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Report to the Colorado General Assembly

GAME, FISH AND

PARKS



COLORADO LEGISLATIVE COUNCIL

RESEARCH PUBLICATION NO. 136

NOVEMBER 1968

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The Legislative Council, which is composed of five Senators, six Representatives, and the presiding officers of the two houses, serves as a continuing research agency for the legislature through the maintenance of a trained staff. Between sessions, research activities are concentrated on the study of relatively broad problems formally proposed by legislators, and the publication and distribution of factual reports to aid in their solution.

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GAME, FISH AND PARKS

**Legislative Council
Report to the
Colorado General Assembly**

**Research Publication No. 136
December, 1968**

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December 9, 1968

To Members of the Forty-seventh Colorado General Assembly:

In accordance with the provisions of Senate Joint Resolution No. 42, 1967 session, the Legislative Council submits the accompanying report relating to the activities of the Game, Fish and Parks Division of the Department of Natural Resources.

The report of the committee appointed to carry out this study was accepted by the Legislative Council for transmission with favorable recommendation for consideration by the first regular session of the Forty-seventh Colorado General Assembly.

Respectfully submitted,

/s/ Representative C. P. (Doc) Lamb
Chairman

CPL/mp

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December 9, 1968

Representative C. P. (Doc) Lamb
Chairman
Colorado Legislative Council
Room 46, State Capitol
Denver, Colorado

Dear Mr. Chairman:

Pursuant to Senate Joint Resolution No. 42, 1967 session, the Interim Committee on Game, Fish, and Parks submits the following report for consideration by the Legislative Council. The Committee's findings and recommendations are the result of nearly twenty meetings during which the committee considered the problems of game, fish and parks administration. In particular, the committee recommends recodification of Colorado's game and fish laws, as well as the development of state park and recreation areas.

Respectfully submitted,

/s/ Representative Carl Gustafson
Chairman
Committee on Game, Fish and
Parks

CG/mp

FOREWORD

Senate Joint Resolution No. 42, 1967 session, directed the Legislative Council to appoint a committee to study the programs of the Game, Fish and Parks Division. The following members of the General Assembly were appointed to serve on the Interim Committee on Game, Fish and Parks:

Rep. Carl Gustafson, Chairman	Rep. Vincent Grace
Sen. Fay DeBerard, Vice Chairman	Rep. Harold Koster
Sen. Fred Anderson	Rep. Philip Lowery
Sen. George Jackson	Rep. Hiram A. McNeil
Sen. Vincent Massari	Rep. Ralph Porter
Sen. Joe Schieffelin	Rep. Theodore Schubert
	Rep. John Vanderhoof

The late Representative Joseph Gollob served on the Committee until his death in January of 1968. Senator James Thomas was a member of the committee until his resignation from the General Assembly in November, 1968.

Senate Joint Resolution No. 42 emphasized the need for a review of the following topics:

- 1) the division's attempt to enlarge the game, fish and park programs of the state;
- 2) analysis of land acquisitions, license fee charges, game and fish management practices, and organization;
- 3) composition of the commission;
- 4) recodification of game laws; and
- 5) the role of the state in providing for outdoor recreation.

To implement the intent of the study, the first year of committee activity provided an opportunity to federal, state, and local officials, private organizations, and the general public to comment on Colorado's game, fish and park programs.

During the second year of study, 1968, the committee undertook a review of outdoor recreation needs for the state and alternative methods for financing park acquisition and improvements. The major effort of the committee, however, during 1968 was to develop a proposed recodification of the laws governing game, fish and parks activities.

The committee wishes to express its appreciation to the many representatives of sportsmen's groups, conservationists,

and wildlife organizations for assistance given to the committee. Also the members wish to thank the personnel of the Game, Fish and Parks Division for their aid to the committee, particularly Harry Woodward, Director; Bob Elliott, Assistant Director; George O'Malley, Assistant Director for Parks; and Gerald Wischmeyer, Assistant Attorney General.

In the body of the report the Game, Fish and Parks Division will, in some places, appear as the Game, Fish and Parks Department. This confusion in terminology is the result of changes in the administrative organization of state government which placed the renamed division of game, fish and parks within the Department of Natural Resources.

Bob Holt of the Legislative Drafting office provided bill drafting services to the committee. Primary staff responsibility was performed by Dave Morrissey, principal analyst, aided by Ray Freeman, senior research assistant.

December, 1968

Lyle C. Kyle
Director

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COMMITTEE FINDINGS AND RECOMMENDATIONS

Pursuant to Senate Joint Resolution No. 42, 1967 session, the Committee on Game, Fish and Parks, conducted a two-year study of the state game, fish, and park programs. In order to quickly focus on problems or public grievances with respect to the division's activities, the committee initiated the study by conducting three public hearings devoted to parks, game, and fish, respectively. At these meetings, the general public, sportsman's organizations; conservation groups; agricultural interests; private industry; and federal, state, and local officials, were given an opportunity to present information to the committee on the need to revise, expand, or limit the state's activities in wildlife management and outdoor recreation. The committee gave careful consideration to a variety of problems documented at these hearings. Subsequently, a number of the issues raised at the hearings were corrected by administrative action. For instance, the division instituted new accounting procedures to insure that monies collected from the sale of hunting and fishing licenses would be utilized for wildlife management purposes only and would not be used for parks and other forms of recreation. Apparently, hunters and fishermen were concerned that the game monies were being utilized to support the development of state park and recreation facilities.

In general, Colorado's wildlife resources are being pressured by a decline in the availability of natural habitat, as well as increased hunting and fishing activity. Population pressures are bringing more and more resident and non-resident hunters into the field. On the other hand, the availability of winter range, probably the most critical factor in maintaining big game, is declining. Super highways, ski areas, and expanding agricultural production are eroding and isolating winter range areas. Thus, Colorado's most popular big game, deer and elk, have reached their maximum numbers, unless additional winter range is made available.

To even a larger extent, the natural habitat of fish is being eroded by population expansion. Reservoirs constructed for domestic purposes, irrigation, or the production of power are destroying the fishing streams of the state. Furthermore, a fluctuating reservoir often creates a "biological desert" (mudflats), and, as far as fish are concerned, these reservoirs often cannot sustain fishlife. Although "creel size" fish may be placed in lakes and streams for harvesting, such practices are expensive. In view of these circumstances, the average hunter and fisherman is faced with increased restrictions, less opportunity, and higher license fees. As game and fish management becomes more complex, hunters and fishermen must bear the increased administrative costs or program expenses will have to be shifted to other recreationists and the general public.

In view of the inherent conflicts facing the Game, Fish and Parks Division, the committee believes that the personnel of the division have been faithful in attempting to maintain and improve the wildlife resources of the state, as well as meeting the needs of hunters and fishermen. In no instance, was substantiated evidence given to the committee of willful mismanagement of the state's game and fish resources.

The activities of the Game, Fish and Parks Division are supported in large measure from hunting and fishing licenses, federal wildlife monies, and park use fees. In view of the relatively small amounts of General Funds involved, the Joint Budget Committee simply cannot take time from education, health, and welfare to become thoroughly familiar with the problems of the Game, Fish and Parks Division. The committee suggests that an initial review of the budget of the division be made by the House and Senate standing committees on Game, Fish and Parks. Such review would be helpful to the Joint Budget Committee in a final analysis of the division's budget prior to submission to the General Assembly.

Parks and Recreation

The state of Colorado is barely underway in the development of a state park and recreation program. The extensive National Park and National Forest Recreation systems in Colorado have, in the past, provided adequate natural environment recreation for both tourists and residents. On the other hand, local governments, including special districts and school districts, are meeting community needs for playgrounds or play areas. For the Denver Metropolitan Community, the City of Denver maintains a system of large urban type parks, as well as some natural environment recreation in the foothills west of Denver. Nevertheless, the demands for outdoor recreation are saturating existing facilities. In particular, the National Parks are being taxed to the limit and many National Forest Campgrounds are completely occupied throughout the summer months.

Testimony to the committee suggests that the rapidly expanding urban strip along the Front Range is an area in critical need of park development or at least the setting aside of large tracts of open space for future park development. At the same time, it can be argued that the recreation needs of urban dwellers can be met by making the open spaces of the Western Slope accessible. In other words, the state's resources could be allocated to improving the highways or transportation systems to the Western Slope. Needless-to-say, the committee was faced with a myriad of opinion on the direction the state should take in meeting outdoor recreation opportunities for residents and visitors. Not only did the committee review alternative suggestions for the location of state recreational facilities, but the

types of recreation that should be developed also was an issue. Should the state be in the golf course business? Should the state be participating in the cost of financing large city park complexes?

State Responsibility

On the basis of a careful review of the types of park and recreation opportunities provided by various levels of the government, the committee makes the following recommendation as to the role of Colorado state government in outdoor recreation:

The state will take no responsibility for development of neighborhood parks: a) requiring facilities for team sports such as football, baseball, or soccer; b) requiring facilities for the individual sports of tennis, golf, and swimming.

It shall be the policy of the state of Colorado to develop natural environment recreation areas suitable for such recreational activities as camping, picnicking, hiking, horseback riding, sightseeing, fishing, and water sports, other than swimming. At least one area should be located within two hours driving distance of each of the ten population centers.

There shall be no fee charged or use permit required for the use of any such natural environment recreation area, unless continual supervision and maintenance and adequate sanitary facilities are provided, and at least two of the following improvements are available: 1) boat ramp or dock; 2) running water; 3) special camping area with at least 10 individual camping sites; and 4) picnic tables and refuse containers.

Proposed Five-year Development of State Recreation Areas

Committee members do not believe that it is the responsibility of the committee or the General Assembly to specifically designate areas in which park and recreation facilities should be developed. However, the aforementioned committee policy statement includes recognition of the need to emphasize outdoor recreation opportunities in close proximity to urban areas. George O'Malley, Assistant Director for Parks and Recreation, also reported that it is the intention of the division to emphasize park development expenditures in areas serving large population centers. Appendix A contains a five-year capital con-

struction program to improve state park and recreation areas. Under this proposal, the division requests \$11,882,000. Proposed development expenditures in close proximity to the more populated areas of the state and areas in Eastern Colorado which have few such facilities would amount to \$8,864,800 or 74.6 percent of the total requested monies. The proposed development of urban oriented and Eastern Plain areas of Colorado would include only 14 sites or less than half of the total areas to be developed. The remaining recreation sites are on the Western Slope. The committee believes that the division's five-year capital construction proposal is realistic and urges the General Assembly to support the development of these projects. As a tourist state, the citizens of Colorado should have an opportunity to be proud of the state's park and recreation areas.

Financing State Park and Recreation Activities

The committee explored four alternatives to supplement General Fund financing of the acquisition and development of state park and recreation areas: 1) highway user funds; 2) sales of saline and internal improvement lands; 3) revenue bonds; and 4) unclaimed property. Although none of these sources for additional funding would provide a total answer to meeting the costs of developing an adequate state recreation program, together these approaches could substantially reduce the amount of General Fund monies needed to finance an effective state park program.

Unclaimed Property. The committee recommends that the General Assembly enact comprehensive legislation relating to unclaimed property. The bill would provide that unclaimed funds held by banking institutions, insurance corporations, utilities, dividends of business associations, property held in the course of dissolution of business associations and financial institutions, property held by fiduciaries, courts or public agencies, unclaimed parimutual tickets, etc., must be deposited with the state treasurer. Under the proposed act, an unclaimed property trust fund would be established and 25 percent of all funds received would be deposited to the fund. The remaining monies would be credited to a state park development fund. The committee believes that over one million dollars could be credited for park development the first year the proposed act is in operation.

Revenue Bonds. During the course of the study, the committee was concerned that park use fees were being charged by the division at state recreation areas even though in some instances, few services were provided. The committee believes that the public will accept a use fee but only if basic services are made available. In order to provide additional monies for immediate development of state recreation sites, the committee recommends that the General Assembly authorize the division to issue revenue bonds to be financed from park fees, motor boat licenses, and miscellaneous park income. Although state park income is expected to be limited to about \$300,000 annually, expanded de-

velopment of existing facilities could increase the revenue available to the division. The committee recommends a revenue bond program in which about one-half of available revenues from park and recreation income would be pledged to pay the principal and interest of the bonds. The committee believes that, in view of spiralling inflationary costs, revenue bonds can be a very sound investment. However, the committee recognizes the existence of significant legal problems in the development of a revenue bond program for improving state park and recreation areas.

Sale of Saline and Internal Improvement Lands. At present, the division receives about \$70,000 per year in lease income from Saline and Internal Improvement lands. The money is utilized for park program improvements. Altogether there are about 12,000 acres of Saline lands, all of which are located in Park County. The Internal Improvement lands total 148,000 acres and the bulk, roughly 80 percent, is located in Alamosa, Park, and Saguache Counties. Land Board officials estimate that the sale of Internal Improvement and Saline lands would yield about \$4,000,000. The committee recommends that the sale of Saline and Internal Improvement lands be accomplished within the next ten years. If an adequate period of time is given to the Land Board to contract for the sale of the land, the Board will have a better opportunity to obtain a fair price for the land.

When the original grant of Internal Improvement Lands was made in 1841, internal improvements were defined as: roads, railways, bridges, canals and water courses. Subsequently, the Congress deleted the specific definition of internal improvements from federal law; however, income from the rental or sale of Internal Improvement lands must still be utilized for internal improvement purposes. A question now exists whether Internal Improvement monies can be used for park acquisition. The committee believes that use of the proceeds from the sale of Internal Improvement lands for park acquisition is not only proper, but necessary, to meet the increasing demands for park facilities. Accordingly, the committee has asked Colorado's Congressional delegation to propose legislation clarifying federal law to insure that Internal Improvement monies can be used for land acquisition for park purposes.

Highway User Monies. A number of states are now earmarking a percentage of motor fuel taxes for park and recreation programs. The legislatures in these states have found that a given amount of motor fuel consumed is utilized to power motor boats and other equipment that is not utilized on the highways. Unfortunately, according to an Attorney General's Opinion, the Colorado Constitution, Article X, Section 18, prohibits the allocation of a portion of motor fuel taxes collected in Colorado for nonhighway purposes. Nevertheless, the committee believes there is a direct correlation between motor fuel consumed and the availability of park and recreation activities in Colorado.

Colorado is a tourist state. At the September 26 meeting of the committee, Charles Shumate, Chief Engineer, estimated that the proportion of motor fuel taxes paid by visitors to Colorado could range from 30 to 35 percent of total motor fuel taxes. Furthermore, a major portion of the expense for development of state park and recreation areas is the construction of roads and parking areas. The committee believes that roads within state parks, or providing access to state park and recreation areas, should be financed through the Highway User Fund. Furthermore, it makes little sense for the Game, Fish and Parks Division to be building roads. The business of the Department of Highways is the construction of roads and related facilities. Therefore, the committee recommends that the Department of Highways be charged with responsibility for maintenance and construction of roads within, and providing access to, state park and recreation areas. Over \$50,000,000 was collected in motor fuel taxes in 1967. Although one percent of this amount -- \$500,000 -- might not seriously drain the Highway User Fund, an expenditure of this size could provide a real boost to the state's park and recreation program.

If the General Assembly enacted legislation in the four areas suggested by the committee, roughly \$4,000,000 could be made available for construction of game, fish and park facilities in the year following enactment of the legislation. However, the committee does not believe that development of the state park and recreation areas should hinge on adoption of these proposals. The committee recommends that the General Assembly commit itself to a \$11,800,000 development program over the next five years, regardless of whether the suggested supplemental revenue sources are adopted.

General Obligation Bonds

In recent years, general obligation bonds have been utilized in a number of states to provide development and acquisition monies for parks and recreation. The states of California, Kentucky, Maine, Pennsylvania, and Washington all have enacted legislation providing for general obligation bonds for recreation purposes. Furthermore, facilities supported from fees or income charged for services provided, such as college dormitories, traditionally are financed through revenue bond programs. If the construction of these facilities were financed through a program of general obligation bonds, rather than revenue bonds, interest expense for financing would be much lower. In any event, the committee believes that there is need for the General Assembly to consider a thorough study of general obligation bonds.

Federal Water Projects

The Federal Water Projects Recreation Act (P.L. 89-72) provides for state participation in the development, operation, and maintenance of water based recreation at federal water projects proposed for Colorado. Colorado has 22 proposed projects which would entail a state recreation expenditure of \$17,000,000, plus at least \$2,000,000 dollars per year in state money for operation and maintenance. The state of Colorado has an unusually large number of such projects in relation to other states, as well as to the financial resources of the state. The committee believes that it is unreasonable for the federal government to expect the state of Colorado to fund one-half of the acquisition and development costs of recreation facilities at these projects. Therefore, the committee recommends that the Governor and members of the General Assembly work with Colorado's Congressional delegation and other members of Congress to effect a change in federal law that would require the federal government to pay the total cost of acquisition and improvements at such projects. Furthermore, the location of these projects may be in areas in which substantial recreational opportunities already exist. Thus allocation of the state's recreational resources to these projects may not be warranted.

Open Space

The ever increasing centralization of Colorado's population along the Front Range suggests that, by the year 2000, an urban strip community may extend from Cheyenne to South of Pueblo. The committee is concerned that today's generation is not doing enough to preserve the quality of environment of this region for use by future generations. Steps must now be taken to set aside open space along Colorado's Front Range. Our predecessors of fifty years ago have done more to insure for us the amenities of life associated with open space and outdoor recreation than we are doing for future generations. Despite soaring land values, the City and County of Denver's acquisition and development of City Park, Cheesman Park, and Washington Park probably represented a greater financial effort on the part of the total community at that time, than the relative burden of a similar land acquisition program today, especially in view of the increased resources of the over-all community.

Although counties and local communities can do much to reserve open space, such as Boulder's Green Belt program, state government has jurisdiction over all areas of the state and must recognize the immediate need to protect the quality of living of regions threatened by so-called "urban sprawl." Since there was insufficient time for the committee to conduct a thorough study of the need for preserving open space through conservation easements, flood plain zoning, land purchases, etc., the committee recommends that the Forty-seventh General Assembly consider a resolution to provide for an interim study of open space needs, particularly along Colorado's Front Range.

Youth Conservation Project

The Game, Fish and Parks Committee believes that the development of park and recreation areas could provide excellent opportunities for employment of disadvantaged youth. Therefore, the committee is recommending the establishment of a pilot program to be administered by the Game, Fish and Parks Division, to provide summer employment opportunities for young men 16 to 20 years of age. The program would be designed to provide work for unskilled youth and would involve road and trail building; timber thinning; stream and erosion control; construction of simple shelters, toilets, and picnic tables; and fighting forest fires. The pilot project should not involve more than five crews of 40 boys each. Estimated cost of the project is \$500,000. The cost of each crew would be about \$84,000, while over-all administration of the projects would amount to about \$78,500. The work week would be a standard 40 hours, and the crews would be bussed to the work site.

State Forest

Congress granted portions of federal lands to the state of Colorado when it was admitted into the union. Section 7 of Chapter 139 of the United States Statutes at Large, Volume 18, which is an act passed by Congress on March 3, 1875, to enable the people of Colorado to form a constitution and state government, enumerates:

That sections numbered sixteen and thirty-six in every township, and where such sections have been sold or otherwise disposed of by any act of Congress, other lands, equivalent thereto, in legal subdivisions of not more than one quarter-section, and as contiguous as may be, are hereby granted to said State for the support of common schools.

Some of these sections granted to the state were located in national forests. What is now the State Forest was also once a part of national forest land. An exchange of these various state school sections for the 71,000 acre State Forest was authorized by Senate Bill No. 92 of May, 1931 (Section 112-7-10, C.R.S. 1963). The actual exchange was consummated in 1939. Thus, control and administration of the State Forest comes under the purview of the State Land Board as provided in Article IX, Section 10, Colorado Constitution, and Section 112-7-10, C.R.S. 1963.

Theoretically, the Land Board is charged with responsibility for maximizing revenue obtained from the sale and lease of State School Lands. Two major sources of revenue are produced by the State Forest -- 1) grazing leases and 2) timber sales. Since 1939, timber sales have yielded \$762,000 and grazing leases \$164,000. Income from the sale of timber was greatest

between 1950 and 1960 -- \$543,860. However, from 1964 to 1967, timber revenues have decreased to \$23,000.

The State Land Board maintains a lease agreement with the State Forest Grazing Association for the grazing of cattle and sheep at a rate of \$9,343 per year. There are 12 to 14 cattlemen in the Association. The Association enforces the lease requirements established by the Land Board. The lease period is three months for cattle and two months for sheep, with approximately 425 head of cattle and 3,000 head of sheep now grazing the land. Other sources of income from the State Forest include leases for two small tourist resorts and mineral leases. The Land Board maintains a headquarters in the State Forest. There is one state forester on duty at all times. After deductions for cost of operations, the State Forest nets approximately \$11,300 annually in income for schools.

Development of Recreation. Personnel of the Game, Fish and Parks Division have expressed an interest in developing the State Forest into a multiple-use area with emphasis on parks and recreation. The State Land Board has also expressed an interest in recreational aspects of the State Forest, allowing the Game, Fish and Parks Division to construct a fishing lake, as well as suggesting that other parts of the forest could be reserved for recreation. In addition, the board is conducting a ski survey to determine the feasibility of operating a ski lift in the State Forest. The Committee on Game, Fish and Parks believes that in the years ahead, recreation would be the most important economic use of the State Forest. Therefore, the committee recommends that the Director of Natural Resources initiate discussions between the Game, Fish and Parks Division and the State Board of Land Commissioners to effect the transfer and purchase of the Colorado State Forest for multiple use management by the Game, Fish and Parks Division. The committee also requests that a report concerning the legal and financial problems involved in the transfer be submitted to the General Assembly.

Cooperative Agreement -- Denver Mountain Parks

When Congress adopted the "Land and Water Conservation Act" it recognized the need for a single governmental agency to coordinate the development of recreation programs in each state. The federal act requires states to develop comprehensive outdoor recreation plans as a condition for eligibility for Land and Water Conservation monies. Subsequently, the Colorado General Assembly designated the Game, Fish and Parks Division as the agency responsible for administration of federal funds and to coordinate its activities with other state agencies and political subdivisions. The need for intergovernmental cooperation became obvious to the committee in its review of the development of the Denver Mountain Park System.

The Denver Mountain Parks are composed of 51 parcels of land with a total of nearly 13,500 acres. Most of the land has been deeded to the City of Denver from private estates. Some land has been deeded to the city by the federal government and may revert to the original owner in case of any transfers of title. In addition, the Denver City Charter states that these lands cannot be sold, leased, or transferred. The largest parcel, Genesee, contains 2,340 acres, while the smallest parcel is less than one acre. About 24 parcels are completely undeveloped and contain approximately one-half of the total acreage. Some of the parcels are isolated and access is not available, suggesting that additional land will have to be acquired to make these areas useable. The City and County budgets about \$150,000 per year for maintenance of the Mountain Park System. Much of the maintenance is conducted by inmates of the county jail. If jail personnel were not used, the maintenance expense could range from \$300,000 to \$400,000.

Surveys conducted by the City and County of Denver reveal that almost one-half of the cars visiting the area belong to non-residents of the City and County of Denver. Many visitors are from out-of-state. Although only one-half of the park is developed, Denver officials do not believe the city can finance development of the remaining area. At the same time, the total recreation needs of the metropolitan area are not being met, and a number of individuals and organizations are requesting that the state take action to acquire land adjacent to the Denver Metropolitan Area for park development. The committee believes that development of the entire Denver Mountain Park system would be a major step in meeting the natural environment recreational needs of the Denver Metropolitan Area. Therefore, the committee requested Representative Gustafson, committee chairman, to meet with representatives of the City and County of Denver and the Game, Fish and Parks Division to attempt to establish a cooperative program for development of the Denver Mountain Parks. The negotiations have bogged down over the questions of jurisdiction and whether use fees may be charged. The city and county does not charge a use fee for existing areas; the state charges use fees at most state park and recreation areas. In any event, the committee supports continued negotiations for cooperative development of the entire Denver Mountain Parks.

Game and Fish

Planning of Public Roads and Facilities

The debate over proposed alternate routes of Interstate 70 over Vail Pass or through the Gore Range -- Eagle's Nest Primitive Area was brought to the attention of the committee because of the implications to wildlife resources. In review-

ing the impact to wildlife of these alternate routes, the committee recognized the need for the Game, Fish and Parks Division to be brought into the planning of the state highways, reservoirs, and other facilities, which are to be constructed in game and fish areas of the state. At present, the division is not informed of proposed highway construction sites until initial planning is completed. In order to protect the wildlife resources of the state, to as great a degree as possible, early participation of the Game, Fish and Parks Division in the designing and planning of highway construction and similar programs is imperative. Therefore, the committee recommends that the General Assembly consider legislation to require that the division participate in the initial planning of highways and other public facilities affecting wildlife and other aspects of outdoor recreation.

Control of Motorized Vehicles in Game Areas

In recent years, with the advent of four-wheel-drive vehicles, "Tote Goats," and "Snowmobiles," access is now readily available to the high mountain areas of the state in both winter and summer. In the summer months, these vehicles are eroding the limited vegetative cover of the mountains to a degree that in some areas peaks are crisscrossed with the tracks of these vehicles. Snowmobiles also are providing access to the limited elk winter range. Elk are being molested and cannot survive if driven from the winter range. For these reasons, the committee believes that steps need to be taken to control the use of these vehicles. The committee urges the National Forest Service and the Bureau of Land Management to impose restrictions on the use of motorized vehicles in the big game areas of the state. Furthermore, the Game, Fish and Parks Division is requested to take steps to inform sportsmen and the general public that misuse of these vehicles poses a threat to Colorado's big game. Finally, the committee asks that the division submit a report to the Second Regular Session of the Forty-seventh General Assembly on the progress of federal agencies and private organizations to control and encourage the proper use of motorized vehicles in the wildlife areas of the state.

Inventory of School Lands

Sportsmen's organizations have expressed concern to the committee that not all public lands are available for use by hunters and fishermen. The policy of the State Board of Land Commissioners is to obtain maximum revenue from leases of school lands. For this reason, lessees are given complete authority over the land under lease. Lessees may exercise a choice to either open or close school lands for hunting or fishing. Furthermore, private landowners often criticize the division for acquiring private land for hunting and fishing purposes when not all public land is available for such activity. On the other

hand, public land lessees argue that a considerable portion of public school lands are utilized for agricultural purposes and many sections offer little opportunity for hunting. If crop lands are open to the public, damages to crops could be disastrous for lessees. In recognizing the merits of these arguments, the committee recommends that a survey be made under the supervision of the Director of Natural Resources and in conjunction with the Game, Fish and Parks Division and the State Land Board to inventory all state School Lands. The survey would determine areas which could provide hunting and fishing opportunities, as well as pointing out sections in which wildlife habitat improvement could take place to foster propagation of wildlife.

Recreation -- Beneficial Use of Water

There is growing recognition that the recreational use of water is an important aspect of the state's economy and deserves some consideration in the apportionment and allocation of water resources. In many instances, recreation does not consume water, except for loss due to evaporation. If in the planning of water storage and diversion facilities some attention is given to recreation, the state's water resources may be put to better use. Therefore, the committee recommends that the Game, Fish and Parks Division and the Water Conservation Board, under the supervision of the Director of Natural Resources, develop suitable standards or criteria concerning recreation as a beneficial use of water. The result of these findings are to be submitted to the Second Regular Session of the Forty-seventh General Assembly.

Codification of Game and Fish Laws

A major portion of the committee's time was devoted to a review of Colorado's game, fish and park laws. Many of these laws have been in existence for a considerable period of time and need to be updated. The codification recommended by the committee includes not only numerous technical changes but substantive changes as well. Basically, the game and fish laws are contained in the 24 articles of Chapter 62, Colorado Revised Statutes of 1963, as amended. The codification proposes to reduce the number of articles from 24 to 12. Present articles 4, 15, and 17 would be entirely deleted from the proposed revision while other articles would be combined. A summary of some of the more important changes are contained in the following paragraphs.

