements were made by the Board to procure a herd of 15 elk donated by the Bureau of Biological Survey. These elk were collected from the herd concentrated at Jackson Hole in Wyoming. It was necessary to take them during the deep snow period so that many difficulties in their transportation ensued. The elk were loaded on sleds and taken away from Jackson Hole on March 3, 1912, and the difficult 90-mile trip through the mountains over the Teton Pass to St. Anthony, Idaho was started, during which time heavy snowstorms were encountered. On arrival at St. Anthony the elk were allowed to rest for two days and then were placed in a box car and shipped to Oregon, arriving in Joseph on March 14. Out of the 23 elk brought to St. Anthony, 15 of the strongest had been selected for the trip to Oregon, including two bulls, seven cows and six yearlings. A great deal of interest was shown by the people along the way as the elk came through and in many places the schools were dismissed to make it possible for the children to view the herd.

Although the elk were donated to the state, their transportation was expensive. The various Elk lodges contributed \$351 and the residents of Wallowa county gave \$181. The elk were unloaded at Joseph and crates were again built to transport them by wagon to their destination, which was 40 miles north of Joseph. Difficulties with weather conditions again rose and men and horses fought the deep snow until the wagons could travel no farther. The crates were then transferred to home-made sleds to which horses were hitched, and the elk were finally turned into their pasture at Billy Meadows on March 19.

All of the elk were alive although some had been injured when first captured. During the next spring one of the bulls and four of the cows died, and the increase that summer was only one calf. However, the results of the efforts expanded by this first Commission in 1911-12 are seen at the present time, for the elk have increased greatly through proper protective measures.

The 1911 legislature passed a law allowing the Governor to set aside lands surrounding state institutions for game refuge purposes. Governor West

took advantage of this power and a reserve of 3,000 acres around the state institutions in Salem was declared. A number of other game reserves were established throughout the state during this period also.

The state had succeeded in establishing twelve fish hatcheries but up to the time of the organization of the Board of Fish and Game Commissioners, these stations had been used for salmon propagating purposes only. However, it was now made possible to use these hatcheries for propagation of game fish as well although the Hatchery and Game Protection Funds were kept in separate accounts. In 1911 the state raised and released 323,700 trout and the federal government released 1,017,190. The production of trout by the state was increased the next year to 4,608,865, which with the 1,435,681 released by the government made a total release of 6,044,546 trout in 1912. The necessity of salvaging spiny-rayed fish was also realized and during the two years of 1911 and 1912 a total of 1,965,000 fish was saved from the dried-up water holes in the Columbia Slough district. While these figures would be considered a mere drop in the bucket by present day standards, the progress made by this first Board in production of game fish is very outstanding, inasmuch as the production of game fish in 1912 was four times as much as that in 1911, when the propagation of game fish was first started.

The pronghorn antelope, native of the eastern part of the state, had become very scarce owing to the ruthless killing by early pioneers and trappers. The season had been closed a few years previous to 1911 upon the creation of the Fish and Game Commission continued protection was given which has had its results as the antelope have increased materially in their old habitats.

It appears from the history of the fish and game departments that 1911 and 1912 were banner years, particularly for the development of the wild game birds and animals and game fish of the state. The results of the start made at this time are reflected all the way down to the present day.

The 1915 legislature changed the name of the Board to the Fish and Game Commission. Governor Withycombe acted as chairman of this Commission and appointed the following members: I. N. Fleischner, Marion Jack, F. M. Warren and C. F. Stone. In 1916 G. P. Putnam served in place of F. M.

Warren. During this period R. E. Clanton was Master Fish Warden and Superintendent of Hatcheries and C. D. Shoemaker was State Game Warden.

In 1919 Fish and Game Commission was appointed by Governor Ben Olcott, who was the last governor to serve as chairman of the Commission. Members of this Commission were Chris Schmidt, F. M. Warren and Chas. Hall. In 1920 there was organized the State Board of Fish and Game with E. N. Carter acting as general chairman. The game division of this Board consisted of C. F. Stone, chairman, I. N. Fleischner, E. C. Simmons, John Gill, Marion Jack and J. H. Driscoll. Frank Warren served as chairman of the fisheries division and the other members were Chris Schmidt and Charles Hall. This was a partial separation of the two interests although they were still under the direction of on general chairman.

