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BIENNIAL REPORT

Duplicate

OF THE

State Forest, Game and Fish
Commissioner

OF THE

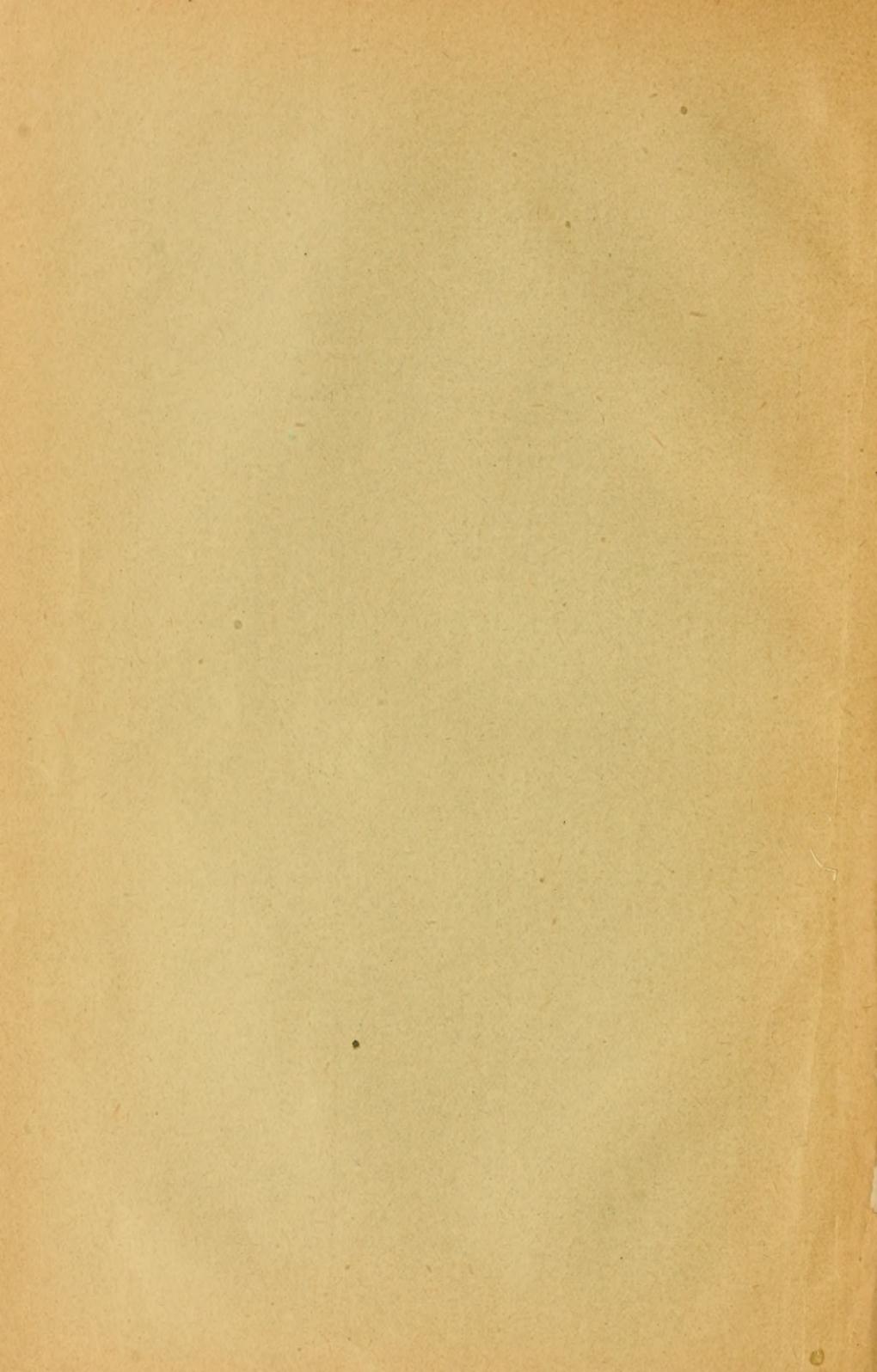
STATE OF COLORADO

For the Years 1897 and 1898



J. S. SWAN, COMMISSIONER

DENVER, COLORADO
THE SMITH-BROOKS PRINTING CO., STATE PRINTERS
1898



BIENNIAL REPORT

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Dept. of
State Forest, Game and Fish
Commissioner

OF THE

STATE OF COLORADO

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With Compliments of

J. S. Swan.

For the Years 1897 and 1898



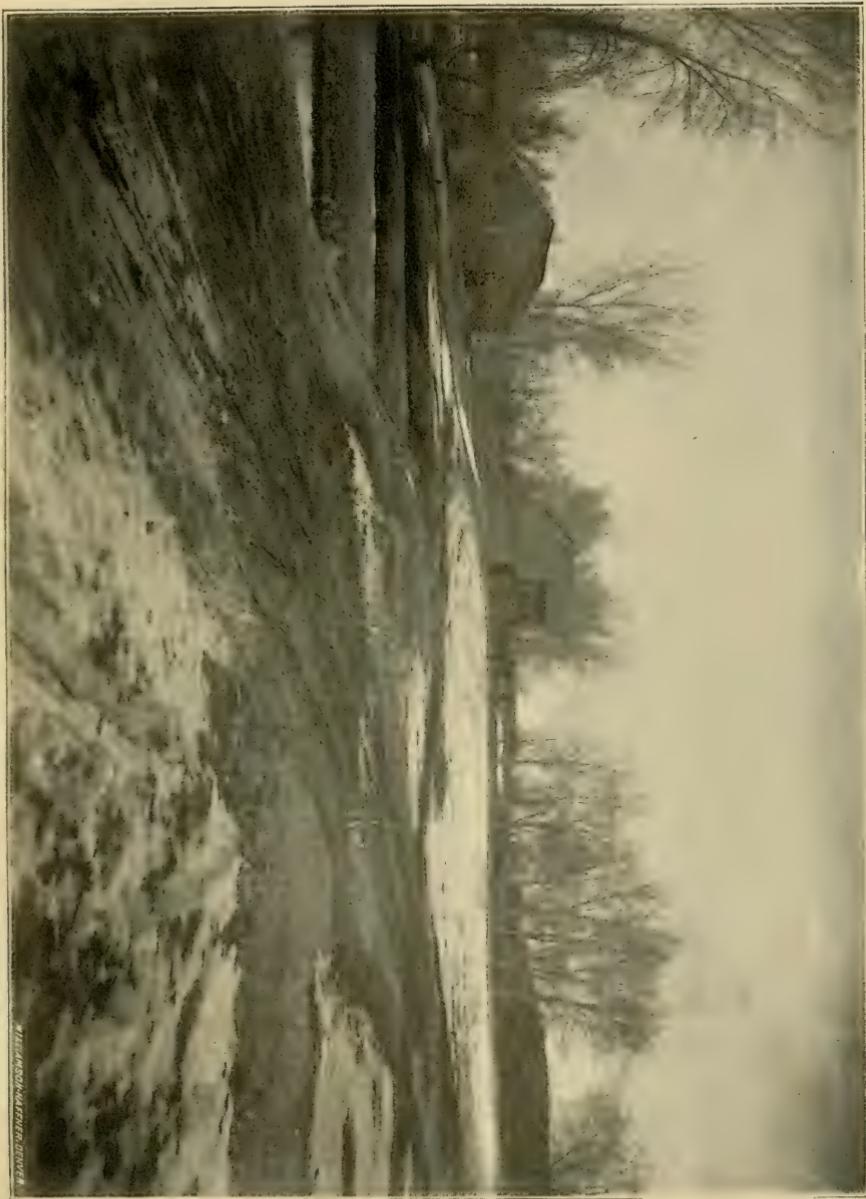
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REARING HOUSE AND STABLE—DENVER HATCHERY.

LETTER OF TRANSMITTAL.

Commissioner's Office,
Department of Forestry, Game and Fish,
Denver, Colorado, December 1, 1898.

To His Excellency,
ALVA ADAMS,
Governor of Colorado,

Sir—In compliance with section 8, of an act entitled forestry, game and fish, passed by the eleventh general assembly and approved April 16, 1897, I have the honor to transmit herewith a report of the transactions of this department since my incumbency as commissioner, from April 9, 1897, together with an audited account of all moneys expended for the two fiscal years, beginning December 1, 1896, and ending December 1, 1898. Also certain recommendations.

Respectfully submitted,
J. S. SWAN,
Commissioner.

BIENNIAL REPORT
OF THE
STATE FOREST, GAME AND FISH
COMMISSIONER



FORESTRY.

Up to the time of the meeting of the eleventh general assembly of Colorado, in 1897, the subjects of game and fish had constituted matters for treatment under a distinct head by our law makers, while the subject of forestry had been also treated as a subject for separate legislation. This rule was departed from, however, by the legislature named, and during its session a bill was passed and approved April 16, 1897, embracing the three subjects and creating the Department of Forestry, Game and Fish.

This enumerates the duties of the commissioner and wardens provided for therein and repeals all acts inconsistent therewith.

Sec. 9 of the act sets forth the duties and authority of the Commissioner in relation to the forest areas of the state and embraces this clause:

“He shall have the care of all woodlands and forests which may at any time be owned or controlled by the state, and shall cause all such lands to be located and recorded in a book to be kept for that purpose.”

This requirement would seem to come dangerously near, if it does not actually conflict with that provision of the Constitution of the state which directs that "The board of land commissioners shall have control of all state lands," and makes it the duty of the board "to protect and carefully preserve such lands in such manner as will secure the maximum possible amount therefor." This authority conferred by the Constitution, cannot be divested by any act of the legislature.

However, with the single purpose in view of complying with each and every provision of the law, both in letter and spirit, I applied to Mr. L. C. Paddock, register of the state board of land commissioners, for such information as would enable me to compile the record of the state forest lands, for my office. Mr. Paddock replied that that was a matter for his department alone, but however that might be he had no such data in his office and would therefore be unable to furnish it to me or advise me as to how it was to be had. No other means occurred to me for securing the record unless I required the paid wardens to do the work, and as there are but three of these in the state, and the task would have been no small one, I considered it more essential to the state's interest that they should not be diverted from the more urgent duty of protecting the game and fish, and forests as well, from the work of pot-hunters, hide-hunters and despilers generally.

The combining of the subject of forestry, with the subjects of game and fish, gave rise to a question as to the constitutionality of the entire act almost immediately upon its enactment and approval, and has proven a serious obstacle to the proper enforcement of the law throughout my entire term of office. While more than one prosecution in various counties had been decided adversely to the state, no attempt was made by me to take any of the cases to the supreme court, to test the question raised as to the constitutionality of the law, for the reason that there was a case pending at the time in the county court of Arapahoe county, involving that ques-

tion which the state had won in the justice court and afterwards on appeal in the county court named. This case was appealed by the defense from the decision of the county court, and is now in the supreme court of the state.

Although I have done what I could through the attorney general's office to have this case advanced so that an early opinion may be had I am advised that the defendants are not sufficiently interested in having the issue involved passed upon, to join with the state in such a request and as in the usual course of procedure in that court, the defendants have until April next in which to file their briefs in the case, the prospects are not bright that the court of last resort will have passed upon the question before the adjournment of the twelfth general assembly. Assuming that such will be the case it would seem to be the imperative duty of the twelfth general assembly to pass a new law relating to the subjects of game and fish alone, and another relating to forestry, and by the provisions of the latter act impose the duties in connection with its enforcement upon the Commissioner and Wardens of the Game and Fish Department as under the present law.

This would be a simple method of having the official duties in connection with forestry and game performed without extra cost to the state, and at the same time effectually dispose of the question of constitutionality which has worked so potent for evil in the attempted enforcement of the present forestry, game and fish law.

Owing to the unusual dryness of the past season the regular autumn forest fires have raged in the state this year with exceptional fierceness and destructiveness. Vast areas of the finest timber growth in the state, particularly throughout the western and northwestern sections, have been sacrificed to the fiery element. As I have no figures on which to base a reliable estimate of the number of acres burned over I refrain from doing so, but the loss was enormous, and a repetition of the calamity should be guarded against by every means at the disposal of the State and federal authorities.

The responsibility for the fires may be safely laid, for the most part, to that spirit of unthinking recklessness and indifference in respect to game laws no less than forest regulations, which seems to exist to a large extent among our annual camping population.

The only remedy I can suggest is a cordial co-operation between the state and federal forestry authorities, together with the enactment of laws that will provide adequate measures for the proper punishment of an offense that should be classed among the most serious and needless of crimes.

Along with this there must be a public sentiment that will corapet all prosecuting officers and the courts as well, to do their whole duty without fear or favor.

GAME.

There is little question but that game of all kinds has greatly increased in Co' ido during the past two years.

This fact is abundantly testified to by most persons with whom I have talked upon the subject, who have taken advantage of the "open" season for recreation and the chance of sport thus presented, and corroborated by my own personal observations made during frequent visits to the game sections of the state, the past season.

This, despite obstacles in the way of a strict enforcement of the law for the protection of game, sometimes well nigh discouraging and at all times real and tangible.

Some of these obstacles which come most readily to mind are:

First—The question raised as to the constitutionality of the law, because of the subject of forestry being treated in the same act and as a kindred subject, with game and fish.

Second—The lax enforcement of the game and fish laws in the past history of Colorado, making a sincere

attempt to enforce these laws against all alike, seem in the nature of a new departure, in a legal sense, and an attempt to abridge the rights of those who have lived by killing and marketing game at all seasons, and those (chiefly residents of the game sections) who have killed game at all seasons for personal and domestic use.

Third—The disinclination of many of the district attorneys throughout the state, especially in the game districts, though by no means confined to such, to do their whole duty in the enforcement of a law that seems to lack popularity among a certain class of the voting population.