Summary of Proposed Changes

Article 1. Administration of the Game, Fish and Parks Division. The proposal would spell out the duties and responsi-

bilities of the commission and division director and their relationship to the director of the Department of Natural Resources. The size of the commission would be reduced from 11 members to ten commissioners. The state would be divided into quarters. Two commissioners would be appointed from each quarter; two commissioners would be appointed at large; and no more than five commissioners could belong to the same political party. Article I incorporates the provisions of existing articles 1, 2, and 19 of Chapter 62. A policy statement of objectives, including the committee's recommendations as to standards for state park and recreation areas (see page xv of this report) is included in proposed Article I. Definitions are contained in this section, and the proposal gives the division responsibility for the management of all wildlife in the state rather than simply game animals and game fish. The committee believes that there is need to vest responsibility for all wildlife with a single state agency. In this way the division could review large scale programs for eradication of certain pests or rodents that might pose problems for other wildlife. Finally, the suggested revision provides for a cost accounting system to proportionately distribute between the game cash fund and the parks cash fund the division expenditures.

Article 2. Federal Co-operation. There would be very few changes in the existing article.

Article 3. Game Damages. The committee recommends substantial changes in the present game damage law. First-of-all, the committee has adopted a general concept that game damages should be allowed only in instances where wildlife is destructive to crops under cultivation, harvested crops, or orchards. In other words, the committee does not believe that game damages should be allowed when a motor vehicle is involved in an accident with big game. Since a landowner may take action against predators molesting livestock, the committee does not believe that damages need to be awarded in such instances. This latter provision is contained in the present law.

The committee also believes that further restrictions need to be imposed on the awarding of game damages. If a landowner refuses to utilize damage prevention materials provided by the division, the committee believes that game damages should not be awarded more than once in five years. Furthermore, consideration also should be given to denying claims if a landowner unreasonably restricts hunting on land under his control. Finally, the committee is concerned that orchards are being placed in traditional game migration areas. In such instances, the committee does not believe that an individual, knowing the risks, should be allowed to collect game damages. This provision would apply to land placed under cultivation following the effective date of the act.

Article 4. Landowner Liability. The "Landowner's Liability Law" is designed to encourage rural property owners to open their lands for hunting and fishing by limiting the liability of the person owning the land. However, the committee believes that the present requirements that a landowner must give written permission to the Game, Fish and Parks Division in order to qualify for liability protection under Article 23, Chapter 62, C.R.S. 1963, as amended, in effect defeats the purpose of the act. The filing of a written permission by the landowner is not made a condition of the laws of 33 other states. The committee believes that the proposed amendments, which will eliminate the requirement that written permission be filed by a landowner, will open up more private land for general recreational use and still provide protection for the landowner and the person using the land for recreation purposes. The committee also believes that there is no need for land areas to be designated by the Game, Fish and Parks Division in order to qualify under the act.

Article 5. Birds. The revision combines existing Articles 8, 11, and 20 and gives authority to the division to regulate field trials, possession of raptures, and to protect birds with the exception of crows, magpies, and other species. Only a few minor changes are proposed to the present law.

Article 6. Fish. The new article provides that fish may only be taken by angling, unless otherwise provided by regulation of the commission. "Angling" means any effort to take, kill, injure, capture or catch any fish by the use of hooks and line. Again, for the most part, the suggested changes in the fishing article are more technical than substantive in nature.

Article 7. Furbearers and Trapping. Three existing articles -- 6, 7, and 16 -- are combined. The furbearers law would be reduced considerably under the proposal. Presently, the division is charged with the regulation of fur dealers, employees, shipping of furs, etc. The proposal simplifies these requirements to a large degree. Nevertheless fur dealers would continue to be licensed under the proposed revision.

With respect to the trapping of furbearing animals, the use of dogs would be prohibited under the proposal. This article also provides that the commission may establish seasons for furbearers and non-game mammals. The existing statute does not provide authority for the commission to establish seasons for all non-game mammals.

Article 8. Boats. The proposal suggests few changes in the article on boats. A requirement is added that boats passing within 150 feet of areas marked for fishing and swimming must reduce speed. Water skiers also are prohibited from passing within 150 feet of swimming or mooring areas unless marked or posted for use of water skiers.

Article 9. Guides and Outfitters. The committee recommends no substantive change in the existing article on guides and outfitters.

Article 10. Preservation and Commercial Use of Wild Animals. The proposed Article 10 includes provisions from Articles 9, 10, and 18 of Chapter 62. Present law permitting the division to take 10 percent of the natural increase in fish from a licensed private lake is deleted in the proposal. The proposal continues present restrictions on the size of controlled shooting areas, however. A controlled shooting area may not contain less than 240 acres or more than 640 acres.

Article 11. Licenses and Fees. The license schedules contained in the existing law are unchanged. In a few instances, fees for duplicate licenses, etc., would be increased because the existing fees are inadequate to cover cost of administration. Students enrolled in a college or university for six months could qualify as residents for purposes of hunting and fishing. Resident mental patients also could obtain free fishing licenses while in residency at an institution.

Article 12. Law Enforcement and Penalties. This proposed article contains a few provisions of Chapter 40, C.R.S. 1963, and Articles 12 and 13 of Chapter 62, C.R.S. 1963. All violations and penalties are contained in proposed Article 12. The committee suggests a number of amendments to the existing law. Hunters and fishermen would be required to stop at check stations if requested. Under the proposal, the willfull destruction of game would be considered a felony. This requirement is designed to prevent so-called trophy hunting in which game animals may be destroyed for the head, horns, or hide only, while the meat of the animal is left to waste.

A significant proportion of hunting accidents occur in and around motor vehicles. Perhaps these accidents could be reduced if loaded rifles and shotguns could not be carried in motor vehicles. The committee recommends that a \$50 fine be assessed to anyone carrying a loaded weapon in a motor vehicle. Pistols and revolvers would be excluded from the provisions of this section. Finally, the committee recommends that a point system be established with respect to violations of the game and fish laws. The accumulation of 18 points in any consecutive five-years could result in the suspension of licenses and permits issued by the division. Under committee recommendations the following violations would result in the automatic revocation of a hunting or fishing license for a period of up to three years:

- (1) causing a forest fire;
- (2) fraudulent purchase of any license;
- (3) willfull destruction of big game;
- (4) hunting while under the influence of liquor or drugs;
- (5) hunting in a careless or reckless manner;
- (6) shooting game from an aircraft or motor vehicle; and
- (7) unlawful possession of a loaded firearm in a motor vehicle.

STATE PARK AND RECREATION PROGRAMS

Legislative History

In 1937 the Colorado General Assembly designated the State Board of Land Commissioners as a State Park Board (Chapter 204, Session Laws of Colorado 1937) as an initial step in the development of a state park program. The board was assigned responsibility for development and maintenance of state parks, monuments, and recreation areas. The board was also vested with authority to appoint local and regional park and recreation councils to study, assist, and advise in development, use, and extension of any areas as future park or recreation sites. In addition, the board was charged with cooperating with federal agencies and local governments for improvement, maintenance, development and extension of state parks and monuments.

A biennial appropriation of \$11,450 was provided for the first two years of operation. However, according to a Griffenhagen and Associates report, a park director was appointed but his services were dispensed with on January 1, 1938, for lack of funds.^{1/} The report also said that the act was passed at the request of the President of the United States as a measure to secure additional conservation camps for the state. Griffenhagen recommended that the board be abolished and its functions, powers, and duties be transferred to a proposed department of natural resources. No provision was made for this transfer; however, the "Administrative Code of 1941," designated the State Land Board as the ex officio State Park Board. The Land Board acted as a State Park Board until 1955.

The mid-1950's marked a period of re-interest by the General Assembly in developing a state park program. The State Park and Recreation Board was reorganized in 1955 to include:

President of the State Land Board;
Chief Engineer of the Department of Highways;
Director of the Game and Fish Commission;
Director of Advertising and Publicity;
Director of Public Institutions; and
Two appointees of the Governor from the ranks
of business and labor.

An appropriation of \$10,500 also was granted to the reorganized board to employ a staff director. The duties of the State Park and Recreation Board remained about the same as provided in the

^{1/} The Conservation and Development of Natural Resources, Report No. 10, Griffenhagen and Associates.

1937 act, namely, that the board should acquire by gift, purchase, or transfer from federal and state agencies any land suitable for roadside picnic areas, recreation, or park purposes, and that the board should control, develop, and maintain such lands and all state parks, monuments and historical areas previously acquired or designated.^{2/} The provision for the creation of local advisory councils, contained in the 1937 act, was, however, deleted from the 1955 act.

Two years later, the General Assembly again reorganized the State Park Board. State officials were dropped from the board and the Governor was empowered to appoint all seven members -- three members at large and one member from each Congressional district. Appointees were to be selected on the basis of an active interest in, and a knowledge of, park problems.^{3/} This 1957 act created an interagency committee composed of representatives from state departments to assist in coordinating park and recreational functions of the various departments of state government. The interagency committee was to serve as an advisory committee to the Park and Recreation Board. In essence, with the adoption of the 1957 act, the General Assembly expanded the duties of the State Park Board to aid and encourage the organization of public parks and recreation activities in political subdivisions of the state. However, the board was prohibited from supervising any local park development, or to use state funds for any local park purpose.

The 1957 act also provided a shift in policy of the General Assembly with respect to the acquisition of lands for public purposes. The 1955 act (Chapter 225, Session Laws of 1955) specifically limited acquisition of lands for park purposes to federal or state lands. No such limitation was contained in the 1957 act. For instance, Section 2 of Chapter 204, Session Laws of 1957, states: "...to acquire by gift, purchase, or transfer, or long-range operating agreement, such land as in its judgment may be necessary, suitable and proper for roadside picnic, recreational or park purposes...."

Game, Fish and Parks Department. The administration of a state park program was placed under the authority of the Game and Fish Commission in 1963, and the Game and Fish Department's title was revised accordingly to the Game, Fish and Parks Department. With respect to parks administration, the duties of the department were substantially the same as those assigned to previous state park boards. These duties involved: 1) acquisition of land for park and recreation purposes; 2) construction and operation of facilities including the authority to adopt reason-

2/ Session Laws of Colorado 1955, Chapter 225.

3/ Session Laws of Colorado 1957, Chapter 204.

able fees or charges for persons utilizing state park facilities; 3) cooperation with federal and local governments in securing supervision, improvement, development, and maintenance of lands designated as state parks; and 4) encouragement of the organization of public parks and recreation activities by political subdivisions of the state.^{4/}

A Total Recreation Program For Colorado. In 1965, the General Assembly designated the Game, Fish and Parks Department as the state agency authorized to accept and administer federal funds for the planning and development of all outdoor recreation resources of the state.^{5/} The 1965 act was a direct result of federal legislation, particularly, the "Land and Water Conservation Act of 1965." Thus the department was charged with determining what the recreation needs are of all communities in the state of Colorado, as well as the very difficult job of trying to define the types of recreation that will meet the needs of the rapidly growing urban areas of the state. In conclusion, the Game, Fish and Parks Department was made a division under the Department of Natural Resources in the "Administrative Organization Act of 1968."

Development of Federal Programs in Outdoor Recreation

The Outdoor Recreation Resources Review Commission was created by Congress in 1958 to survey the recreation needs of the entire nation. The commission consisted of eight Congressmen and seven citizens appointed by the President. In response to the recommendations of this study group, the President, in a March 1962 message to Congress announced that a Bureau of Outdoor Recreation (BOR) would be established in the Department of Interior. Subsequently, on April 2, 1962, the Secretary of Interior established the BOR. Congress enacted the organic act of the BOR in May of 1963 -- Public Law 88-29. Specifically the act directs, in part, that the Secretary of Interior perform the following functions:

- 1) prepare and maintain an inventory of outdoor recreation needs;
- 2) formulate a comprehensive nationwide outdoor recreation plan;
- 3) provide technical assistance to states and political subdivisions with respect to outdoor recreation;

^{4/} Session Laws of Colorado 1963, Chapter 216.

^{5/} Session Laws of Colorado 1965, Chapter 169.

- 4) sponsor research; and
- 5) coordinate federal plans with respect to outdoor recreation.

"Land and Water Conservation Fund Act of 1965." The "Land and Water Conservation Fund Act of 1965" (Public Law 88-578) is of particular importance to the states. This act provides the secretary with funds to aid the states in planning, acquiring, and developing outdoor recreation facilities. Federal monies are apportioned to the states as follows: two-fifths apportioned equally among the states and three-fifths on the basis of need. Determination of need is based on population considerations, as well as federal resources and programs within a particular state.

In order to qualify for a grant under the federal act, each state must prepare a comprehensive state-wide outdoor recreation plan. The General Assembly has designated the Game, Fish and Parks Division as the agency responsible for preparation of a Colorado plan for outdoor recreation. P.L. 88-578 requires that each state plan must contain an evaluation of the demand for, and supply of, outdoor recreation resources and facilities; a program for implementation of such a plan; and other information required by the Secretary of Interior. Needless to say, the formulation of a state plan and an inventory of the state's recreation resources should provide the General Assembly with information essential to evaluate the state's role in outdoor recreation, as well as to establish criteria as to the types of facilities needed.

Federal Water Project Recreation Act. Additional duties are charged to the Bureau of Outdoor Recreation by the "Water Project Recreation Act" -- Public Law 89-72. Under the auspices of this act the BOR works with the Corps of Army Engineers and the Bureau of Reclamation in developing general recreation plans for various flood control, irrigation, and power projects developed by these agencies. BOR encourages non-federal agencies to develop recreation facilities at the water project areas where feasible. BOR plays an important role in determining whether recreation at water project sites is to be developed by federal or non-federal organizations.

Formulation of State-wide Recreation Plan -- Inventory of Resources

In order to qualify for federal aid projects for the planning and development of outdoor resources, the Game, Fish and Parks Division submitted a comprehensive state-wide outdoor recreation plan to the Federal Bureau of Outdoor Recreation in November of 1965. This state-wide plan included an inventory of federal, state, and local government outdoor recreational facil-

ities, plus an analysis of demand for parks and recreation based on national standards formulated by the Bureau of Outdoor Recreation. The division officials recognize that the estimates of need for facilities, the carrying capacity of facilities, etc., contained in the original plan, were inadequate simply because the standards and information upon which the projected utilization of the state's outdoor recreational resources were based were inadequate to develop a realistic measure of the utilization of parks and recreation areas.

701 Study of Supply and Demand For Recreation. The Game, Fish and Parks Division recently updated the information on the availability of private and local government outdoor recreation facilities and has developed information on the use of recreational facilities by residents and tourists. The Game, Fish and Parks Division in conjunction with the Planning and Development Section of the State Division of Commerce and Development employed the Midwest Research Institute to conduct a study of supply and demand for outdoor recreational resources in Colorado. This study was conducted with the financial assistance of the federal 701 planning program under the Department of Housing and Urban Development. The study involved three basic steps:

- 1) an inventory of the public and private recreational areas of the state;
- 2) attempted determination of demand for outdoor recreational activities; and
- 3) comparison of available facilities to resident and tourist needs for outdoor recreation.

To accomplish the aforementioned objectives, the Midwest Research Institute (MRI) contacted the district offices of a number of federal agencies including the Bureau of Land Management, the U.S. Forest Service, as well as metropolitan recreational districts, county clerk offices, and city and town officials. These sources provided information on public park and recreation resources; private park and recreational information was developed through the assistance of local community organizations, primarily the chamber of commerces.

In conjunction with the development of an inventory of recreational facilities, MRI employed a number of college students to survey 3,346 Colorado families in an attempt to establish a statistical cross section of Colorado residents that could be utilized to project the relative demand for various types of outdoor recreation. This sample of Colorado's population included residents of each county of the state. The information or data collected in this survey of residents has been tabulated in the Colorado Outdoor Recreation Comprehensive Plan, Volumes I through III.

The Midwest Research Institute also conducted an origin and destination study of Colorado tourists leaving the state. Tourists were contacted at the state line as they were leaving the state, and information was requested as to where their trip originated that day. This study has some limitations in that it does not provide an exact measure as to the areas in which the tourists spent most of their time. Actual documentation of the utilization of park areas has been initiated, however, by the Game, Fish and Parks Division. The division has installed highway counters at various park facilities to measure park attendance.

Types of Outdoor Recreation

The very first recommendation contained in the Colorado Outdoor Recreation Comprehensive Plan, 1967, Volume 0, is that the Game, Fish and Parks Commission must define the role of state government in outdoor recreation. Perhaps this recommendation clearly illustrates that despite extensive surveys conducted by the department with respect to the supply and demand for outdoor recreation and attempts by the department to establish a total plan for outdoor recreation for Colorado, there is no clear-cut path of responsibility as to the role of state government in providing park and recreational programs. Nevertheless, public outdoor recreational activities may be classified by environment and types of activity offered. Nationally, the Bureau of Outdoor Recreation has adopted six classes of outdoor recreation resources: 1) high density recreation areas; 2) general outdoor recreation facilities; 3) natural environment areas; 4) unique natural areas; 5) primitive areas; and 6) historic and cultural sites.

1. High Density Recreation Areas. A high density recreation facility usually is associated with urban centers. The Denver City Park and Elitch Gardens are high density recreation areas. One is operated by the City and County and the other is operated by private industry. Examples of high density areas probably would include the Boardwalk at Atlantic City and even Colter Bay Recreation Center in Grand Teton National Park. The latter is a high density recreation center in a unique natural environment. In all likelihood, if the state were to permit expansion of concessions at Cherry Creek or if the proposed Chatfield Dam Recreation Area were to be designed for intense use, these facilities also would be classified as high density recreation areas.

2. General Outdoor Recreation. General outdoor recreation areas include areas capable of sustaining a variety of outdoor recreational opportunities. The federal government classifies ski areas in this category, and, of course, Winter Park Ski Area offers a variety of winter sport entertainment -- skiing, skating, tobogganing, etc. (Anyone visiting Winter Park on a

typical winter weekend would be inclined to classify this facility under high density recreation.) Cherry Creek Reservoir probably would be placed in the category of general outdoor recreation, although it also bears resemblance to classes (1) and (3). In general, this classification provides a wider range of opportunities than class I sites and usually involves more extensive, less crowded use.

3. Natural Environment Areas. The federal classification of natural environment areas closely parallels the Game, Fish and Parks definition of state park and recreation areas. The federal definition of a natural environment is: "The primary recreation management objective should be to provide for traditional recreation experience in the out-of-doors, commonly in conjunction with other resource uses. It should encourage users to enjoy the resources 'as is,' in a natural environment in which man has to fend largely for himself." In other words, this recreation is suited for hiking, fishing, canoeing, and sightseeing. Golden Gate Recreation Area and Sylvan Lake Recreation Area are two good examples of Natural Environment Areas.

4. Unique Natural Areas. For the most part, the unique natural areas in Colorado are under federal jurisdiction. These areas include Rocky Mountain National Park, Black Canyon of the Gunnison, Great Sand Dunes National Monument, and other scenic wonders of Colorado.

5. Primitive Areas. A primitive area is a natural environment that has not been disturbed by commercial utilization and is without mechanized transportation. The primitive areas in Colorado also are under the vast landholdings of the National Forest Service. Included are Gore Range-Eagle's Nest, Flat Tops, Uncompahgre, Upper Rio Grande, and Mount Wilson. Wilderness areas in Colorado also include Maroon Bells, West Elk, Rawah, Lagurita, and Mount Cirkel.

6. Historic and Cultural Sites. Mesa Verde National Park is probably one of the best examples of historic sites in the United States. Dinosaur National Monument also is an interesting historic site.

The federal classification system is helpful in providing a broad picture of categories of outdoor recreational opportunities. In developing these categories, the Outdoor Recreation Resources Review Commission made little attempt to define the responsibilities of various levels of government to provide recreational opportunities in these respective categories. The Commission did point out, however, that high density recreation areas commonly are the responsibility of municipal, county, regional, or state government.

A Bureau of Outdoor Recreation publication, "Outdoor Recreation Space Standards," summarizes a variety of criteria for

state, regional, metropolitan, city, county, community, and neighborhood park standards. The Council staff has attempted to summarize these standards into five basic classes: 1) neighborhood playfield; 2) neighborhood park; 3) city-wide and county recreation areas; 4) metropolitan regional parks; and 5) state parks.

Neighborhood Playfields. A neighborhood playfield is a centrally-located high-activity area. Playfields may range in size from one to three acres for each 1,000 population. A playfield needs to be within walking distance of the population using the site. Perhaps a playfield serves persons living within one-half mile of the field, or in low density areas no more than one mile from the field. Often times neighborhood playfields are developed in conjunction with a school complex. Common to a neighborhood playfield are tennis courts, ball fields, swings, and other playground facilities.

Neighborhood Park. The neighborhood park can exist adjacent to a playfield but must offer more opportunity for rest and relaxation. In general, a neighborhood park is a landscaped area, providing a relaxation spot for passive, quiet recreation. A neighborhood park may range in size from one to two acres and serves about the same population and area as the neighborhood playfield. Benches and walkways are found in neighborhood parks.

Both neighborhood playfields and parks long have been the responsibility of municipal governments, recreation districts, school districts, or counties. These facilities are rather restricted in size, serve a small area and a limited population. The character of the neighborhood areas is such that recreational opportunities are limited and offer little interest to persons not living within close proximity to the sites.

Large Municipal or Urban County Recreation Area. A city or urban county park is designed to meet the needs of an entire community or, at least, a substantial portion thereof. A large urban park usually offers a variety of facilities on a much larger scale than neighborhood park and playfields, including many types of recreational opportunities that would not be found in the neighborhood park. For instance, golf courses and swimming facilities are common to municipal park complexes. A small lake or pond also enhances the attractiveness of the park, as well as providing a variety of recreational opportunities such as canoeing, rowing, etc. Generally, the city park is a high density recreation area ranging in size from four acres for every 1,000 persons to 15 acres for every 1,000 persons. Another suggested space criteria is one 20-acre park for every 5,000 persons. For large cities, park complexes of from 100 to 300 acres, for every 40-50,000 persons, has been suggested.

Standards for vehicle travel time to a city park range from 10 minutes to 60 minutes. Criteria suggested by the Sacra-

mento County Planning Commission for an urban type recreational park of 200 acres, serving roughly 100,000 persons, includes the following: three acres of play area for pre-school children; four acres of play area for elementary school children; 15 acres of sports fields; three acres of paved areas for court games; one acre of multi-use concrete surface; 30 acres of family and group picnic area; 10 acres of open space for special events; seven acres for an amphitheater; 40 acres of natural area and walkways; five acres for a club house and recreation center or auditorium; 15 acres of landscaped area; 20 acres of roads; and 15 acres for parking.

Perhaps the most important aspect of the municipal or urban county park, as defined, is that the facility has not yet reached the stage of attempting to provide a natural setting or environment. Basically, the urban park is a landscaped area of substantial size, in an urban setting. Although recreational opportunities are extensive, environment is not an important criterion or factor in determining the type of recreation provided.

Metropolitan or Regional Parks. A regional park is a large land and forest reservation of unique and scenic character that serves one or more cities or units of local government. The regional park may serve as a "green belt" to separate communities. A minimum suggested size for a metropolitan park is 500 acres. Another criterion for size is 60 acres for every 25,000 people. Most persons utilizing the facility should be able to reach the park by vehicle within 45 minutes. Generally, the metropolitan park provides a blend between high density use of a city park and the traditional natural environment area of most state parks. The regional park expands on the recreational activity of a city park, especially in relation to natural environment activities. For instance, horseback riding, hiking, fishing, camping, and picnicking should be made available at the regional park level. At the same time, urban activities such as swimming and golfing also need to be made available.

Metropolitan or regional parks are usually located outside of incorporated areas. However, the state of New York has now embarked on a state-wide program to provide unique recreational opportunities within large urban centers. In New York, it has been found that motorized transportation simply is not available to many members of the urban community, preempting an opportunity for some persons to take advantage of traditional state recreational opportunities that may be located a few hours from urban centers. Perhaps the New York plan is the first step in attempting to provide new recreational experiences for many urban citizens.

State Park and Recreation Area. State park and recreation areas appear to complete the transition from high density and high activity recreational facilities of the urban areas to large natural complexes with less intense use. This is not to

say that a state or national park could not have certain sections of a park that would have high density use. In fact, the development of high density use for certain parts of a state or national park might relieve the population pressure on other parts of the park. State parks usually are large tracts of land, retained in their natural state, offering such activities as sightseeing, camping, picnicking, fishing, etc. There is a wide range of space standards suggested for state parks. For example, state parks are recommended to contain 30 acres per 1,000 population; 50 acres per 5,000 population; 45 acres per 1,000 population; a minimum size of 2,000 acres per park; a maximum size of 800 acres per park; etc. The suggested standards for the population to be served by a state park also are of little help in pinpointing a specific standard. Population criteria include persons living within 25 square miles, the population within 50 to 100 miles of the park, etc.

George O'Malley, Assistant Director for Parks, Game, Fish and Parks Division, touched upon the following points with respect to selection of state park sites: a park should provide an atmosphere that is uplifting to the human spirit; the character of the site must provide incentive for use, offering color and varied terrain. A state park must be accessible to population centers but retain an atmosphere of solitude; a park could even contain an element of danger to stimulate youth to vigorous activity such as mountaineering. Finally, the area must be of sufficient size to meet the needs of population that it is designed to serve.

Game, Fish and Parks Division Program

The Game, Fish and Parks Commission has followed a traditional approach in defining the role of state government in outdoor recreation. That is, the commission believes the function of state parks and recreation areas is to provide natural settings in which people can participate in activities such as camping, picnicking, fishing, hunting, boating, hiking and related natural environment activities. Specifically, the commission defines a state park as follows:

"A state park should be a relatively spacious area of outstanding scenic or wilderness character, often times containing significant historic and scientific values, preserved as nearly as possible in its natural condition, and providing opportunities for recreation which will not destroy or impair these values."

Similarly, a state recreation area is defined as:

"...an area developed primarily to provide nonurban recreational opportunities to meet other than purely local needs."

The Game, Fish and Parks Division is authorized to construct, lease, or otherwise establish park and recreation facilities. The division also may set reasonable fees or charges for the use of park facilities.^{6/} With this in mind, the Game, Fish and Parks Commission has designated 41 areas as state park and recreation areas. Generally, state recreation areas are water-based facilities. All but three of the areas are man-made lakes. For the most part, these lakes have been constructed by the Bureau of Reclamation, the Army Corps of Engineers, the Denver Water Board, or irrigation companies. In a few instances, state recreation areas include small fishing ponds constructed by the department. Some of the larger lakes, particularly the plains reservoirs, offer a complete program of water recreation, that is, boating, water skiing, swimming, fishing, camping, etc.

Although there is sufficient water for a total program of water-based recreation in some of the high altitude reservoirs of the Western Slope, the use of these reservoirs, by urban residents and out-of-state tourists is restricted. For instance, the water temperature of many high mountain reservoirs often is quite cold, reducing the potential use of the sites for swimming and water skiing. Reservoirs serving as water supplies have limited recreation potential. For example, reservoirs under the control of the Denver Water Board cannot be used for water contact sports. Three of these reservoirs have been designated as state park and recreation areas: Antero, Eleven Mile, and Williams Fork.

The water level of some of the reservoirs fluctuates a great deal, creating mud flats which hamper access of boats to the water as well as reducing the desirability of the area for wading and swimming. Other reservoirs are located in rather open country, and there is no vegetation to provide shade for campers or picnickers. The lack of vegetation also reduces privacy of individual camp sites. Williams Fork Reservoir is located in Grand County, in rather barren country and offers little potential for recreation other than fishing. Antero Reservoir in the South Park is subject to high winds, and boating on this lake is hazardous to some degree. Eleven Mile Reservoir also is popular with fishermen but cannot offer much potential for other types of recreation.

Other examples of state recreation areas limited to use by fishermen include: Barbour Lakes, Sylvan Lake, Ralph White Lake, Flagler Lake, and Lester Creek Reservoir. These lakes simply are too small to provide any boating other than to allow fishermen to get one from one fishing spot to another.

^{6/} Colorado Revised Statutes 1963, 1967 Perm. Cum. Supp., Section 62-19-2.

Description of State Park and Recreation Sites

Antero. Antero Reservoir is a 1,009-acre reservoir in Park County near Hartsel. The total acres of land and water is about 3,120 acres. The reservoir is under the control of the Denver Water Board. The Water Board does not permit body contact with water in the reservoirs under its jurisdiction. Thus the reservoir may only be utilized for boating and fishing. Antero is subject to high winds which makes the lake fairly hazardous for boaters. The future use of this lake would appear to be limited to fishing and camping.

Barbour Lakes. Located east of Longmont in Weld County, Barbour Lakes is composed of about 120 acres with 80 acres of water. The lake was formed from a sand and gravel operation and is now used for fishing. The area of water is far too small for any boating or swimming. This is a warm water fishing site. Since the area is adjacent to Interstate 70, perhaps the site could be developed into an overnight camp ground. The area was acquired from the highway department. Barbour Lake is a popular fishing area for low income families from the Denver area. The division charges a use fee.