In 1919 the production of trout reached a total of 5,725, 412 and in 1920, 6,824,945. During this period Mr. Simpson's game farm at Corvallis was purchased and one was also established at Eugene. Mr. Simpson was retained as superintendent of the game farms. Pheasant releases in 1919 totaled 1,357 and in 1920, 1,508. The reports of the Commission at this time show that the deer were increasing in most parts of the state due to the protection of does, which had been in effect since about 1913. It was estimated that the kill of deer during 1920 was 5,950 which is interesting to compare with the present day kill of over twice that amount.

The receipts of the Game Protection Fund in 1919 increased to \$184,801.57 and to \$174,746.91 in 1920.

The year 1921 marks a decisive change in game administration. At this time the legislature provided for a complete segregation of game and commercial interests by creating the State Game Commission and the Fish Commission. All previous game statutes were repealed and a new game code adopted by the legislature. The game department was apparently on the upgrade and from now on was administered entirely by the Game Commission. Members of this first Game Commission were: I. N. Fleischner, chairman; Blaine Hallock, Geo. H. Kelly, Bert A. Anderson and M. A. Lynch. A. E. Burghduff was State Game Warden; M. L. Ryckman, Superintendent of Hatcheries and Gene M. Simpson, Superintendent of Game Farms.

During the first biennium of the new Commission, 9,102 pheasants were released, which was a considerable increase over previous years. The trout liberations for the biennium totaled 33,849,000. When the two Commissions were separated, the Game Commission was allotted five hatcheries: McKenzie, Butte Falls, Klamath, Tumalo and Union. By the end of the biennium additional stations had been established as follows: Delph Creek, Gales Creek, Necanicum, Gold Creek, Elk Creek, Oakridge, Rock Creek, Hood River, Oak Springs and Bingham Springs.

A noted increase in receipts was marked. In 1921 the income of the game department was \$300,035.44 and in 1922, \$328,245.19. For some reason the income almost doubled after the segregation of the departments. This was probably due to education among the sportsmen and to the fact that game fish and birds had been increasing; also the population of the state had been growing.

An attempt to establish moose in the coastal area was made. Three pairs of baby moose were secured on the Kenia Peninsula in Alaska. One of them was injured and killed in transit but five of them were released near Lake Tahkenitch in southern Douglas county. The moose did not increase, however, and as those brought into the state reached maturity they caused considerable damage to the property owners. The experiment was not considered a success.

The succeeding Commissions continued the work of administering the wildlife of the state and progress was achieved. In 1924 and 1925 a third game farm was constructed near Pendleton for the purpose of taking care of the eastern half of the state.

In 1931 the legislature created the Department of State Police and gave that department jurisdiction over game law enforcement. This eliminated the old game warden service maintained by the Game Commission and an appropriation from the Game Protection Fund was turned over to the State Police to maintain the game division. The members of this game division, while employed directly by the Superintendent of the State Police, are selected by him from a list of recommendations furnished by the Game Commission.

Elk had been increasing steadily each year until finally it was deemed advisable to have an open season to control the increase and to break up the concentrations in certain sections by scattering them over a wider area. This was made possible by the 1933 legislature which passed a law declaring an open season. During the first year the open territory included Baker, Union, Umatilla and Wallowa counties. In the next two seasons a part of Grant county was added. In 1936 most of Wallowa county was eliminated in in 1937 a larger portion of Grant county was added to the open area. Beginning with the 1934 season, checking stations were established with the cooperation and assistance of the United States Forest Service, through which elk hunters were required to check in and out of the open elk territory and observe certain regulations in regard to type of equipment used, etc. This also provides an accurate way of determining the kill for each season, which are as follows: 1934, 747; 1935, 692; 1936, 647; 1937, 620. It is felt that the open seasons have accomplished the purpose intended and the supply has not been injuriously affected for the kill each season has been far less than the estimated natural increase.