The same apparent disinclination on the part of some judges of courts of record, no less than justices of the peace, especially in the game districts, but by no means confined to such, to hold guilty parties brought before them responsible for their acts as in other misdemeanor cases.

Other obstacles could be pointed out but the foregoing are the main ones, if we include the fact that jurors who are themselves guilty of violations of the game law (as frequently happens in the game districts), are not inclined to convict another for a like offense.

How these obstacles are to be met is the question of the hour, and my answer to it is that they cannot be overcome until public opinion demands that it shall be so.

The obstacles noted above apply chiefly as suggested, to the game sections of the state. In the cities and elsewhere far removed from the game the constitutional question has been the reliance of offenders who have sought to escape the enforcement of the law.

Considering the rapid development of the movement for the protection of game and fish in this state within the past two years, the people behind that sentiment should find no more difficulty in finally impressing their ideas upon officers of the law than they have in convincing the legislature that strict game and fish laws are both profitable and popular.

Owing to the failure of special wardens, in many cases, to report prosecutions instituted by them, I am unable to give a complete list of all the cases brought during the past two years for violations of the game and fish laws.

I can say this, however, that the number would have been much greater than it is under like provocation, had this department been operating under a law the constitutionality of which was not questioned.

Because of the decisions in El Paso county declaring the act unconstitutional the law became practically inoperative there, so it was thought best by me to permit some other cases, there and elsewhere, to go by default rather than invite adverse decisions as to the constitutionality of the act, and a consequent weakening of the law in the public mind.

It seems remarkable and it is said to be unusual, for nisi prius courts to so readily declare unconstitutional a law so essential to the public interest and so harmless in effect, and in favor of the constitutionality of which, as much at least, can be said as against it.

Two facts seem to have been ignored or overlooked, first, that the act establishes a department to which is committed the care of forests, game and fish, and therefore the establishment of the department is the subject of the act, and whatever properly relates thereto is within the constitutional requirement that an act must contain but one subject, and second, that forest preservation is as essential to the adequate and complete protection of game and fish as is a close season, and hence strictly germane to the subject of game and fish protection.

It is worthy of remark that the highest courts of other states, as well as the supreme court of the United States, have with great uniformity sustained game and fish laws generally even when they indirectly interfered with interstate commerce.

Although the decisions by nisi prius courts could not be regarded by this department as changing in any

manner its authority and duty under the law, there can be no question that its effect has been far reaching for evil and its influence most detrimental to the proper enforcement of the law.

It is but just to state in this connection that many other district and county courts and justices of the peace, have refused to hold unconstitutional the law, notwithstanding the decision of the El Paso county courts, and the measure of success with which my efforts have been attended, in the enforcement of the law, is largely the result of the numerous convictions secured in these courts.

Notwithstanding the idea which so largely prevails in the game districts, and notably in Routt and Rio Blanco counties, where the largest herds of large game are to be found, that game laws were made for the city "dudes" and "tourists" generally and not for the ranchmen and other residents of these counties, it must be said to the credit of the latter that they are to a large extent united in their opposition to market hunters and pot hunters generally. This circumstance has been of great advantage in stopping wholesale game slaughter and has made possible the increase of the game herds.

Another and by no means small difficulty in restricting the killing of large game within the period and numbers permitted by law, is met within the annual raids of the Utecompahgre and Uintah Indians into Colorado from their reservations in eastern Utah.

It has been the habit of these tribes for years past to move into the western part of the state each year, along in the latter part of October and extending their visit well through November, for the purpose of killing deer and elk, in such quantities as to provide themselves with the desired quantity of meat and hides.

The slaughter of game by this agency in the past years has been very great. Just how great it is impossible to say, but it would probably be within bounds to place the number at from five hundred to one thousand head each season.

Having determined to make an effort to put a stop to these annual raids, I made a journey to Ft. Duchesne, Utah, early in October, 1897, accompanied by Hon. John Sharp, the commissioner of game and fish from that state. At the post we met Captain Beck, then the agent of both the Uncompagre and Uintah Ute Indians, to whom I stated that it was my desire to be given an opportunity to impress upon the Indians the fact that by going into Colorado and killing game out of season they were violating the game laws of that state, and subjecting themselves to arrest and prosecution. This opportunity was afforded me on the following day, October 13, when a council of the Indians was called by Captain Beck, at Ouray Agency, for that purpose.

Through Interpreter McAndrews I explained the situation to the Indians as best as I could, and my remarks were ably fortified by Agent Beck, who further explained to the council of red men the probable consequences of further violations of the Colorado game laws.

Some of the younger bucks did not seem to take kindly to the idea that they were to be deprived of their annual raids, but the older men and chiefs seemed inclined to listen to the advice as to the inevitable. On leaving Duchesne Captain Beck promised me that he would do what he could to keep the Indians from again going into Colorado to hunt, and that if they did make their appearance despite his efforts, he would be only too glad to send troops to return them to their reservations, on receiving notice of the fact.

Soon after my return to Colorado I learned that the Indians were again in both Routt and Rio Blanco counties killing game; the band in the former county being Uintahs and those in the latter being of the tribe of Uncompagre or White river Utes. I at once notified General Otis, commander of the department of the Colorado, of the presence of the Indians in western Colorado killing game. Troops were dispatched by his order, and with the valuable assistance of Sheriff Wilber, then the

sheriff of Rio Blanco county, who has an extensive acquaintance among these Indians, and a considerable knowledge of their language, together with Warden J. T. McLean, who accompanied him, the Indians were moved out of the state and back onto their reservation without serious trouble or the spilling of any blood.

It was noted that the Indians had but few deer or deer hides on their ponies as they hurried back to their homes. The greater number of the ponies that had been brought along to carry away the game departed with empty packs.

The work of expelling the Uintahs from Routt county, was not, unfortunately, attended with such happy results. Learning that a considerable number of these Indians were in camp in the hills near Lily park, and that their purpose there was to lay in the usual winter's supply of meat and hides, Warden W. R. Wilcox advised me of the fact and asked for instructions. My reply was to the effect that I had just returned from Ft. Duchesne and Ouray agency, where I had been for the purpose of warning the Indians that they would not be permitted to continue their hunting excursions into Colorado, and the Indians being thus advised he should take what assistance he could get in his county and proceed to the Indians' camp and induce them to leave promptly or make some arrests. I also warned him to exercise extreme patience and forbearance in dealing with the Indians. I have no reason to doubt that Wilcox followed these instructions so far as he was able to do so. On October 24, Wilcox, accompanied by ten special wardens, went to the camp of the Indians and after an unsuccessful effort to induce them to leave the state in peace, an attempt was made to arrest some of them and take them to the county seat for trial, on the charge of having violated the game laws of the state. The result of the attempt is now a matter of state history. In a fight which followed, two bucks were killed outright and two squaws wounded, one seriously. Both of the latter are reported to have finally

recovered. Shortly following the fight, troops arrived from Duehnese and the Indians were taken back to their reservation.

In an investigation into the action of the wardens, which followed by a commission appointed by you for that purpose, composed of Judge D. C. Beaman, of Denver; Hon. C. E. Noble, of Colorado Springs, and Judge Joshua Waldridge, of Routt county, the wardens were exonerated of all blame and the killing of the Indians was declared to be unavoidable and brought about by their own action. A similar report was made by E. B. Reynolds, a special agent sent by the commissioner of Indian affairs, to investigate the matter.

The commission called attention to the negligence of the federal authorities in permitting the Indians to leave their reservations in Utah and go into Colorado to violate the laws of that state and to harass and disturb the settlers and their families.

Again, the present year, these Indians from both reservations have returned to their old haunts in Colorado on their old mission of game slaughter. In addition to that offense it is known that the Indians do not hesitate to kill range cattle. This involves personal loss to the settlers; but for them to attempt to resent it, would more than likely put them and their families at the mercy of the savage instinct for revenge. On application to General Sumner, commander of the military department of the Colorado, troops were dispatched, the latter part of October last, and the party of Uncompagres found camped near Rangely, Rio Blanco county, were returned to their reservation. The Indians were forced to leave before securing any considerable amount of game, but the government authorities are entitled to small credit on that account, as they have never been known to take measures to keep the Indians upon the reservations in advance of complaints of their presence elsewhere, intimidating settlers and destroying property.

About the middle of the past month it was again

reported that a numerous band of the Uintah tribe was in Routt county, in the vicinity of their old haunts, near Lily Park. The military authorities were again notified and it was expected that in the course of time the Indians would again be removed but not before they had time to kill a large number of deer and as many of the white man's cattle as their desires might prompt.

The failure of the authorities to see to it that the Indians are not permitted to leave their reservations at any time, except for some legitimate purpose and by permit, indicates that some one is responsible for the unlawful raids into Colorado.

Under the present policy the Indians secure by repeated excursions what they formerly got on one trip, and the difference is not greatly to the advantage of game protection.

It would seem that the people of the state, and especially those of western Colorado, are entitled to demand, once and for all, that these annual Indian raids cease, and if the federal authorities continue to ignore that demand the responsibility of what is almost sure to follow must be upon their heads.

If it again becomes necessary for the settlers to take the matter into their own hands in removing these Indians from the state, they will probably prove equal to the emergency, and it is likely to be done in a way that will prove a lasting lesson to the Indians.

The protected large game of Colorado is composed principally of elk, deer, antelope and mountain sheep.

There are yet a few buffaloes in the state, but their number is so small that little is known of them, and to many it will be a surprise to learn that even a single specimen of this noble game which once roamed the parks of Colorado in large herds, is still to be found in the state.

The principal range of the most numerous species of game, protected and otherwise, is to be found throughout that part of the state principally lying west of the main range dividing the Atlantic from the Pacific slope.

The great natural parks, consisting of extensive plateaus and basins hemmed in by high mountains, afford a very favorable range and shelter for all kinds of game, especially the varieties named above.

The most highly prized game that falls victim to the rifle of the hunter in this state, if we except the grizzly bear, is the elk (Wapiti), which is still to be found in considerable numbers. At present this fine game is protected all the year round, and there can be no doubt that the result of such protection is a material increase in the elk herds within the past two years. The range of these animals extends from Routt county, in the northwest part of the state, to Saguache county and even southward in the southwestern part of the state.

I believe these animals are sufficiently numerous to justify a change in the game laws by the next assembly, providing for a short open season during which they may be killed. No doubt the knowledge that elk may be killed in Colorado for a season, no matter how brief, would result in again attracting a large and desirable class of sportsmen each year to Colorado, who are now compelled to go elsewhere, if they would include an elk head in their string of trophies of the season's hunt.

The most numerous variety of large game to be found in Colorado is the mule-deer. Its range is throughout the entire western part of the state, and in the mountains and foothills, in less numbers in the eastern part.

It is claimed that the deer occupying the southwestern part of the state, is the Virginia deer, a species distinct from the mule-deer. Concerning this claim I know nothing, of my own personal knowledge.

Antelope perhaps come next to deer in point of numbers, of the large game of the state. They are still to be found in numerous and considerable bands in all the great parks and on the plains extending eastward from the mountains.

Thanks to the law which has been in force for some years forbidding the killing of mountain sheep at any

season, that highly prized species of game has undoubtedly increased in a satisfactory manner.

In speaking of the slow increase of these animals under most favorable conditions, I have heard it asserted that the greatest obstacle to their more rapid increase, is due to the destruction of many young lambs by that noble bird, the great American eagle. As both the mountain sheep and the eagle show a preference for the high and rocky places it is quite probable that the close association results to the disadvantage of the sheep. It has been suggested for that reason that a bounty should be placed on eagles.

Though at one time there was a bounty paid for bear scalps in this state, there was never a time when they might not be legally slain, but it has recently been suggested to me that bruin should be afforded a season of protection along with other prized game of Colorado.

I am not prepared to state that such a provision in the law is necessary to prevent the extinction of that gamey species of game that is generally reputed to be able to protect itself, but it is true that the bear is growing in favor as a most desirable quarry by a large class of sportsmen, and there is a strong feeling of protest against destroying them in any but a sportsman-like manner. The opinion that the bear is highly destructive to domestic stock is now held by but few persons competent to judge, and always lacked credible testimony to support the charge.

The grizzly, or silver tip bear, is plentiful in western Colorado, and the same may be said of the brown and black bear.

It would perhaps be little better than guess work to attempt to give the number of the different varieties of large game now in the state, but I am tempted to offer some figures on the subject, nevertheless.

Mr. Frank S. Wells, of Marvine Lodge, in Rio Blanco county, an old resident of that section and a guide and hunter of experience, gives it as his opinion

that in the counties of Rio Blanco and Routt last season, there were as many as four thousand to five thousand elk; at least eighty thousand deer; from ten thousand to fifteen thousand antelope, and that game of all kinds has increased since then. These figures are given for what they are worth, but they are believed to be fairly reliable, coming from one whose experience entitles his opinion in the matter to be regarded with respect. Assuming that his estimate is correct, there should be in round numbers not less than seven thousand elk, one hundred thousand deer and twenty-five thousand antelope in the state, and according to my judgment there are fully as many mountain sheep as elk. This would seem to be a pretty fair stock, and even with game protection no more successful than it has been the case during the past two years, the yearly increase in the future should equal the number killed. As it is the rule for does to bear twins, and the exception to have a single fawn, it can be estimated what the increase amounts to, counting but half of the deer to be females, when, as a matter of fact (because only males can be legally killed at any season), the does greatly predominate. With these figures in sight the problem of preserving the game in Colorado for many years to come is still a hopeful one, notwithstanding the work of both red and white violators of the law. The one, protected, if not encouraged in his wrong doing by, the government; the other, supported by a wrong public sentiment which will, in time, be brought to a realizing sense of its best interest.