Bonny Reservoir. The Bonny Reservoir was constructed by the Bureau of Reclamation for irrigation purposes. In the past ten years, this reservoir site has been used for recreation only, and the water has not been diverted for irrigation. Currently the reservoir is one of the best fish-producing areas in the state. Bonny is a 1,900-acre reservoir and is located in Yuma County, northwest of Burlington, Colorado. The future status of this reservoir is in doubt, since any diversion of water could substantially reduce the recreation value of the site. The area is one of the most popular of the state's recreation sites with an estimated visitation of close to 400,000 for 1968. At present, Bonny is a complete water-based recreation facility, offering boating, water skiing, swimming, and fishing. The area also offers habitat for water fowl. Bonny is an attraction for residents of both Kansas and Nebraska.

Boyd Lake (2,430 acres) is located near Loveland in Larimer County. The reservoir is operated by a water company and the entire area is composed of 2,532 acres. This is a total water-based area, that is, boating, fishing, swimming, and skiing are available. The water level fluctuates in early winter and late fall, but on the whole there is sufficient water for recreation during the summer. The division has approximately 12 years left on the existing lease with the water company. Before more investment is made at the area, there may be need for obtaining an extension of the lease. Since the area is rather heavily used, perhaps the investment is warranted even though the division cannot be sure an extension will be granted.

Castlewood. This recreation site is located north of Castle Rock in Douglas County. The area is composed of about 87 acres of land. Originally, the land was acquired in the hope of obtaining adjacent land that could be developed into a fairly useable state park. Sanitation facilities erected on the site have been destroyed by vandals. If sufficient land could be acquired in the area and the Castlewood dam were reconstructed, the area could have substantial potential as a recreation site. The site offers little potential for development in the immediate future, however.

Central City. The division purchased 20 acres of land from the Bureau of Land Management to provide a site for picnicking, camping and some fishing in a small lake. The park is located in Gilpin County about two miles west of Central City. The division recently completed arrangements for a right-of-way to build an access road into the park which it expects will be completed soon. Since this is a new facility no information on use is available, also no fee is charged at this time.

Cherry Creek. The Cherry Creek Reservoir (800 acres of water) is located in Arapahoe County and is part of the Denver Metropolitan Area. This is a high-use area, offering complete water recreation including swimming, boating, water skiing and fishing. Cherry Creek receives the most use of any of the state park and recreation sites in the state. The total acreage is roughly 4,800 acres. Camping and picnic facilities also are available at this site. The area is owned by U.S. Army Corps of Engineers.

Crawford. Crawford Reservoir covers about 397 acres and offers complete boating and swimming throughout the summer months. An additional 821 acres of land surrounds the reservoir. Although the water fluctuates to a large degree, the minimum pool is sufficient to meet summer needs. Crawford Reservoir is located in Delta County near the town of Crawford. The reservoir was constructed by the Bureau of Reclamation for irrigation purposes. Approximately \$300,000 to \$400,000 in federal funds have been spent to provide recreational benefits to persons using this area.

Echo Canyon. This facility is located in Archuleta County about four miles south of Pagosa Springs. The 212 acres of division-owned land will provide facilities for fishing, boating, picnicking and camping. This is also a new facility and so no use figures are available. At this time no fee is charged for use of the park.

Eleven Mile. Eleven Mile Reservoir (3,308 surface acres of water) is owned by the Denver Water Board. Again, no body contact sports are permitted in this area. The reservoir is a very popular fishing spot. The reservoir is located in Park

County between Hartsel and Florissant. In the past the division has charged a use fee at this area, but the use fee will be discontinued this year. If a long term lease could be obtained by the division, perhaps the facilities could be expanded for camping and picnicking.

Flagler. Flagler Lake is a small reservoir (155 acres) constructed by the Game, Fish and Parks Division. The site is located in Kit Carson County. The lake is too small except for limited boating for fisherman. There is some swimming at this site. Total area of the site amounts to 455 acres.

Golden Gate. Golden Gate offers mountain type recreation including hiking, camping and picnicking, horseback riding, etc. There is very little water recreation at the site; however, there are three very small Beaver ponds. The site also has excellent potential for group camping opportunities. Perhaps one major drawback to the site is that access is fairly difficult. From Denver, the Golden Gate Canyon road, out of Golden, probably provides the most direct access. This road is in pretty poor shape.

Green Mountain Reservoir. Between Dillon and Kremmling in Summit County, Green Mountain Reservoir (801 acres) is a substantial body of water. An additional 2,762 acres of land are available for park development. The reservoir was constructed by the Bureau of Reclamation for the purpose of generating hydroelectric power. The water level fluctuates considerably, especially since construction of the Dillon Dam. Division officials report that the National Forest Service controls a considerable amount of the land adjacent to this facility, and the Forest Service has expressed interest in assuming responsibility for recreation at this area.

Highline Lake (Upper Highline or Mack Draw). Highline Lake is roughly 16 miles from Grand Junction. The lake, although rather small (135 acres), offers multi-purpose recreation. The long and narrow shape of the lake also lends itself to water skiing. The water supply at the lake could be relatively stable, insuring recreation throughout the summer months. However, the reservoir is leaking and must be sealed. The division estimates that roughly 21,000 visitations were made to this area in 1967. The department does not charge a use fee at the area.

Horsetooth Reservoir. Horsetooth Reservoir was constructed by the Bureau of Reclamation. This 1,610 acre reservoir offers one of the finest water-based recreation areas in the state. The reservoir is located within 15 miles of Fort Collins in Larimer County. At the present time, the Larimer County Recreation District is responsible for developing the recreation program at the reservoir. The Game, Fish and Parks Division, however, has acquired 2,279 acres of land west of the Reservoir and contiguous to the land leased by the Larimer County Recreation District.

The division is attempting to acquire rights from the Bureau of Reclamation to lease the entire facility for a 25-year period. Larimer County Recreation District would have to relinquish its rights for the division to acquire this site.

Island Acres. Island Acres is adjacent to the Interstate 70 near Palisade, Colorado. This is a former gravel operation on the banks of the Colorado River. Swimming is excellent at this area, but the body of water is too small for boating. Island Acres could be developed into an excellent camping site for tourists passing through the area. The division estimates that there were about 32,000 visitations to the area in 1967, mostly for swimming.

Jackson Reservoir. Jackson Lake (2,703 acres) is located near Fort Morgan in Morgan County. There are roughly 3,403 acres of land and water in this area. The shoreline of the reservoir is very sandy and good opportunities are available for swimming, boating, fishing and water skiing. The water level does fluctuate extensively, creating some problems in gaining access to the water. The lake is operated by an irrigation company.

John Martin Reservoir. The John Martin Reservoir, located in Bent County, one mile south of Hasty, is a multi-use recreation facility. Such activities as hunting, fishing, boating, water skiing, swimming, camping and picnicking are possible when an adequate pool of water is available. The establishment of a permanent pool has been a problem at this reservoir for a number of years. The division is attempting to negotiate water rights at this time. At present the area is operated under a wildlife license from the Army Corps of Engineers that will expire in the next two years; the total area now operated under the license is 19,139 acres. The division has submitted an application to the Army Corps of Engineers to retain the present 19,139 acres, but under different arrangements. The division has asked for a 25 year lease on 2,337 acres, this area will include the fishing, boating, water skiing, camping, swimming and picnicking areas. The balance of 16,802 will be under a wildlife license from the Army Corps of Engineers. The division expects that this new arrangement will be approved shortly. The impetus for changing the 2,337 acres to a lease was to provide the division with greater flexibility in developing the area and to permit the expenditure of park development funds.

Jumbo Reservoir. Jumbo Reservoir is an irrigation lake (1,570 surface acres) located about six miles northwest of Sedgwick on the Logan County line. A minimum pool is maintained in this reservoir for recreation purposes because the contour of the reservoir restricts the amount of water that can be drawn down for irrigation. The division recently acquired a 25-year lease at this site from the Julesburg Irrigation Company. Another 1,298 acres also was acquired by purchase from ten individuals at total cost of \$98,822. In the vicinity of the Jumbo

Reservoir, the division has constructed a 20-acre lake for water fowl habitat and fishing.

La Jara Reservoir. La Jara Reservoir is located in Conejos County about 30 miles west of La Jara. The surface water acreage amounts to 1,241 acres. An additional 1,328 acres of land is available for site development. The reservoir is owned by the Game, Fish and Parks Division. This lake is located at an altitude exceeding 8,000 feet and the recreation season is rather short. The reservoir is suited for natural fish production. The division is not planning to develop the property for a broad based program of outdoor recreation. The primary use, of course, is fishing.

Lake Avery. This lake is located in Rio Blanco County, east of Meeker. The lake is a Game, Fish and Parks reservoir and is adjacent to the White River. The area is quite scenic and rather isolated. The surrounding land is devoid of forest cover, although it might be possible to plant trees in this area according to the division officials. This is a multi-use area and could be used for water skiing, fishing and boating. There is a need for developing camping facilities at the lake. The lake itself covers about 263 acres. An additional 1,810 acres of land may be used for site development.

Lathrop State Park. Lathrop State Park is one of the most heavily utilized state recreation areas. The park is owned by the division. There is heavy demand from tourists passing through the southern part of the state for camping facilities in this area. George O'Malley, Assistant Director, Parks and Recreation, reports that although camp facilities were not complete in the area last year, considerable use of the area was made for camping. Basically, the park is located in a desert setting. The division is maintaining a herd of buffalo in the area which also makes it quite a scenic attraction. A nine-hole golf course and restaurant facilities also are available. Perhaps the major drawback to the area is the inability, at least in the past, to maintain water in the reservoir. If a minimum water level could be maintained, the site could be a complete recreation area. The reservoir covers about 180 acres. An additional 935 acres of land are available for park development.

Lester Creek. Lester Creek Reservoir also is located in Northwestern Colorado in Routt County. Near the town of Clark, the reservoir has been constructed by the Game, Fish and Parks division. The site offers good opportunities for camping and fishing. The lake covers 167 acres and total acreage of the area is about 389 acres. Again, this is an area that offers recreational opportunities for tourists or residents willing to travel considerable distances from the more populated areas of the state.

Miramonte. Miramonte is a Game, Fish and Parks Reservoir consisting of about 410 acres. The reservoir is located in a heavily forested area in San Miguel County near Norwood. The reservoir should offer fine opportunities for camping and fishing. The dam was constructed at a cost of about \$264,000. Another \$38,000 has been spent for ditch construction and access. A park use fee is not charged at the area.

Navajo Recreation Area. The Navajo Reservoir is a major project of the Bureau of Reclamation. Most of the reservoir is located in New Mexico and, when the reservoir is filled, the lake will be about 36 miles long. To date, the lack of water in the reservoir has made the shoreline in Colorado unuseable for development as a recreation area. A considerable amount of silt also is building up along the Colorado shoreline. According to George O'Malley, the Bureau of Reclamation has spent about \$750,000 in recreation for this area. The Colorado site is in Archuleta County, near Arboles.

North Michigan Creek. North Michigan Creek Reservoir (66 acres of water) is located in the 72,000 acre State Forest in Jackson County near Gould, Colorado. The reservoir is owned by the State Land Board and leased by the Game, Fish and Parks Division. Boats are permitted on the lake, for fishing purposes. This is a quality fishing area. Buildings located on the site also may be used for group camping. The State Forest, of course, offers an excellent opportunity for a future state park site. The lake was constructed at a cost of \$124,265.

Paonia. This 309 acre reservoir is located in Gunnison County, East of Oliver. The reservoir was constructed by the Bureau of Reclamation and is located in a steep canyon. The water level fluctuates a great deal and the rugged canyon only allows limited possibilities of development. Access to the water is extremely difficult because of the steep canyon. The scenery in the area is quite spectacular according to Mr. O'Malley.

Ralph White. Ralph White State Recreation Area is a Game, Fish and Parks Reservoir, located in Moffat County, north of Craig, Colorado. The total area consists of roughly 290 acres with a 60 acre lake. The land belongs to the State Land Board. The lake is located in desolate sage brush lands. When the reservoir was constructed, the sage brush was not cleared from the land which limits boating in the area. This is a fishing site primarily, although camping and picnicking also are offered. In general, there is little need to develop the area, at least in the immediate future.

Ramah. Ramah Reservoir (150 acres) is located in El Paso County. The reservoir is owned by the Soil Conservation Service, but the division has a perpetual easement on the main unit. The

water level does not fluctuate very much and the lake offers opportunities for fishing, boating, and water skiing. The area receives rather heavy use from Colorado Springs' residents. The division estimates about 37,700 visitations in 1967. The reservoir also offers habitat for water fowl.

Rifle Gap. Rifle Gap is a Bureau of Reclamation Reservoir located in Garfield County, north of Rifle. The reservoir covers about 350 acres. The Bureau has constructed camping facilities at this site in conjunction with the Job Corps. Excellent opportunities for water skiing, boating, and fishing are available at this site.

Rifle Falls. The Rifle Falls campground consists of about 737 acres located in Garfield County, north of Rifle. The falls is a scenic site offering excellent opportunities for overnight camping. Visitations in 1967 amounted to an estimated 6,684 visits. This is one of the least utilized areas according to division records.

Rio Blanco Lake. Rio Blanco Lake is located between Rangely and Meeker in Moffat County. The area is composed of about 383 acres and the lake covers 115 acres. Rio Blanco Lake offers opportunities for boating, fishing and water skiing. The area receives considerable use from the residents of these two communities. The division participates in the operation of an "honor camp" at this lake for prisoners from Buena Vista. A number of trees have been planted in conjunction with the "honor camp" program. Rio Blanco Lake is owned by the division.

Sawhill Ponds. This area consists of 212 acres (the division had an option to buy five additional acres but has been unable to exercise the option because of lack of funds). Sawhill Ponds is located in Boulder County about four miles east of the city of Boulder. Activities available at the facility include: fishing, use for small boats, picnicking, camping, and water fowl hunting during season. At present no fee is charged at Sawhill Ponds.

Steamboat Lake. The better part of \$1,000,000 has been spent in acquiring and developing this property located north of Steamboat Springs near Hahn's Peak. However, part of the cost has been recovered (\$450,000) in an agreement with a power company for use of the water to generate hydroelectric power. The agreement calls for the maintenance of a minimum pool of water to insure that the lake will retain recreational qualities. The total surface area of the lake is 1,053 acres. The land area covers an additional 2,557 acres. Roughly \$348,000 has been spent on land acquisition and \$581,000 for dam construction, road relocation, and fencing. The division officials estimate that another \$200,000 is needed for minimum development of the area. The lake is located at an elevation of about 8,000 feet and lends itself to fishing and camping. A park use fee is not charged at this area.

Summit Reservoir. Summit Reservoir is located in Montezuma County, southeast of Dolores in the direction of Mancos. This is a fairly large reservoir covering 780 acres. Total acreage of the area is over 1,400 acres. The division owns 120 acres and has a perpetual easement to the rest of the site.

Sweitzer Lake. Sweitzer Lake is a Game, Fish and Parks Reservoir (137 acres) located in Delta County, south of the town of Delta. The total land and water area amounts to 350 acres. Fishing is limited in this area because of the chemical content of the water. The lake can be used for swimming and boating. The site is a fairly popular area; the division estimates 63,000 visitations in 1967.

Sylvan Lake. Sylvan Lake Recreation Area covers an area of about 155 acres. The 42-acre lake is a fishing lake although boats may be used in conjunction with fishing. Sylvan Lake is one of the most beautiful lakes under the control of the division, according to George O'Malley. This area could be developed into an outstanding camping area. The area also is heavily forested. The division owns the facility.

Tarryall Reservoir. Tarryall Reservoir (175 acres) is located in Park County, near Park City. This lake offers excellent fishing and the total recreation area covers 886 acres. Visitations amounted to about 47,500 in 1967 according to division estimates. The elevation is quite high in this area and water sports are limited to fishing and boating. The division owns this reservoir.

Vega Reservoir. Vega Reservoir is located in Mesa County, east of Collbran. This is a large reservoir covering roughly 2,111 acres. Total area of the recreation site amounts to 3,120 acres. The reservoir was constructed by the Bureau of Reclamation. This is a cold water reservoir offering excellent fishing and opportunities for boating and water skiing. The country is rather open and there are no shade trees in the area. The site could offer camping facilities in the future.

Williams Fork. Williams Fork Reservoir (1,630 acres) is under the control of the Denver Water Board. Recreation is limited to boating and fishing. The reservoir is located in Grand County near Parshall. The site is in barren country and there is no vegetation available. Except for fishing, the area offers little potential for development as a total recreation area.

Willow Creek. Willow Creek Reservoir (303 acres) also is located in Grand County at a site north of Granby. The reservoir is owned by the Bureau of Reclamation. The area is forested and is not too heavily used. The total area covers about 800 acres. The water level fluctuates a great deal as the reservoir is used for irrigation purposes. The site is an attraction for

people who want privacy. Visitations in 1967 amounted to 12,700 only.

Possible Reasons for Designating Water Impoundment Sites as State Recreation Areas

For the most part, the state park and recreation areas in Colorado appear to be tied closely to the division's fishing program. Perhaps there are a number of reasons for this approach. First-of-all, the philosophy of the commission or division is that state recreation areas should be relatively spacious sites of outstanding scenic or wilderness character, preserved as nearly as possible in their natural condition, and offering non-urban recreational opportunities. Reservoirs or water impoundment areas offer this natural setting for outdoor recreation. Secondly, the division is concerned with maintaining a desirable fishing program for Colorado. Utilization of water impoundment areas for fishing replaces, at least in part, the natural stream habitat lost as a result of the construction of irrigation and domestic water supply reservoirs. In order to make these reservoirs useable for fishing, access roads, parking areas, sanitation facilities, boat ramps, etc., have been constructed through the use of game cash funds. Perhaps the commission believes that a logical outgrowth of providing basic facilities for fishermen would be the expansion of improvements to provide more complete recreation for the community. After all, many of the reservoirs offer opportunities for other types of water recreation, as well as picnicking and camping. Thus, general fund monies have been used to improve water impoundment sites for general recreation purposes.

Thirdly, in attempting to develop a state park program, financed, in part, from park fees, the Commission may have found it desirable to designate a number of facilities as state parks and recreation areas in order to encourage the purchase of park use permits by residents and nonresidents. In other words, although few new facilities have been provided at the reservoir sites designated as state recreation areas, persons using the areas have been asked to pay a use fee. The division is in the process of revising use fees for 1969. Use fees will not be charged in areas in which minimum facilities are not provided in 1969.

Fourthly, the designation of reservoir sites as park and recreation areas may encourage the General Assembly to provide general fund monies to develop areas that could not be improved from present revenues allocated to the state's game cash fund. Although testimony has been presented to the committee that game cash funds were being used for park purposes, the selection of park and recreation sites by the commission also suggests that some of the state park areas are of prime benefit to fishermen only.

Finally, lakes have always been a major attraction for outdoor recreation. In comparison with Eastern states, Colorado has very little opportunity for this type of outdoor recreation. For these reasons the Game, Fish and Parks Commission may be attempting to fill this need through the development of the reservoir sites scattered throughout the state. Based on the heavy use of Cherry Creek Reservoir, there is no question that there is considerable demand for water-based recreation in the Denver Metropolitan Community. On the other hand, a question may exist as to whether there is substantial demand for water-based recreation in the sparsely settled communities of Colorado, particularly those areas located substantial distances from the metropolitan areas.

Visitations to State Park and Recreation Areas

Table I lists visitations estimated by the division to have been made to state recreation areas in 1967. Visitations ranged from 5,360 at the Paonia Reservoir to 547,373 at Cherry Creek. During 1967, state park use fee collections amounted to \$202,000. For each visit to a state recreation site about 9.4 cents was collected in 1967. Based on present fee collections, the Cherry Creek Reservoir site apparently accounts for almost half of the use fee revenues. Visitations at the Cherry Creek site also amounted to about 25 percent of all visitations to state park and recreation areas. Perhaps as the state park and recreation areas are developed, visitations will increase. The five most popular areas -- Cherry Creek, Boyd Lake, Jackson Reservoir, Lathrop State Park, and Bonny Reservoir -- are located on the Eastern Slope. On the other hand, the 12 least visited areas are on the Western Slope.

A map of 37 of the state's 41 recreation areas and a rough estimate of the population of cities and towns within 25 air miles of respective areas is contained on page 24. Based on these population estimates, only six of the state's 37 recreation areas are located within 25 air miles of cities and towns with populations over 50,000 -- Golden Gate, Boyd Lake, Horsetooth Reservoir, Cherry Creek Reservoir, Barbour Lakes and Castlewood. Three other areas -- Crawford, Island Acres, and Highline -- are within 25 air miles of population centers in excess of 15,000 persons. Altogether, over 75 percent of the state recreation areas are beyond 25 air miles of cities and towns with populations in excess of 15,000 persons.

Estimated Cost of Developing State Park and Recreation Areas

The division has prepared a new and revised construction estimate for developing state park and recreation areas. This new estimate replaces one issued in May, 1966. The old estimate covered a ten-year period and called for total development ex-

Table I
STATE PARK AND RECREATION AREAS,
VISITATION FOR 1967

<u>Area</u>	<u>Visitations</u>	<u>Use</u> <u>Fees - 1968</u>
Cherry Creek Reservoir	547,373	Yes
Boyd Lake Complex	230,299	Yes
Jackson Reservoir	175,220	Yes
Lathrop State Park	168,163	Yes
Bonny Reservoir	129,590	Yes
Golden Gate	87,191	Yes
Vega Reservoir	79,233	Yes
Eleven Mile	73,862	Yes
Crawford Reservoir	68,715	Yes <u>3/</u>
Sweitzer Lake	63,219	Yes
Green Mountain	59,593	Yes
Barbour Ponds	58,168	Yes
Antero Reservoir	50,939	No
Tarryall	47,563	Yes
Navajo Reservoir	38,000	Yes
Ramah Reservoir	37,763	Yes
Island Acres	32,077	No
La Jara	30,000	No
Flagler	23,968	Yes
Lake Avery	21,788	No
Highline	21,063	No
Rio Blanco	18,106	Yes
Sylvan Lake	17,562	Yes
Ralph White	12,812	Yes
Willow Creek	12,731	Yes
Lester Creek	11,591	Yes
Williams Fork	11,168	No
Rifle Gap	10,496	Yes
North Michigan	8,461	No
Rifle Falls	6,684	Yes
Paonia	5,360	Yes
Castlewood	<u>1/</u>	No
Summit	<u>1/</u>	No
Horsetooth	<u>2/</u>	No

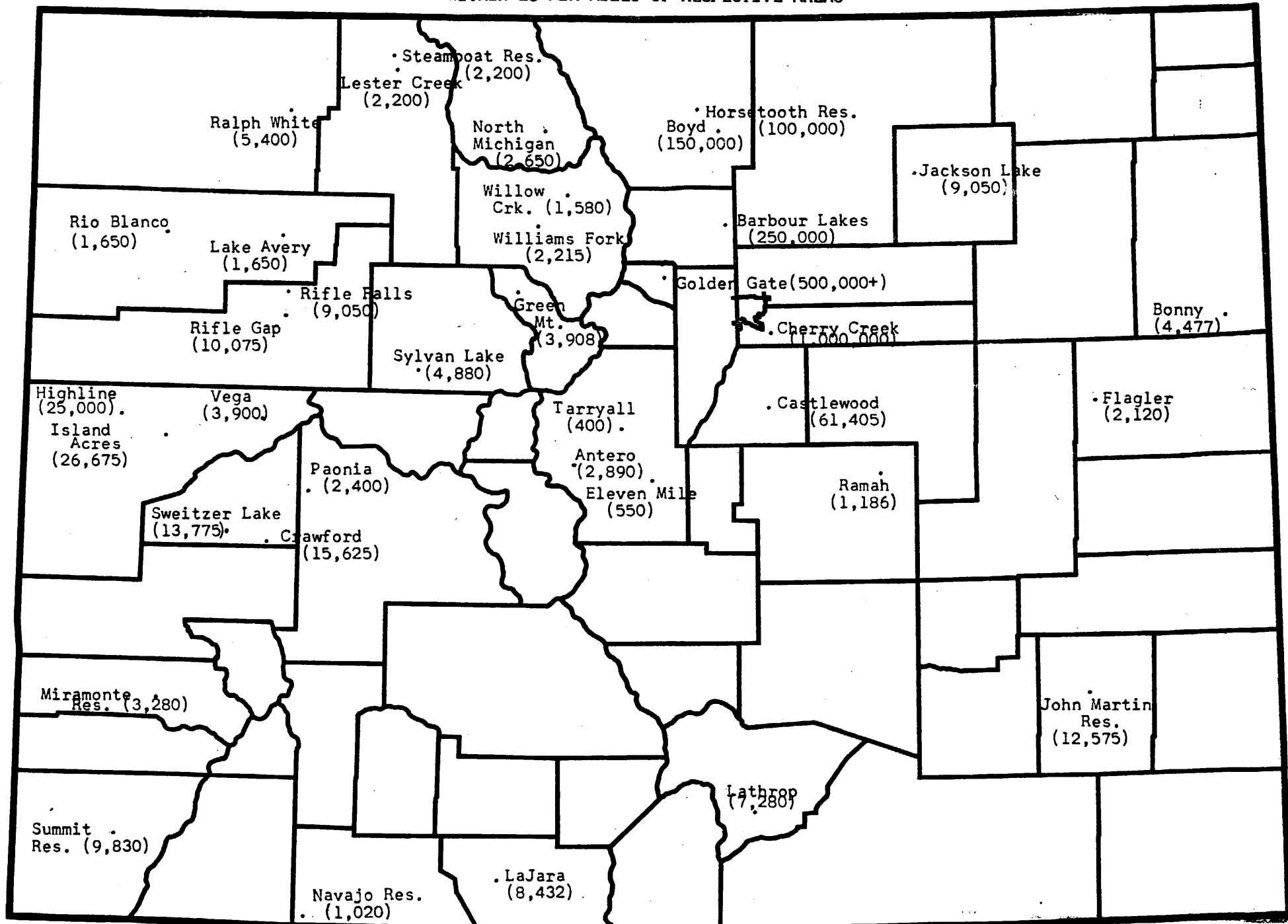
Footnotes: See following page.

Table I
(continued)

<u>Area</u>	<u>Visitations</u>	<u>Use Fees - 1968</u>
John Martin	<u>2/</u>	No
Miramonte	<u>2/</u>	No
Steamboat Lake	<u>2/</u>	No

-
- 1/ No visitations count data available.
2/ Designated in April 1968 as a recreation area.
3/ Commission approved elimination of use fee charge effective April 5, 1968.

STATE PARK AND RECREATION AREAS AND POPULATION OF CITIES AND TOWNS
WITHIN 25 AIR-MILES OF RESPECTIVE AREAS



penditures of \$11,127,087, while the new estimate covers a five-year period and calls for total development expenditures of \$11,882,452. Six areas in which it had been anticipated that funds would be spent under the ten-year plan will receive no funds under the five-year estimate; these recreation sites include Crawford, Green Mountain, North Michigan, Paonia, Sweitzer, and Willow Creek. Under the five-year plan funds are projected for use in four areas not included under the old ten-year plan: Central City, Echo Canyon, John Martin Reservoir and Sawhill Ponds.

Five-year development-cost estimates range from \$25,000 at Navajo and Sylvan Lake, to over \$1,000,000 at Cherry Creek Reservoir, Golden Gate and Steamboat Lake (see Table II, Column 4). The average cost of development for the 29 areas upon which projections were made is \$410,000. With the exception of Steamboat Lake and Highline Reservoir, the nine areas with proposed development costs in excess of \$500,000 are located on the Eastern Slope.