The peak of the annual income of the game department was reached in 1930 when receipts totaled \$408,494.25. Then owing to the depression receipts began to decrease and the activities of the department were necessarily curtailed in proportion. In 1931, the income was \$391,036.50; 1932, \$305,795.50; 1933, \$296,342.75, which was the low point. From then on conditions took a turn for the better as indicated by the following receipts: 1934, \$368,327.50; 1935, \$401,090.50; 1936, \$452,931.00; 1937, \$529,947.97, this being the highest in the history of the game department.

Governor Charles H. Martin started his term of office in 1935 and he appointed the following members of the Game Commission: Dexter Rice, chairman; C. E. Riley, Lew Wallace, Geo. K. Aiken and E. E. Wilson. All of them are still serving the Commission.

In his appointments, Governor Martin insisted that every bit of available money be used to increase the production of both fish and game as he realized the importance of the wildlife not only to the people of the state but to visiting tourists. With this in mind, the Commission went to work on improvements of the hatcheries and game farms, made possible by the

increase in revenues. They also looked carefully to the future and did not authorize improvements until funds were available, thereby ending each year with a substantial balance on hand.

Governor Martin has made a number of trips to the various hatcheries and game farms with the Commission and members of the department. He is untiring in his efforts to promote and better the hunting and fishing conditions as well as all other outdoor resources of the state. In fact, he is the only governor since Governor West who has expressed his interest to the extent of making such inspection trips. His ambition, as expressed to the Commission and the department, is to have an ever increasing supply of fish and birds to meet the ever increasing demand of our populace and visitors.

Improvements made by the present Commission are extensive. When it took office in 1935, there were three game farms located at Eugene, Corvallis and Pendleton. The ground at the Corvallis farm, however, had become somewhat contaminated after being used for many years and some of the buildings on the farm were quite old. Production there had not been satisfactory so that the farm had been discontinued by the previous Commission. In 1936 money was appropriated for the development of this farm. A new set of pens was built on ground that had not been used for a number of years. A large brailling pen was also constructed to hold additional breeding stock and a new well and pumping device was installed. This farm was turned into an artificial unit and all the birds there were raised without the use of domestic hen. After they are hatched in the electric incubators, they are placed under either electric or feather brooders.

At the Eugene farm a new brailling pen was built; a new tank and water system installed; a new feed house built and other necessary improvements added. The Pendleton farm had been seriously handicapped by lack of sufficient water to raise green feed in the pens. As it is located in close proximity to the Umatilla River, it was planned to take additional water from the river. Owing to the fact that all the water had been appropriated, arrangements were made with the federal government to replace the water taken from the river with water from McKay Dam. Additional pens, including a

brailing pen, have been built at Pendleton to take care of increased production.

Malheur county is considered one of the best in the state for wild birds, there being more Chinese pheasants there than in any other county. The Commission conceived the idea of building a game farm close to Ontario as climate conditions appeared to be definitely favorable for birds. In 1936 a tract of land consisting of 120 acres was purchased. This was all raw land but under the Owyhee irrigation project. The land was cleared and properly fenced and planted in alfalfa which, due to irrigation and the remarkably rich virgin soil, did exceedingly well. Last season 4,600 birds were raised there.

Additional land is now being purchased for the Ontario game farm and there is a full crew on the job to bring production up to the highest possible point. Two new dwelling houses are now being completed for the employees.

In 1935 there were 31,000 pheasants released and the production for 1936 and 1937 was closed to 40,000 each year. If nothing unforeseen happens, the 1938 production should be considerably more. A further development of the capacity of the game farms is planned by the Commission I revenues will permit.