As there are no registered guides in Colorado and no license requirement for hunting, there is no means of ascertaining with any exactness the number of big game annually killed in the state nor the profit accruing to the state on account of tourists attracted here by reason of the inducements offered in the way of hunting and fishing. I will, however, set forth briefly, the experience of another community where every facility for the protection of game is afforded, and where the

conclusion is drawn that such protection is a highly profitable investment to the state.

I refer to the state of Maine, I will quote from the "Report of the Commissioners of Inland Fisheries and Game" of that state, for the year of 1897.

The report, as the title would indicate, relates to both fish and game, but I will quote here principally those paragraphs referring wholly to game. I quote:

"Never before in the history of the state have inland fish and game interests been so much discussed in the public press and by our citizens as during the year just closed."

"There are several reasons why this has been so. One is that our people are coming more and more to understand the pecuniary benefits to be derived by restocking our lakes and ponds with land-locked salmon and trout and having suitable laws well enforced for the protection for the inland fish and game."

"Another reason is the guide law, so called, enacted by the last legislature."

"The laws for the protection of fish and game have ever been found to be notoriously difficult of thorough enforcement, and those charged with this duty have never escaped severe criticism."

The concluding paragraph will strike a responsive chord in the breast of all those who have had aught to do with prosecuting violations of the game and fish laws in Colorado. There is evidently a free masonry of action among those who protest against the enforcement of these laws that is not confined to the boundaries of any state.

The report of the Maine commissioners shows that under the guide law, one thousand three hundred and sixteen (1,316) guides are registered, and that for one season's guiding their compensation amounted to \$155,754, or three dollars per day for each guide for the time employed by him during the open season.

The report fixes the amount received by the taxi-

derdmists of Maine, for mounting large game, birds and fish at fifty thousand dollars for one season.

The number of residents guided during one season was 3,384, and of non-residents, 7,123.

The total number of moose (which nearly corresponds in importance and size to our elk) reported killed in one season was 250; total number of caribou, 239; total number of deer, 8,947; total number of bears, 160; making a grand total of large game killed in one season of 9,596.

This is a great record for a state containing a total area of less than one-third of that of Colorado and answers emphatically and affirmatively the question often asked in Colorado: "Can game protection laws be made to protect and preserve the game?"

Now as to the important question of revenue to be derived by the state from game protection.

The report of the Maine commissioners shows that during one season, non-residents who employed registered guides, expended in that state at least two millions of dollars, and that residents while engaged in hunting and fishing, expended at least \$150,000 more.

This latter is regarded as a distinct gain to the state, for by reason of the game protection these citizens were induced to spend this money at home instead of being compelled to go elsewhere.

It seems to me that this showing should convince the most skeptical that strict game laws strictly enforced, is good policy for any state, such as Colorado, naturally abounding in game, and that liberal appropriations by our legislatures for such purpose will prove investments that will repay the outlay many fold.

The registered and licensed guide system having been found to work so advantageously in Maine, there is no reason to suppose it would not prove equally as satisfactory in Colorado. The system would give the guides standing and protection, and at the same time put them upon their responsibility as being jointly required with wardens to permit no illegal killing of game and to at

once arrest and prosecute any one detected in violating the laws.

The provision in our present law for the appointment by the Commissioner at his pleasure, of special wardens without pay, and the one giving sheriffs of counties and constables the same power as wardens and requiring them to enforce the law in the same manner are not effective in protecting the game to any great extent. It is impossible to discriminate properly among the numerous applicants for appointment as special wardens, many of such appointees having used such authority for anything but a good purpose, and there is no effective means of withdrawing such appointment once it has been issued. It is the exception, too, to find a sheriff or constable, as such, who is at all zealous in the enforcement of the game and fish laws, though I am glad to testify to the fact that there are notable exceptions, and many good sportsmen and staunch supporters of the game law give, without pay, valuable service to the state as special wardens.

The number of such wardens in the state holding appointments from me is not much short of two hundred.

The appropriation for the pay of the three wardens who are on salary, and for one-half the pay and expenses of the Commissioner of this department, together with an appropriation of one hundred dollars for printing the laws in pamphlet form for free distribution, which is all that can be properly charged against game protection, amounts to three thousand eight hundred dollars per annum.

My judgment is that the number of pay wardens should be increased to at least six, so as to better cover the game districts of the state, and provision should also be made for the appointment and pay of additional wardens to serve when required. Usually for three or four months immediately before, during and following the close of the open season.

All the additional expense thus created, and probably much more, could be secured without cost to the state

by means of a hunting license and other licenses to be issued in connection with fish ponds and game preserves.

I might add here that the limiting of the number and quantity of game and fish which one person may kill in a day, meets with considerable opposition from some of those whose superior skill and opportunities enable them to indulge in what may be justly termed unreasonable and exterminating slaughter. This opposition is based on the fact that ducks are migratory, but public sentiment, in my judgment, is overwhelmingly in favor of a limit regardless of the migratory character of the game. The wild pigeons were migratory and once existed in the Mississippi valley in countless millions, and yet they have disappeared. Other states have already enacted limiting laws, and it is altogether likely that such laws will be generally adopted within the next two years.

Although there is yet opposition to the existence and enforcement of all game laws, there has been a remarkable change of public sentiment in their favor all over the country, including Colorado, within the last few years. An objection often urged is that game laws are not obeyed, cannot be perfectly enforced, and hence should not be enacted.

The fact is that no laws are either obeyed or perfectly enforced. The game laws are to-day as well obeyed and enforced throughout the state as the laws against gambling, illegal liquor selling and many others.

If all the laws enacted were obeyed, we would need no criminal courts, whereas they are constantly engaged in more or less fruitless efforts to enforce obedience to law.

This objection comes from people who either are opposed to law in general, or are thoughtless or misinformed.

Its logical result would be the repeal of all laws, and it therefore deserves no consideration whatever.

To attempt to explain in detail what legislation I would recommend would require more space than I feel

is necessary to devote to it in this report, especially so in view of the fact that some of the leading sportsmen of the state, and those interested in the passage of salutary game and fish laws, will prepare and consider a bill for introduction into the legislature. This should insure its prompt passage without attempt at amendment, which too often results in making a defective law of what was a measure of much merit upon its introduction as a bill.

FISH.

There is no appropriation made by each succeeding legislature, not excepting that for the protection of game, that pays better on the investment, both in coin and in general public approval, than that made for the maintenance of the several state fish hatcheries.

My experience has taught me, during my occupancy of this office, that a great majority of people of all classes of the state, not only fully commend what is done by each legislature in providing funds for the propagation and distribution of trout fry into the many fine trout streams of the state, but the same public opinion would approve of considerably greater appropriations for the same purpose.

The only condition that I desire to add to this statement is that the money so appropriated shall be honestly expended, agreeable to the purposes of the appropriations, and the result to be what should reasonably be anticipated from a given expenditure with the hatcheries under the control of an energetic and competent management.

The state has at the present time three hatcheries in operation. The appropriations made by the eleventh general assembly were for the maintenance of these three. They are located as follows: One on the Brighton road and near the Platte river, nine miles distant from Denver, commonly called the "Denver Hatchery;" one near the Gunnison river, and adjoining the

town site of Gunnison on the west, known as the "Gunnison Hatchery;" and the third one located near the Las Animas river, twelve miles from Durango, and commonly called the "La Plata Hatchery."

For the better understanding of yourself and the members of the legislature, I hope to incorporate with this report, in its printed form, views of the buildings, grounds and surroundings of these hatcheries.

The state has some troughs and a little other personal property in a log building at the abandoned hatchery at Twin Lakes. The commissioner should be given legislative authority to sell this property at the best price obtainable before it is permitted to lose its entire value from non-use, and to cover the money so derived, into the state treasury.

The state also owns a hatchery site in Douglas county, of about thirty acres, for which the state paid three hundred dollars some time in 1893, and three hundred dollars additional is said to have been spent upon it in the way of improving the land. As a demand for an additional hatchery, so located, is not apparent, I would recommend the disposal of the land at the best price obtainable exceeding or equaling the cost of the tract to the state.

The work of the several hatcheries under my administration has been very satisfactory to me and I have confidence to believe a full inquiry into the methods employed and success attained at these hatcheries in the propagation and distribution of trout fry the past two seasons, will meet with your commendation and the approval of the general public.

This success is in part due to the efforts and co-operation with me, of Mr. E. F. Campbell, the state superintendent of hatcheries, together with the intelligent and conscientious work accomplished by each of the assistant superintendents in charge of the several hatcheries.

The names of these assistant superintendents, together with a complete statement of the improvements

made and young fish hatched at each hatchery the past two seasons, appear elsewhere in this report.

As a result of the restocking of the clear streams of the state, most of such streams are now well supplied with trout, and Colorado in consequence has lost nothing of its reputation as being the country of beautiful streams from which the expert with the rod, line and fly is always rewarded with a good string of the "speckled beauties."

The only streams that might be noted as exceptions are the beautiful White and Bear rivers, in Rio Blanco and Routt counties, and some of the tributaries to the head waters of the Grand river. All of these streams have been, if they are not to-day, the finest fishing streams in the state, but constant fishing has depleted them to a large extent, and, owing to their distance from railroads and the difficulty in successfully transporting fry to replenish them, they have been practically neglected in the annual distributions of fry from the state hatcheries. A shipment of fry which was fairly successful, from the Denver hatchery, to each of the White and Bear rivers, and another to Grand lake, made last spring, were to the best of my knowledge, the first stocking of those waters by the state; or at least the first stocking of the two first named.

It is my judgment that these waters should not be neglected in future, but should be liberally restocked each season, and in order to do so successfully a hatchery should be established at some central location in Northwestern Colorado, most convenient to all the waters named, or perhaps it should be located with reference to the White and Bear rivers only.

Such a location would come more nearly meeting the needs of additional hatchery facilities than any other I can suggest. In selecting a location I consider it to be of prime importance to keep in sight the question of successful distribution of the product, and on that score the section named can put forth a strong claim for a hatchery.

The product of the Denver hatchery might be increased many fold and yet be insufficient to fully meet the demands made upon it by the trout streams of merit, which may be fairly considered as being within its exclusive territory. The only question considered when speaking of "territory" of this hatchery, or another, relates to the time necessarily consumed in putting the young fish into the streams from the hatcheries. Economy of time is very important in connection with the most successful planting of fry.

Considering the number of campers who annually camp along and whip the waters of the Platte river and its tributaries, it is not too much to say that all of the product of the Denver hatchery since its establishment, could have been placed in such streams to good advantage; but, instead, this product has been also made to supply the upper Rio Grande del Norte river and tributaries, the head waters of the Eagle river and all of the many streams flowing therein throughout its length, and other streams and lakes of eastern and western Colorado, more successfully stocked from this hatchery than any other.

The upper Gunnison river and the many fine trout streams that contribute to swell its volume, both below and above the town of Gunnison, can easily absorb all the trout hatched at the Gunnison hatchery, even though its yearly product in future may be increased several fold. But, in addition to these waters, the streams flowing into the Uncompagre river, many of which are good trout streams, must depend upon this hatchery for fry.

There are many fine streams in southwestern Colorado and in the center of that section, the La Plata hatchery is located. Its capacity is not as great as either of the other hatcheries and its entire product is yearly distributed to good advantage into the Rio Las Animas, the upper Dolores river and tributaries, and the Rio de los Pinos, the Rio Piedra and the Rio San Juan. All of these are among the finest trout streams in the state.

In my judgment all of the hatcheries are admirably situated with reference to their contiguity to the streams which they are designed to restock, and if any thing is wanting in the future, as to the Gunnison and La Plata hatcheries, it will be new locations in the same territory with reference to securing better water supply as to the former, and a greater supply as to the latter.

The trout with which the lakes and streams of Colorado are principally stocked are the native or black spotted mountain trout (*Salmo mykiss*), the eastern brook trout (*Salvelinus fontinalis*), and the Rainbow or California trout (*Salmo irideus*). There are other varieties of trout in some of the lakes and streams, but they are few in number and the ones named are by far the principal varieties in point of numbers.

The state hatcheries, during the past two seasons, have propagated and distributed the rainbows and eastern brooks only, though it would be my policy another season, should the appropriations justify it, to arrange for securing the ova and making a hatching of the natives at both the Denver and La Plata hatcheries, following the distribution of the rainbow fry. This could not be done at Gunnison, because of the altitude and the fact that the rainbows and natives spawn at too nearly the same time there, and the former cannot be hatched and distributed in time to make room in the troughs for the eggs of the latter.

The conditions as to altitude, etc., make it possible to accomplish this at the other two hatcheries.

During my term of office the water supply has been increased and improved at all of the hatcheries. In that part of the report relating to the "Denver Hatchery" I shall recommend the purchase of an additional piece of land for that hatchery on account of the large number of springs thereon and the great additional amount of water to be thereby obtained.

In addition to the consideration of the subject by the legislature of how to hatch and distribute the great-

est number of fry into the waters of the state at the least expense, it will also be well to further consider the matter of the protection of the fish after they have been put into the streams.

While there always has been, and always will be, a certain amount of illegal fishing done with hook and line, the amount of fish so taken is comparatively inconsequential, and if the fish laws of the state continue to be rigidly enforced the practice will grow less and less.

The arch enemy of the fish streams and greatest obstacle to the work of keeping them stocked, is the dynamiter. This method of taking fish is so generally abhorred and condemned that the comparatively few who practice it do their work with the greatest stealth, selecting secluded and isolated places for their operations. For this reason, the evidences of the dynamiter's work is usually only disclosed by the presence of dead and mangled fish of all sizes, floating down stream, yet it is practically impossible to fix the crime on the perpetrator of the outrage or catch him in the act.

The effect of the dynamite is to kill all fish, big and little, indiscriminately, within reach of its force, and to maim and bruise many others that must afterwards die.