Table II
ESTIMATED DEVELOPMENT COSTS OF STATE
PARK AND RECREATION AREAS

<u>State Park or Recreation Area</u>	<u>Game, Fish and Park Exp. for Development^{1/}</u>	<u>Budget Appropriation 1968-69</u>	<u>Total Estimated Development Costs for 5 years^{2/}</u>
Antero	\$ 2,000	\$ ---	\$ ---
Barbour Lakes	68,182	---	297,000
Bonny	178,063	---	821,000
Boyd	71,679	---	839,000
Castlewood	1,500	---	---
Central City	---	---	134,000
Cherry Creek*	181,041	213,000	1,087,500
Crawford*	20,227	---	---
Echo Canyon	---	---	297,500
Eleven Mile	12,667	---	---
Flagler	157,866	---	149,000
Golden Gate*	114,130	135,000	1,470,500
Green Mountain	82,564	---	---
Highline Lake	---	---	767,000
Horsetooth*	---	93,000	962,500
Island Acres*	20,000	---	315,000
Jackson	144,938	---	633,000
John Martin Res.	---	---	444,800
Jumbo*	30,000	---	183,000
La Jara	31,875	---	89,150

Table II
(Continued)

<u>State Park or Recreation Area</u>	<u>Game, Fish and Park Exp. for Development^{1/}</u>	<u>Budget Appropriation 1968-69</u>	<u>Total Estimated Development Costs for 5 years^{2/}</u>
Lake Avery	\$322,262	\$ ---	\$ 234,500
Lathrop*	96,585	82,000	588,500
Lester Creek	173,730	---	37,000
Miramonte	83,714	---	243,500
Navajo*	23,987	---	25,000
North Michigan	---	---	---
Paonia*	15,000	---	---
Ralph White	31,600	---	79,000
Ramah	128,618	---	257,000
Rifle Gap*	---	---	---
Rifle Falls	---	---	---
Rio Blanco	135,504	---	37,000
Sawhill Ponds	---	---	410,000
Steamboat Lake	---	---	1,159,500
Summit	7,730	---	119,000
Sweitzer	161,068	---	---
Sylvan Lake	66,706	---	25,000
Tarryall	57,596	---	142,500
Vega*	60,279	64,500	65,000
Williams Fork	13,000	---	---
Willow Creek	<u>33,975</u>	<u>---</u>	<u>---</u>
Totals	\$2,528,086	\$587,500	\$11,882,450

* Areas in which money has been expended by the federal government or other governmental units for recreation.

- 1/ Development costs include actual expenditures of game cash funds and park monies through June 30, 1967, plus appropriations for fiscal year 1967-68.
- 2/ Source: Report prepared by division -- "Parks Capital Construction Statewide, 5-Year Development Cost Estimate," October, 1968.

A detailed summary of capital improvements for state park and recreation areas, for fiscal year 1969-70, is contained in Table III. Recreation areas listed in Table III are classified into high, medium, and low priority projects. Priorities were established at the request of the committee by the Parks and Recreation Planning Services.

Eight of the ten areas listed under high priority are located on the Eastern Slope. Total cost of constructing improvements at these areas is estimated at \$3,149,450, while additional land acquisition needed is relatively insignificant -- \$70,800. A major item of expense for improvements is the construction of roads and parking areas -- \$620,000. Sanitation and water facilities account for at least \$486,000 in construction costs, while \$415,000 is needed for picnic and campground improvements.

Financing State Park and Recreation Programs

The Committee on Game, Fish and Parks reviewed alternative programs to provide revenues to support the development of the state's park and recreation areas. In addition to General Fund monies, possible methods for financing state park activities considered by the committee include revenue bonds, motor fuel taxes, abandoned property, and the sale of saline and internal improvement lands.

Bond Issues in Other States

Since 1960, at least 25 states have attempted to finance the acquisition and development of outdoor recreation facilities through the issuance of general revenue or obligation bonds. In some instances bonds have been authorized by state legislatures and in other instances bond issues have been submitted to a vote of the electorate. Table IV lists the various bond issues approved by the electorate, while Table V contains a summary of bond issues approved by various state legislatures. Since 1960, the only proposed state outdoor recreation bond issue that failed to win at the polls was a \$150-million proposal in California. The measure was initiated only two months before the June, 1962, primary election and was listed last among six major state bond issues. Two years later, a similar \$150 million proposal was put on the ballot in a more favorable ballot position.^{7/} Sufficient time also was provided for public debate on the proposal, and over 60 percent of the voters favored this general obligation bond issue.

^{7/} Outdoor Recreation Action, August 1966, Report No. 1, U.S. Department of the Interior, Bureau of Outdoor Recreation, page 1.

Table III

PARKS CAPITAL CONSTRUCTION PRIORITIES STATEWIDE 1969-70, AS
RECOMMENDED BY PARKS AND RECREATION PLANNING SERVICES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Name of Area	Number of Visitations for 1967	Land Acquisition	Improvements							Engineering, Design, and Cons. Sup.	Total Development Cost
			Roads and Parking	Sanitation and Water	Camping and Picnic Fac.	Boating, Fishing, Beach	Land- scaping	Signs	Misc. 1/		
<u>High Priority Areas</u>											
Golden Gate State Park -- Gilpin	87,191	\$	\$ 50,000	\$130,000	\$ 70,000	\$	\$	\$10,000	\$ 30,000	\$ 26,000	\$ 316,000
Boyd Lake Complex -- Larimer	230,299		50,000	20,000	50,000	10,000	2,000		10,000	15,000	157,000
Cherry Creek State Park -- Arapahoe	547,373		20,000	50,000	40,000	45,000	22,000	10,000	110,000	24,000	321,000
Lathrop State Park -- Huerfano	168,163		75,000			50,000	2,000	20,000	2,000	18,500	167,500
Highline State Recrea- tion Area -- Mesa*	21,063	10,000		44,000		18,000			110,000	13,000	195,000
Steamboat Springs State Recreation Area -- Routt*	2/								207,000 ^{3/}	20,000	227,000
Horsetooth Complex -- Larimer	2/		50,000	20,000	85,000	25,000	12,000			18,000	210,000
Barbour Ponds -- Boulder	58,168		40,000	45,000	10,000		20,000		25,000	12,000	152,000
Jackson Reservoir-- Morgan	175,220		50,000	61,000	85,000		2,000		10,000	18,000	226,000
Bonny Reservoir -- Yuma	129,590		50,000	10,000		15,000	10,000		55,000	19,000	159,000
SUB TOTALS	1,417,067	\$10,000	\$385,000	\$380,000	\$340,000	\$163,000	\$ 70,000	\$40,000	\$559,000	\$183,500	\$2,130,500
<u>Medium Priority Areas</u>											
Echo Canyon -- Archuleta*	4/	40,000							48,000 ^{5/}	7,000	95,000
Ramah Recreation Area -- El Paso	37,763		20,000	10,000	15,000		2,000		10,000	9,000	66,000
Island Acres -- Mesa*	32,077								98,000 ^{6/}	6,500	104,500
Tarryall Reservoir -- Park	47,563		25,000	30,000			2,000			14,000	71,000

Table III (Continued)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Name of Area	Number of Visitations for 1967	Land Acquisition	Improvements							Engineering, Design, and Cons. Sup.	Total Development Cost
			Roads and Parking	Sanitation and Water	Camping and Picnic Fac.	Boating, Fishing, Beach	Land scaping	Signs	Misc. 1/		
Medium Priority Areas (Continued)											
Central City -- Gilpin	7/	\$	\$ 40,000	\$ 6,000	\$	\$	\$	\$	\$ 1,000	\$ 6,000	\$ 53,000
Sawhill Ponds -- Boulder	8/		50,000	20,000			15,000		30,000	10,000	125,000
SUB TOTALS	117,403	\$40,000	\$135,000	\$ 66,000	\$ 15,000	\$	\$ 19,000	\$	\$187,000	\$ 52,500	\$ 514,500
Low Priority Areas											
La Jara Reservoir -- Conejos*	30,000								27,400 ^{9/}	7,750	35,150
Miramonte Reservoir -- San Miguel*	2/								70,000 ^{10/}	11,500	81,500
Jumbo Reservoir -- Logan	11/		50,000	20,000	10,000		12,000		10,000 ^{12/}	9,000	111,000
Lake Avery -- Rio Blanco*	21,788								67,500 ^{12/}	15,000	82,500
Rio Blanco -- Rio Blanco*	18,106								18,500 ^{13/}	2,000	20,500
Flagler Recreation Area -- Kit Carson	23,968						8,000				8,000
John Martin Recreation Area -- Bent	2/		50,000	20,000	50,000	40,000	2,000		20,000	30,800	212,800
Summit Lake -- Montezuma*	14/	20,800							1,200 ^{15/}	1,800	23,800
SUB TOTALS	93,862	\$20,800	\$100,000	\$ 40,000	\$ 60,000	\$ 40,000	\$ 22,000		\$214,600	\$ 77,850	\$ 575,250
TOTALS	1,628,332	\$70,800	\$620,000	\$486,000	\$415,000	\$203,000	\$111,000	\$40,000	\$960,600	\$313,850	\$3,220,250 ^{16/}

*Denotes Western Slope counties.

1/ "Miscellaneous" includes projects such as fencing, erosion control, play areas, trail construction, electrical utilities, etc.

2/ Designated in April, 1968 as a recreation area.

3/ Construction costs total \$207,000. No breakdown available for specified improvements.

Table III (Continued)

FOOTNOTES (Continued)

- 4/ Not available.
- 5/ Construction costs total \$48,000. No breakdown available for specified improvements.
- 6/ Construction costs total \$98,000. No breakdown available for specified improvements.
- 7/ Not available.
- 8/ Not available.
- 9/ Construction costs total \$27,400. No breakdown available for specified improvements.
- 10/ Construction costs total \$70,000. No breakdown available for specified improvements.
- 11/ Not available.
- 12/ Construction costs total \$67,500. No breakdown available for specified improvements.
- 13/ Construction costs total \$18,500. No breakdown available for specified improvements.
- 14/ Not available.
- 15/ Construction costs total \$1,200. No breakdown available for specified improvements.
- 16/ Total does not include "Miscellaneous Small Expenditures".

Table IV

BOND ISSUES APPROVED BY VOTERS FOR OUTDOOR RECREATION PURPOSES -- 1960-1967

<u>State</u>	<u>Year Bond Issue Authorized</u>	<u>Amount of Bond Issue</u>	<u>Estimated State Population 1965</u>	<u>Percent of Votes Cast in Favor of Bond Issue</u>	<u>Type of Bonds</u>	<u>Purpose of Bond Issue</u>
California	1964	\$150,000,000	---	63%	General Obligation	\$85M. for state beaches, parks, recreation areas, historic sites \$20M. for related development \$5M. for acquisition and development of fish and wildlife areas \$40M. for grants to local governments (pro-rated based on county population)
Alaska	1966	900,000	253,000	86	---	Parks and recreation
Florida	1963	<u>1/</u>	5,805,000	56	Revenue	Outdoor recreation land acquisition and development
Illinois	1967	<u>2/</u>	10,646,000	--	Revenue	Swimming pools and golf courses
Kentucky	1965	4,500,000	3,179,000	75	General Obligation	Land acquisition and development at state parks
Maine	1965	<u>3/</u>	993,000	64	General Obligation	Privately operated recreational projects
	1966	1,500,000	---	68	General Obligation	Allagash river development
New Jersey	1961	60,000,000	6,775,000	60	Revenue	\$40M. for land acquisition by state \$20M. for land acquisition by cities, counties, and other governmental units on 50-50 matching basis
New York	1960	75,000,000	18,075,000	73	Revenue	Acquisition of park and recreation lands \$20M. for state parks \$15M. for other state lands for recreation and conservation \$12M. for matching grants to New York City \$12M. for matching grants to other cities in state \$16M. for matching grants to counties, towns, and villages

Table IV
(continued)

<u>State</u>	<u>Year Bond Issue Authorized</u>	<u>Amount of Bond Issue</u>	<u>Estimated State Population 1965</u>	<u>Percent of Votes Cast in Favor of Bond Issue</u>	<u>Type of Bonds</u>	<u>Purpose of Bond Issue</u>
New York (continued)		\$		%		(matching is 75% state and 25% local)
	1962	25,000,000	---	68	---	Supplements 1960 \$75M. bond issue
	1966	200,000,000	---	60	---	Parks and recreation development
Ohio	1963	25,000,000	10,247,000	61	Revenue	Land acquisition and development for parks and recreation uses
	1965	30,000,000	---	57	---	Acquisition and development of outdoor recreation areas and related purposes
Pennsylvania	1963	70,000,000	11,521,000	53	General Obligation	\$40M. for state land acquisition for recreation and conservation purposes \$20M. for 50% matching grants (same purposes) to local governments \$10M. for hunting areas and for fishing access
	1967	200,000,000	---	--	General Obligation	\$125M. for construction and development of parks and recreation areas \$75M. for development of local recreation areas
Rhode Island	1964	5,000,000	895,000	65	---	Land acquisition and development for recreation and conservation purposes
Washington	1964	10,000,000	12,990,000	59	General Obligation	Acquisition of recreation lands
Metropolitan Seattle	1968	118,000,000	935,074	60+	---	Parks and recreation

1/ Amendment to Constitution ratified authorizing issuance of revenue bonds for outdoor recreation purposes.

2/ Municipalities were authorized to issue revenue bonds without submitting them to a referendum.

3/ Voters approved Constitutional amendment authorizing issuance of bonds not exceeding \$10 million at any one time for state guarantee mortgage loans.

Table V

BOND ISSUES AUTHORIZED BY VARIOUS STATE LEGISLATURES -- 1960-1967

	<u>Year Bond Issue Approved</u>	<u>Amount of Bond Issue</u>	<u>Type of Bonds</u>	<u>Purpose of Bond Issue</u>
Connecticut	1963	\$ 3,000,000	---	State Grants up to 50% of non-federal share, for municipality for recreation and conservation purposes
	1963	2,500,000	Capital Improvement	State park development
	1965	2,000,000	---	Acquisition and development of outdoor recreation lands
Georgia	1963	2,300,000	Revenue	Development of 16 state parks
Kentucky	1960	10,000,000 9,900,000	General Obligation Revenue Bonds	State parks capital improvement program
Massachusetts	1964	3,300,000	General Obligation	Acquisition development and improvement of outdoor recreation area
	1966	6,000,000	---	Acquisition of land; development and improvement of outdoor recreation areas
	1966	5,000,000	---	Construct and improve facilities in Metropolitan Parks Districts
Michigan	1960	10,000,000 <u>1/</u>	Revenue	State park acquisition and development
Mississippi	1966	1,000,000	---	New construction and renovation at state parks

Table V
(continued)

	<u>Your Bond Issue Approved</u>	<u>Amount of Bond Issue</u>	<u>Type of Bonds</u>	<u>Purpose of Bond Issue</u>
New Hampshire	1961	\$10,000,000	General Obligation	\$9M. State park system expansion and development \$1M. For state loans for ski lifts and other recreational facilities
New Mexico	1964	260,000	Revenue	Recreation Commission authorized to issue revenue bonds to construct, improve and furnish boating and related facilities
North Dakota	1963	1,000,000	Revenue	Development of recreation areas
	1967	Not specified	Revenue	Special facilities such as parking areas, visitor centers, etc., at state parks
Tennessee	1965	4,500,000	General Obligation	Matching Federal Land and Water Conservation Funds for park usage
Utah	1965	2,000,000	---	State park acquisition and development
Vermont	1965	1,000,000	General Obligation	Match Federal Land and Water Conservation Funds
Virginia	1966	--- 3/	Revenue	Camping and recreation facilities
West Virginia	1964	16,000,000	Revenue	Develop state parks

Source: See following page.
Footnotes: See following page.

Table V
(continued)

Source: Outdoor Recreation Action, October 1967, August 1966, January 1967, Bureau of Outdoor Recreation and review of state statutes of states listed.

- 1/ As bonds are retired, new bonds may be issued within the \$10,000,000 limit.
- 2/ Legislature authorized North Dakota Park Service to issue bonds.
- 3/ Virginia Park Revenue Bond Act was amended to permit repayment of bonds from revenue realized from all state recreation facilities rather than previous limitation to revenue from facilities for which bonds were originally issued.

Based on information available, general obligation bonds to finance outdoor recreation have been approved by the voters in five states -- California, Kentucky, Maine, Pennsylvania, and Washington. Pennsylvania voters approved a \$200,000,000 bond issue in 1967.^{8/} Seventy-five million dollars of the bond issue is for the development of local parks and recreation programs, while \$125 million is allocated for state park and recreation programs.

The voters in Pennsylvania also approved a \$70 million general obligation bond issue in 1963 for various park and recreation programs. California voters approved a \$150 million general obligation bond issue for outdoor recreation in 1964. Revenue bonds, on the other hand, have been approved by New York voters for \$75,000,000. Other states in which revenue bonds to finance recreation have been approved by the voters include: Florida, Illinois, New Jersey, New York, and Ohio.

A total of fifteen state legislatures have authorized general obligation and revenue bonds. From 1960 to 1967, 14 state legislatures authorized the issuance of bonds to finance outdoor recreation or empowered state agencies to issue bonds for park and recreation development. In some instances, as bonds are retired, additional bonds may be issued within the originally specified limitation of the bond issue.

The legislation, in all but six instances of the 20 bond issues cited in Table V, specifies the types of bonds to be issued. Of 14 bond issues, eight were revenue bonds; five, general obligation; and one, capital improvement. The dollar value of individual bond issues ranges from \$1 million to \$16 million, which is significantly smaller than the size of the bond issues approved by the voters (Table IV). In some instances, bonds were to be used to acquire and develop properties; in other instances, bonds have been issued to match federal funds made available under such acts as the Land and Water Conservation Act.

Kentucky authorized the floating of two bond issues to support a state parks capital improvement program. One bond issue, \$10 million, was specified as general obligation in nature; the other, \$9.9 million, was a revenue bond.

Connecticut's legislature specified that state grants be made available to municipalities for use in recreation and conservation purposes. New Hampshire, in 1961, provided \$1 million to be used for state loans to develop ski lifts and other recreational facilities.

^{8/} Outdoor Recreation Action, July 1967, Report No. 4.

Revenue Bonds for Park Development in Colorado

Site development of state park and recreation areas currently is being financed on a pay-as-you-go basis. The development of these areas is being supported from both the general fund and game cash monies. Park use fees provide about \$200,000 per year for the operation of the parks department. The fees, of course, are inadequate to provide an intensive development program. Nevertheless, the park use fee could provide a basis upon which revenue bonds could be issued to provide immediate improvement of some of the state park and recreation areas. If 75 percent of the revenue from park use fees could be applied to the payment of principal and interest on revenue bonds, the department probably could issue bonds worth roughly \$1,500,000. This estimate is based on the assumption that park use fees must equal 10 percent of the value of the bonds issued. Needless to say, as park use fee collections increase, especially as park areas are developed, there could be a substantial increase in the amount of bonds that could be issued.

Constitutional Problems. Article XI of the constitution prohibits the state from pledging its credit. For instance, section 1 states:

Section 1. Pledging credit of state, county, city, town or school district forbidden. -- Neither the state, nor any county, city, town, township or school district shall lend or pledge the credit or faith thereof, directly or indirectly, in any manner to, or in aid of, any person, company or corporation, public or private, for any amount, or for any purpose whatever; or become responsible for any debt, contract or liability of any person, company or corporation, public or private, in or out of the state.

Sections 3 and 4 also provide, in part:

Section 3. Public debt of state - limitations. -- The state shall not contract any debt by loan in any form, except to provide for casual deficiencies of revenue, erect public buildings for the use of the state, suppress insurrection, defend the state, or, in time of war, assist in defending the United States; and the amount of debt contracted in any one year to provide for deficiencies of revenue, shall not exceed one-fourth of a mill on each dollar of valuation of taxable property within the state, and the aggregate amount of such debt

shall not any time exceed three-fourths of a mill on each dollar of said valuation, until the valuation shall equal one hundred millions of dollars, and thereafter such debt shall not exceed one hundred thousand dollars; and the debt incurred in any one year for erection of public building shall not exceed one-half mill on each dollar of said valuation; and the aggregate amount of such debt shall never at any time exceed the sum of fifty thousand dollars (except as provided in section five of this article), and in all cases the valuation in this section mentioned shall be that of the assessment last preceding the creation of said debt:...

Section 4. Law creating debt. -- In no case shall any debt above mentioned in this article be created except by a law which shall be irrepealable, until the indebtedness therein provided for shall have been fully paid or discharged; such law shall specify the purposes to which the funds so raised shall be applied, and provide for the levy of a tax sufficient to pay the interest on and extinguish the principal of such debt within the time limited by such law for the payment thereof, which in the case of debts contracted for the erection of public buildings and supplying deficiencies of revenue shall not be less than ten nor more than fifteen years, and the funds arising from the collection of any such tax shall not be applied to any other purpose than that provided in the law levying the same, and when the debt thereby created shall be paid or discharged, such tax shall cease and the balance, if any, to the credit of the fund shall immediately be placed to the credit of the general fund of the state.

Despite the apparent constitutional prohibition on authorizing a state agency to go into debt to finance a given program, the Colorado Supreme Court has upheld the constitutionality of the issuance of revenue bonds for specific projects. Perhaps the key to the decision of the Supreme Court in this matter is the determination of what constitutes a debt. In other words, if a debt is contracted, there is a clear prohibition against such action.

In Lewis v. State Board of Agriculture (1959), 138 Colo. 542, the Colorado Supreme Court stated:

...if indebtedness represented by the proposed bond issue is construed to be an obligation of the state of Colorado the issuance of bonds to secure the payment thereof would be null and void under the provisions of Article XI, sections 3, 4, and 5, of the Constitution of Colorado...

Thus, the question that must be resolved is whether revenue bonds constitute a debt or obligation of the state. The Colorado Supreme Court has ruled that revenue bonds are not an obligation against the tax resources of the state. For instance, in Johnson v. McDonald (1935), 97 Colo. 336, the court cited a New Mexico case in which debt was defined as:

...an obligation has arisen out of contract, express or implied, which entitles the creditor unconditionally to receive from the debtor a sum of money, which the debtor is under legal, equitable, or moral duty to pay without regard to any future contingency...

Furthermore, the Colorado Supreme Court also held that:

...The definition of the word debt are many,...Its meaning in the sections of the Constitution and statutes now before us must be determined by their purpose, which was to prevent the overburdening of the public, and the bankruptcy of the municipality. Clearly revenue bonds are not within that purpose. The public can never be overburdened by that which it is under no obligation to discharge, nor can the city become bankrupt by what it does not have to pay...^{9/}

Finally, in Johnson v. McDonald, the Colorado Supreme Court concluded that revenue bonds do not create a debt:

...it does not in fact do so because payment thereof must be made from a special fund, and in such cases this and other courts, by a course of reasoning

^{9/} Shield v. Loveland (1923) 74 Colo. 32.

here applicable, have held that no debt is thus contracted within the Constitutional prohibition.

...A statute which at the same time it creates a debt, creates the fund to pay it, and which fund would not be otherwise available for general purposes, is clearly outside the Constitutional prohibition...

In any event, if the General Assembly wishes to establish a revenue bond program to finance the development of outdoor recreation projects in Colorado, steps would need to be taken to insure that an obligation is not made against the general taxing powers of the state.

Motor Fuel Taxes

Eleven states have earmarked a portion of motor fuel taxes for park and recreation development. The amount of the motor fuel tax imposed in these states follows: California (maximum of 12.5 percent); Maine (1.25 percent); Nevada (not less than \$60,000 annually); New Mexico (two-tenths of one percent); New York (Not available); Oregon (maximum of \$300,000); Pennsylvania (nine-tenths of one percent); South Dakota (four-tenths of one percent); Texas (75 percent of unclaimed refunds of motor boat fuels); Virginia (\$1,500,000 fund established); and Washington (monies to be transferred from marine fuel tax refund account).

The Committee on Game, Fish and Parks expressed considerable interest in the New Mexico Motor Fuel Tax, whereby two-tenths of one percent of the tax is earmarked to pay off revenue bonds for construction of boating and related facilities. Although a portion of the motor fuel used in Colorado is not used for highway purposes, the Colorado Constitution seems to prohibit the allocation of motor fuel taxes for any activity other than highway construction and related programs. Article X, Section 18, Colorado Constitution states:

Section 18. License fees and excise taxes - use of. -- On and after July 1, 1935, the proceeds from the imposition of any license, registration fee or other charge with respect to the operation of any motor vehicle upon any public highway in this state and the proceeds from the imposition of any excise tax on gasoline or other liquid motor fuel shall, except costs of administration, be used exclusively for the construction, maintenance,

and supervision of the public highways of this state.

It is interesting to note that the Constitution only allocates license fees and registration fees related to the operation of motor vehicles upon the state's highways to the road construction program. However, there is no such condition or limitation with respect to motor fuel taxes. In other words, the Constitution earmarks all taxes on motor fuel for highway maintenance and construction. Apparently the Constitution does not provide an exception for motor fuel that is not used on the state's highways. In a July 19th, 1968, opinion to the committee, the Attorney General also stated that allocation of motor fuel taxes for non-highway purposes would be a violation of Article X, Section 18.

Exemptions. When motor fuels and special fuels are sold exemptions from payment of Colorado's six cent per gallon excise tax are permitted to the following: U.S. government, persons exporting fuel to other states, state of Colorado, public organizations, railroads, local governmental agencies, and persons not using fuel for operation of vehicles upon the highways.

The revenue raised from the imposition of such excise taxes on non-exempt sales amounted to \$54.3 million in the fiscal year ending June 30, 1967. Non-highway users of motor fuels and special fuels are permitted to apply for a refund of excise taxes paid by them. Non-highway use includes motor boats, tractors, construction equipment, stationary equipment, etc., for example.

Non-highway users are not permitted to deduct the excise tax from the payment made for the motor fuels at purchase time since there is no practical way for the seller or distributor to know that the fuels will indeed be applied to non-highway use. For this reason, the State Department of Revenue requires that a refund can only be allowed when the individual or organization applies in writing. The department then makes a decision whether the refund applied for should be allowed and paid. In fiscal year 1967 this amounted to \$4,099,911 or about 7.5 percent of the collections. In fiscal year 1966 the refunds amounted to \$4,073,203 or 7.8 percent. The net amount, after refunds, in fiscal years 1966 and 1967 were \$48,039,835 and \$50,264,273 respectively.^{10/}

Motor fuel tax revenues are deposited to the state's highway users tax fund plus other revenues realized from annual registration fees on drivers, motor vehicles, trailers and semi-

^{10/} Source: State Department of Revenue, Research and Statistics Section.

trailers and those revenues realized from the imposition of ton-mile and passenger-mile taxes on vehicles.^{11/} Existing legislation directs that the revenues in the highway users tax fund are to be used as follows:

1. After first paying the costs of the state patrol,^{12/} and then paying \$10,000 per month to the highway crossing protection fund,^{13/} the balance is allocated in the following manner;

2. Sixty-five percent shall be paid to the state highway fund and used for highway construction and maintenance and for the retirement of bond issues;^{14/}

3. Twenty-six percent of the balance shall be appropriated to the county treasurers of the various counties and used for the construction and maintenance of the county highway system;^{15/}

4. The remaining nine percent is to be appropriated to cities and incorporated towns for their road systems construction and maintenance.^{16/}

Highway Construction Costs -- Significant Part of Parks and Recreation Development Expenditures. Not only are motor fuel taxes being collected for uses that are unrelated to highway activities, but a significant portion of park and recreation development costs are for roads and parking facilities for motor vehicles. In the past, roads and parking areas have accounted for a little less than 20 percent of the total cost of improving park and recreation areas. The division's suggested capital construction priorities for 1969-70, revealed a proposed program of expenditure for roads and parking areas of \$620,000 or 19.7 percent of the total suggested development costs (\$3,149,450). However, under a proposed "5-Year Parks Capital Construction Program" (submitted, October, 1968) the division proposes to allocate a much larger percentage of development funds for roads and parking. Of \$11,882,450 proposed for park improvements, \$4,293,000 (or 36.13 percent of the total budget) would be allocated for roads and parking. The percent of development funds to be spent on roads and parking ranges from a low of 17.54 percent at the Tarryall Reservoir to a high of 54.05 percent at Lester Creek. At the Golden Gate State Park, for instance, the

^{11/} C.R.S. 1963, Section 120-12-3.

^{12/} C.R.S. 1963, Section 120-12-6.

^{13/} Colorado Session Laws 1965, Chapter 236.

^{14/} Ibid.

^{15/} C.R.S. 1963, Section 120-12-7.

^{16/} C.R.S. 1963, Section 120-12-8.

division proposes to spend a total of \$1,470,500 over the next five years, of this total \$510,000 (or 34.68 percent) will be spent on roads and parking.

In view of the large amount of money that is allocated to the state recreation areas for roads and parking, perhaps it might be possible for the General Assembly to designate roads within state park and recreation areas and roads providing access to state parks and recreation areas as part of the state highway system. In this way, a portion of the state's Highway User Fund could be allocated for parks and recreation.