At this time the Commission has sixteen trout hatcheries in operation, the policy being to develop large central stations rather than to have too many small hatcheries scattered around the state. The following hatcheries are now maintained: Alsea, Bandon, Butte Falls (Jackson county), Cedar Creek (Tillamook county), Fall River (Deschutes county), Hood River, Klamath, McKenzie, Oak Springs (Wasco county), Roaring River (Linn county), Union, Willamette (Lane county), Wallowa, and Diamond Lake, which is both a hatchery and egtaking station. Other egtaking stations are located on Beaver creek in Tillamook county; Big Butte and Little Butte creeks in Jackson county; Spencer creek in Klamath county; Crane Prairie, Elk, Paulina, and East lakes in Deschutes county; Round lake in Coos county.

In 1937 trout releases totaled 31,647,009. The present capacity of the hatcheries has been brought up to 50,000,000 fish annually and it is hoped that the 1938 production will come up to this mark. The only circumstance

that may preclude operating the hatcheries at full capacity is the outcome of the egg-taking operations, for it has been necessary for the department to depend almost entirely on taking eggs from wild fish. Under such a method there are so many mitigating circumstances, caused largely by weather and water conditions, that no one is able to foretell the results of an eggtake until it is entirely over. Some seasons the eggtake is large while perhaps in another season in the same body of water it will drop very materially for no apparent reason.

While it will always be necessary to depend on wild stock for steelheads, which are anadromous ocean-run fish, the Commission started some years ago to raise cutthroat and rainbow brood fish to augment the wild egg-take. Two lakes were purchased in the coastal area for developing a supply of cutthroat brood fish. Towne lake, near the mouth of the Big Nestucca river, was stocked for this purpose and just prior to the fish reaching the spawning age, something happened one night to kill approximately 1,500 large brood fish. It was reported that the lake was dynamited, which still is the supposition although it has not been definitely proved. The other lake stocked with cutthroat was Round lake near Bandon. It yielded a few hundred thousand eggs last year and a good take is anticipated this season.

At the McKenzie Hatchery there has been developed a supply of fall-spawning rainbow brood stock. This is an improved type of fish produced by the United States Bureau of Fisheries, which spawns several months earlier than do the native rainbows. In addition to the McKenzie, rainbow brood stock is being held at Oak Springs, Klamath and Rock Creek. Although the egg-take is not yet over, it is anticipated that 5,000,000 eggs will be received from this brood stock. Diamond Lake has been the best source of wild rainbow eggs, it yielding several million annually. This lake was barren of fish life until it was stocked by the game department in 1911 with rainbow eggs taken from Spencer Creek - another highlight in the year that has been mentioned as a turning point for the game interests of the state under the direction of Governor Oswald West.

Eastern brook eggs are taken from Elk, East and Paulina lakes, while Crane Prairie furnishes an additional supply of rainbow eggs. However, due to the ever increasing demand and heavy stress on fishing, it will be

necessary for the department to produce more brood fish and also take as many wild eggs as possible. If this is not done, the increased hatchery facilities will be of no avail.

Last year the Game Commission purchased from the Fish Commission its hatchery in Wallowa county near Enterprise, and negotiations are now under way for the purchase of additional land there. There were two large ponds on the hatchery property which are now in the process of being cleaned and improved for the purpose of being made into brood ponds. This hatchery will help take care of the eastern part of the state where there are many fine streams and mountain lakes.

One of the most outstanding improvements in the hatchery department is the development of the Oak Springs station near Maupin, located on the Deschutes river. The water from the springs which comes out from under the rim rock has been found to be ideal for the hatching of fish. The temperature is 55 degrees the year around and the mineral contents of the water appear to be very favorable for fish life. Additional land adjoining this site was purchased last year, which provided more room for ponds and also furnished an additional supply of spring water. This water has been gathered up and piped to new cement rearing ponds, which were constructed last season and will be used this spring for the first time. A new hatchery building was also built and the capacity of this plant is now estimated at ten million a year. With the improved tank trucks now used by the department in which fish can be hauled at any time of year without injury for a distance of several hundred miles, it makes it possible to have the Oak Springs station serve not only the Deschutes river area, which is a very important fishing stream, but also the lakes and streams in the Mt. Hood and Cascade Range area as well as the central and eastern Oregon territory.