I have perhaps received more complaints of this nature than of all other offenses combined, but I fail to remember one instance in which the complainant was willing to be identified with a prosecution of the kind himself, nor could or would furnish the name of one witness whose testimony would offer the chance of a conviction.

The remedy that suggests itself to me is that dynamiting public streams or lakes be made a felony and that a reward be paid out of the game and fish fund, be given the person or persons furnishing testimony which results in a conviction for the offense.

There is a wide divergence of opinion between the champions of the several varieties of trout propagated by the state and turned into the streams, but I believe the consensus of opinion to be that each variety has its

strong points and a variety that will thrive and increase in one stream will not do so well in another. Thus while the native mountain trout and the eastern brook trout seem better adapted to the colder waters of the higher streams and lakes, the rainbow trout will seek the larger streams and waters of a much higher temperature lower down.

The rainbow trout has made the great reputation enjoyed by the Gunnison river as being one of the finest fishing streams in the state, and the demand there is that no other variety of fry be placed in its waters.

Again, other sections call for other varieties for the restocking of other streams.

My experience and information leads me to believe that one great advantage on the side of the rainbow and eastern brook trout is the fact of their seeming greater vitality and hardiness. I am satisfied that the rate of loss both with ova and fry in the hatchery and in the distribution of the fry is not so great as with the native trout.

If I mistake not this is also the opinion held by E. A. Tulian, Esq., superintendent of the United States fish hatchery near Leadville, this state.

One of the greatest sources of destruction of fish in the streams is that resulting from the pollution of the waters by mill-operations.

Our existing law on that subject, which is found in section 36, of the forestry, game and fish law of the state, follows:

"It shall be unlawful to empty or cause or suffer to be emptied or dispersed, any saw-dust or other destructive substance into any of the waters of this state containing food fish, or in any such place or within such distance as to cause to be carried into such waters by natural causes."

This section has presented a very difficult problem to this department in the matter of its enforcement.

On the one hand we have arrayed the interests that champion the cause of clear streams in behalf of fishing

and the claims of the domestic users, and on the other hand the mining and milling interests, representing the paramount industry of Colorado.

So far as the law relates to pollution by saw-dust, the requirement is not a hard one, as saw-dust may be destroyed by burning or controlled by other means, and I have not hesitated to prosecute without discrimination all offenses of this nature where the necessary evidence of guilt was forthcoming.

Shortly following my assumption of the office of Commissioner at the head of this department, I caused to be issued, along with other circulars concerning game,—all of which will be found elsewhere in this report,—a circular entitled "Fish" addressed "To whom it may concern," but particularly directed in reply to numerous communications received at this office asking for an interpretation of the section of the law now under consideration.

The circular explains itself.

Following the issuance of this circular, I visited several of the prominent concentrating and stamp mills, whose operations were resulting in the discoloration in some instances, and the actual pollution in other cases, of the waters in the streams on which the mills were located.

In each instance in which I or any representative of this department have visited the owners or operators of any of these mills, for the purpose of devising a means of impounding the tailings proceeding from the crushed ore, and thereby preventing the further pollution of the streams, we were uniformly met with courtesy and offered every facility for ascertaining the situation.

The mill men declared their willingness to do all that was possible consistent with reasonable expenditures, to impound the tailings, but in each instance were able to demonstrate that such work could not afford more than temporary relief, for the reason that the mills were necessarily located in narrow gulches or canons, and it was impossible to find a sufficient tract of level

ground within reasonable distance on which settling ponds might be constructed.

Considering the extreme importance of the mining interests to Colorado, I have not considered myself justified, in view of the foregoing explanation, in instituting wholesale prosecutions against mill operations for polluting the waters of certain of the fish streams of the state.

The same reason I have given for refraining from prosecuting the mill men applies to the operations of the placers with equal if not greater force, on account of the greater volume of water employed.

It seems to me that the time must come, if indeed it be not already here, when certain streams of the state must be given over to the mining industry of the state for all time so far as the state's fish interests are concerned, and other fish streams, of which there are many, whose location will save them from such destruction, will need be stocked and guarded with increasing care.

This doubtless is a subject which calls for the early consideration of the law-making body of the state, and I trust that the twelfth general assembly will find time to enact a law, in place of the one now on our statutes, more clearly setting forth the duties of this department in the matter of polluted streams and providing a means by friendly civil proceeding perhaps, of determining what streams belong to the mining industry and which are to be saved for the trout.

By courtesy of Hon. John Sharp, the state fish and game warden of Utah, I was enabled in November, 1897, to secure from Utah lake, near Provo, five thousand two hundred yearlings, large mouth or Oswego black bass. These fish were placed in the Grand and Gunnison rivers at several points between Glenwood Springs and Grand Junction in the first named river and between Delta and Grand Junction in the last named.

The successful manner in which this fine fish has been introduced into the lakes and streams of Utah leads

me to hope and believe that they will find themselves equally at home in Colorado.

The belief in some minds that these fish will ascend the streams and prove destructive to the trout, I do not regard as being well founded. The large mouth black bass, as distinguished from the small mouth, seeks lower waters and of a higher temperature than does the trout, and I have been reliably informed of instances in Utah where the cold streams emptying into the lakes, teem with trout, while the lakes are alive with bass, yet neither fish to any great extent follows into the territory of the other.

An additional lot of these bass, both yearlings and spawners, two years old and passed, numbering two thousand of the former and four hundred and fifty of the latter, were secured for the state, by Mr. R. D. Haney, from some of the lakes near Denver, and placed part in the Grand river at the mouth of the Eagle and below, and part in the Las Animas river at Durango.

I have made several efforts to secure a stock of the yellow channel cat-fish with the intention of placing them in the larger streams of western Colorado, but so far without success. I still hope that this purpose will be accomplished at some time in the future.

This variety of cat is extremely palatable and would, doubtless, flourish and attain a good growth in the streams mentioned. All varieties of cat-fish are, I believe, found in the lower waters of the streams flowing eastward from Colorado.

I have frequently heard it asserted, though I do not vouch for the accuracy of the statement, that cat-fish are not native to any of the waters west of the Continental divide.

However, my efforts to stock the western streams with cat-fish have not been wholly fruitless. During the month of November just passed, I succeeded in closing a contract for a number of mud-cat spawners and also a number of blue channel cat spawners. These mud-cat are of the large kind that attain several pounds in weight

under favorable conditions. These are to be placed in the Grand and Gunnison rivers.

In leaving the subject of fish, I do so with a sense of having but poorly performed my task, but, before concluding, I desire to acknowledge my obligations on behalf of the state, for the many courtesies received from most of the railroads and express companies in connection with transportation furnished officials of this department and in transporting the young fish to the streams throughout the state without charge.

Without desiring or seeming in the least particular to dictate to the appointing power, permit me a few words on a subject which may not be regarded by some as being properly a part of this report. I want to state, as my judgment, that the best results to the state from the operations of this department, can only be secured by the inauguration of a policy controlling appointments therein, based upon merit and fitness alone.

The work of the department for the most part, as all must recognize, is such as requires special knowledge and experience in order to insure the greatest success attainable in its operations.

The hearty coöperation of all citizens in its work is also essential if the objects sought to be accomplished are to be realized at their full. To that end there should be no consideration of politics in connection with this department of all others, and it should be in no wise threatened or disturbed solely on account of party supremacy in the state.

Those best qualified to give the best service to the state should be assured of retention while satisfactory service continues.

Such a rule would prove an inducement to the constant and continued acquirement of knowledge on a subject that under other conditions an official or employee, by the grace of political influence alone, might deem it a waste of time and mental energy to gain.

The government hatchery in this state, as are those elsewhere, is conducted under civil service rules, and it

will be generally admitted that the annual work done at that establishment is a credit to the government and to the competent superintendent in charge, E. A. Tulian, Esq.

If this system of tenure of office in connection with fish propagation has proven profitable to the government, why should it not prove equally so to Colorado?

CHANGES IN LAWS RECOMMENDED.

Following are some of the changes and additions that occur to me, which should be made in the existing forestry, game and fish laws of the state:

A new law should be enacted relating to the subjects of game and fish alone. This action would dispose of all questions that have been raised as to the constitutionality of the existing act on those subjects.

A new law should be enacted relating to the subject of forestry. The duties in connection with this department could be placed upon the commissioner and wardens of the game and fish department without additional cost to the state.

The salary of the Commissioner should be increased from twelve hundred dollars per annum to at least eighteen hundred dollars. The heads of all other departments are paid a sum much greater than this, even, and I do not know of a department the duties of which are more onerous and exacting, if properly discharged, nor more important to the state.

The provision in the law relating to trap shooting by regularly organized clubs, at pigeons, should be cut out for the reason, in my opinion, that it is doubtful if such a provision has any proper and legal place in a game law.

Under the existing law, there is a provision for the appointment of special wardens, but no means are provided for carrying into effect the revocation of such appointments if such action is thought to be desirable.

Those who have abused the use of such appointments during my administration, have failed to return the written appointment on demand by me.

There is a considerable demand that the limit of twenty birds per day be taken off ducks and geese, for the reason that these birds are migratory, and that not many other states thus protect them. It might be well to raise the limit in number to be in possession of one person at any time, to say fifty birds.

There is a provision in the existing law for the "establishment" of parks "for breeding, domesticating and raising of elk, antelope, deer or mountain sheep," but no provision is made whereby such animals may be secured for the stocking of such parks. A very material omission it would seem. Provision should be made remedying this defect in the law which would at the same time settle the question of ownership of all such animals now held in such parks which were secured prior to and since the passage of the existing act, on the subject.

The provision in the existing law making it "unlawful to use any dog or dogs for the purpose of running or coursing mountain sheep, deer, antelope or elk," is not stringent enough. It should be made lawful for any person to kill any dog found coursing such game, and subject its owner, if found, to prosecution and fine.

There should be a short open season, say of two weeks, on horned elk. I believe their numbers will justify it and permission to kill this much prized game, even for a short season, will attract many persons and much money here that now annually goes to other states.

The section relating to and forbidding the pollution of fish streams should be amplified and made more specific as to the duty of the Commissioner and wardens in relation to all conditions of pollution that have arisen and may arise.

There should be a provision forbidding the removal

of evidence of sex from the hide of any elk, deer or antelope while the carcass is being transported or in possession of any person who may be legally entitled to possess the same.

It has been suggested that for the state to offer a bounty on Bald and Golden eagles would be the means of saving many fawns and lambs of mountain sheep.

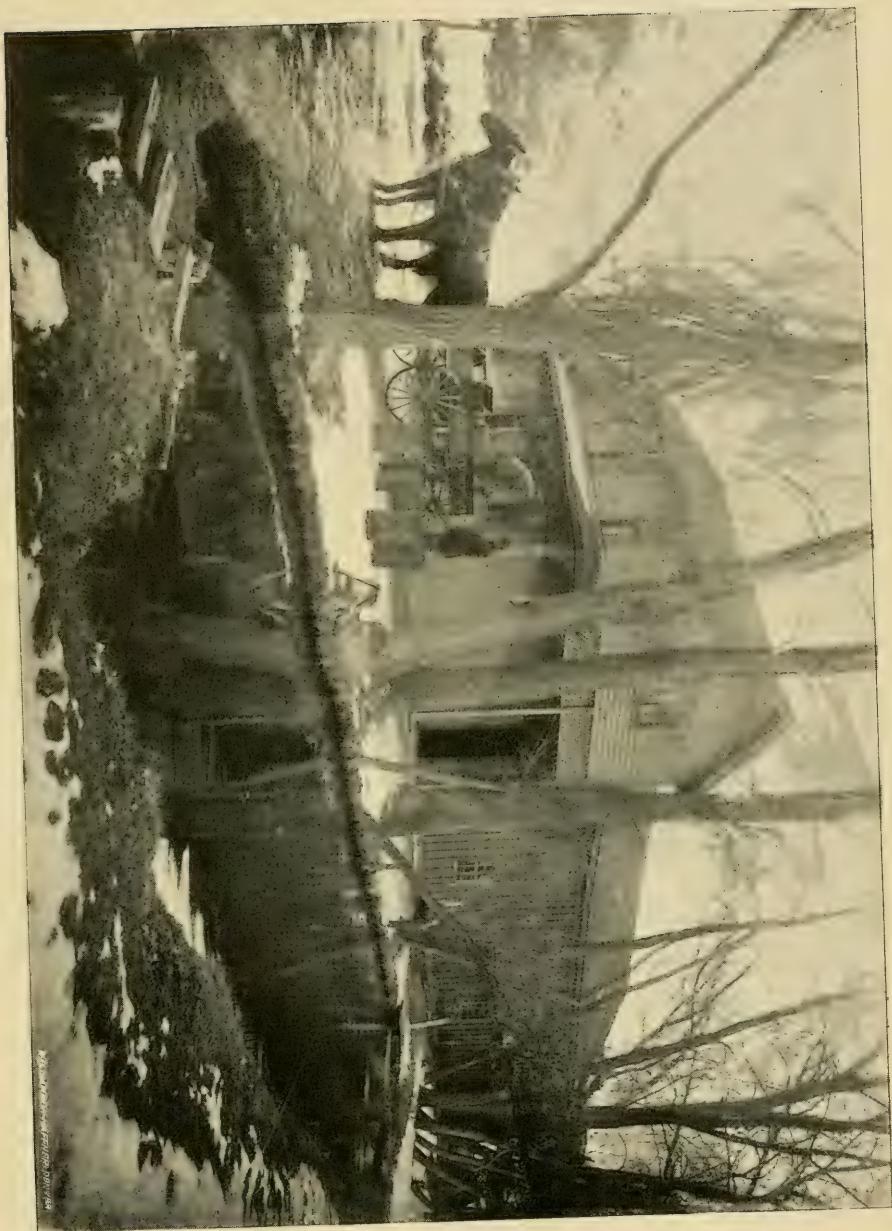
The Commissioner should be given greater authority in the matter of granting certificates to any member of any society of natural history or certain other persons, to kill or take out of season, any of the game protected by the act. Such authority should be made a source of revenue to the game fund.