Abandoned Property

For a number of years, some members of the General Assembly have expressed an interest in a proposal to require that funds from abandoned or unclaimed properties be acquired by the state to finance construction or improvements of state park and recreation areas. (In 1967, House Bill No. 1308, passed the House, but died in the Senate Finance Committee.) The Colorado Legislative Council conducted a study of unclaimed property in Colorado in 1960. At this time, the Council staff estimated that the amount of money in bank and savings and loan association accounts abandoned nine years or more could range from a minimum of \$830,000 to a maximum of \$1,400,000. Although a substantial amount of money is available in abandoned accounts, it is doubtful that the state would actually realize all this money. Publication of the abandoned accounts probably would result in a number of claims being filed.

Article IX, Section 5 of the Colorado Constitution requires that all estates which may escheat to the state must be deposited in the public school fund. This section of the Constitution probably does not pose a problem for alternative methods of disposing of abandoned property. For instance, the Colorado Supreme Court in Colorado v. Denver (1960), 141 Colo. 459, stated that:

...The pertinent language of this provision of the Constitution does no more than lay down the general principle for the legislature that property defined by the legislature as an "estate" and which the legislature declares to be excheatable to the state, shall go to the school fund...Thus it is left to the legislature to determine the character and type of estates which shall escheat to the sovereign. The word "estates" is amendable to statutory definition....

Black's Law Dictionary defines abandonment as:

The giving up of a thing absolutely, without reference to any particular person or purpose,...vacating property with the intention of not returning, so that it may be appropriated by the next comer....The voluntary relinquishment of possession of thing by owner with intention of terminating his ownership, but without vesting it in any other person....Time is not an essential element of "abandonment," although the lapse of time may be evidence of an intention to abandon,...

Revenues Collected from Abandoned Property in Selected States

The Council staff contacted a few other states recently adopting comprehensive escheat laws to determine whether monies actually collected by these states were as much as anticipated. For instance, the Department of the Treasury of the State of Virginia reported that:

Various estimates as to the amount of unclaimed property that would be available upon the adoption of an unclaimed property act were made, and our experience has indicated that most of these estimates were in excess of actual amounts unclaimed. We have had reported almost \$4,000,000.00, but due to advertising, etc., owners have been able to claim many thousands of dollars prior to actual payment of funds into the custody of the State Treasurer....

In the first year of operation of the Virginia law (1960), the state took in \$1,700,000. Altogether, \$3,076,806 has been paid into the state treasury since 1960.

Illinois. The Division of Abandoned Property in the state of Illinois stated that \$6,000,000 was reported by banks and financial institutions in the first year of operation. Since that time, the division has taken in about one million dollars per year in revenue. The department maintains a field staff which is assigned to banks, financial institutions, utilities, insurance companies, railroads, and other business associations.

Connecticut. In 1962, the state of Connecticut collected \$467,000 the first year the Uniform Escheat Law was adopted. Amounts collected in succeeding years were as follows:

<u>Year</u>	<u>Abandoned Property</u>
1963	\$108,848
1964	188,222
1965	219,335
1966	126,571

In viewing the amount of money collected by states under comprehensive escheat laws, consideration must be given types of laws each state had enacted prior to the adoption of the uniform escheat law. In other words, from 1932-1967, escheat receipts from bank accounts in Connecticut yielded \$2,267,544. From 1950-1967, receipts from insurance companies amounted to \$505,517.

Idaho. Idaho adopted a uniform escheat law in 1961. Receipts from abandoned properties follows:

<u>Year</u>	<u>Collections</u>
1961	\$ 1,855
1962	250,100
1963	83,475
1964	27,166
1965	47,166
1966	35,140
1967	16,358

In conclusion, the first year or two after adoption of an abandoned property act usually provides the largest yield of revenue. A comparison of receipts collected in other states will not provide a true picture of potential revenues to be expected in Colorado. Most states have enacted some type of abandoned property laws prior to adoption of comprehensive legislation. Thus the earlier laws determine, to a large extent, variations from state to state in prospective yields of revenue.

Saline and Internal Improvement Lands

Approximately \$70,000 per year in lease income is derived from saline and Internal Improvement Lands. This money is allocated for park improvements. The sale of Internal Improvement Lands in Colorado might yield about \$4,000,000 in funds which could be applied immediately to the development of a park program in Colorado. The sale probably could not be achieved in a single year, however. Perhaps it would be reasonable to expect that about \$1,000,000 per year could be raised through sale of Internal Improvement Lands, over a four-year period. A problem with respect to the use of Internal Improvement Lands is the question of whether parks actually can be considered as "internal improvements." The traditional legal concept of "internal improvements" does not simply mean public structures.

When the original grant of Internal Improvement Lands was made in 1841, internal improvements were considered as: roads, railways, bridges, canal and improvement of water courses, etc. These definitions were taken out when the act was amended in 1878. The Supreme Court states in In re Internal Improvement Fund, 24 Colo. 247: "...'public buildings, such as asylums, state houses, universities and colleges, or other public buildings, of a like character' are not internal improvements." Black's Law Dictionary also points out in the definition of internal improvements that it does not include the building and maintenance of state institutions. In any event, a question exists as to whether monies derived from the sale of internal improvements may be used for park purposes. Nevertheless, precedence has been established since the income from leases on internal improvements is utilized for park purposes.

Long Range Planning For Urban Open Space

Based on the continuous growth of urban regions throughout the United States, an urban "strip" from Fort Collins to Trinidad is expected to develop in Colorado by the year 2,000. Paralleling this growth will be the utilization of open space land for construction of homes, apartments, industrial complexes, stores, shopping centers, public buildings, transportation facilities, and other commercial and domestic enterprises. Today, Colorado is blessed with vast open areas even within the confines of this strip. Much of the open space along the Front Range is valuable agricultural land, particularly the land located in the river drainage basins of the strip. Needless-to-say, the demand for, and the value of, this land in the urban strip will increase as the population of the Front Range area continues to grow, making it extremely difficult to hold this land for agricultural use or simply as open space to make the urban strip more habitable.

What is Urban Open Space? Urban open space land includes areas within an urban region which are retained or restored to a condition in which nature predominates. Urban open space may be used for agriculture, conservation, recreation, preservation of scenic or historic sites, or as land between densely populated urban complexes. Not all undeveloped urban land may be classified as open space land. A piece of land which may be vacant pending development is not considered open space.^{17/}

^{17/} Source: Open Space for Urban America, Department of Housing and Urban Development, Washington, D.C. 1968.

Benefits of Open Space

Open space needs to be reserved for a number of reasons: to meet recreation needs which cannot be met by a weekend trip to the mountains (swimming, bicycling, leisurely walks, etc.); to give the youngsters of the cities and suburbs a variety of recreational experiences; to preserve especially scenic areas from urban development; to conserve valuable agricultural land around the urban fringe; to protect wildlife and flood plains; to enhance the value of urban complexes by improving the livability of urban centers; and to help prevent the spread of decay and blight.

Although too little is known about the relationship of man to his environment, the value of low density areas and open space may serve as an indirect benefit to preserving the mental and physical health of urban dwellers. Research has illustrated that overcrowding bears a causal relationship to mental illness.^{18/}

Air pollution which has been linked with respiratory ailments could be diffused and diminished by the presence of wooded open space. Pollution of water also could be reduced by limiting use of septic tanks in critical areas and preserving open space around streams, rivers, and lakes.

Problems of Local Government in Providing Open Space

There is graphic evidence that little attention is being paid to preservation of urban open space land along the Colorado Front Range. There have been very few large park developments in the Denver Metropolitan area in recent years. Residents of the Metropolitan area are relying primarily upon the Denver park complex for their recreational activities. A drive through Denver's City Park on a weekend clearly illustrates the crowded conditions of Denver's parks. Furthermore, reservations must be made a week in advance at Denver Public Golf courses for weekend play.

Although there are some 60 governmental units planning for open space needs along Colorado's Front Range, and another 30 agencies planning parks and recreation programs in the Denver Metropolitan area, local governments may not be capable of setting aside or preserving open space on a large scale. For instance, Boulder's "Green Belt" program cannot be entirely suc-

^{18/} Langer, Michael, Opler, Rennie, Strole, Mental Health in the Metropolis: The Midtown Manhattan Study, Vol. 1, New York, 1962.

cessful without the cooperation of adjacent governmental units and the private sector of the economy. Furthermore, cooperation of the communities of Louisville, Lafayette, Lyons, Longmont, and the unincorporated portions of the county are essential. Some of the problems facing local jurisdictions attempting to provide open space planning are:

- 1) Jurisdiction of local governments is restricted to immediate boundaries;
- 2) Preservation of open space takes substantial sums of money;
- 3) Local units are frustrated by inaction on the part of adjacent communities; and
- 4) Competition with other communities for growth and development may discourage programs that might increase the tax load of a community. Furthermore, setting large areas aside for retention of natural environment restricts the amount of land that could be added to expand the tax base of the community.

"Subdivision Land Dedication." In attempting to meet open-space needs, local communities in Colorado are requiring real estate developers to set aside land for parks and recreation. Dedication of a certain percentage of the subdivided land or payment of the cash equivalent generally is required from the subdivider either at the time of annexation to the city or when the property is subsequently subdivided. While required land dedication produces substantial benefits to the city, it frequently has been challenged in the courts.

Legal aspects. Land dedication has been challenged in Colorado courts. The El Paso County District Court, in Kitty Hawk Development v. City of Colorado Springs, held invalid provisions of the Colorado Springs subdivision ordinance which required a subdivider to allocate eight percent of the subdivided land or the cash equivalent as a condition for annexation of the proposed subdivision. The court found the ordinance to be unconstitutional on the basis that it, among other things: (1) went beyond a regulatory matter embraced within the police powers of a city; and (2) constituted a taking of property without due process of law.

However, the Colorado Supreme Court reversed the district court decision. The Supreme Court held that there is:^{19/}

^{19/} Kitty Hawk Development v. City of Colorado Springs (1964), 154 Colo. 535, 392 P.2d 467.

...nothing in the general law of this state or in the Constitution prohibiting the imposition of conditions by a municipality upon one seeking annexation. A municipality is under no legal obligation in the first instance to annex contiguous territory, and may reject a petition for annexation for no reason at all. It follows then that if the municipality elects to accept such territory solely as a matter of its discretion, it may impose such conditions by way of agreement as it sees fit.

The court also stated that:

...no governmental power is bargained for and no constitutional right surrendered, since plaintiff (Kitty Hawk) had no constitutional or statutory right to receive water and sewer services from defendant, and the fact that the consideration that the city required in return for furnishing water and sewer services was annexation and payment of an amount equal to that required by ordinance is immaterial.

Although the Colorado Supreme Court upheld the right of a municipality to establish certain standards as a condition for annexation, the court has not considered the question of "subdivision land dedication" directly.

Possible State Programs

In order to encourage open space programs, state legislatures are considering steps to provide incentives for open space development. Preferential assessment programs for agricultural property adjacent to urban areas have been tried in California, Connecticut, Florida, New Jersey and Maryland. The Massachusetts legislature is considering a deferred tax plan in which an individual who owns lands, designated under a master plan as open space, may register the land for a reduced assessment. If land is taken off the open space register, all accumulated taxes fall due. A Maryland law permits municipalities, when a filing is made for a new subdivision, to reserve sites for public use for a period of three years. The community then can decide if the site is needed for a park or other public function.

Another approach to preservation of open space is flood-plain zoning. Commercial and residential properties are restricted in flood plains to prevent property damage during flood periods. These areas are set aside as public recreational areas,

for agriculture use, or other open space purposes. Natural resource zoning, a new concept, simply is an extension of the concept of flood plain zoning. Under natural resource zoning the land would be restricted to the highest economic value or use. Perhaps such a concept could be applied to open space as the highest economic use.

Purchase. Of course, the most direct approach to the preservation of open space is through the acquisition process by state or local units of government. Condemnation by the state for specified open space purposes is provided for in several state statutes. For example, land may be condemned for parks in Pennsylvania; parks adjacent to public lands held before 1949 in Florida; conservation in Florida; recreation areas in Delaware; state forests to protect watersheds or provide recreation in Wisconsin; parks and other scenic areas in Oregon and California.

Easements. Proposals have been made that governments acquire easements as a method of preserving land for open space, while leaving the Title to the land in private ownership. Easements are rights to land less than the full fee ownership. An easement may be affirmative, giving the owner of the easement the right to use land for a stated purpose -- fishing and hiking, for example. Or they may be negative, giving the owner of the easement the right to prevent the land owner from using his property for stated purposes. For instance, scenic easements which prohibit landowners from cutting trees or constructing buildings along roads and highways are considered negative easements.

Conservation easements are designed to keep land open and in a natural condition. The purposes of an easement must be stated clearly for several reasons: to give adequate notice that the rights to the land have been conveyed, to provide a basis for valuing payment for easements, and to help courts if it is necessary to determine judicially who has what rights under the easement. Usually, payments for conservation easements are made at the time of acquisition and are based on the difference between the market value of a tract before and after the easement is imposed.

California was the first state to pass a conservation easement law. Wisconsin is also acquiring many types of conservation easements. Uncertainty over the value which appraisers and courts would attach to conservation easements is the main factor now deterring some state governments from using them.

Summary

Colorado can expect continued growth of the metropolitan communities along the Front Range. Considerable open space land now exists in the Front Range Area. Steps could be taken to insure that certain portions of this open space area will be pre-

served. What can the General Assembly do to encourage urban development in a manner that will preserve a sizeable portion of this land for agriculture, recreational, and conservation uses? Furthermore, is the preservation of open space in this area essential to the formation of a long-range park program for the urban strip community?

GAME AND FISH PROGRAMS

The Game, Fish and Parks Division estimates that about \$8,055,000 in hunting and fishing license monies will be collected by the division in fiscal year 1968-69. Of this amount, \$5,544,000 (68.8 percent) is estimated to be collected from the sale of hunting licenses, while \$2,511,000 (31.2 percent) probably will be raised from fishing license sales. Although hunting licenses represent the major share of revenue of the division, relatively few division personnel are required to devote full-time to game management. For instance, the director estimates that no more than 50 staff personnel actually are engaged in game management on a full-time basis out of a total of nearly 500 employees. Thus a little over ten percent of the division personnel are assigned to game management full-time. On the other hand, there are 120 employees working on fish activities on a permanent basis. Wildlife Conservation Officers and other personnel functioning in a mixed position total 250, while there are about 60 persons on the park staff.

Big Game Hunting Licenses

From 1939 to the present time, the types of big game hunting licenses offered to the public have changed appreciably. In 1939, a single license was offered to residents and non-residents -- titled a "Big Game Hunting License."

The "Big Game Hunting License" permitted a hunter to hunt male deer and elk. The determination of sex of these animals for hunting purposes, of course, is based on whether the animal has antlers or not. Generally, the antlered animals are males. For purposes of the 1967 hunting season, for instance, an antlerless deer is: "Any deer having no hard antler material protruding through the skin." An antlerless elk is: "Any elk without antlers, or with an antler or antlers of less than 10 inches in length as measured on the outside curve of the antler from burr to tip." Under the 1939 act, the Game and Fish Commission was authorized to issue special antlerless licenses to hunter for the purpose of hunting female deer and elk. Only hunters purchasing the "Big Game Hunting License" were eligible for such a license under the provisions of the act. The commission, however, did not permit the hunting of female deer from 1939 to 1941.^{20/}

In 1941, antlerless deer hunting permits were authorized for the first time since 1907 because the size of the herds increased to a degree to permit this action. The General Assembly

20/ Session Laws of Colorado 1939, Chapter 109.

provided for four separate licenses to replace the former "Big Game Hunting License." The four licenses were classified: antlered deer license, antlered elk license, antlerless deer license, and antlerless elk license.^{21/}

Two years later (1943), another change took place in the types of licenses offered. Two of the former licenses: antlered deer license and antlered elk license were reclassified into a license titled: "Antlered Big Game License." Separate licenses were still offered for antlerless elk and antlerless deer hunting.^{22/}

Major changes in the types of licenses offered also were made in 1945. A series of individual licenses were offered as follows:^{23/}

To residents: deer license, elk license, mountain sheep license, and antelope license;

To non-residents: deer license, and elk license. From 1945 to the present time, the practice of offering individual licenses for different types of hunting has continued.

Beginning with 1947 and continuing to the present time, a limited number of licenses were issued for other types of big game animals. A resident mountain goat license was offered in 1947 (Chapter 196, Session Laws of Colorado 1947), which was also the same year that post and extended hunting seasons were initiated in the state. To the present time, mountain goat licenses have not been offered to non-residents because of the small number of such game. (The goat kills by residents have varied between three and four per year from 1964 thru 1966.) Both residents and non-residents were offered a bear license in 1955,^{24/} a second deer license in 1957,^{25/} a license to hunt deer with bow and arrow in 1961,^{26/} and a mountain lion license in 1965.^{27/}

Two bills were adopted in the 1967 session of the General Assembly revising game and fish licenses. The new licenses permit the hunting of elk and antelope with bows and arrows by residents and non-residents;^{28/} the hunting of buffalo by residents; and the offering of a Sportsman's License which permits residents or non-residents to hunt deer, elk, small game, bear, mountain

- ^{21/} Session Laws of Colorado 1941, Chapter 139.
- ^{22/} Session Laws of Colorado 1943, Chapter 104.
- ^{23/} Session Laws of Colorado 1945, Chapter 134.
- ^{24/} Session Laws of Colorado 1955, Chapter 153.
- ^{25/} Session Laws of Colorado 1957, Chapter 151.
- ^{26/} Session Laws of Colorado 1957, Chapter 133.
- ^{27/} Session Laws of Colorado 1965, Chapter 156.
- ^{28/} 1967 Session, Chapter 325.

lion and also to fish.^{29/} Residents and non-residents alike, if they choose not to purchase a Sportsman's License, may continue to buy the individual licenses for the various types of hunting or fishing.

Big Game Hunting License Fees and Increases

Game licenses offered from 1939 to the present time and respective fees are listed in Table VI.

Resident deer and elk license fees have increased from a total of \$5.00 (combined) in 1939 to a total of \$22.50 (total cost of resident deer and elk licenses) in 1967 or an increase of 350 percent. For the same period, comparable non-resident fees have increased from \$25 to \$125, an increase of 400 percent. On the other hand, the fee increases since 1947 do not appear to be so substantial. For instance total resident license fees for the hunting of deer and elk increased from \$17.50 in 1947 to \$22.50 in 1967, an increase of only 28.6 percent. Similar non-resident fees increased from \$90 (1947) to \$125 (1967) or an increase of 39 percent.

In the period from 1945 through 1966, other resident big game license fees were revised as follows: mountain sheep license fees increased 60.0 percent (from \$25.00 to \$40.00); antelope license fees increased 100.0 percent (from \$5.00 in 1945 to \$10.00 in 1947 with no increases since then); bear license fees were set at \$5.00 in 1945 with no change since then.

In contrast to hunting fee increases, Colorado's per capita income increased 114.6 percent from 1947 (\$1,338) through 1966 (\$2,872). The per capita income of Colorado residents has increased by over 550 percent since 1939.

Any comparison of license fees of prior years with current license fees must take into consideration Colorado's newly created "Sportsman's License." The Sportsman's License permits multiple types of hunting and fishing and costs \$30.00 for residents. This is a savings of \$32.50 from the purchase price of an individual license. Non-residents are charged \$135.00 for the Sportsman's license in lieu of charges of \$225.00 for the individual licenses.

Management of Deer Herds

Game Management and a Sustained Yield. The division attempts to maintain a balance between the growth of deer herds and

^{29/} 1967 Session, Chapter 322.

Table VI
BIG GAME HUNTING LICENSES AND FEES¹

<u>Type License</u>	<u>Year</u>	<u>Resident Fee</u>	<u>Non-resident Fee</u>
Elk	1939	\$ 5.00 (Combined)	\$ 25.00 (Combined)
	1947	10.00	50.00
	1967	12.50	75.00
Deer	1939	5.00 (Combined)	25.00 (Combined)
	1947	7.50	40.00
	1967	10.00	50.00
Mountain Sheep	1945	25.00	Not offered
	1967	40.00	Not offered
Antelope	1945	5.00	Not offered
	1947	10.00	Not offered
	1967	10.00	50.00
Mountain Goat	1947	25.00	Not offered
	1967	40.00	Not offered
Bear	1955	5.00	10.00
	1967	5.00	25.00
Second Deer	1957	5.00	7.50
	1968	7.50	10.00
Hunting of Deer With Bow and Arrow	1961	5.00	10.00
	1967	5.00	25.00
	1968	7.50	25.00
Mountain Lion	1965	5.00	10.00
	1967	5.00	50.00
Sportsman's	1967	30.00	135.00
Buffalo	1967	200.00	Not offered
Hunting of Elk With Bow and Arrow	1968	10.00	25.00
Hunting of Antelope With Bow and Arrow	1968	10.00	25.00

1. Sources were the Colorado Session Laws for the specified years. A combined big game license permitting the hunting of deer and elk was issued in 1939.

the demands of the public for quality and quantity hunting of deer. The division attempts to maintain a "sustained yield." For instance, year by year, the total quantity of deer in the state is determined by means of a physical count in certain key areas. The physical count is expanded to provide estimates of the number of deer in the state, as well as for specific areas. The condition of the range available to the deer for forage purposes, and particularly "winter range" is factored against the quantity of deer estimated for a given area. Finally, the research staff of the division specifies a percentage of the herd that may be safely killed without affecting the herd's capability to reproduce itself.

In some instances, because of limitations imposed by the amount of range available for forage purposes, it is necessary for the division to establish hunting seasons which actually reduce the size of a herd. Without a thinning of the herd, in such situations, the available range would be over populated. Ideally, the division attempts to balance the capacity of the natural environment against the ever increasing pressure of the hunters in order that the yield may be sustained on a relative basis. A "sustained yield" is therefore a target figure of kills over a period of years which maintains a practical balance of herd size related to range available. In other years the hunting seasons may be curtailed severely to protect deer herds.

Estimating the Herd Size. The division uses fixed-wing airplanes or, more recently, helicopters, to physically count the deer in specific areas of the state. These physical counts are performed, as much as possible, in the same manner, areas, and times of the year so that comparisons of herd size with previous years may be developed. The deer population has increased substantially since 1920, in which the entire deer population of the state was 21,800. Game management practices have permitted the deer herds to grow over the years to the extent that the yields (kills) for 1956 through 1966 have ranged from four to ten times the number of total deer existing in 1920 (see Table VII on kills).^{30/} "Because the range, and especially critical winter range, is the strongest limiting factor for deer herds, and as just about all the available range in Colorado is already carrying deer, it has been determined that our deer herds are at their maximum now, or nearly so, with only a small margin left for increase."^{31/}

^{30/} Department of Game and Fish, Annual Report, Fiscal Year 1956-57, p. 3.

^{31/} The 1963 Annual Report of the Colorado Game, Fish and Parks Department, A Look Ahead, pp. 12-13.

Table VII
DEER LICENSES SOLD, DEER KILLS, KILL RATIOS, AND DEER LICENSE REVENUES
FISCAL YEARS 1957 THROUGH 1967

Type of Data	<u>Fiscal Years</u>										
	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u>
No. of Deer Licenses Sold:											
Residents ¹	92,633	95,158	98,775	109,748	111,243	131,837	141,158	150,898	135,665	124,380	113,369 ³
Non-Residents ¹	<u>19,963</u>	<u>34,069</u>	<u>39,116</u>	<u>45,162</u>	<u>51,999</u>	<u>66,184</u>	<u>75,765</u>	<u>81,961</u>	<u>100,632</u>	<u>101,249</u>	<u>65,428³</u>
Total Licenses Sold	112,596	129,227	137,891	154,910	163,242	198,021	216,923	232,859	236,297	225,629	178,797 ³
Deer Kills ¹	85,199	114,714	84,479	107,410	110,061	147,743	143,426	148,374	119,870	104,198	78,854
Kill Ratios (Per Cent) ²	75.0%	88.8%	61.3%	69.3%	67.4%	74.6%	66.1%	63.7%	50.7%	46.2%	44.1%
Deer License Revenue											
Residents ¹	\$ 698,587.50	\$ 729,412.50	\$ 715,927.00	\$ 791,517.50	\$ 796,815.00	\$ 918,477.00	\$ 945,157.00	\$ 952,577.00	\$ 954,832.50	\$ 883,352.50	\$ 818,932.50 ³
Non-Residents ¹	<u>798,800.00</u>	<u>1,021,840.00</u>	<u>1,076,717.00</u>	<u>1,207,992.50</u>	<u>1,196,739.15</u>	<u>1,665,592.00</u>	<u>2,015,650.00</u>	<u>2,428,595.00</u>	<u>2,540,385.00</u>	<u>2,609,767.50</u>	<u>1,940,427.50³</u>
Total License Revenue	\$1,497,387.50	\$1,751,252.50	\$1,792,644.50	\$1,999,510.00	\$1,993,554.15	\$2,584,069.00	\$2,960,807.00	\$3,381,172.00	\$3,495,217.50	\$3,493,120.00	\$2,759,360.00 ³
Ratio of Non-Resident License Revenue to Total Revenue (Per Cent)	53.3%	58.3%	60.1%	60.4%	60.0%	64.5%	68.1%	71.8%	72.7%	74.7%	70.3% ³

1. Includes second deer and multiple licenses and bow and arrow licenses.
2. Ratio of kills to total licenses sold.
3. Data incomplete on licenses sold and revenue received.

The research staff of the division believes that the deer kill per year can reach 40 percent of a total herd size, without destroying the capacity of the herd to reproduce itself. In 1963, when the deer kill was at its highest to date (148,374), this amounted to 29 percent of the total deer estimated to be on the range.

The Impact of Weather on Kills. The deer kills, year by year, are not only affected by the size of the herds, the number of hunters, the lengths and area locations of the hunting seasons, but also by such unpredictable conditions as weather changes. For instance, division officials report that for 1959, 1960, and 1961, the deer kills were higher than usual because of early snowfalls which drove the deer into the lower altitudes. The hunters' movements were also facilitated by warm weather, immediately prior to the opening of the hunting season, which dried out the hunting areas.

In contrast, the 1966 kill was low because of two different types of adverse weather conditions which reduced the size of the herds: 1) "winter kill" resulting from poor forage conditions; and 2) drought conditions in the southwestern part of the state, where deer hunting assumes significant importance, also contributed to unfavorable forage conditions, reducing the ability of the deer to reproduce. Herd reductions due to an unfavorable natural environment in turn reduced the number of deer available for hunting.

Limits on Deer Hunting

Each year the division issues information delineating hunting areas and setting limits on kills. The following information, summarized from the division's "1967 Colorado Big Game Season Information",^{32/} illustrates efforts to manage deer. The northwest and the southwest areas of the state have a 20-day season beginning October 21st with a bag limit of one deer (hunter's choice of male or female); the west central part of the state has a 20-day season beginning October 21st with a two-deer, hunter's choice, bag limit. North Central Colorado has a 13-day season beginning October 28th, permitting an antlered one-deer bag limit, whereas South Central Colorado has a seven-day season beginning October 28th. In the south central area, the limit is one deer (hunter's choice). The same limit also exists in Northeastern Colorado, but the season is for seven days and only on a permit basis. The east central part of the state has a five-day season beginning October 28th; the limit is one antlered deer only. The southeast area of the state also has a five-day season beginning October 28th and a bag limit of one deer (either sex).

^{32/} 1967 Colorado Big Game Season Information, Colorado Game, Fish and Parks Department.

Deer Licenses Issued. For the eleven year period beginning with fiscal year 1956-57 through fiscal 1966-67, the total number of resident deer licenses sold ranged from 92,633 (1956-57) to 150,898 in fiscal year 1963-64. There was a steady increase in the number of resident deer licenses sold from 1956-57 through fiscal 1963-64. However, for the last three years, resident deer license sales declined -- 135,665 (1964-65), 124,38 (1965-66), and 113,369 (1966-67).

For the same period, non-resident deer licenses sustained remarkable growth, that is, for fiscal year 1956-57, only 19,963 non-resident deer licenses were issued, while in 1965-66, 101,249 licenses were sold, an increase of over 400 percent. For fiscal year, 1966-67, however, non-resident license sales dropped to 65,428. Nevertheless, the percentage of non-resident deer licenses to resident deer licenses increased from a little over 21 percent in 1956-57 to about 81 percent in 1965-66.