The Klamath hatchery, strategically located to serve that area, was badly in need of improvements. A new house, hatchery and tank house have been erected during the past year. Production capacity has been increased to 6,000,000 a year. Water at this station also comes from springs and an even temperature is maintained through the year, which is very important in that section where the weather varies from extreme cold to a very high temperature.

Another major improvement program was carried out at the Rock Creek hatchery on the North Umpqua river, approximately three miles from Idleyd Park. This is an important station as many steelhead eggs are taken from the run that goes by the hatchery on its way up the river. The North Umpqua is one of the best and most famous of our steelhead fishing streams so it is necessary that the runs of fish in it be maintained. A fine large tank house has been erected at the hatchery and additional house room provided for employees. Cement rearing and holding ponds have been constructed and during the coming year more ponds for brood stock will be provided. This hatchery, when completed, will be one of the best in the state, the production capacity there having been raised to 2,000,000.

The previous Commission, feeling the necessity for a hatchery in the coast region, purchased a location on the North Fork of the Alsea river. This hatchery was in process of construction when the present Commission came into office. Additional ponds have been built and other needed improvements made and the Alsea station now is capable of producing 6,000,000 fish a year. It is planned to take steelhead and cutthroat eggs right at the station and it is the hope of the department to develop the supply in the stream by restocking so that a large quantity of eggs can be secured there in the future.

For many years the problem of accumulating fish food and keeping it without souring or spoiling during the warm weather period was a big one. The fisheries department had rented cold storage facilities in towns adjacent to the hatcheries but this method had not proved very satisfactory due to the necessity of transporting the feed to the hatchery several times a week. In 1932 the Game Commission, in cooperation with the Fish Commission, decided to erect a 100-ton cold storage plant at the McKenzie hatchery, the contract for its construction being awarded to the Harris Ice Machine Works of Portland. This proved so successful that in 1934 plants varying from 60 to 100 tons in capacity were installed at Cedar Creek, Union, Oak Springs and Butte Falls. These plants were located in strategic positions to supply fish food for other stations.

The present Commission decided to increase the cold storage facilities and in 1935 and 1936 had installed eight portable cold storage plants with a

capacity of ten tons each, which also were built by the Harris Ice Machine Works. These plants were constructed in Portland and hauled to their destination on trailers, where it was only necessary to place them on concrete foundations previously prepared and connect them in order to start using them. All the plants run automatically and where there is no electricity available, gas engines are used.

The use of the cold storage plants has made it possible to reduce very materially the cost of fish food. The department does not have to buy feed in the open market but can wait until the price is low enough and can purchase in quantity lots. This has made the average cost per pound slightly more than two cents compared to the previous average cost of eight cents a pound. Other states have expressed great interest in this plan and the department is constantly receiving requests for detailed information.

Seven million spiny-rayed fish are salvaged each year in the Columbia and Willamette slough district, where the fish are left stranded in potholes after the high water recedes in the spring. Most of the fish salvaged are returned to the river but quite a few are shipped to other parts of the state for stocking waters suitable for this species. In this way it has been possible to provide fishing where none was available before for many waters that will not support trout are ideal for spiny-rayed fish. During the summer of 1937 a total of 8,118,088 fish was saved. A cabin was built by the department in 1936 on Sauvies Island to house the salvaging crew and store necessary equipment.

The Clackamas river near Portland, a tributary of the Willamette river, has in the past been a wonderful trout and salmon stream. Some years ago two power dams were erected across the river, one near Estacada called the River Mill dam and the other farther upstream known as the Cazadero dam.