No person should be permitted to kill to exceed one each, in one season, of the various kinds of large game permitted to be killed.

There should be a provision for a shooting license at reasonable cost, with which should be issued coupons, one each for each kind of large game permitted to be killed and one each for the heads and hides thereof, to be attached to any such carcass, head or hide. The absence of such coupon from the carcass, head or hide of any of such animals thereafter taken, to be *prima facie* evidence of the illegal possession thereof.

Provision should be made for additional revenue to the game and fish fund from licenses to be issued to the owners of private lakes and fish ponds, whereby the owner of such lake or pond would be given authority and protection of the law in marketing his product.

Provision should be made for the couponing or tagging of all heads, hides and scalps found in stock or held by taxidermists and glove makers. To regulate the business of taxidermists has been one of the greatest difficulties I have met with. Often under pretense of long ownership of an "old lot of scalps and hides," such dealers are able to defeat the law in continually getting new stock to replace the old. Under the coupon system the possession of any hide or scalp without a



SUPERINTENDENT'S RESIDENCE AND HATCHING HOUSE--DENVER HATCHERY.

coupon attached would make it subject to seizure and would be *prima facie* evidence of unlawful possession.

The killing of any buffalo should be made a penal offense, with a proper reward to any one furnishing evidence on which a conviction is secured.

It has been suggested to me that there shoud be a close season for bears, but just when and for how long such season could be fixed to the best advantage I am not prepared to state.

THE DENVER HATCHERY.

E. L. HAGER, ASSISTANT SUPERINTENDENT.

This hatchery is situated upon a tract of land containing little less than twelve acres, near the Platte river, nine miles distant from Denver. The site was presented to the state in 1880, by Waddingham and Daniels on condition that when it ceases to be used for fish hatchery purposes title shall revert to doners. It is stated that at the time the tract was secured a larger acreage could have been had on the same terms, or at least for a small money consideration. If this is true it was a short-sighted policy that it was not done. The land adjoining, which should be secured by the state to permit a proper increase of hatching facilities at this plant, either by long term lease or by purchase, is now the sole property of Mr. John Daniels, and its value has very materially increased since the plant was established. I am not at the present moment prepared to say what an additional tract of eight or ten acres of this land would cost the state, either by lease or purchase, but Mr. Daniels has stated that he would only ask a reasonable price. I would urgently recommend that authority be granted by the legislature to secure this additional tract, or the water issuing from the springs thereon, on some terms, as the need of the use and control of all of this

water is absolutely essential to the proper and possible increase of the fry product.

Under my predecessor, Mr. Gordon Land, there existed a contract between the state and Mr. Daniels, for the use of this water at a rental price of twenty dollars per month. This contract or lease did not extend beyond the term of office of my predecessor, and I did not feel justified in renewing it on those terms. Doubtless on a long term lease, say for twenty years, much better conditions could be secured, and, too, on a short term lease running but two years, the state would not be justified in going to the expense of making necessary improvements in ditching and tiling, in order to secure the full use of the water to be obtained by such means.

It is my opinion that the land wanted can be had at such price as will justify the state, on the ground of economy, to purchase it outright.

The temperature of the water at this hatchery the year round, is fifty-four to fifty-six degrees Fahrenheit, making it most favorable for the quick hatching of the ova and the successful development of the alevin and fry.

Only a small per cent. of the 1897 appropriation for this hatchery, amounting to twenty-nine hundred dollars, can be properly charged to the account of fry production. Nine hundred dollars of the amount represents the salary of the superintendent in charge and about forty per cent. of the balance went to pay for the permanent improvements that will stand for many years to come. Some of these improvements are: The painting of the outside of every building on the premises, including the roofs, (excepting the residence part of the hatchery, which was painted); none of these buildings had ever been in contact with paint before; the entire re-shingling of the hatchery, which had probably not been shingled since its construction, and which leaked like a sieve; the construction of a rearing house, twenty by fifty-two feet, together with twenty-six troughs, sixteen feet by twelve inches in dimensions. A water supply was also built for this house, consisting of an underground flow through

tiling, brought from springs on the premises, two hundred and fifty-two feet in length. In the hatching house are twenty troughs of the same dimensions as those mentioned above. Some of these are old, and have only been continued in use by much patching. New troughs to replace some of these will need to be provided soon.

All of the above mentioned improvements were made in 1897, after my assumption of the office of Commissioner and under the direction of Superintendent Hager.

In addition, the largest pond on the premises was constructed.

In the way of personal property a new delivery wagon, that is a credit to the state, a new set of double harness, and an additional horse, have been purchased.

The rearing house was built to serve the purpose of another building of about the same dimensions, which had been constructed and maintained by the state, on the premises of Mr. J. M. Broadwell, near by, for the purpose of securing the use of the water to be had there at an annual rental of one hundred and twenty-five dollars. I cut off this expense by developing sufficient additional water on the state's property with which to supply the troughs in the new rearing house. Under the terms of the contract made with Mr. Broadwell by my predecessor, he was permitted to hold possession of the old building and the troughs therein.

The fry distributed from this hatchery in 1897 were those that were turned over to me by my predecessor in April of that year. Their number, including both rainbows and eastern brooks, was two hundred and seventy-three thousand, besides two thousand kept in the hatchery ponds.

The eggs taken by us from the eastern brook trout in November and December, 1897, mostly in the former month, numbered one hundred and twenty-five thousand. The rainbows begin spawning here early in December and continue for three or four months. Five hundred and seventy-five thousand eggs were taken from these

trout in 1897-8. From these eastern brook and rainbow ova, six hundred and twenty-seven thousand fry were hatched and distributed the past season.

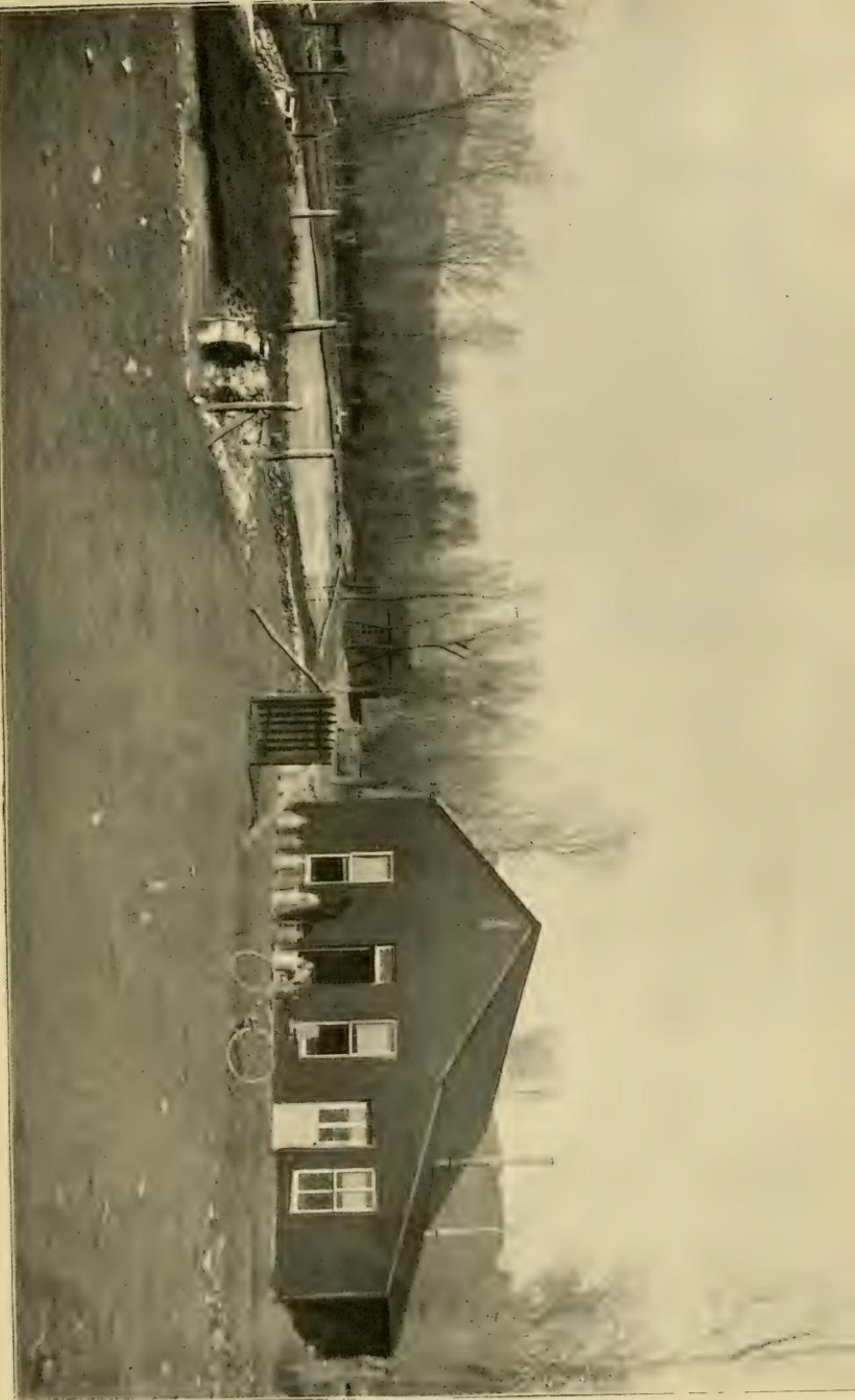
There are now in the ponds on the hatchery premises in the neighborhood of one thousand eastern brook spawners, two years old and upward, and four thousand of the rainbows all in fine, healthy condition.

With this stock of spawners and given an additional supply of good water, and some additional troughs, I can see no reason why the product from these fish for 1899 should not be increased by fifty per cent.

With the addition of an increased water supply it will also be possible to secure and hatch ova which may be procured from some of the lakes from native trout, and if this is done fifteen hundred thousand fry will not be an excessive estimate of the product of this hatchery for 1899.

In concluding these remarks in relation to this hatchery I want to commend the services to the state of Mr. E. L. Hager, the assistant superintendent in charge, and also those of his willing aide, Mr. C. Dowdell. Mr. Hager is a man of unusual force of character, and he has taken a pride in his work there that could not have been greater had he owned the establishment. The very commendable condition as to the buildings, grounds, and ponds and fish therein, vindicates the application and worth of his intelligent energy.

During the sitting of the legislature will be a time when this hatchery can be seen at the most interesting period of its operations. The spawning and hatching process will be progressing during most of that period, and the eyed ova, and the alevins can be seen in the troughs. A visit at such a time by the men who must decide upon appropriations to be made to maintain this important institution of the state, will give them a clearer idea of what has been done and the needs of the future, than the most careful reading of any report I could make on the subject.



THE GUNNISON HATCHERY.

H. S. CROOKS, ASSISTANT SUPERINTENDENT.

The location of this hatchery is near the Gunnison river, on leased lots in an addition to the town of Gunnison, adjoining it on the west.

The water supply is from an underflow secured by means of underground piping to the hatchery from wells sunk at no great distance from the river, and from an overflow from the city waterworks.

The supply from the wells is the best for use in the hatchery, though at times it has been insufficient and at such times it has been necessary to add a quantity of the river water.

The temperature of this water, as used in the hatchery troughs, is thirty-eight to fifty degrees Fahrenheit. On account of this low temperature the process of hatching the ova is usually slow, often requiring nearly twice the time consumed at either of the other hatcheries.

At the time I took charge of the department in April, 1897, this hatchery was perhaps in the worst condition of any of the hatcheries.

There were one hundred and fifty-four thousand fry in the troughs, but as these had been reared on shares, the state got but one half of them, and these seventy-seven thousand were the sum total of the distribution from this hatchery in 1897.

By actual count the only spawners on hand in the ponds at this time were two hundred and thirty-four eastern brook trout and fifty-six rainbows. With this small number of rainbows it was impossible to secure enough ova to make a hatching, and efforts to obtain ova from other sources failed.

At this time the hatch house was an unpainted ramshackle old store building twenty by sixty feet in dimensions, with a glass front and with roof and sides that leaked rain and atmosphere in excessive quantities.

In this condition the building was really unfit for

winter hatching, and it has been told me as a fact that the water had been known to freeze solid in the troughs containing the ova.

During the summer of 1897 I ordered the reconstruction of the hatchery building and other needed repairs and improvements on the premises. The hatchery building was reshingled, reboarded outside and lined inside throughout with matched lumber. The glass front was removed and replaced with a tight board front containing a single door and moderate sized windows. Several living rooms were set off in the front part of the building for the use of the superintendent. In addition to these repairs an addition twelve feet wide running its entire length was constructed on the east side of the building and the entire structure including the roof was painted.

The hatchery, in its old condition, contained sixteen troughs. We have added fourteen to this number in the reconstructed building. These troughs are twelve and thirteen feet in length by twelve inches in width.

As the Gunnison hatchery now stands, it is about the most complete, commodious and substantial of any owned by the state.

Another improvement made here last year was the constructing of a work and store house. The building is frame, fourteen by sixteen feet, shingle roof, and painted.

Other improvements made the same year were the construction of 1,425 additional feet of underground fluming and piping to increase the water supply for the hatchery and ponds, and the building of several ponds.

One thousand feet of the underground piping of galvanized iron, which furnishes about one half the supply of water to the hatchery, has now been constructed seven years, and its rotted and rusted condition is injurious to the water. Another danger is that it may collapse at any time and shut off the water supply to the hatchery. Another season must not be allowed to pass until this pipe line is enlarged and renewed. The

cost of the work will probably be five hundred to seven hundred dollars.