Deer Kills

Deer kills by non-residents doubled in the time span from 1956 to 1966 (see Table VIII), whereas the deer kills by residents dropped during the same period. A further analysis relating deer kills to licenses purchased reveals that non-residents have realized a higher proportion of deer kills to licenses purchased than residents. This is true regardless of whether the analysis centers on first deer kills, second deer kills, or on deer kills by bow and arrow. For the period 1962 to 1966, the non-resident kill ratio for first deer kills ranged from 62.2 percent in 1964 to 84.3 percent in 1963, while the resident deer kill ratio never exceeded 48.7 percent in any given year. For all deer licenses issued, the kill ratios per license issued has declined since fiscal year 1961-62 (see Table VII).

Percent of Kills to Licenses Issued

	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
First deer					
Resident	47.1%	48.7%	42.2%	42.6%	39.3%
Non-res.	69.6%	84.3%	62.2%	63.3%	62.4%
Second deer					
Resident	89.6%	57.1%	35.7%	24.2%	32.9%
Non-res.	110.4%	94.5%	48.7%	44.1%	42.8%
Deer by Bow & Arrow					
Resident	18.5%	14.3%	17.2%	17.2%	14.3%
Non-res.	38.6%	33.7%	62.8%	21.2%	14.3%

Table VIII
DEER KILLS¹ BY RESIDENTS AND NON-RESIDENTS
FISCAL YEARS (FY) 1956-57 THRU 1966-67

Deer Kills by Fiscal Years (FY)

<u>Type License</u>	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u>
<u>Resident</u>											
Deer	61,146 ²	74,661 ²	56,523 ²	70,032 ²	70,321 ²	87,130 ³	52,049	57,773	46,676	44,542	39,641
Second Deer	2	2	2	2	2	3	24,549	16,713	9,023	3,603	2,117
By Bow and Arrow	<u>61⁴</u>	<u>185⁴</u>	<u>242⁴</u>	<u>290⁴</u>	<u>342⁴</u>	<u>402⁴</u>	<u>500</u>	<u>413</u>	<u>750</u>	<u>846</u>	<u>876</u>
Resident Totals	61,207	74,846	56,765	70,322	70,663	87,532	77,098	74,899	56,449	48,991	42,634
<u>Non-Resident</u>											
Deer	23,992	39,868 ²	27,714 ²	37,088 ²	39,398 ²	60,211 ³	30,200	39,967	34,096	35,969	27,741
Second Deer	--	2	2	2	2	3	35,372	32,343	21,695	18,918	8,231
By Bow and Arrow	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>4</u>	<u>128</u>	<u>113</u>	<u>750</u>	<u>320</u>	<u>248</u>
Non-Resident Totals	23,992	39,868	27,714	37,088	39,398	60,211	65,700	72,423	56,541	55,207	36,220
Total Deer Kills	85,199	114,714	84,479	107,410	110,061	147,743	142,798	147,322	112,990	104,198	78,854

1. Source: Internal Records of Colorado Department of Game, Fish and Parks: Note: Deer Kills do not match Table II data exactly for fiscal years 56-57, 62-63, 64-65, and 66-67. Table II data was selected from budget documents.
2. Includes: First and second/multiple deer.
3. Includes: First and second deer plus bow and arrow kills.
4. Includes: Residents and non-residents kills.

The total deer kill increased year by year from 1956 (85,199) to well over 140,000 in 1961, 1962, and 1963. Successively in 1964, 1965 and 1966 the kills dropped sharply to a low of 78,854 in 1966 (the least number of kills in the 1955-66 period).

Elk Herds

Limitations Imposed by Range. Elk require more intensive management than deer since elk reproduce at a much lower rate than deer. The extent and the quality of winter range is particularly significant to the propagation and maintenance of the species. Nearly six million acres of land comprise the winter range available to elk. Of this amount, two million acres "... are in poor condition, heavily used, and of highly critical significance to Colorado's elk management program,..." according to a 1963 report of the department.^{33/} Roughly 70 percent of the six million acres are located on publicly owned lands.

The Effects of Canopy. Many times taller trees tend to cutoff sunlight to shorter plants. This shading effect is commonly referred to as the "canopy". Canopy affects the nature of plant life in terms of types of forage and quantity available. When the canopy admits fairly extensive amounts of sunshine, the forage upon which the elk feed multiplies, and is capable of sustaining larger elk herds. In 1963, when a widespread beetle kill of Englemann spruce occurred, the effects of canopy were reduced in part of the elk range, promoting the growth of forage species for the elk herds. After the beetle kill problem was controlled, the canopy began to close in, and the forage species began to disappear. The fluctuations in the size of elk herds, at this time, may be attributed, in part, to the variation in available forage. Thus the division officials believe that part of the answer to suitable elk management may be in the control of forage species in range areas. The division's 1963 report, for instance, states that: "...Clear cutting of timber in most cases and selective cutting of timber in other cases will solve the problem of the closing of forest canopy....This is one of those happy areas in which commercial interests and wildlife can cooperate most beneficially...."^{34/} In any event, the division has undertaken a program of purchase of lands to provide winter range for elk. Needless-to-way, the purchase of lands for winter range is highly controversial.

Future Limits on Kills. The available habitat is the key limiting factor on elk production. In 1956, the elk kill was

^{33/} The 1963 Annual Report of the Colorado Game, Fish and Parks Department, A Look Ahead, p. 12.

^{34/} The 1963 Annual Report, p. 13.

8,372; by 1964 and 1965, the elk kill increased to 19,975 and 19,595 respectively. The 1963 Annual Report of the division states: "It is estimated that some curbs will have to be brought to bear on the harvest of elk in Colorado no later than 1970. Sometime between now and 1970, statistics indicate we will reach the maximum harvest allowable. Beyond that point, the taking of additional animals will reduce the herds below the level desired by game management."^{35/} With a decline in available winter range, the division will have considerable difficulty in achieving an average animal harvest of 15,000 elk.

Methods Used in Game Management. There are a number of methods contemplated which may affect game management and provide future limits on kills. Kill limits may be accomplished through the use of a permit system which would allow a limited number of hunters in a given area; or limits on hunting areas to be used, etc. Other aspects of game management include continuation of research on fertilization of soils to improve their grazing potentialities, as well as continued research on knowledge of reproductive capabilities of elk herds in specific areas.

Elk Licenses. Table IX lists the number of resident and non-resident elk licenses sold in Colorado from fiscal year 1957 to fiscal year 1967. Resident elk license sales rose steadily from 1957 (22,319 licenses) to fiscal year 1965 (43,825); the last two years resident elk license sales stabilized at roughly 43,500 licenses. For the eleven year period, the resident elk license sales nearly doubled, achieving a 95 percent increase. Non-resident elk license sales more than doubled, with a steady increase in licenses issued from 4,942 (fiscal year 1957) to 13,269 (fiscal year 1967). At the same time, the non-resident's share of elk license revenues increased from 52.6 percent to 60.4 percent. Non-resident elk licenses represent a little less than 25 percent of total licenses issued, at least in fiscal year 1967.

In the past eleven years, resident elk kills ranged from 6,504 in fiscal year 1959 to 11,157 in fiscal year 1965 (see Table X). While resident kills tended to be sporadic, non-resident elk kills steadily increased through the entire period, stabilizing at over 4,100 kills the last two years (fiscal years 1966 and 1967). With respect to relative hunting success in terms of kills to licenses issued, residents killed one elk approximately every five licenses purchased (1962-1966), whereas non-residents killed one elk for about every three licenses purchased during the 1962-1966 period. The percentage of elk kills to licenses issued for specific years follows:

^{35/} The 1963 Annual Report, pp. 14-15.

Table IX
ELK LICENSES SOLD, ELK KILLS, KILL RATIOS AND ELK LICENSE REVENUES
FISCAL YEARS 1956-57 THRU 1966-67

	<u>Fiscal Years</u>										
	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u> ²
Elk Licenses Sold											
To Residents	22,319	24,264	25,690	30,716	32,230	36,216	38,777	41,452	43,466	43,825	43,505
To Non-Residents	4,942	5,375	5,899	6,507	7,265	8,190	9,169	9,814	11,536	13,095	13,269
Total Licenses Sold	27,261	29,639	31,589	37,233	39,495	44,406	47,946	51,266	55,002	56,920	56,774
Elk Kills	8,372	8,155	8,598	10,820	10,839	11,743	10,353	12,120	14,975	13,595	13,722
Kill Ratios (percent) ¹	30.7%	27.5%	27.0%	29.1%	27.4%	26.4%	21.6%	23.6%	27.2%	23.9%	24.2%
Elk License Revenue											
Residents	\$223,190	\$242,640	\$256,900	\$307,160	\$323,300	\$362,160	\$430,660	\$366,560	\$434,660	\$438,250	\$435,050
Non-Residents	247,100	268,750	294,950	325,350	363,250	409,500	450,050	493,150	576,800	654,750	663,450
Total License Revenue	470,290	511,390	551,850	632,510	685,550	771,660	880,710	859,710	1,011,460	1,093,000	1,098,500
Ratio of Non-Resident Revenue to Total Revenue (in Per Cent)	52.6%	52.6%	53.4%	51.6%	53.0%	53.1%	51.2%	57.4%	57.0%	59.9%	60.4%

1. Ratio of kills to total licenses sold.
2. Data incomplete on licenses sold and revenue received.

Table X

ELK KILLS¹ BY RESIDENTS AND NON-RESIDENTS
FISCAL YEARS (FY) 1956-57 THRU 1966-67

Kills for Fiscal Years by Residents and Non-Residents

<u>Type Hunter</u>	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u>
Resident	6,595	6,512	6,504	8,553	8,393	9,154	8,033	8,822	11,157	9,428	9,598
Non-Resident	<u>1,777</u>	<u>1,643</u>	<u>2,094</u>	<u>2,267</u>	<u>2,446</u>	<u>2,589</u>	<u>2,320</u>	<u>3,298</u>	<u>3,818</u>	<u>4,167</u>	<u>4,124</u>
Total	8,372	8,155	8,598	10,820	10,839	11,743	10,353	12,120	14,975	13,595	13,722
Ratio of Non-Resident Kill to Total Kills (Per Cent)	21.2%	20.1%	24.4%	21.0%	22.6%	22.0%	22.4%	27.2%	25.5%	30.7%	30.1%

1. Source: Colorado Department of Game, Fish and Parks Internal Records

Percent of Elk Kills to Licenses Issued

	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Resident	20.7%	21.3%	25.7%	21.5%	22.1%
Non-resident	25.3%	33.6%	33.1%	31.8%	31.1%

Antelope

The hunting of antelope was restricted to residents from 1945, when it was first permitted, until 1967. Effective July 1, 1967, Chapter 322, Session Laws of Colorado 1967 authorized the sale of non-resident antelope licenses for a fee of \$50.00. Antelope kills from 1956-57 to 1965-66 ranged from a low of 1,713 in fiscal year 1961 to a high of 5,045 in fiscal year 1966 (see Table XI). A substantial jump in antelope kills also occurred during fiscal year 1967, when 6,192 animals were taken. Antelope harvests are controlled by limiting the number of hunters, selection of specific areas for hunting, and specifying kill limits. Although antelope were on the verge of becoming extinct in Colorado during the World War I period, game management has restored the antelope herds. The antelope management program included transplanting of antelope from areas of overabundance to areas of partial or complete deficiency.

The Habitat of the Antelope. The division, in 1963, estimated that 38,000 acres of land in Colorado are suitable for antelope, and antelope occupied perhaps 30,000 of these acres. The antelope herd, at that time, was estimated to be 14-15,000 in number. The 1967 estimate of antelope is over 25,000, based on an aerial census. Since the animal has a tendency to live in open prairies and to cluster in large herds, an aerial census is rather accurate.

Yields and the Future. Researchers believe that hunters may take 45 percent of an antelope herd and the herd can reproduce itself.^{36/} Since the current estimate of the herds is over 25,000, a safe yield in 1966 could have been 11,250 antelope in contrast to the actual kill of 6,192. Hunter success has been very high. For the eleven years ending 1966, one kill was attained, on the average, for every 1.1 license. This is a much better return than for deer (one kill for every 1.6 license) or elk (one kill for every four licenses).

^{36/} Colorado Outdoors, Colorado Game, Fish and Parks Department July - August 1967, p. 17.

Table XI

GAME HARVESTED
FISCAL YEARS (FY) 1956-57 THRU 1965-66

Game Harvested By Fiscal Years (FY)

<u>Types of Game Harvested</u>	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>
Deer (Bow and Arrow)	61	185	242	290	342	402	628	526	1,030	1,115
Deer (Regular)	85,138	114,529	84,237	107,120	109,719	147,341	142,798	147,848	118,840	103,032
Elk	8,372	8,155	8,598	10,820	10,839	11,743	10,353	12,120	14,975	13,595
Antelope	2,969	3,302	2,262	1,900	1,713	1,905	2,588	4,023	4,885	5,045
Bear	324	552	584	555	392	586	478	570	672	728
Sheep	34	60	51	25	40	45	61	66	59	40
Total game harvested	96,898	126,783	95,974	120,710	123,045	162,022	156,906	165,153	140,461	123,556

1. The Fact Finder, Colorado Game, Fish and Parks Department, May, 1965, p. C-1.10.

Big Horn Sheep

The hunting of big horn sheep is, and has been, restricted to residents. The highest kill to date was in 1963 when 66 animals were taken. Big horn sheep pose a peculiar management problem because of certain characteristics of the species. They congregate in herds and are creatures of habit, i.e., they return regularly to given areas. These two factors contribute significantly to a fatal susceptibility to pneumonia arising from the ravages of lungworm. "...Lungworm is taken into the animal's system by the animal eating a specific species of snail as it browses. The lungworm passes to the bighorn's lungs and some are passed out through the feces. Snails feed on the feces and the cycle of lungworm transmission is continued. The lungworm in the animal, while held below a certain density, does not affect the animal to any great degree. But when the lungworm builds up in the animal, its resistance is lowered and pneumonia strikes with fatal results. It is when the animals are bunched up and the density of the herd is great that the lungworm continues to build up in the animals and it is for this reason that large numbers of animals in one herd will die during a winter...."^{37/} Such an epidemic occurred in 1953. The big horn sheep population count in 1953 was 3,300 in contrast to a figure of 7,230 in 1915. By 1963, the population count was up to 6,000. These 6,000 sheep occupy 4,400 square miles of range. Unfortunately, most of the critical winter range is of poor quality. All of these conditions lead to a game management concept which includes keeping the individual herds from growing too large through breaking up of herds.

Other Big Game Hunting

Bear. Table XI lists bear kills for a ten-year period, fiscal year 1957 to fiscal 1966. The most bear kills were reported in 1966 (728) compared to the least number (324) in fiscal 1957. In recent years, bear have been forced to abandon about 16,000,000 acres of prime bear range and now exist in about 2.8 million acres. The division estimates that it will be necessary to limit the harvest of bears by 1970 in order to protect the existing number of bears. Tables XII and XIII list income and licenses sold for purposes of shooting bears. A little less than one million dollars was collected in fiscal 1966-67 from bear licenses. A resident bear license now costs \$5.00 while a non-resident license amounts to \$25.00.

Mountain Lions. Both residents and non-residents are permitted to buy licenses to hunt mountain lions. Nineteen res-

^{37/} The 1963 Annual Report of the Colorado Game, Fish and Parks Department, A Look Ahead, p. 17.

Table XII
 LICENSE REVENUES FROM BEAR LICENSES¹
 FISCAL YEARS 1956-57 THRU 1966-67

Fiscal Year (FY) License Revenues

<u>Type Of License</u>	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u>
Residents	\$112,900	\$170,000	\$146,500	\$240,500	\$287,000	\$327,500	\$341,500	\$343,500	\$392,500	\$520,500	\$579,500
Non-Resident	<u>\$109,800</u>	<u>\$274,000</u>	<u>\$325,000</u>	<u>\$511,000</u>	<u>\$140,000</u>	<u>\$145,000</u>	<u>\$149,000</u>	<u>\$216,000</u>	<u>\$212,000</u>	<u>\$264,000</u>	<u>\$395,000</u>
Total	\$222,700	\$444,000	\$471,500	\$751,500	\$427,000	\$472,500	\$490,500	\$559,500	\$604,500	\$784,500	\$974,500
Ratio of Non-Residents License Revenue to Total Revenue	49.3%	61.7%	68.9%	68.0%	32.8%	33.9%	30.4%	38.6%	35.1%	33.7%	40.5%

1. The Fact Finder, Colorado Game, Fish and Parks Department, May 1965, p. F-1.10

Table XIII
 BEAR LICENSES SOLD AND KILL RATIOS FOR FISCAL YEARS (FY)
 1956-57 THROUGH 1966-67

Licenses Sold and Bear Kills by Fiscal Years

<u>Type of License</u>	<u>FY 56-57</u>	<u>FY 57-58</u>	<u>FY 58-59</u>	<u>FY 59-60</u>	<u>FY 60-61</u>	<u>FY 61-62</u>	<u>FY 62-63</u>	<u>FY 63-64</u>	<u>FY 64-65</u>	<u>FY 65-66</u>	<u>FY 66-67</u>
Licenses Sold	339	625	618	992	714	800	832	903	997	1,305	1,553
Bear Kills ¹	324	552	584	555	392	586	478	570	672	728	614
Kill Ratio (Per Cent)	95.1%	88.3%	94.5%	55.9%	54.9%	73.3%	57.5%	63.1%	67.4%	55.8%	39.5%

1. The Fact Finder, Ibid, p. C-1.10 (The Records of the Game, Fish and Parks Department do not separate kills by resident and non-resident.)

ident licenses were purchased in 1965 and 73 in 1966. Eight mountain lions were taken in 1965 by residents. Non-residents purchased ten licenses in 1965, and were credited with nine kills. Prior to 1965, lions were included in the list of predators, and a \$50 bounty was paid for each animal taken. In 1965, the General Assembly (Chapter 156, Session Laws of Colorado, 1965) reclassified mountain lions as big game.

Mountain Goats. The General Assembly authorized the commission to issue a mountain goat license as early as 1947. However, permits to hunt were not issued until 1964, because the division did not believe that the animal count was sufficient to warrant a hunting season. In 1964, six licenses were issued, resulting in four kills for the year. In 1965, six licenses were sold and three kills occurred, while in 1966, seven licenses were sold with three kills reported.

Summary

Based on the number of big game animals killed in Colorado, deer far exceed other big game animals in hunting importance. For example, deer kills during the 1963 hunting season reached 150,000. Sufficient elk are taken, however, (nearly 15,000 in 1964) to rank elk very high both as a quantity and a quality big game animal. Revenues from elk and deer licenses represent 98.3 percent of all big game revenues. In general, the non-resident hunter is assuming increased importance with respect to the number of animals killed during the hunting season. At the same time, the non-resident hunter is bearing a proportionately greater burden of the costs of the division's program. For instance, for fiscal year 1957 non-resident deer and elk licenses accounted for 53.2 percent of total deer and elk license monies, while this percentage increased to 71.2 percent in fiscal year 1966.

The hunting of deer by bow and arrow -- a quality sport -- is rapidly appealing to both residents and the non-residents. For instance, in 1961-62, 2,529 residents and 310 non-residents applied for this special license, compared to over 6,000 residents and 1,700 non-residents in fiscal 1967. The non-resident bow and arrow hunter achieved a kill ratio ranging from two to four times the resident kill ratios during the 1962-1964 period. In 1965 and 1966, resident bow and arrow hunters were equally as successful as non-resident hunters.

Repeatedly, the division emphasizes the importance of range, particularly of winter range, both as to quantity and quality as the major factor in maintaining game herds. The decline in available winter range is encouraging the division to embark on a program of land acquisition to supplement winter range for game animals.

Research operations are continuing to determine possible "safe yields" for various species of wild game; the nature and extent of reproduction of game; types of suitable habitat; and improvement of soil to provide better forage for game animals. Other game management techniques include: control of time periods of the hunting season; the length of the hunting seasons; establishment of bag limits; restrictions as to the sex which may be hunted; the selection of specific areas for hunting; transplanting of species; etc.

Game Damage

The state of Colorado assumed a responsibility for damages to real and personal property arising out of the actions of protected wild animals as early as 1931.^{38/} Game damages are determined and paid pursuant to the provisions of Sections 62-2-31 through 62-2-38, C.R.S. 1963. The state assumes responsibility for "...any and all damages done to real and personal property... by any wild animals protected by the game and fish laws of the state...."^{39/} There is no limitation in the statutes with respect to restricting damages to any specific types of real and personal property.

The claimant must inform the commission within ten days of game damages incurred. Subsequently, or at the same time, the claimant must also prepare a "Proof of Loss" form (which describes the nature of the claim and the damage amount claimed). The commission makes an investigation of the claim within 30 days of the filing of the Proof of Loss form. If agreement is reached with the claimant, the commission usually responds by allowing the claim.^{40/} The law is vague, however, in respect to notification of loss being made to the commission: "Whenever any person has sustained damages by any wild animal protected by the game and fish laws of the state, within ten days, he shall notify the commission of such loss..." The division's interpretation of this statement is to require that notification be made within ten days after an awareness that the damage has been incurred. The division has further interpreted this paragraph to mean that subsequent notices of continuing damage (such as deer or elk feeding on baled hay) must be submitted by the claimant at least once every ten days.^{41/}

^{38/} Session Laws of Colorado 1931, Chapter 98.

^{39/} Colorado Revised Statutes 1963, Section 62-2-31.

^{40/} Ibid., Section 62-2-32.

^{41/} Instruction and Procedures for Reporting Game Damage and Filing Game Damage Claims, undated (issued in fiscal year 1966-67), paragraph 2.

Arbitration Process. In those instances when the claimant and the division cannot come to an agreement on the payment of the claim, the claim may be submitted to arbitration. Three arbitrators are selected: one by the claimant, the second by the commission, and the third by the other two arbitrators.^{42/} The decision of the arbitrators is final. However, according to RCP 109, CRS 1963, "...this shall not be construed to prevent an adjudication by arbitrators being impeached and set aside for fraud or other sufficient cause, the same as a judgment of a court of record, nor to prohibit relief on the ground of mistake, inadvertence, surprise or excusable neglect, as in the case of other judgments, orders or proceedings of the court..."^{43/} The rules of civil procedure (RCP, rule 109) govern the proceedings of the arbitrators. This means that their decisions may be filed with a court of record for entering of judgment and for execution if the need arises.^{44/}

The arbitrators are authorized to proceed in the absence of one or both parties, basing their decision on the evidence provided to them.^{45/} "The award must be made within sixty days from the time of the appointment of the arbitrators...."^{46/}

The treasurer is authorized to make payment out of the game and fish fund when: 1) the claimant and the commission agree on the award amount; 2) the claim has proceeded to arbitration and a certified copy of the award decision by the arbitrators has been submitted to the commission.^{47/}

Game Damage Control Operations

The Game, Fish and Parks Division personnel perform game control operations, year round, which are intended to either eliminate or reduce the conditions leading to claim damages. The game control operations include: erection of permanent or semi-permanent fencing or panelling to protect hay, orchards and other crops; rallying or herding the wild animals; destruction of the animals inflicting the damages; etc.

Table XIV compares the game control costs (fencing, panelling; other operating expenses; capital expenditures) with game damage costs. In addition to these costs there are other expenses

- | | | |
|------------|----------------------------------|---|
| <u>42/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Section 62-2-33. |
| <u>43/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Section 62-2-37. |
| <u>44/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Rules of Civil Procedure, Chapter 16, Rule 109. |
| <u>45/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Section 62-2-34. |
| <u>46/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Section 62-2-35. |
| <u>47/</u> | <u>Colorado Revised Statutes</u> | <u>1963</u> , Section 62-2-38. |

Table XIV

GAME DAMAGE CONTROL COSTS AND GAME DAMAGE AWARDS FISCAL YEARS 1962 THRU 1967

Fiscal Year	Game Damage Control Costs			Game Damages Awards	Administration ⁴	Total Costs
	Fencing and Panels	Operating ² Expenses	Capital ³ Expenditures			
61-62	\$ 10,355.00	\$15,319.60	\$ 3,997.36	\$ 17,656.90	\$ 39,163.88	\$ 86,492.74
62-63	13,620.71	10,148.20	4,084.80	10,648.08	41,934.33	80,436.12
63-64	13,708.16	6,550.65	9,474.59	16,775.92	48,505.84	95,015.16
64-65	44,096.54	19,244.00	2,891.00	63,287.10 ⁵	113,164.80	245,557.44
65-66	77,960.00	7,750.00	228.00	18,450.17	75,706.20	180,094.37
66-67	<u>79,130.00</u>	<u>6,645.33</u>	<u>2,446.00</u>	<u>12,142.78</u> ⁶	<u>92,390.36</u>	<u>193,429.47</u>
Total	\$238,870.41	\$65,657.78	\$23,121.75	\$138,960.95 ^{5,6}	\$410,865.41	\$881,025.30

1. Source: Departmental Annual Game Damage Reports.

2. Includes explosive devices for scaring off unwanted animals; ammunition for a similar purpose of destruction of unwanted animals; repellants, salt blocks; arbitrator's expenses.

3. Includes shotguns, ski doos, traps, etc.

4. Excludes three claims for \$2,874 paid by special appropriation of the General Assembly (Hay Stack Burnings).

5. Excludes one claim for \$675 paid by special appropriation of General Assembly (Hay Stack Burning).

which are chargeable to both game damage control and game damages which the division identifies as "administration." These are itemized in Table XV.

The severe winter of 1964 led to significantly increased expenditures for each of the three major areas of damage control, damage awards, and administration. The expenditure of \$245,557 was two and one-half times larger than the average costs of the three previous years. Game damage awards of \$63,287 exceeded the damage control costs for the previous three years in spite of the fact that the division spent over three times as much (\$44,096) for fencing and panelling as in each of the three previous years. (See Table XIV) The panelling provides temporary protection for baled stacked hay. The panels are generally six to eight feet in height and ten to twelve feet in length.

The severe winter of 1964-65 contributed to a sharp increase in game damage claims, resulting in a substantial increase in personnel costs of fieldmen allocated to game damage administration. In each of the three years prior to fiscal year 1964-65, administrative costs never exceeded \$49,000; in 1964-65, they soared to \$113,164.80. The increase of over \$60,000 occurred because of increased costs in fieldmen's hours allocated to game damage, as well as increased allocations for travel and per diem. Not only was more time spent on investigating the reports of damages, but considerable time was spent on damage control operations (e.g., transporting and installing panelling and fencing).

In 1965-66, the division made a decision to install more protective fencing and panelling in order to reduce damage to haystacks.^{48/} This decision may explain, in part at least, why the administrative expenses for fiscal year 1965-66 and 1966-67 for fieldmen's operations and for fencing and panelling were significantly above the expenditures incurred in the fiscal years prior to the severe winter of 1964. Installation of more fencing and panelling hopefully will lead to a reduction in damage awards. Game damage claims for 1965-66 and 1966-67 roughly equal the amount paid in years preceding the severe winter of 1964-65. Fencing and panelling costs in 1965-66 and 1966-67 were six times higher than in fiscal years 1961-62, 1962-63, and 1963-64 (see Table XIV).

For the six fiscal years cited (fiscal 1962 thru 1967), total costs for damage control, awards, and administration amounted

^{48/} The Game Damage Report for 1965-66, eighth page, says that the department spent even more money (\$77,960.00) on panelling and fencing. This was intentional, said the department: "...We installed a number of permanent stack yards this year hoping this method will reduce hay damage in the future over a period of years..."