Fish ladders were placed in both of these dams, but owing to the necessity of constructing the Cazadero ladder around a rock-faced wall, it did not hold and was eventually washed out by high water. The River Mill ladder was operative except when the intake to the ladder was stopped by the federal government for the purpose of taking salmon eggs for its hatchery below. The Cazadero dam has been without a ladder for a number of years, but in 1937 the Game Commission requested the power company to reconstruct the

ladder. To obviate a recurrence of what transpired in the past at Cazadero, a study is being made during the current winter regarding water levels and conditions. Consideration is also being given to the location of the intake as it relates to the water flow. The power company has started construction and the ladder will be complete and in operation by the fall of 1938, which will make it possible for anadromous fish to run again to the upper reaches of the Clackamas river.

A number of years ago the mouth of the Sandy river was so silted that it became very shallow and spread out over a wide area. At certain stages of the water it was almost impossible for fish to travel upstream, particularly salmon, steelhead and trout. In 1932 the Commission purchased a right of way and built a dike across the main Sandy, helping to divert the water into the Little Sandy, an old channel of the river, where it would be more confined and carry considerably more depth. Also, as its entrance to the Columbia river is at a downstream angle, it would further facilitate that run of fish. This dam stood for some time and may have been effective for the purpose intended had not some individual or group of individuals seen fit to blow out a large section of the dam with powder. This naturally formed a temporary channel through the dike and of course defeated its purpose. Owing to the proximity of the stream to Portland and its importance not only as a salmon stream but also for smelt, which run up the river almost every year, the present Commission decided to repair and improve the old dike and again try to divert the water through the Little Sandy, feeling that this would have a marked effect in helping to maintain the runs of the fish in the Sandy.

The contract for the improvement of the dike has just been let to the Gilpin Construction Company, the engineering work being supervised by Stevens and Koon. The total cost of the project will be around \$15,500. The Sandy river situation had been called to the attention of the Governor and owing to his interest in the improvement and betterment of the streams in the state, he urged the Commission to take care of the matter immediately.

The pronghorn antelope of southeastern Oregon, previously mentioned in this article, have been increasing steadily due to the closed season until now there are approximately 15,000 in the state. About 8,000 of them are in

the Hart Mountain federal and state reserve, most of the remainder being scattered in other parts of the Lake, Harney and Malheur counties. A few may be found in some other counties. Some of these antelope, becoming tame, have come down into the farm areas where they have been doing a considerable amount of damage to the crops. For this reason the Commission has deemed it advisable to declare a limited open season during the fall of 1938. It is planned to issue not more than 300 permits, 100 each for Lake, Harney and Malheur counties. The season will be from November 1 to 6, inclusive, and hunting will be allowed only under strict regulations. This will not affect materially the number of antelope in the state but it is hoped that it will help to make them somewhat wilder and keep them away from the ranches and farms.

This is a scientific age and the Commission realizing the need for scientific research and investigation has for a number of years paid the Oregon State College for a limited amount of such work. In 1936 advantage was taken of the opportunity to have located at Corvallis one of the biological research units established by the U. S. Bureau of Biological Survey. This work is supported cooperatively by the Biological Survey, Oregon State Agricultural College and the Game Commission. An annual contribution of \$6,000 in cash and services is made by the Commission toward this work, which is under the direction of Arthur S. Einarsen, who was sent out by the Biological Survey.

Several projects have been undertaken, such as the study of Chinese pheasants in the wild state and the heavy concentration of deer in the winter feeding grounds of eastern Oregon. Most of these are long-term projects and cannot be finished in a short period of time.

The Oregon State College has in its Department of Fish and Game employed Dr. F. P. Griffiths, an ichthyologist whose services are made available to the game department. Due to the increase of interest in fish and game management, the State College four years ago added to its curriculum courses in fish and game. This department, under the head of R. E. Dimick, will graduate its first class in 1938.

As the populace further increases in the state, making a larger demand on our fish and game, it will be necessary to study our problems more and

more from the scientific viewpoint. We believe that nucleus for such work has been set up at the State College, which can be carried on to a greater extent provided funds are available. People are waking up to the fact that wildlife is one of our major assets, both from an aesthetic and monetary standpoint, and all interests, both sporting and commercial, should rally to the aid of the department that is charged with the administration and betterment of the wildlife.