The product of fry at this hatchery the present season was three hundred and eighty thousand, of which three hundred thousand were eastern brooks and balance rainbows. The product would have been much greater if it had been possible to secure as many rainbow ova as was secured of the eastern brooks.

Of the eastern brooks we now have a nice lot of spawners in the ponds and the ova now being taken from these will probably amount to all we can handle in the troughs and will insure a large increase in production of fry next season.

I am informed by Mr. Crooks, that he has recently succeeded in catching several hundred rainbow spawners from the river and hopes to be able to get enough of them in the ponds to insure the taking of enough eggs to fill the troughs at the proper time.

With the existing facilities at this hatchery, together with an appropriation sufficient to buy ova, if enough cannot be obtained from the spawners in the ponds, it is safe to say that the number of fry that can be hatched and reared another season will easily double the product of 1898.

Mr. H. S. Crooks, the assistant superintendent at this hatchery, has labored hard and faithfully to put the plant in its present creditable condition, and under all the circumstances no hatchery in the state has made a better showing. His conduct of the affairs under his immediate charge has been most satisfactory to me and apparently to his neighbors in Gunnison City, and I am confident in asserting that the people of the state have had full value received for what has been paid Mr. Crooks for his services.

THE LA PLATA HATCHERY.

W. E. PATRICK, ASSISTANT SUPERINTENDENT.

This hatchery is situated in the valley of the Las Animas river, twelve miles from Durango, and two miles from Hermosa station on the Silverton branch of the Denver and Rio Grande railroad.

The hatchery premises consists of a tract of three and fifty-two hundredths acres. So far as I have been able to learn, title in the tract is vested in the county of La Plata, with provisional title in the state, to the effect that it shall continue to be the property of the state so long as it is used for fish hatchery purposes.

The frame hatchery building, which is thirty-six by forty-six feet in dimensions, is in excellent repair and was the best building of the kind owned by the state at the time of my taking charge in April, 1897. There are fourteen troughs fourteen feet in length and fourteen and sixteen inches in width.

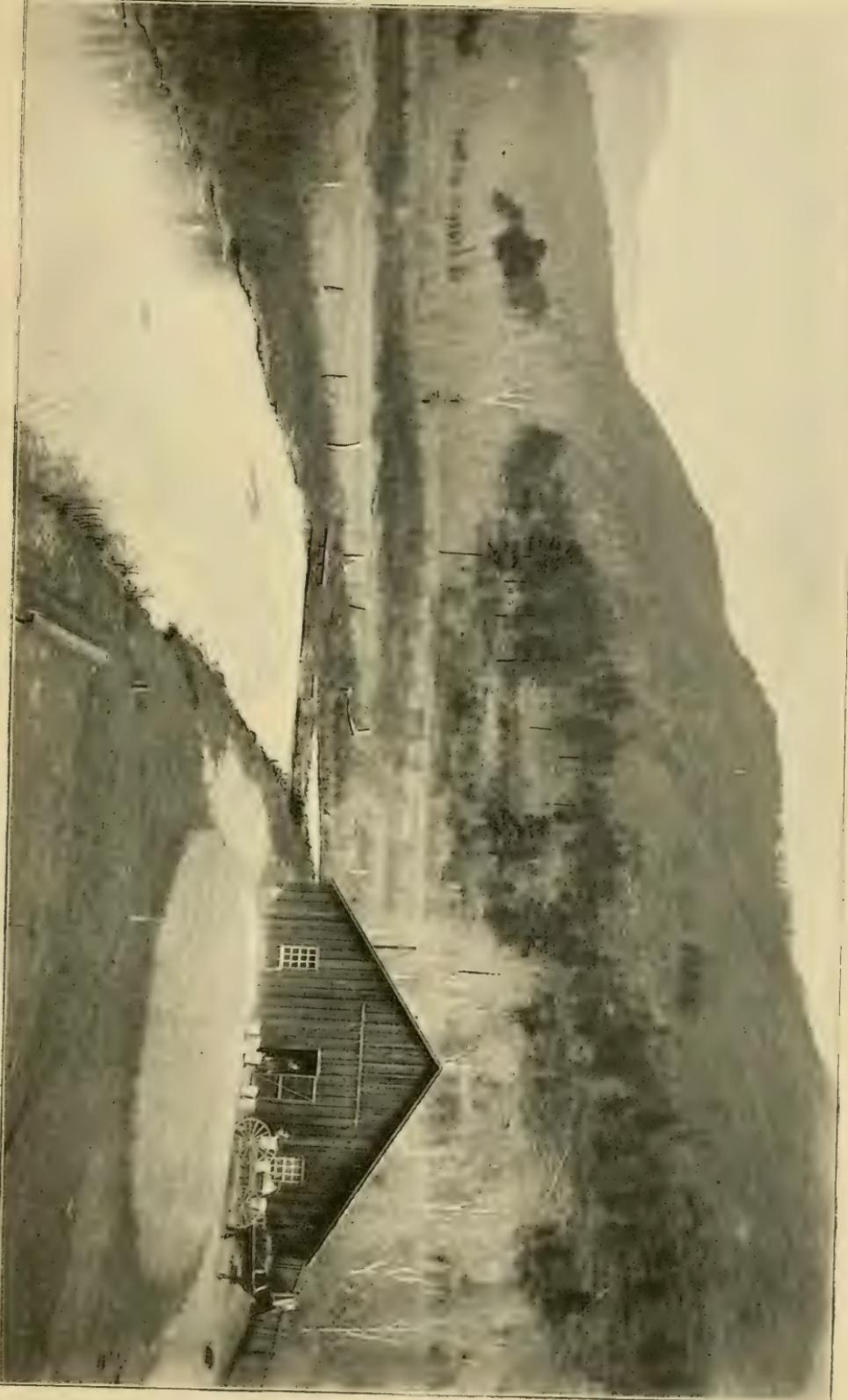
Only part of the building is now used for hatching purposes. Part of it is occupied as living quarters for the assistant superintendent and his family, and part of the space is not occupied at all except to store coal, fry-delivery cans and other articles. •

The number of troughs can be doubled without disturbing the family quarters as now arranged.

There is a barn on the premises large enough to house a horse and wagon, and a hay loft above.

In 1897 I caused to be erected an ice house of plain lumber and shingled roof, fourteen by twenty feet in dimensions, and also had the premises inclosed with a tight wire fence.

There is an underground flume, six by eight inches, 1,200 feet in length, conveying an underground flow of water to the hatchery troughs. The supply from this source had been diminishing until I had the line extended somewhat, and upon investigation the flume was found to have grown almost full with the roots of willows. Since the removal of this obstruction the



supply of good hatching water would be sufficient for twice the present number of troughs.

The water for the ponds on the premises is supplied from a brook formed from a number of springs near by.

In 1897 the fry reared and distributed from this hatchery numbered eighty-nine thousand.

The present season, under the successful management of Assistant Superintendent W. E. Patrick, the number was three hundred and fifty thousand, ninety thousand of which were rainbows and the balance eastern brooks.

Another season with additional troughs in the hatchery and given sufficient appropriation to handle a hatching of native spawn, following the distribution of the other fry, there is no reason why the record of the La Plata hatchery should not exceed that of 1898 by more than double the production.

The water here is most excellent for hatching the ova, and the spawners in the ponds are strong and healthy.

The citizens of Durango and throughout that section of the state take great pride and interest in the work of this hatchery, and are always ready to contribute in every way to its success.

The limit of its possible development under good management can only be reckoned by the amount of money appropriated yearly for its use.

Under the competent management of Superintendent Patrick the hatchery had made a record the past season second to none in the state.

In achieving this success he has had the hearty good-will and coöperation of all the public spirited citizens of Durango and vicinity.

Before closing this record I can not afford to omit mention of the work of private individuals in assisting the state, at their own personal expense, in restocking the streams of southwestern Colorado. I refer to the operations of the Emerald Lake hatchery, owned by Mr. W. T. Kirkpatrick and associates. In 1896 the lake

was located under the reservoir act and the water in the lake was raised. A hatchery was established which has now been in operation three years and its product placed in the lake each year until the present season, when the four hundred thousand fry produced were placed one-half in the lake and one-half in the Rio de los Pinos.

Such work as this on the part of Mr. Kirkpatrick and his associates reveals a public spirit worthy of general recognition.

ESTIMATE
OF APPROPRIATIONS REQUIRED FOR MAINTENANCE OF
GAME AND FISH DEPARTMENT.

| What For | 1899 | 1900 |
|--|--------------------|--------------------|
| Commissioner's salary..... | \$ 1,800 00 | \$ 1,800 00 |
| Commissioner's traveling expenses..... | 600 00 | 600 00 |
| Stenographer's salary..... | 780 00 | 780 00 |
| Superintendent of hatcheries' salary..... | 1,200 00 | 1,200 00 |
| Superintendent of hatcheries' traveling expenses..... | 400 00 | 400 00 |
| Six chief game wardens' salaries (\$900 each)..... | 5,400 00 | 5,400 00 |
| Six chief game wardens' traveling expenses (\$300 each)..... | 1,800 00 | 1,800 00 |
| Distribution of fry from hatcheries..... | 800 00 | 800 00 |
| Biennial report..... | | 300 00 |
| Publishing laws for two years..... | 300 00 | ----- |
| Totals | \$13,080 00 | \$13,080 00 |

DENVER HATCHERY.

| | | |
|---|--------------------|--------------------|
| Assistant superintendent's salary..... | \$ 1,200 00 | \$ 1,200 00 |
| One employee's salary..... | 600 00 | 600 00 |
| Improvements, ice house, ova maintenance, etc..... | 2,000 00 | 1,200 00 |
| Additional grounds, six to ten acres (estimated)..... | 1,000 00 | ----- |
| Totals | \$ 4,800 00 | \$ 3,000 00 |

GUNNISON HATCHERY.

| | | |
|--|--------------------|--------------------|
| Assistant superintendent's salary..... | \$ 900 00 | \$ 900 00 |
| One employee's salary..... | 600 00 | 600 00 |
| Improvements, ova, maintenance, etc..... | 1,200 00 | 600 00 |
| Totals | \$ 2,700 00 | \$ 2,100 00 |

ESTIMATE—Concluded.

LA PLATA HATCHERY.

| What For | 1899 | 1900 |
|---|-------------|-------------|
| Assistant superintendent's salary | \$ 900 00 | \$ 900 00 |
| One employee's salary..... | 600 00 | 600 00 |
| Improvements, ova, maintenance, etc | 1,200 00 | 600 00 |
| Totals | \$ 2,700 00 | \$ 2,100 00 |

TROUT FRY DISTRIBUTION,
DENVER HATCHERY.

BOULDER COUNTY.

| Year | Disposition | Number |
|------|--|--------|
| 1897 | Middle Boulder creek, South Boulder creek | 15,000 |
| 1898 | Boulder creek, North St. Vrain creek, South St Vrain creek | 49,000 |

CLEAR CREEK COUNTY.

| | | |
|------|------------------------------------|--------|
| 1897 | Upper Clear creek..... | 15,000 |
| 1898 | Bear creek, Upper Clear creek..... | 39,000 |

CONEJOS COUNTY.

| | | |
|------|------------------|--------|
| 1897 | Goose creek..... | 10,000 |
|------|------------------|--------|

CHAFFEE COUNTY.

| | | |
|------|-----------------------|--------|
| 1897 | Cottonwood lake | 10,000 |
| 1898 | Cottonwood lake | 20,000 |

**TROUT FRY DISTRIBUTION,
DENVER HATCHERY—Continued.**

EL PASO COUNTY.

| Year | Disposition | Number |
|------|--|--------|
| 1897 | Little Fountain creek, Cascade creek, Bear creek, Manitou creek, Monument creek..... | 32,000 |
| 1898 | Big Fountain creek, Little Fountain creek..... | 27,000 |

EAGLE COUNTY.

| | | |
|------|---|--------|
| 1897 | Homestake creek, Grouse creek, Gore creek, Lake creek, Turkey creek, Upper Eagle river, Lower Eagle river.. | 24,000 |
| 1898 | Cross creek, Two Elk creek, Gore creek, Lake creek, Gypsum creek, Brush creek, Eagle river..... | 71,000 |

GARFIELD COUNTY.

| | | |
|------|---|--------|
| 1897 | North Canon creek, Grizzly creek, No Name creek, Rifle creek, Big Elk creek, Little Elk creek, Battlement creek | 33,000 |
| 1898 | Sweetwater lake, East Rifle creek, Middle Rifle creek, No Name creek, North Canon creek, Elk creek, Grizzly creek | 75,000 |

HINSDALE COUNTY.

| | | |
|------|---|-------|
| 1897 | Lake San Cristobal, Upper Cebolla creek | 6,000 |
|------|---|-------|

JEFFERSON COUNTY.

| | | |
|------|--|--------|
| 1897 | Platte river, Elk creek..... | 14,000 |
| 1898 | Platte river, Elk creek, Bear creek..... | 56,000 |

LARIMER COUNTY.

| | | |
|------|---|--------|
| 1897 | Big Thompson river and branches | 20,000 |
| 1898 | Big Thompson river, Casch La Poudre river | 67,000 |

**TROUT FRY DISTRIBUTION,
DENVER HATCHERY—Continued.**

LAKE COUNTY.

| Year | Disposition | Number |
|------|-----------------|--------|
| 1898 | Lake Fork | 25,000 |

LAS ANIMAS COUNTY.

| | | |
|------|-----------------------|--------|
| 1897 | Purgatory river | 10,000 |
| 1898 | Purgatory river | 20,000 |

MINERAL COUNTY.