Table XV

ADMINISTRATION COSTS FOR GAME DAMAGE AND CONTROL OPERATIONS
FISCAL YEARS 1962 THRU 1966¹

Types of Administration Expenditures and Related Hours and Miles

<u>Fiscal Year</u>	<u>Fieldmen's Hours Spent on Game Damage</u>		<u>Travel Related to Game Damage</u>		<u>Fieldmen's Expenses</u>	<u>Game Mgmt. (Denver Office) Chargeable to Overhead</u>	<u>Estimated Costs Chargeable to Game Mgmt.²</u>	<u>Total</u>
	<u>No. of Hours</u>	<u>Cost</u>	<u>No. of Miles</u>	<u>Cost</u>				
1961-62	8,906	\$22,265.00	84,209	\$ 5,894.63	\$ 2,504.25	\$4,000.00	\$4,500.00	\$ 39,163.88
1962-63	8,251	23,102.80	89,079	6,235.53	3,096.00	4,500.00	5,000.00	41,934.33
1963-64	9,063	27,189.00	81,683	6,534.84	4,532.00	4,750.00	5,500.00	48,505.84
1964-65	23,274	69,822.00	222,410	17,792.80	14,550.00	6,000.00	5,000.00	113,164.80
1965-66	12,866	45,031.00	116,640	9,331.20	8,844.00	7,000.00	5,500.00	75,706.20
1966-67	14,055	56,220.00	129,642	10,371.36	12,299.00	6,000.00	7,500.00	92,390.36

1. Source: Departmental Annual Game Damage Report

2. Includes accounting, purchasing, warehouse, legal, transportation, etc.

to \$881,025.30. Damage control costs (\$327,649) comprised 37.3 percent of the total; damage awards amounted to \$138,960 (15 percent) and administration accounted for \$410,865 in game damage expenses (46.9 percent of total). Furthermore, fencing and panelling costs were \$238,870 or 72.9 percent of all damage control costs. Theoretically fencing and panelling is by nature a one time cost since the items are placed in a particular position or area for damage control operations and may be utilized for a number of years.

Game Damage Claims, Awards, Denials, and Arbitrations

During fiscal years 1962 through 1967, a total of 467 damage claims were filed. Of that number, 424 or 90.8 percent were paid and 40 or 8.6 percent were denied. (Another 0.6 percent were awaiting a decision.) Of the 40 claims denied, 10 went to arbitration. Four of the claims were denied because there is no provision in the law which covers a condition such as the burning of a haystack arising out of the use of firecrackers or cherry bombs during an attempt to move protected wild game away from the haystack. Table XVI summarizes year by year claims activities.

Table XVI

Claims Filed, Paid, Denied, and Arbitrated Fiscal Years 1961-62 through 1966-67 Claims*

<u>Fiscal Year</u>	<u>Filed</u>	<u>Paid</u>	<u>Denied</u>	<u>Arbitrated</u>
1961-62	44	41	4	1
1962-63	54	41	13	6
1963-64	60	60	0	1
1964-65	178	172	5	0
1965-66	69	64	7	2
1966-67	<u>62</u>	<u>46</u>	<u>11</u>	<u>0</u>
	467	424	40	10

*Note: Claims paid plus those denied do not add to claims filed because claims were not always paid in the year they were filed.

The vast majority of game damage claims paid are for damages caused by deer and elk to stacked and baled hay. Such claims (248) comprised 58.6 percent of the 424 claims paid in fiscal years 1961-62 through 1966-67. The payments made for these claims comprised \$85,985.38 (61.9 percent) of the total of \$138,937.95 for claim damages.

Damages to Stacked and/or Baled Hay. The 248 claims (see Table XVII) paid for damages to stacked and baled hay were almost entirely done by deer and elk with elk responsible for two out of every three claims. The damage done by elk was more extensive since the average claim ran almost \$100.00 higher (approximately \$380.00 for elk).

Damages to Growing Crops. Deer claims paid for damages (1962-1967) to growing crops occurred about nine times more frequently than elk claims.

Damages to Orchards. The claims paid for damages to orchards or trees, for the aforementioned period, included 27 by deer; five by elk; eight by beaver; and one by deer and elk. Once again (as occurred in claims for damages to stacked and baled hay) the damage by elk was more extensive than by deer. The five elk claims included damages amounting to \$8,618.85 whereas the 27 deer claims paid were for a total of \$4,196.16. Beaver claims included eight and amounted to \$888.41. One more claim was for elk and deer damage. The amount was \$1,003.00.

Damages to Livestock. Prior to 1966, the division allowed claims for damage to livestock caused by bears and mountain lions. In October of 1966, the Attorney General ruled that "... The state is not liable for damages done to livestock by bear and mountain lion. There is liability only for damage done by wild animals protected by the game and fish laws of the state....The game laws do not protect any variety of bear and mountain lion that are known to be molesting livestock...."^{49/} Subsection 62-1-5 (4), C.R.S. 1963, allows the trapping or other means of disposing of bear or mountain lion known to be molesting livestock. Prior to the ruling of the Attorney General, \$15,955 was paid for claims for livestock damage during the period 1961-62 through 1966-67.

Damages By Bears. A total of 17 claims (1962-1967) was allowed for bear inflicted damages to bees and hives. The amount involved was \$2,091.66. Two of these claims (\$241.00 total) were paid in fiscal year 1967. The Attorney General's opinion makes

^{49/} Attorney General, State of Colorado, Opinion No. 66-4015, dated September 12, 1966

Table XVII

Damage Claims Paid, Fiscal Years 1961-62 Thru 1966-67

Types, Number, and Amounts of Claims Paid																
Fiscal Year	Stacked or Baled Hay		Growing Crops		Orchards and Trees		Livestock		Bees and Hives		House Trailer		Special Legislative Appropriations		No.	Amount
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount		
1961-62	25	\$12,254.97	1	\$ 70.00	4	\$ 1,040.48	7	\$ 3,620.45	3	\$ 605.00	1	\$66.00	0		41	\$ 17,656.90
1962-63	10	2,417.84	18	6,258.48	3	346.80	8	1,547.66	2	77.30	0		0		41	10,648.08
1963-64	25	4,830.98	12	3,973.98	4	623.31	16	3,390.65	3	385.00	0		0		60	13,203.92
1964-65	133	51,738.20	10	2,024.63	16	7,686.73	9	1,615.54	1	222.00	0		3	\$2,874.00	172	66,161.10
1965-66	27	8,238.89	2	249.65	6	3,619.07	23	5,781.20	6	561.36	0		0		64	18,450.17
1966-67	<u>28</u>	<u>6,504.50</u>	<u>7</u>	<u>4,007.25</u>	<u>8</u>	<u>1,390.03</u>	<u>1/</u>	<u>1/</u>	<u>2</u>	<u>241.00</u>	<u>0</u>	<u></u>	<u>1</u>	<u>675.00</u>	<u>46</u>	<u>12,817.78</u>
Totals	248	\$85,985.38	50	\$16,583.99	41	\$14,706.42	63	\$15,955.50	17	\$2,091.66	1	\$66.00	4	\$3,549.00	424	\$138,937.95

1. Eight claims, amount \$2,495.90 were not paid pending an opinion from the Attorney General.

no provision for the disposition of claims for damages inflicted on bees and hives by bears. In fiscal year 1963, one claim was paid for damage inflicted on a house trailer by a bear. Since that date no other claim for damages to real or personal property of this nature has been filed.

Other Types of Damages. Special appropriations were voted by the General Assembly in fiscal year 1964-65 and again in fiscal year 1966-67 for four damage claims amounting to \$3,594. All four claims were for hay burned due to game damage operations. Division personnel provided cherry bombs and other similar explosives for use by landowners in frightening away wild game which were eating their hay. This type of claim damage is not covered by the game damage provisions of the law. Section 62-2-32, C.R.S. 1963, specifically limits the claim damages to conditions when "...any person has sustained damages by any wild animal protected by the game and fish laws of this state...."

Game Damage Laws in Other Western States

The game damage laws of 12 Western states were reviewed: Washington, Utah, Wyoming, Texas, Oregon, New Mexico, Montana, Nevada, Kansas, Nebraska, Idaho, and California. Three of these 12 states -- Washington, Utah and Wyoming -- provide for payment of game damages.

Washington Game Damage Law. Washington law permits the destruction of animals damaging "property"; the payment of property damages resulting from the action of deer and elk (payment amount is limited to \$1,000 per claim); the prevention of impending or continuing damage by herding, feeding, fencing, etc; and the use of an arbitration system similar to Colorado's to arrive at an equitable settlement of damages. Washington permits its commission to "...refuse to consider and pay any claims of claimants who have posted the property whereon the claimed damages have occurred, against hunting during the season immediately preceding the time when said damages occurred...."^{50/}

Utah Game Damage Law. The destruction of big game is permitted when damage occurs to crops on cleared and planted lands. The destruction process is performed through the authorization of a special hunting season. Like Washington and Colorado, payments are made in Utah for damages to property, but the damages paid are limited to \$200 per year per claimant. When the claim cannot be settled, the landowner and the division call upon a third party, consisting of one or more persons acquainted with the crops concerned and the type of game animals or birds doing the damage,

^{50/} Revised Code of Washington, Volume 10, Section 77.12.300.

to appraise such damage. Other than a requirement to notify the division of damage within 48 hours after discovery, there are no other time limits specified for payment of claims or for arbitration actions.^{51/}

Wyoming Game Damage Law. Wyoming law is selective in the destruction of certain animals and payment of damages for others. Damage to "property" allows the game warden or the landowner to kill an offending muskrat, bear or badger.^{52/} Beavers, who are responsible for flooding meadows, damming irrigation systems or creating water danger to livestock, may be trapped by the affected landowner or the division, whether the land involved is privately owned or state owned.

Wyoming law provides that a claim for such damages must be made not later than sixty days after said damage. If the claim cannot be settled, the claimant may appeal to the district court or submit to arbitration. If the claimant chooses arbitration, the landowner and the division each pick an arbitrator; then the two arbitrators select a third person. If such appointment is not made promptly, the district court may make such an appointment. The arbitration board's decision may be taken to the district court for a trial de novo (complete hearing of all evidence; not a review of the decision) any time within the succeeding ten days or if not taken, the award must be paid by the commission.

Game Control in Western Area States Not Making Awards. The following states do not award game damages: Texas, Oregon, New Mexico, Montana, Nevada, Kansas, Nebraska, and Idaho. Of these states, only Nevada law provides a capability of preventing game damage. The division shall "...cause such action to be taken to prevent or alleviate damage by game animals, game birds or fur-bearing animals...."^{53/}

These eight states either specify in their game laws that there must be limits on kills, types of kills, locations and/or time limits or the laws indicate that the state's game management unit shall take such means as necessary to assure the elimination of the cause of destruction. Management control methods include the taking of the animals by the division, transplanting as necessary, authorizing others to take the animals during special hunting seasons or authorizing landowners to destroy the marauding game on their own lands.

^{51/} Utah Code Annotated, 1967 Pocket Supplement, Volume 3, Section 23-4-7 and 8.

^{52/} Wyoming Statutes 1957, Volume 7, Sections 23-117 and 23-119.

^{53/} Nevada Revised Statutes, Volume 4, Section 501.245.

Each of the eight states listed above uses a somewhat different definition of damaged property: Texas, "crops or domestic animals"^{54/}; Oregon, "cultivated agricultural lands"^{55/}; New Mexico, protected game destroying "cultivated crops or property" or beaver causing destruction of "private property"^{56/}; Montana, "private property" or "property or crops"^{57/}; Nevada, game animals or game birds or fur-bearing animals damaging "land or property"^{58/} or beaver damaging "lands, streams, ditches, roads or water control structures"^{59/}; Kansas, fur-bearing animals destroying "property"^{60/}; Nebraska, "real or personal property"^{61/}; and Idaho, beaver damaging "irrigation lands, crops, etc."^{62/}

First of all, in California there are no game damage awards, but its law provides for a number of game control methods. A special hunting season is declared when an excess of mammals, fur-bearing mammals, or game birds exist or when any of these wild life create damage to "public or private property". Protected game birds, causing injury to "growing crops or property", may be killed at any time by the landowner or tenant. "Fur-bearing mammals, which are injuring property, may be taken at any time in any manner...." When deer, elk, bear, beaver or wild boar are damaging "land or property", the department permits the landowner or tenant to kill such mammals.^{63/}

The California Game Commission is directed to establish a beaver control area in which the taking of beaver is permitted until the damage problem abates. Beaver damage encompasses the following: damage or destruction of "agricultural lands, crops, levees, and other irrigation structures". Bears may be trapped when they create damage to or destruction of beehives. Furthermore, the landowner or tenant is permitted to take rabbits doing "damage to crops or forage".^{63/}

^{54/} Vernons Texas Penal Code Annotated, Volume 2, Article 888.

^{55/} Oregon Revised Statutes, Volume 4, Section 496.230.

^{56/} New Mexico Statutes 1953 Annotated, Volume 8, Part 1, Section 53-1-11 (no alterations in law through 1967).

^{57/} Revised Codes of Montana 1947 Annotated, Volume 2, Part 2, Section 26-104 (15), as amended, and Section 26-135.

^{58/} Nevada Revised Statutes, Volume 4, Section 501.245.

^{59/} Statutes of Nevada, 1965 Special Session, 1966 Special Session, 1967 Regular Session, Volume 2, Chapter 445.

^{60/} Kansas Statutes Annotated, Volume 3, 1965 Supplement.

^{61/} Revised Statutes of Nebraska 1943, Volume 3, Section 37-215.01.

^{62/} Idaho Code, Volume 7, Section 36-1401.

^{63/} West's Annotated California Codes, Fish and Game, (current through 1966), Sections 325, 3507, 4180, 4181, 4182, 4185, and 4186.

Game Damage Laws in Eastern States

A 1963 study by the division revealed that six Eastern states provided for the payment of game damages. The game damage laws of these states -- Massachusetts, New Hampshire, Vermont, Pennsylvania, Virginia, and Wisconsin -- were reviewed. All of these states except Pennsylvania permit the destruction of at least one or more species of game when the game is molesting or destroying property. Means used to consummate this destruction are departmental, landowner or agent taking, or the declaration of special open seasons.

Massachusetts Game Damage Law. Massachusetts law permits the landowner to take pheasants who damage "crop and cultivated lands", ruffed grouse who damage "cultivated fruit trees or shrubs", deer who damage "crops, fruit or ornamental trees, except grass growing on cultivated land" and any animal except hares and rabbits "...which has damaged or injured property..." Damage claims, not to exceed \$20.00 are paid for deer or moose creating damage by the "eating, browsing or trampling of... fruit or ornamental trees, vegetables, produce or crops". In addition, Massachusetts laws states that any tree totally damaged and paid for "...may thereafter be removed". The law expressly forbids the payment of claims for deer or moose damages if the landowner "...within one year prior to the damage claim, posted such land, other than an orchard..." No arbitration system is established by law since the damage claims are limited to a maximum of \$20.00.^{64/}

New Hampshire Game Damage Laws. The property owner or his family is permitted to kill wild birds or animals creating "substantial damage". The landowner, with the permission of the commission, may trap wild black bear creating "substantial damage". Game damages are paid as follows and require the claimant to notify the commission within ten days of knowledge of damage. The department is required to investigate the damage within 30 days of claim filing. Should the claim not be settled, an impartial board of three is designated by the governor. Secondly, if the director does not take action within the time limits just mentioned, the claimant has recourse through the designation by the governor of a three man board of arbitration. The types of game damage paid for are: game birds damaging "fruit trees"; game damaging "annual crops or fruit trees or well-kept natural stands of blueberries maintained on a commercial basis which have been improved by burning or weeding or fertilization"; and bears damaging "livestock, bees, orchards or growing crops". The damage claim for game bird damage to "fruit trees" must be filed

^{64/} Massachusetts General Laws, Annotated, Volume 19, Chapter 131, copyright 1958, paragraph 69.

within ten days of knowledge of damage; subsequent damage, even though continuing, cannot be allowed.^{65/}

Vermont Game Damage Law. Persons may take deer damaging "...fruit trees or crop bearing plants except grass...." The landowner is permitted by law to take rabbits and fur-bearing animals damaging property. A third means of control permits the director to declare an open season when beaver damage is detrimental to fishing, hunting, lumbering operations or polluting water supplies or causing substantial damage to property.^{66/}

Damage claims are paid for black bear depredations to "...cattle, sheep, swine, or poultry, or damage to bees or bee-hives, on land owned and occupied..., and not posted against hunting and trapping of black bear...."^{66/} This is the extent of damage control and damage awards.

Pennsylvania Game Damage Laws. Pennsylvania law does not permit the destruction of animals and birds as a control measure. It does permit the payment of damages for "...livestock, or poultry or for protection to or damage done to bees by bears, upon lands open to public hunting...." The limit on payments or protection is \$5,000 per year. As a further means to prevent or limit damages "...where wild deer are present in excessive numbers on lands open to public hunting and are, in a material way, injuring or destroying farm crops in a material way, fruit orchards or commercial tree nurseries where ornamental or fruit trees are grown for sale, the owners or lessees...may make application to the commission for assistance in the erection of a deer-proof fence...." The commission furnishes the fencing and the staples; the landowner provides the posts and must install within six months and also perform the maintenance operation henceforth. The commission is permitted to spend no more than \$10,000 annually on deer proof fences.^{67/}

When claims are disputed, the director selects a three-man board of viewers from the claimant's county who make recommendations to the commission. Should there still be disagreement, the petition goes to the court of quarter sessions in that county and the court selects a second board of viewers to assess damages and make recommendations to the commission.

^{65/} New Hampshire Revised Statutes Annotated 1964, Volume 2-A, Sections 207.22 to 207.26.

^{66/} Vermont Statutes Annotated, Volume 3, Sections 4822, 4826, and 4828, as amended.

^{67/} Purdon's Pennsylvania Statutes Annotated, Title 34, Sections 1311.1301 through 1311.1305.

Virginia Game Damage Law. The landowner, with the permission of the game warden, may kill muskrat or racoons damaging crops or dams, beaver damaging "crops of lands" and deer damaging fruit trees or crops. Damages are paid for elk damage to crops, bear, deer and big game hunter damage to crops, fruit trees, livestock, or farm equipment. The claimant for damages arising out of big game hunter actions files a claim with the county which may pay for the damage. If the county pays the claim, the law states that the county then processes a damage claim against the hunter, when known, through normal court procedures. (This applies to 31 counties only.) When arbitration is required, it is submitted to the arbitration of three persons "in the customary manner..."^{68/}

Wisconsin Game Damage Law. The department is permitted to take beaver inflicting damage to any lands; however, damage claim awards are not made. The Commission is permitted to take deer or bear who create damage on agricultural lands to growing crops, orchard trees, nursery stock, apiaries or to farm animals or poultry, and also to allow awards for damage claims provided that the damage occurs on lands which are not posted against trespass or hunting. Damage awards are made for the actions of the wild ducks or geese on agricultural land to crops or to old or new seedlings.^{69/}

In Wisconsin, the Commission may erect deer proof fencing or take other preventive measures if it is anticipated that the cost of same will be less than the estimated costs of paying deer game damage awards. Costs of deer and bear damage claims, deer proof fences, plus other preventive measures are limited to \$40,000 per year. When the Commission is unable to settle a claim, the matter is referred to the county court of the claimant's county.^{70/}

Summary

Game Damage claims are paid in only four states in the Western Region -- Colorado, Utah, Washington, and Wyoming. A study conducted by the division in 1963 revealed that only ten of forty-five states surveyed allow the payment of game damages. In addition to the aforementioned states, other states allowing

^{68/} Code of Virginia, Volume 5, 1964 replacement volume and 1966 cumulative supplement annotated, sections 29-139 and 29-145.1. Chapter 420, of Acts of Assembly, Virginia, Regular Session 1962.

^{69/} Wisconsin Statutes, Volume 1, 1965, Chapter 29, Sections 29.59, 29.594, and 29.595.

^{70/} Wisconsin Statutes, Ibid, Sections 29.594 and 29.595.

game damage payments include: Massachusetts, New Hampshire, Vermont, Pennsylvania, Virginia, and Wisconsin. A \$20 limit is placed on game damages paid in the state of Massachusetts. In any event, the payment of game damages is far from being a universal practice. Of course, many states do not have the competition between agriculture and wildlife that exists in Colorado.

Administration of the game damage prevention program and payment of claims appears to be quite expensive. In 1966-67, payments for claims, capital expenditures, fencing and panelling amounted to \$93,719, while administrative and operating costs for this program amounted to \$99,035. In recent years, the division has emphasized game damage prevention to reduce the payment of game damages. If the prevention program is to be successful, costs of panelling and administration of the program must be kept below the cost of claims that would result if no prevention program were adopted.

Fish Management

In general, the state's fishing resources are declining because of the shift in the state's water resources to domestic, industrial, and agricultural use. The impoundment of the state's streams also has destroyed natural fish production to a large degree. For this reason, the division has attempted to meet fishing demands, at least in part, by producing both fingerling and creel size fish for the state's fishing waters in the division's fish hatcheries. Not only is there a decline in water available for natural fish production, but there is a shortage of suitable sites for hatchery production. Perhaps the latter problem could be solved, in part, by the purchase of fish from commercial hatcheries both in Colorado and other states. However, although an increase in the production of creel size fish is possible, the fishing public would have to assume the increased costs in the years ahead.

A little less than five percent of the surface water acreage for fishing in Colorado provides sufficient natural habitat to the degree that the division does not have to provide for any fish stocking at all. In other words, there are about 2,610 miles of streams and 903 natural lakes in which stocking is not necessary. The availability of this kind of fishing will continue to decline with the development of new water impoundment sites. On the other hand, over 20 percent of the total fishing acreage is stocked with creel size fish. This percentage also will continue to increase based on present trends. Thus the division is faced with the prospect of providing more creel size fish in the years ahead.

State Hatcheries

The per pound cost of fish production of state hatcheries in Calendar Year 1967 ranged from a high of \$10.61 per pound at the Glenwood hatchery to a low of 31 cents per pound at the Chalk Hills rearing unit -- the average per pound cost for all 19 state hatching facilities, rearing units, and combined units is 88 cents per pound (see Table XVIII).

The difference in per pound cost for fish can generally be attributed to two factors: 1) type or size of fish produced; and 2) length of season for fish production. First of all, the Glenwood facility is exclusively a hatching unit from which fingerlings are planted when they reach two inches. Hence, the per pound cost appears high; however, the Glenwood facility was responsible for 4,717,790 fish plants. Production costs of hatching units generally are higher than expenditures of a rearing unit. Secondly, some of the units have longer growing periods than others because they have a year-round source of warm water. For example, Chalk Cliffs, with a per pound cost of 37 cents is serviced by a hot springs that permits the maintenance of the water temperature at between 55 and 58 degrees year-round, allowing a twelve-month growing season. On the other hand, Estes Park has the coldest water of any unit in the state with only a 4 1/2 month growing period -- this means that fish must be kept an average of 22 months at Estes Park before being planted while at other units fish are kept an average of only 13 months before being planted. As a result, the per pound cost of producing fish at Estes Park is \$1.30.

It has been possible to increase the growing season from 5 1/2 to 7 months at the Finger Rock facility by mechanical means. However, attempting to raise the water temperature of all hatchery units in the state would be extremely expensive.

According to Harry Woodward, Director of Game, Fish and Parks Division, the division has closed down seven hatcheries in the last 15 years. He said that a single modern hatchery could provide all the types of fish needed in the state and operate at less cost than the 19 existing hatcheries. However, the advantages of low cost hatchery production would be offset by increased costs of transportation for fish planting. In general, there is considerable opposition to closing down hatcheries. Local communities take pride in the fish hatcheries and fishermen may believe that the closing of a hatchery will reduce the number of fish available.

Table XVIII

STATE FISH HATCHERIES, REARING UNITS, COMBINED UNITS^{1/}
Year Ending December 31, 1967

<u>Item</u>	<u>Full-time Employees</u>	<u>Part-time Employees</u>	<u>Total Operating Expenditures</u>	<u>Pounds of Fish Produced</u>	<u>Type of Production</u>	<u>Cost Per Pound</u>	<u>Number of Fish Plants</u>
<u>Hatchery</u>							
Glenwood (C-W) ^{2/}	2	--	\$ 23,456	1,837	Trout; Kokanee salmon; greying.	\$10.61	4,717,790
La Jara (C-W)	4	--	46,424	10,401	Trout	3.68	1,452,401
<u>Rearing Units</u>							
Chalk Cliffs (W-W) ^{3/}	4	.7	94,611	192,425	Trout	.37	543,927
Crystal River (W-W)	5	--	65,644	93,401	Trout	.61	421,994
Dolores (C-W)	3	--	46,952	25,333	Trout	1.53	298,667
Finger Rock (C-W)	3	.6	52,728	125,190	Trout	.41	457,407
Las Animas (W-W)	2	.3	27,185	599	Trout	1.90	136,946
North Fork Thompson (C-W)	4	.5	50,847	41,626	Trout	1.10	216,030
Poudre River (C-W)	3	.5	46,867	71,873	Trout	.61	261,340
Watson Bellevue (W-W)	8	.9	115,672	100,780	Trout; Greying; Kokanee salmon	.90	2,018,051
Wray (W-W)	4	.5	58,382	65,457	Trout	.88	261,305
<u>Combined Units^{4/}</u>							
Bel-Aire (C-W)	4	.3	56,451	63,147	Trout	.61	323,717
Cedaredge (C-W) ^{5/}	3	.2	44,254	16,120	Trout	1.87	1,126,082
Durango (W-W)	5	--	70,994	51,599	Trout	1.09	2,294,640
Estes Park (C-W)	3	.2	42,573	28,454	Trout	1.30	126,747
Mount Shavano (W-W)	10	.7	157,378	196,249	Trout	.73	2,199,808
Pitkin (W-W)	5	.6	77,178	146,301	Trout	.51	1,068,072
Rifle Falls (W-W)	11	1.0	217,000	309,184	Trout	.69	2,254,215
Roaring Judy (W-W)	6	.6	97,775	88,434	Trout	.69	1,885,222
Totals or Average	89	7.6	\$1,439,015	1,628,410		\$.88	21,102,491

^{1/} Source: Mr. Tom Davis, Budget Officer, Game, Fish and Parks Division.^{2/} C-W indicates a cold-water facility.^{3/} W-W indicates a warm-water facility.^{4/} Includes both hatchery facilities and rearing units.^{5/} Cedaredge is primarily a hatching facility.

LAND ACQUISITION

A survey by the Legislative Council staff reveals that the Game, Fish and Parks Division has acquired an interest in 259,216 acres. Of this amount, 151,319 acres (58.4 percent) are owned by the division; 87,503 acres (33.7 percent) are under lease; and the division has acquired permanent easements to an additional 20,503 acres (7.9 percent). The aforementioned acreage is located in 256 separate properties throughout Colorado. A map of the four management regions of the division with the amount of acres in which the division has an interest appears on page 2.

Article 2 of Chapter 62, C.R.S. 1963, as amended, provides authority to the Game, Fish and Parks Commission to purchase, lease, or obtain easements to land for game and fish purposes.

Specifically, land may be obtained for fish hatcheries; game farms; restoration, propagation, or protection of game; for public hunting; access to streams, etc. The authority to acquire land for park purposes is contained in section 62-19-2, as amended. Again, there is a broad grant of power to the Commission to purchase, lease, or acquire land for a variety of park purposes.

In the course of acquiring an interest in the aforementioned 259,216 acres, the state of Colorado has expended \$7,791,471. A total of 471 transactions were necessary for the division to acquire an interest in the aforementioned acreage, however, about 27 percent of these transactions did not involve a monetary exchange. Nevertheless, the average expenditure per acre for purchase, lease, or easement amounts to \$30.06. Throughout this section the term "acquisition" includes purchases, leases, or easements.