| | | |
|------|------------------------|--------|
| 1897 | Rio Grande river | 10,000 |
|------|------------------------|--------|

MESA COUNTY.

| | | |
|------|---|--------|
| 1897 | Grand Mesa lake, Cottonwood lake, Rapid creek | 10,500 |
|------|---|--------|

PITKIN COUNTY.

| | | |
|------|---|--------|
| 1897 | Hunter creek, Maroon creek, Castle creek, Frying Pan river, Crystal river | 35,000 |
| 1898 | Maroon creek, Hunter creek, south branch of Roaring Fork creek, Frying Pan river, Crystal river | 37,000 |

PARK COUNTY.

| | | |
|------|---|--------|
| 1897 | Platte river, Craig creek | 12,000 |
| 1898 | Platte river, Deer creek, Goose creek | 73,000 |

ROUTT COUNTY.

| | | |
|------|------------------|--------|
| 1898 | Bear river | 25,000 |
|------|------------------|--------|

**TROUT FRY DISTRIBUTION,
DENVER HATCHERY—Concluded.**

RIO BLANCO COUNTY.

| | | |
|------|-------------------|--------|
| 1898 | White river | 25 000 |
|------|-------------------|--------|

SUMMIT COUNTY.

| | | |
|------|---|--------|
| 1897 | Upper Blue river, tributaries of Ten-Mile river | 11,000 |
| 1898 | Upper Blue river | 15,000 |

SAGUACHE COUNTY.

| | | |
|------|----------------------------------|-------|
| 1897 | Chicago lake, Kerber creek | 6,000 |
|------|----------------------------------|-------|

YUMA COUNTY.

| | | |
|------|--|-------|
| 1898 | Branch Republican river, near Wray | 3,000 |
|------|--|-------|

**TROUT FRY DISTRIBUTION,
GUNNISON HATCHERY.**

CUSTER COUNTY.

| Year | Disposition | Number |
|------|---------------------------------|--------|
| 1898 | Streams near Silver Cliff | 20,000 |

CHAFFEE COUNTY.

| | | |
|------|-------------------|--------|
| 1898 | Goose creek | 20,000 |
|------|-------------------|--------|

**TROUT FRY DISTRIBUTION,
GUNNISON HATCHERY—Continued.**

GUNNISON COUNTY.

| Year | Disposition | Number |
|------|--|---------|
| 1897 | East river, Cochetopa creek, Tomichi river, Quartz creek, Powder Horn creek, Cebolla creek, Erwin lake, Slate river | 59,000 |
| 1898 | Sand creek, Blue creek, Quartz creek, Cochetopa creek, Hot Springs creek, Tomichi river, Crystal river, Box Alder creek, St. Cloud creek, Ohio creek, Gunnison river | 175,000 |

GARFIELD COUNTY.

| | | |
|------|------------------------------|--------|
| 1898 | Branches of Roan creek | 10,000 |
|------|------------------------------|--------|

HINSDALE COUNTY.

| | | |
|------|--------------------------|--------|
| 1898 | Lake San Cristobal | 25,000 |
|------|--------------------------|--------|

LAKE COUNTY.

| | | |
|------|---|--------|
| 1898 | Arkansas river in Tennessee park and Crane's park | 25,000 |
|------|---|--------|

MESA COUNTY.

| | | |
|------|--|--------|
| 1898 | Big creek, Leon creek, Grand Mesa lake | 20,000 |
|------|--|--------|

MINERAL COUNTY.

| | | |
|------|--|--------|
| 1898 | Rio Grande river, near Wagon Wheel gap | 20,000 |
|------|--|--------|

MONTROSE COUNTY.

| | | |
|------|----------------------|--------|
| 1897 | Cimarron creek | 12,000 |
|------|----------------------|--------|

**TROUT FRY DISTRIBUTION,
GUNNISON HATCHERY—Concluded.**

RIO GRANDE COUNTY.

| Year | Disposition | Number |
|------|---|--------|
| 1898 | Rio Grande river, near Wagon Wheel gap..... | 25,000 |

OURAY COUNTY.

| | | |
|------|-------------------|-------|
| 1897 | Dallas creek..... | 6,000 |
|------|-------------------|-------|

SAGUACHE COUNTY.

| | | |
|------|--|--------|
| 1898 | Saguache creek, San Louis creek, Kerber creek, North crestone..... | 40,000 |
|------|--|--------|

**TROUT FRY DISTRIBUTION,
LA PLATA HATCHERY.**

ARCHULETA COUNTY.

| Year | Disposition | Number |
|------|--|--------|
| 1897 | Piedra river, San Juan river..... | 21,000 |
| 1898 | San Juan river, Navajo river, Chama river..... | 47,000 |

CONEJOS COUNTY.

| | | |
|------|--------------------|--------|
| 1898 | Conejos river..... | 20,000 |
|------|--------------------|--------|

DOLORES COUNTY.

| | | |
|------|--------------------|--------|
| 1897 | Dolores river..... | 11,000 |
| 1898 | Dolores river..... | 56,000 |

**TROUT FRY DISTRIBUTION,
LA PLATA HATCHERY—Concluded.**

LA PLATA COUNTY.

| Year | Disposition | Number |
|------|--|---------|
| 1897 | Lightner creek, Hermosa creek, Junction creek, Pine river, Vallicetta creek, Florida river, Cascade creek, Limestone creek | 50,000 |
| 1898 | Florida river, Pine river, Vallicetta river, Junction creek, Bear creek | 197,000 |

MONTEZUMA COUNTY.

| | | |
|------|-------------------|--------|
| 1897 | Mancos river..... | 3,000 |
| 1898 | Mancos river..... | 30,000 |

SAN JUAN COUNTY.

| | | |
|------|-------------------|-------|
| 1897 | Needle creek..... | 4,000 |
|------|-------------------|-------|

STATE FISH HATCHERY—ACCOUNT.

DENVER.

| | | |
|---|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 2,000 00 |
| appropriation for fiscal year 1898 | | 1,200 00 |
| To E. Daniels, water rent | \$ 207 72 | |
| C. T. Shelton, hay, grain and fuel..... | 395 61 | |
| E. L. Hager, superintendent, supplies..... | 187 90 | |
| C. Dowdell, assistant | 995 00 | |
| Wm. Eisenbaugh, labor..... | 95 00 | |
| McPhee & McGinnity, lumber, cement, etc | 307 24 | |
| Denver Sewer Pipe & Clay Co..... | 117 36 | |
| Braid & Brayton, horseshoeing | 44 75 | |
| J. M. Broadwell, water rent for 1896..... | 125 00 | |
| Kroeger Packing Co., fish feed..... | 165 00 | |
| J. M. Wilson, hatchery wagon..... | 142 25 | |
| B. Sutherland, carpenter work and labor..... | 60 00 | |
| Colorado Telephone Co..... | 60 00 | |
| The Standard M. & S. S. Co..... | 45 57 | |
| Roberts Livery Co..... | 45 00 | |
| R. G. Osborn | 18 00 | |
| Frank Stevens, labor..... | 33 00 | |
| F. J. Cooke, labor..... | 20 00 | |
| S. W. Weigand, labor..... | 27 30 | |
| John Lee, labor..... | 12 00 | |
| A. C. Hunt, surveying | 26 00 | |
| P. H. Fitzpatrick, labor..... | 13 25 | |
| W. B. Lloyd, labor..... | 44 35 | |
| Flint & Lomax, zinc, hacksaw blades..... | 27 60 | |
| T. P. Maloney, horseshoeing | 13 33 | |
| Haywood Arms Co., fish netting, seine | 6 70 | |
| Miscellaneous expenditures | 55 07 | |
| Totals | \$ 3,200 00 | \$ 3,200 00 |

STATE FISH HATCHERY—ACCOUNT.

GUNNISON.

| | | |
|---|-------------|-------------|
| By appropriation for fiscal year 1897 | | \$ 2,000 00 |
| • appropriation for fiscal year 1898 | | 1,200 00 |
| To H. S. Crooks, superintendent, supplies, teaming, fish feed, etc | \$ 807 77 | |
| S. L. Lane, assistant | 84 50 | |
| S. J. Miller, labor | 230 00 | |
| H. M. McDill | 3 10 | |
| Haywood Arms Co., revolvers and supplies | 16 40 | |
| Parks & Co., lumber, doors, etc | 538 47 | |
| Gunnison Hardware Co., supplies | 251 75 | |
| Geo. D. Bird, constructing water main | 236 67 | |
| J. G. Crooks, assistant | 400 00 | |
| Myron C. Newell, bass fingerlings | 172 05 | |
| B. F. Marlin, labor | 28 20 | |
| Littleton Creamery Co., cans | 40 80 | |
| R. D. Haney, bass spawners | 107 50 | |
| McPhee & McGinnity, lumber, etc | 132 95 | |
| Cat-fish spawners, R. D. Haney | 86 84 | |
| Totals | \$ 3,200 00 | \$ 3,200 00 |

STATE FISH HATCHERY—ACCOUNT.

LA PLATA.

| | | |
|---|-------------|-------------|
| By appropriation for fiscal year 1897 | | \$ 600 00 |
| appropriation for fiscal year 1898 | | 600 00 |
| To Howard Hill, superintendent, supplies | \$ 264 69 | |
| Jackson Hardware Co., wagon | 85 00 | |
| W. E. Patrick, superintendent, supplies | 555 72 | |
| C. J. Swan, assistant | 187 25 | |
| R. D. Haney, bass spawners for La Plata river | 75 00 | |
| Balance | 32 34 | |
| Totals | \$ 1,200 00 | \$ 1,200 00 |

STATE FOREST, GAME AND FISH COMMISSIONER. 57

SUPERINTENDENT FISH HATCHERY—DENVER.
SALARY ACCOUNT.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 900 00 |
| appropriation for fiscal year 1898..... | | 900 00 |
| To W. S. Kincaid | \$ 345 00 | |
| E. L. Hager | 1,455 00 | |
| Totals | \$ 1,800 00 | \$ 1,800 00 |

SUPERINTENDENT FISH HATCHERY—GUNNISON.
SALARY ACCOUNT.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 900 00 |
| appropriation for fiscal year 1898..... | | 900 00 |
| To H. S. Crooks | \$ 1,387 50 | |
| Balance | 412 50 | |
| Totals | \$ 1,800 00 | \$ 1,800 00 |

SUPERINTENDENT FISH HATCHERY—LA PLATA.
SALARY ACCOUNT.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 900 00 |
| appropriation for fiscal year 1898..... | | 900 00 |
| To Howard Hill | \$ 600 00 | |
| W. E. Patrick | 1,200 00 | |
| Totals | \$ 1,800 00 | \$ 1,800 00 |

FOREST, GAME AND FISH COMMISSIONER.
SALARY ACCOUNT.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 1,200 00 |
| appropriation for fiscal year 1898..... | | 1,200 00 |
| To Gordon Land | \$ 422 85 | |
| J. S. Swan | 1,977 15 | |
| Totals | \$ 2,400 00 | \$ 2,400 00 |

FOREST, GAME AND FISH COMMISSIONER.
TRAVELING EXPENSES.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 500 00 |
| appropriation for fiscal year, 1898..... | | 500 00 |
| To Gordon Land..... | \$ 25 75 | |
| A. R. Gerard..... | 15 00 | |
| J. S. Swan | 959 25 | |
| Totals..... | \$ 1,000 00 | \$ 1,000 00 |

SUPERINTENDENT OF STATE HATCHERIES.
SALARY.

| | | |
|--|-------------|-------------|
| By appropriation for fiscal year 1897..... | | \$ 1,000 00 |
| appropriation for fiscal year 1898..... | | 1,000 00 |
| To H. M. McDill..... | \$ 416 65 | |
| E. F. Campbell..... | 1,583 35 | |
| Total..... | \$ 2,000 00 | \$ 2,000 00 |

SUPERINTENDENT OF STATE HATCHERIES.
TRAVELING EXPENSES.

| | | |
|--|-----------|-----------|
| By appropriation for fiscal year 1897..... | | \$ 400 00 |
| appropriation for fiscal year 1898 | | 400 00 |
| To H. M. McDill..... | \$ 6 00 | |
| E. F. Campbell..... | 794 00 | |
| Totals..... | \$ 800 00 | \$ 800 00 |

FOREST, GAME AND FISH—CLERK AND
STENOGRAPHER.

SALARY ACCOUNT.

| | | |
|---|-------------|-------------|
| By appropriation for fiscal year 1897 | | \$ 600 00 |
| appropriation for fiscal year 1898 | | 600 00 |
| To Miss Pogue | \$ 180 00 | |
| Miss Altimus | 25 00 | |
| Miss Tweedale | 133 33 | |
| Gertrude A. Schuyler | 332 90 | |
| Eleanor Draper | 206 83 | |
| Annie E. Metcalf | 141 94 | |
| Esther P. Stephenson | 180 00 | |
| Totals | \$ 1,200 00 | \$ 1,200 00 |

FOREST, GAME AND FISH—WARDENS.

SALARY ACCOUNT.

| | | |
|---|-------------|-------------|
| By appropriation for fiscal year 1897 | | \$ 2,700 00 |
| appropriation for fiscal year 1898 | | 2,700 00 |
| *overdraft | | 281 67 |
| To C. H. Withington | \$ 420 00 | |
| J. T. McLean | 1,116 67 | |
| M. R. Lovell | 187 50 | |
| Ed. Slaughter | 450 00 | |
| R. E. Goodell, Jr. | 637 50 | |
| W. R. Wilcox | 1,240 00 | |
| F. S. Smith | 420 00 | |
| W. H. Clark | 420 00 | |
| Thomas Kilduff | 302 50 | |
| James Lytle | 337 50 | |
| J. H. Walzl | 150 00 | |
| Totals | \$ 5,681 67 | \$ 5,681 67 |

*This overdraft is created by the action of my predecessor, Gordon Land, in drawing salary vouchers in payment of the wardens at \$100 per month, from December 1, 1895, to April 8, 1897, as provided by the old law, instead of \$75 per month as provided by the present law.

FOREST, GAME AND FISH—WARDENS.

EXPENSE ACCOUNT.

| | | |
|---------------------------------------|-------------|-------------|
| By appropriation for fiscal year 1897 | | \$ 900 00 |
| appropriation for fiscal year 1898 | | 900 00 |
| To balance | \$ 2 35 | |
| C. H. Withington | 11 90 | |
| W. H. Clark | 57 55 | |
| J. T. McLean | 463 10 | |
| W. R. Wilcox | 525 00 | |
| Thomas Kilduff | 46 50 | |
| James Lyttle | 218 85 | |
| R. E. Goodell, Jr. | 211 94 | |
| M. R. Lovell | 65 00 | |
| Ed. Slaughter | 150 00 | |
| J. H. Walzl | 47 81 | |
| Totals | \$ 1,800 00 | \$ 1,800 00 |

DISTRIBUTION OF FRY—ACCOUNT.

| | | |
|---------------------------|-------------|-------------|
| By appropriation for 1897 | | \$ 500 00 |
| appropriation for 1898 | | 500 00 |
| To M. J. Wilson | \$ 134 20 | |
| A. Zulger | 42 00 | |
| E. Slaughter | 211 50 | |
| C. Dowdell | 40 00 | |
| P. H. Fitzpatrick | 66 75 | |
| P. R. Morris | 7 00 | |
| R. D. Hanly | 44 00 | |
| S. L. Lane | 88 60 | |
| S. M. Miller | 346 30 | |
| Geo. O. Blake | 2 00 | |
| Balance | 17 65 | |
| Totals | \$ 1,000 00 | \$ 1,000 00 |

STATE FOREST, GAME AND FISH COMMISSIONER. 61

PUBLISHING GAME LAWS—ACCOUNT.

| | | |
|---|-----------|-----------|
| By appropriation for fiscal years 1897-8..... | | \$ 100 00 |
| To Smith-Brooks Printing Co | \$ 33 25 | |
| Smith-Brooks Printing Co | 12 75 | |
| Smith-Brooks Printing Co | 54 00 | |
| Totals | \$ 100 00 | \$ 100 00 |

BIENNIAL REPORT—ACCOUNT.

| | | |
|---|-----------|-----------|
| By appropriation for fiscal years 1897-8..... | | \$ 300 00 |
| To A. S. Carter & Co., photo supplies..... | \$ 8 85 | |
| Hicks, photos..... | 6 00 | |
| Smith-Brooks Printing Co..... | 190 41 | |
| Balance | 94 74 | |
| Totals | \$ 300 00 | \$ 300 00 |

CIRCULARS

Issued by the

DEPARTMENT OF FORESTRY, GAME
AND FISH.

CIRCULARS

ISSUED BY THE

DEPARTMENT OF FORESTRY, GAME AND FISH.



Circular No. 1—Game and Fish.

STATE OF COLORADO.

DEPARTMENT OF FORESTRY, GAME AND FISH.

Denver, May 1, 1897.

To whom it may concern:

The forestry, game and fish law enacted by the last general assembly is now in force.

By the act all wild game, animals and birds therein mentioned, and the fish in the public waters, are declared to be the property of the state, and the taking, killing, or having the same in possession, except as therein provided, is prohibited.

The open seasons are as follows:

Wild turkeys, prairie chickens, grouse and sage chickens, August 15 to November 1. Doves, August 1 to October 1.

Ducks, geese, brants, swans and other water fowl, September 1 to May 1. Deer and antelopes with horns

(for food and immediate use only), September 1 to October 15. Trout and other food fish (over six inches long), June 1 to December 1.

One deer or antelope, twenty birds (doves excepted) and twenty pounds of fish per day, per man, only allowed. All waste prohibited.

The taking or killing of all other protected game animals, birds, insectivorous and otherwise, and fish (except beaver injuring ditches, white suckers by permission of the commissioner, and trap shooting at pigeons by incorporated clubs) prohibited at all times.

Game to be taken or killed in the day time and with shoulder gun only; fish to be taken with hook and line only. Night hunting or fishing with artificial light, and netting, prohibited at all times.

Chasing four-footed protected game with dogs, and using protected game for trap baiting, prohibited.

The taking or killing of bison, mountain sheep, elk, pheasant, ptarmigan or quail, prohibited at all times.

Hunting and fishing on posted enclosures without permission prohibited.

Transportation and possession during the closed season, and cold storage, serving in hotels and restaurants, taking, killing or shipment for the purpose of sale and selling, prohibited at all times.

Protected game and fish brought from another state can be held in possession, offered for sale or sold, only upon positive and competent evidence of lawful killing in and exportation from such state. Ex parte affidavits from shippers will not suffice.

Obstruction by dams having no fish ways, and pollution by saw dust or other destructive substances, of streams containing food fish, prohibited.

Penalties for violation, \$10 to \$300 fine, and imprisonment ten days to six months.

Permission may be granted by the commissioner to collect certain animals and fish for scientific purposes.

Authority is given to game wardens, sheriffs and constables to enter and search wagons, camps, ware-

houses, etc., and to confiscate and to turn over to the poor houses, hospitals and poor people, all game and fish held in violation of the act; to arrest without a warrant all violators, and to call for assistance if necessary to enforce the law.

On and after this date, and until the open seasons of this year begin, none of the protected game or fish can be lawfully had in possession, and it is the intention of this department to enforce the law.

Proprietors of hotels, restaurants and cold storage warehouses, market and commission men, will be afforded an opportunity to dispose of all protected game and fish on hand, until the tenth instant, after which date especial attention will be given to those places furnishing a market for game and fish illegally taken.

Proprietors of sawmills, stamp and reduction mills, and placer mines, are notified to so dispose of their sawdust and tailings as not to pollute the waters containing food fish.

One-half of all fines collected is payable to the person who furnishes the information as to the violation of the law.

J. S. SWAN,

State Forest, Game and Fish Commissioner.

Circular No. 2—Fish.

STATE OF COLORADO.

DEPARTMENT OF FORESTRY, GAME AND
FISH.

Denver, June 25, 1897.

To whom it may concern:

Numerous communications have been received by this department inquiring as to the law relating to saw mills, placer mines, stamp and reduction mills and other operations which to a greater or less degree pollute the waters of the state.

In order to answer these inquiries and to inform those interested as to the interpretation placed on the law by this department, and indicate the policy intended to be pursued, this circular is issued.

Among the natural rights of the people, which have existed from time immemorial, is that of having the water in natural streams flow substantially in its original purity, and a violation of this right is a nuisance at common law. This right to pure water inheres in all users of water whether the use be for stock watering, irrigation, domestic purposes, the propagation of fish or other lawful purposes.

The fish in all public waters, at common law and by statute, belong to the state in its sovereign capacity as the representative of and for the benefit of its people.

The relative rights of those whose interests require the water in its purity and those whose interests require

its use in such a way as to lessen its purity, have been the subject of frequent controversies in the courts.

One of the leading cases arose in California in 1884, where a placer mining company was polluting the waters and filling the channels of the Yuba and Feather rivers with debris. Millions of dollars were involved on either side. The United States circuit court held that neither miners' customs, congress nor the state legislature had any power to authorize the pollution of the waters to the injury of others. (Woodruff vs. Bloomfield G. M. Co., 18 Fed. Rep., 754.)

In Indiana, in 1893, the chemical impurities from a strawboard factory polluted the water used for the city of Indianapolis. The company used the best modern appliances for purifying the water before turning it back into the stream, which it claimed was all it was legally bound to do, and that as its business was a lawful one in itself, the consequences were such as must necessarily follow industrial improvements; that otherwise its business would be destroyed. The United States circuit court declared that as against the right to have the water flow in its natural purity, there was no public policy in favor of industrial improvement which would justify operations which polluted the stream, even when the most modern appliances were used to prevent it. (Ind. Water Co. vs. Am. Strawboard Co., 57 Fed. Rep., 1000.)

In this state the question never reached the appellate courts until April last, when the court of appeals decided that a stamp mill, although a prior appropriator, had no right either by law or custom to pollute the water with particles of sand which cut out the pipes and valves of a water company, when it appeared that the tailings could be impounded at a reasonable expense so as to prevent the injury, and that under such circumstances the mill company might take the necessary steps to prevent it. But the court expressly declined to decide what the law would be in this state where the prior appropriator of water could not possibly enjoy its use without

some detriment to the water unappropriated. (Suffolk G. M. Co. vs. San Miguel Con. M. and M. Co., 48 Pac. Rep., 828.)

In April, 1897, the supreme court of California decided that the right of the state to protect food fish extended not only to all the water on public lands, but also to all waters that were a common passage way for fish, even though flowing over lands held by private ownership, and that the attorney general could maintain an action to enjoin as a public nuisance the pollution of such waters. (People vs. Truckee L. Co., 48 Pac. Rep., 374.)

The supreme court of the United States, in a case decided last year, held that the power of the state to protect its game (which includes fish) could be extended to prohibit the shipment of game out of the state although lawfully killed within it, notwithstanding it indirectly interfered with interstate commerce. It is there said that the police power of a state to prevent the adulteration of food "necessarily carries with it the existence of a like power to preserve a food supply." (Geer vs. Conn., 16 S. C. Rep., 600.)

Section 2393 of the General Statutes of Colorado provides that it shall be the duty of every miner to take care of his tailings on his own property or be responsible for damages.

The forestry, game and fish law of 1897 provides:

"Sec. 36. It shall be unlawful to empty, or cause or suffer to be emptied or dispersed, any sawdust or other destructive substance into any of the waters of this state containing food fish, or in any such place or within such distance as to cause it to be carried into such waters by natural causes."

The constitutionality of this act has been questioned because it treats of forestry in connection with game and fish. These subjects are so closely allied to each other that it has been the custom in many states to combine them in one act.

But it does not seem of vital importance whether the act be valid or not. If it is not, the former law is

unrepealed; and if there were no statutes on the subject, the common law would be in force.

Many streams in the state are already rendered impure by mills, etc., but this has been by sufferance, and furnishes no precedent as to legal right.

The great importance of the mining industry is fully recognized, as is also the numerous other industries to the existence of which pure water is a necessity.

The question of the preservation and propagation of fish is of growing importance, not only as a food supply, but as an attraction to visitors of a desirable class, whose presence results in the bringing of wealth to the state for investment in every branch of industry.

There is therefore a natural unity of interest among all the people, but an antagonism of methods, and it seems that the latter should not be carried to such an extreme as to protect either to the material detriment or entire destruction of any of the others.

Until the question has been definitely and finally decided by the supreme court, and the policy of the state in this respect thus declared, it is not the purpose of this department to construe or enforce the law to an unreasonable extent or go further than necessary to give reasonable protection to the fish belonging to the state, leaving the individual users of water to look after their own interests.

To that end all new enterprises, not fully in operation, will be required to use reasonable efforts in good faith to arrange their systems of operation so as to prevent the debris and other impurities materially detrimental to fish from reaching public waters containing food fish. Those already established and in full operation will be required to make similar efforts without unreasonable delay. Those refusing to conform to these requirements will be prosecuted.

No advice or instructions as to what will be sufficient can be given in advance, but those interested must assume the responsibility of deciding for themselves.

General Statutes, section 3259, provides that before

any timber, ties, etc., shall be floated down any streams, the person desiring to do so shall execute a bond, to be approved by the county commissioners of the county where the operations are to be carried on. In order to prevent, as far as possible, any injury to the fish from such operations, a compliance with that section will be required.

J. S. SWAN,
State Forest, Game and Fish Commissioner.

Circular No. 3—Game.

STATE OF COLORADO.

DEPARTMENT OF FORESTRY, GAME AND
FISH.

Denver, August 13, 1897.

To whom it may concern:

As the open season for the killing of game birds begins on the 15th of the present month, and closes with the last day of October, and the open season for the killing of horned deer and antelope begins with the 1st day of September and closes with the 15th day of October, this circular is issued to more fully call the attention of the hunting public to the number of large game birds that may be legally killed by each person under the provisions of the game law of the state, approved April 16, 1897.

While it should be needless to say that there is no provision in the law giving one class of citizens greater privileges in the matter of the killing and having game in possession than another class, the idea that such a provision in the law, though unwritten, is tacitly recognized, had gained credit in certain quarters.

No reliance should be placed on such contention. The laws relating to this department, like all others, apply to every one alike, and all game wardens and special game wardens are instructed and required to so enforce them.

But one horned deer or antelope may be had in possession of one person at any time, and no part of such animal that might be used as food shall be wasted or thrown away.

The head and horns, hide, or any part of a deer or antelope, is construed to mean one such animal.

No animal, nor part thereof, shall be offered for shipment or shipped by any common carrier or railroad company unless accompanied by the lawful possessor thereof.

Individuals having the right to be in possession of game under the law shall mean generally such as have killed the same.

The possession, at one time, of twenty game birds of the kinds that are permitted to be killed is allowed.

The taking or killing of any mountain sheep, elk or bison of the large game, and any quail, pheasant, partridge and ptarmigan, and all insectivorous birds and beaver, is prohibited at all times.

An attempt is to be made in good earnest by this department to enforce the game laws of the state without discrimination or favoritism, and the coöperation of all good citizens and sportsmen is earnestly solicited to this end, so that the game of the state may be so preserved and protected, that Colorado may, among its other resources and attractions, continue to merit the name and fame of "The Hunter's Paradise."

Any person caught in the violation of these laws will be vigorously prosecuted.

J. S. SWAN,
Commissioner.

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