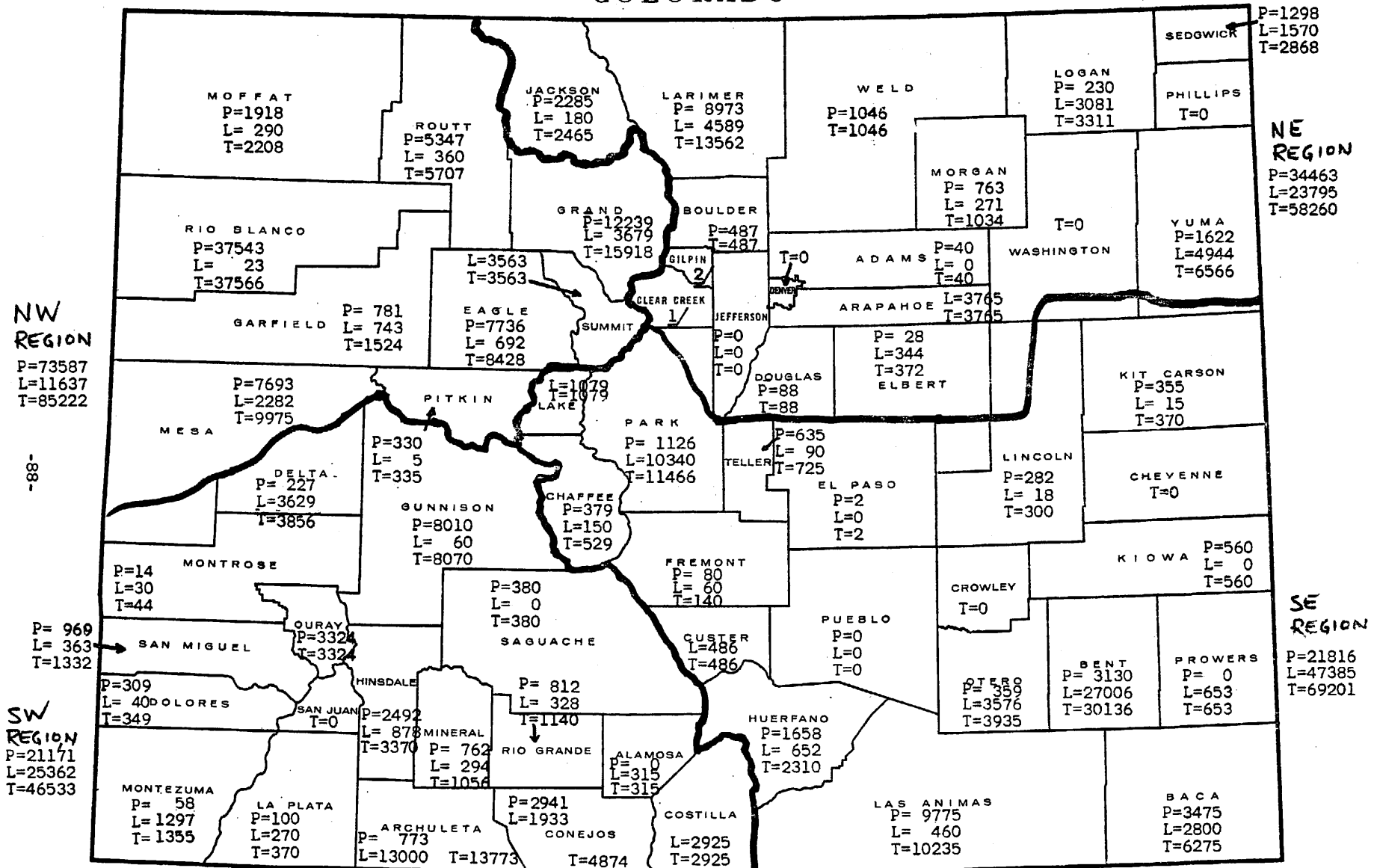
While the cost of Game, Fish and Park Division acquisitions is considerable, the cost of development is even larger. Improvements have been made on a little less than three-fourths of the division's acquisitions, at a total expenditure of \$11,498,601.

Property Acquisitions (Purchase, Lease, and Easement)

A history of properties acquired for game, fish and park purposes is outlined in Table XIX. In recent years, the division appears to have emphasized the use of leases and easements to acquire land rather than purchases. For instance, from 1950 to 1959, two-thirds of the division's acquisitions involved purchases, while from 1960 through the first six months of 1967, division purchases dropped to a little more than one-half of total acquisitions. Nevertheless, the division owns fairly size-

MANAGEMENT REGIONS AND ACRES OWNED AND LEASED BY GAME, FISH AND PARKS DEPARTMENT*

COLORADO



1/ Clear Creek County P=3441 L=3441 T=3441
 2/ Gilpin County P=1496 L=879 T=2375
 *Lease figures include easements.

South Platte Management Area P=12666 L=4172 T=16838
 STATE PLANNING DIVISION
 P=Purchase
 L=Lease or Easement
 T=Total

Table XIX

PURCHASES, LEASES, EASEMENTS FOR GAME, FISH AND PARK PURPOSES,
1881 THROUGH JUNE 1967*

<u>Fiscal Years</u>	<u>No. of Acquisitions</u>	<u>No. of Acres</u>	<u>Cost</u>	<u>Type of Acquisition</u>		
				<u>Purch.</u>	<u>Perm. Ease- ment</u>	<u>Lease</u>
Unknown	2	3,383	\$ 0	0	0	2
1881	1	11	0	1	0	0
1901 - 1910	4	10	1,964	4	0	0
1911 - 1920	3	25	2,500	3	0	0
1921 - 1930	13	1,406	33,755	10	2	1
1931 - 1940	20	14,462	66,099	19	1	0
1941 - 1944	13	5,085	31,617	12	0	1
1945 - 1949	19	26,857	367,288	16	2	1
1950 - 1954	28	20,226	429,139	19	3	6
1955 - 1959	74	59,135	1,506,646	49	8	17
1960	29	9,642	408,102	12	4	13
1961	17	29,376	369,744	10	4	3
1962	21	3,249	127,835	13	5	3
1963	50	15,468	1,817,899	30	7	13
1964	44	9,960	653,769	22	6	16
1965	40	36,884	952,545	15	9	16
1966	52	11,317	509,878	27	8	17
1967	<u>41</u>	<u>12,720</u>	<u>512,691</u>	<u>20</u>	<u>11</u>	<u>10</u>
Totals	471	259,216	\$7,791,471	282	70	119

* Source: records of Game, Fish and Parks Division.

able tracts of acreage in some of the counties (see map, page 86). In Rio Blanco County, the Division purchased 37,543 acres; Grand County (12,239 acres); Las Animas County (9,775 acres); Larimer (8,973 acres); Gunnison (8,010 acres); Eagle (7,736 acres); Mesa (7,693 acres); and Routt (5,347 acres). In all the other counties, the division owns less than 5,000 acres of land each. About 90 percent of the land purchased by the division has been acquired from private land owners; hence, for the most part, the purchased land has been removed from the tax rolls of the counties.

Leases. Most of the leases of the Game, Fish and Parks Division involve lands utilized for winter range for big game or lands acquired for public hunting. Much of the leased land has been obtained from public agencies. For instance, 81 percent of the leases were negotiated with governmental agencies such as the bureau of Land Management, Denver Water Board, etc. In general, leases permit unrestricted use of the land by the Game, Fish and Parks Division. Lease periods vary from one to 25 years. The long-term lease is more desirable from the division's viewpoint, because a long-term lease provides a better opportunity to construct improvements. That is, the division must be assured of the use of a given property for a minimum number of years before monies are spent on development. Leasing, at least in the short run, appears to be less expensive than land purchases. To date the division has spent roughly \$2.20 per acre for leased land, compared to \$45.59 for land purchased by the division. However, an analysis of yearly leasing costs must be made to provide a realistic comparison.

Table XX

Type of Acquisitions.
1881 Thru June 1967

<u>Type of Acquisition</u>	<u>No. of Acquisition</u>	<u>Acres Involved</u>	<u>Cost of Acquisitions</u>	<u>Average Cost Per Acre</u>	<u>Average Cost Per Acquisition</u>
Purchase	282	151,319	\$6,897,632	\$45.59	\$24,460.00
Permanent Easement	70	20,394	701,655	34.40	10,023.60
Lease	119	87,503	192,184	2.20	1,614.99
Totals	471	259,216	\$7,791,471	\$30.06	\$16,542.40

Easements. Permanent easements allow restricted use of lands by the Game, Fish and Parks Division. In particular, the division is limited in the amount of improvements that can be added to the land under permanent easement. Permanent easements are utilized for access roads, parking areas, signs, permission to fish and hunt, etc. The per acre cost to the division for

easements is substantially larger than that expended for leased land but less than that for purchases. On a per acre basis, permanent easement expenses amount to \$34.40.

Acquisitions -- Purpose. Easements, leases, and purchases of land by the division are made for five purposes: 1) fishing; 2) game management; 3) parks; 4) access; and 5) administration. Expenditures for these categories of acquisitions are summarized as follows:

<u>Prime Use</u>	<u>Acres</u>	<u>Acquisition Costs</u>	<u>Per Cent of Total</u>
Fishing	39,003	\$2,405,853	30.9%
Parks	83,034	1,190,053	15.3
Game Management	136,073	3,168,586	40.7
Access	516	18,327	.2
Administration	590	1,008,652	12.0%
Totals	259,216	\$7,791,471	100.00%

Game management accounts for the major portion of funds spent for acquisition (40.7 percent), while fishing accounts for the second most important acquisition expenditure. The parks program expenditures are multi-purpose. That is, the expenditures serve game and fish purposes as well as parks and recreation. For instance, for fiscal years 1962-1967, there were no land acquisition expenses for park programs unrelated to multi-purpose game and fish activities. For the same period (1962-1967), multi-purpose park, fish, and game costs accounted for \$91,419 or 13 percent of a total of \$704,145 in park land acquisition costs. The multi-purpose "park and fish" program provides the major portion of park expenses (87 percent or \$612,726) for this six-year period.

Financing Multi-purpose Acquisitions. The financing of multi-purpose programs inevitably raises a question as to who should pay for financing a program. Ideally, if the benefits of a multi-purpose program could be measured accurately among the various users, then a proportionate share of costs could be apportioned among the categories of beneficiaries. However, when a reservoir is developed for fishing and park purposes it may be extremely difficult to measure benefits. To what degree does the program meet the needs of fishermen as opposed to park users? In any event, the General Assembly has authorized the Game, Fish and Parks Division to transfer monies from the game cash fund to the parks cash fund.^{71/} Furthermore the General Assembly has directed that multiple use be made of lands acquired by the Game, Fish and Parks Division.

^{71/} Colorado Revised Statutes 1963, Section 62-19-6.

Section 62-19-1, C.R.S. 1963 provides: "(2) In addition to administering the areas and properties thus transferred to it from the state park and recreation board, the game, fish and parks commission shall establish public park and recreation uses for existing areas, lakes, properties, or facilities under its control, or which may be hereafter acquired or come under the control or supervision of the department for any purpose, where, in the discretion of the department, such areas, lakes, properties, or facilities are suitable for such uses and where such multiple use is compatible with practical and reasonable game and fish management practices. (3) The department may also establish game and fish management practices and uses for the areas and properties herein transferred to it from the state parks and recreation board where such practices are compatible with public parks and recreational uses...." (Underlining added.)

A problem concerning multiple use is that the original purpose land may be acquired for changes. For example, an acquisition in Southeastern Colorado, which was intended for use as a dam site and recreational area, currently is being used as a winter range area. Perhaps procedures need to be established to insure that as the prime purpose changes, proper allocation of funds would occur. In other words, if the use of the property is altered in a subsequent period of time, a procedure could be instituted whereby the cost of acquisition and development would also be transferred to proper funds or programs.

Specific Purposes -- Division Acquisitions. A more detailed analysis of Game, Fish and Parks Division acquisitions categorized according to use is contained in Table XXI. The largest number of acres acquired for any one purpose has been for big game and deer winter range -- 94,508 acres. The multiple purpose park and fish program ranks second in acres acquired with 65,273 acres; the third most important category is fishing -- 30,250 acres; while 27,728 acres have been acquired for wildfowl. In regard to costs for acquisition of these lands, a little different pattern exists. The cost of acquiring a deer winter range and big game lands amounts to \$2,141,736 (27.5 percent); acquisition expenditures for fishing amounts to \$1,258,979 (16.2 percent); park and fish \$945,135 (12.2 percent); and wildfowl \$574,509 (7.4 percent). The cost of acquiring the division's headquarters building was \$923,875.

Acquisitions According to Region. The division has divided the state into four management regions (see map, page 88). The Northeast and the Southeast management regions generally comprise the Eastern Slope, while the Western Slope is divided into Northwest and Southwest management areas. The San Luis Valley is placed in the Southwest management region. In general, the number of acres acquired by the division are divided fairly equally between the division's Eastern Slope and Western Slope regions. Over 127,000 acres are contained on the Eastern Slope, while more than 131,000 acres have been acquired on the Western Slope. The largest acreages owned, leased, or on which easements have been

TABLE XXI

PURCHASE, LEASE, AND EASEMENT ACQUISITIONS CATEGORIZED
ACCORDING TO GAME, FISH AND PARK USE,
1881 THRU JUNE 1967*

Use of Property	Number of Properties	Purchase, Lease and Easement Acquisition			Avg. Cost Per Acquisition Involving Expenditure	Number of Acres	Percent of Total Costs of Acquisition
		Number	No. for Which Expenditures Were Made	Cost			
Fishing	76	120	77	\$1,258,979	\$ 1,635	30,250	16.2
Fish and Game	9	14	11	401,568	36,514	4,126	5.2
Hatchery	28	60	47	619,300	13,177	3,979	7.9
Spawn and Spawn Taking	3	6	4	40,200	10,050	56	0.5
Rearing Station	1	4	3	8,511	2,837	31	0.1
Fishing and Waterfowl	3	8	7	77,295	11,042	561	1.0
Subtotal -- Fisheries	120	212	149	\$2,405,853	\$16,147	39,003	30.9
Park and Fish	23	41	32	\$ 945,135	\$29,535	65,273	12.2
Park, Fish and Game	6	16	11	111,919	10,174	15,904	1.4
Park and Game	1	1	1	7,950	7,950	88	0.1
Park and Lake	3	3	3	125,049	41,683	1,746	1.6
Park and Rest Area	1	1	0	Exchange	0	23	--
Subtotal -- Parks	34	62	47	\$1,190,053	\$25,320	83,034	15.3
Big Game	23	61	53	\$2,069,587	\$39,048	91,418	26.6
Wildfowl	7	41	37	574,509	15,527	27,728	7.4
Goose Rearing	1	4	4	504	126	0	--
Bird Farm	1	7	7	185,601	26,514	1,342	2.4
Small Game	5	9	8	139,778	17,472	11,424	1.8
Waterfowl	2	4	2	126,458	63,229	1,071	1.6
Deer Winter Range	1	2	2	72,149	36,075	3,090	0.9
Subtotal Big and Small Game	40	128	113	\$3,168,586	\$28,041	136,073	40.7
Access to National Forest	20	22	8	\$ 13,008	\$ 1,626	488	0.2
Access to Fishing	4	4	2	2,451	1,226	25	--
Access to Reservoir	1	1	0	0	0	0	0.0
Access to Hunting	2	2	2	2,366	1,183	0	--
Access to Government Land	6	6	2	502	251	3	--
Access to Pass	2	2	0	0	0	0	0.0
Access to Management Area	1	1	0	0	0	0	0.0
Subtotal -- Access	36	38	14	\$ 18,327	\$ 1,309	516	0.2
Headquarters	7	10	7	\$ 923,875	\$131,982	464	11.9
Headquarters and Experimental	1	1	1	400	400	21	--
Office	4	5	3	60,000	20,000	19	0.8
Check Station	3	3	2	1,411	706	3	--
Warden's Cabins	2	2	1	150	150	1	--
Camping	1	1	1	2,495	2,495	48	--
Airplane Storage	3	3	2	1,180	590	0	--
Storage	3	3	1	691	691	4	--
Nursery	1	2	1	18,450	18,450	30	0.2
Other	1	1	0	0	0	0	0.0
Subtotal -- Management Operations	26	31	19	\$1,008,652	\$ 53,086	590	12.9
Grand Totals	256	471	342	\$7,791,471	\$ 22,783	259,216	100.0

*Source: Records of Game, Fish and Parks Department.

acquired are in the Northwest Region -- 85,222 acres. The Southwest Region has the smallest amount of acres of Game, Fish and Park Division lands -- 46,533. The large land interests of the division in the Northwest Region are due to Big Game management needs; 50 percent of all game lands are in this region alone. Per acre costs for the acquisition of game lands range from \$14.75 in the Southeast Region to \$38.72 in the Northeast Region (see Table XXII).

Acquisition costs for fishing are quite expensive on the Western Slope. For the Northwest Region costs per acre amount to \$97.52, while the Southwest is even higher -- \$98.12. In comparison, the acquisition costs for 11,879 acres for fishing in the Southeast Region amount to only \$15.06 per acre.

Development Expenditures

The division has expended \$11,498,601 for development of properties acquired. Roughly 60 percent of total expenditures for acquisition and development (\$19,290,072) are for development purposes. For fiscal years 1963, 1964, and 1965 costs exceeded one million dollars per year; for fiscal year 1966, more than two million dollars were spent on improving properties. However, in the last fiscal year, 1967, development was greatly curtailed and the division spent \$247,497 only. About 27 percent of all properties are undeveloped. Some of these properties were only recently acquired; other properties do not need to be developed to meet division needs; some development costs appear in the normal operating budget and thus have not been considered as developed properties; and access and tenure problems have been encountered in some areas. For instance, the division hopes to negotiate 25-year leases with the Denver Water Board for properties around Antero and Williams Fork Reservoirs prior to expending monies for development. In another instance, property at Bison and Supply Basin Lakes acquired in 1960 has not been developed because access to these lakes is not available.

Fish hatcheries are the most expensive development item of the division -- \$4,926,520. Furthermore, an additional \$2,278,246 was spent for improvement of other fishing properties, even excluding more than one million dollars spent in the multi-purpose park and fish program. In any event, \$7,204,706 (63.4 percent) of total development monies has been spent on fishing properties. If the multi-purpose park and fish program is added to the aforementioned percentage, roughly 73 percent of all development monies have been spent on fishing related activities.

In the past six years, the division has spent \$1,369,893 for improvement of park related lands: an average of \$228,315 per year. A continuing problem before the General Assembly is the need to achieve a balance between acquisitions of park and recreation areas and the development of these facilities. On the

TABLE XXII

PROPERTY ACQUISITIONS AND DEVELOPMENTS, ACCORDING TO USE
1881 THROUGH JUNE 1967*

Use Of Property	Acquisition By Purchase, Lease or Easement				
	Number of Properties	Acres	Cost	Cost Per Acre	Devel- opment Costs
Northeast Region:					
Fisheries	31	10,374	\$ 587,117	\$ 56.60	\$2,119,013
Parks	12	15,355	377,061	24.56	481,994
Big and small game	11	32,459	1,256,817	38.72	320,876
Access	3	0	1	00.00	12,083
Management Operations ^{1/}	7	72	974,331	13,532.30	624,810
Subtotals Northeast Region	64	58,260	\$3,195,327	\$ 54.85	\$3,558,776
Southeast Region:					
Fisheries	17	11,879	\$178,854	\$15.06	\$ 995,039
Parks	7	35,212	128,370	3.65	293,959
Big and small game	9	21,183	312,502	14.75	415,655
Access	4	486	932	1.92	29,466
Management Operations	3	441	23,300	52.83	110,026
Subtotals Southeast Region	40	69,201	\$643,958	\$ 9.31	\$1,844,145
Subtotals Eastern Slope	104	127,461	\$3,839,285	\$30.12	\$5,402,921
Northwest Region:					
Fisheries	30	6,059	\$ 590,851	\$ 97.52	\$2,227,946
Parks	7	11,065	317,735	28.72	524,875
Big and small game	12	68,002	1,260,637	18.54	135,372
Access	19	28	5,894	210.50	122,409
Management Operations	10	68	3,981	58.54	211,102
Subtotals Northwest Region	78	85,222	\$2,179,098	\$ 25.57	\$3,221,604
Southwest Region:					
Fisheries	42	10,691	\$1,049,031	\$ 98.12	\$1,862,768
Parks	8	21,402	366,887	17.14	627,440
Big and small game	8	14,429	338,630	23.47	131,001
Access ^{2/}	10	2	11,500	5,750.00	113,007
Management Operations	6	9	7,040	782.22	139,860
Subtotals Southwest Region	74	46,533	\$1,773,088	\$ 37.24	\$2,874,076
Subtotals Western Slope	152	131,755	\$3,952,186	\$ 30.00	\$6,095,680
State Totals	256	259,216	\$7,791,471	\$ 30.06	\$11,498,601

* Source: records of Game, Fish and Parks Department.

1/ Unusually high average cost per acre due to one purchase for Game, Fish and Parks Headquarters building (14.5 acres, \$900,000).

2/ Two purchases responsible for high cost per acre. One was for \$5,000 (Alpine Road) by easement with Forest Service. Second was for \$6,000 (Gunnison Access Road) by purchase.

other hand, some persons advocate acquiring lands, while lands are readily available, even though most of the park properties are undeveloped. Others believe that park properties should be developed before the division expands the acquisition program.

Acquisition and Development Procedures

The Game, Fish and Parks Division prepares a list of potential property acquisitions based on planned recreational needs versus properties available. The compiled list is submitted to the Game, Fish and Parks Commission for approval prior to inclusion in the annual budget request. Following review of the division's budget request by Joint Budget Committee, the General Assembly subsequently appropriates monies for acquisition and development. Potential property acquisitions are not detailed in the appropriation made by the General Assembly but are lumped together in appropriations for capital outlay or capital construction. Development monies are specified for projects identified by name and amount.

Funds are derived from such sources as the game cash fund, the parks cash fund, unappropriated treasury funds, Pittman-Robertson (wild life restoration projects) funds, Dingell-Johnson (fish restoration projects) funds, federal and commercial fisheries research and development monies (PL 88-309), and general state funds.

Acquisition Process. The acquisition process includes the following steps:

1. The division develops an interest in a certain property based on information received from field personnel, conservation groups, individuals, etc.

2. An "Initial Land Report," is prepared by fieldmen or by the regional office concerning the property which contains information as to location, potential use, and cost.

3. If the property proves to be of value to the headquarters acquisition personnel, regional management is requested to prepare a "Management and Development Cost Estimate" or a feasibility study.

4. At budget time, the Game, Fish and Parks Commission reviews the acquisitions recommended to it by the division staff. Information regarding the division's intentions on acquisition is limited to division personnel and the members of the Joint Budget Committee. An appropriation is requested for specified properties approved by the commission. However, to protect against escalation of prices, one allocation of monies is made for a number of potential acquisitions.

5. After the appropriation has been made, the land acquisition staff prepares a "Contract of Purchase and Sale" for the desired acquisition and submits it to the commission for approval. Then, the director requests a warrant authorizing a partial payment of monies. The title is researched and, if found valid, the director requests another warrant authorizing the payment of the balance of the contract price. If a warrant is issued and subsequently the purchase agreement is cancelled, the monies related are returned to the game cash fund, where they remain until the General Assembly appropriates the funds for another purpose. If no warrant is issued, and the deal falls through, the related monies remain in the unallocated land acquisition funds and may be used at a later time for the contemplated acquisition.

6. Upon receipt of a valid title by the division's acquisition personnel, a "Project Information Sheet" is prepared and submitted to the affected regional manager informing him that the described property is now in his management portfolio; another copy is also sent to the division's accounting office for financial control purposes.

Development Process. When a property is under consideration for acquisition, a "Management and Development Cost Estimate" is prepared identifying the development requirements. Following acquisition of a property, the division requests an appropriation for specified projects. The General Assembly makes these appropriations for individually identified projects which are spelled out as line items in the budget. Appropriated monies may be used for a given project only. If unspent, monies must revert to the game cash fund or to the parks cash fund. When a surplus develops from a specified line item project, the excess monies are not lost to the division. However, before the division may allocate the surplus to another purpose, monies must be appropriated by the General Assembly. Because of the nature of developments, appropriations are not limited to one-year periods. Monies may be spent over a period of years without reappropriation by the General Assembly.

Planning Acquisition and Development Program

John Joynt and Associates pointed out that there is limited planning of specific land needs by the division. The Joynt report recommends that a "Planning and Evaluation Division" be established in the division which would be responsible for developing a resources program. The commission has attempted to outline a basic program of expenditure for land acquisitions in "Policy No. 34." The commission recommends that "Game Cash Fund" land acquisition expenditures be allocated as follows:

- 1) 45 percent for big game;
- 2) 30 percent for fisheries;

- 3) 30 percent for small game; and
- 4) 5 percent for miscellaneous items.

Actual division expenditures for acquisition of big game, small game, and fishing lands follow a different pattern. Expenditures for fishing lands amounted to \$2,405,853 or 43.2 percent of acquisitions for big game, fishing, and small game purposes. These figures do not include monies for the multiple purpose park and fish programs. Big game expenditures comprise roughly 38 percent of the costs of land acquisitions involving game cash monies. In any event the fishing program is receiving more emphasis than the commission's recommendations.

Perhaps there is need for the division to spell out in detail a long-range program for land acquisition and development. Of course, a land development program may be a critical factor in the state's hunting and fishing program. With increased population pressures, the future development of shale oil and other industries of the Western Slope, the General Assembly may need to evaluate alternative programs for land acquisition. For instance, in order to meet the hunting pressures in future years, the division could embark on an accelerated land acquisition program to provide winter range or other lands for propagation and restoration of wildlife. At the same time, the General Assembly may believe that such a program is in the interest or is not in the best interests of the state of Colorado. In any event alternatives need to be spelled out in detail by the General Assembly in order that the division can plan for an acquisition and development program.

Relationship of Acquisition and Development Costs to Revenue

For the period 1962 to 1967, the Game, Fish and Parks Division revenues (game and fish license receipts, park cash fees, federal funds, and state general fund monies) average little less than \$6,900,000 per year. Game licenses accounted for approximately 65 percent of the division's income during this period, while 24 percent of the monies were acquired from fishing revenues. The division's total expenditures for the acquisition and development of properties, however, bears little relationship to the revenue ratios for these years. For instance, of \$19,290,072 spent on acquisition and development, nearly 50 percent was allocated for fishing purposes -- \$9,610,619. Expenditures for land acquisitions and improvements for big and small game, on the other hand, amount to only 21.6 percent of the total monies allocated (\$4,171,497). Needless to say, it is evident that big and small game license revenues are supporting the acquisition and development programs for fishing. This is evident even though no consideration has been given to monies allocated from the game cash fund for multiple park and fish programs.

SUMMARY OF ADMINISTRATION

For fiscal year 1968-69, the sale of hunting and fishing licenses is estimated to produce \$8,055,620 in revenue for the division. Of this amount, \$5,544,377 or 68.8 percent is to be derived from hunting licenses, while \$2,511,243 or 31.2 percent is estimated to be collected from fishing licenses. Although the accounting records of the division are not designed to allocate wildlife management expenditures of the division into the two basic programs of game and fish, division officials estimate that game activities in 1968-69 will account for an expenditure of \$3,774,442 or 48.2 percent of the estimated wildlife management expenditures, while administration of the fish program will probably cost an estimated \$4,052,326 or 51.8 percent of total wildlife management expenditures. In any event, the state's fishing program is not a self supporting proposition. On the other hand, game management expenditures are substantially less than the monies derived from hunting licenses. In the years ahead, the problem of propagating fish to meet the problems of declining habitat and increased fishing pressures will tend to increase the costs of fish management. Game management also is expected to become more complex, suggesting that if the present pattern of revenues to expenditures continues, non-resident and resident hunters will have to bear an ever increasing proportion of the state's wildlife management program.

Table XXIII provides a rough comparison of estimated division expenditure for 1968-69 by program and function. Altogether, the game management program accounts for about 43.7 percent of total estimated division expenditure, the fish program 47.0 percent and parks less than 10 percent. For 1969-1970, the division's budget request proposes to increase park expenditures to nearly 15 percent of the division's total administrative costs. As the demands for outdoor recreation opportunities increase in the years ahead, the park program could well expand to a major share of the division's total program of expenditures.

Table XXIII

ALLOCATION OF 1968-1969 BUDGET BY FUNCTION

<u>Program</u>	<u>Functions</u>			<u>Total</u>
	<u>Game</u>	<u>Fish</u>	<u>Parks</u>	
Administrative Services ^{1/}	\$ 893,429	\$ 401,396	\$ 17,091	\$1,311,916
Parks and Rec. Planning Serv. ^{2/}	44,788	190,940	177,758	413,486
Field Services ^{3/}	1,306,689	2,732,717	599,863	4,639,269
Game and Fish Planning Serv. ^{4/}	316,936	299,873	---	616,809
A.D.P. Systems ^{5/}	27,600	12,400	---	40,000
Fish Cooperative	---	15,000	---	15,000
Game Cooperative	15,000	---	---	15,000
Predatory Animal Control	50,000	---	---	50,000
Game Damage	100,000	---	---	100,000
Extension Service	10,000	---	---	10,000
Pittman-Robertson (100%)	1,010,000	---	---	1,010,000
Dingell-Johnson (100%)	---	372,000	---	372,000
Commercial Fisheries (100%)	---	28,000	---	28,000
Grand Total	\$3,774,442	\$4,052,326	\$794,712	\$8,621,480
	43.7%	47.0%	9.3%	100.0%

^{1/} Allocated on license sale estimate -- 69% game and 31% fish.

^{2/} Allocated on type of project on books -- 19% game and 81% fish.

^{3/} Direct allocation of identifiable costs and allocation of law enforcement and administration is assigned 50 percent to game and 50 percent to fish.

^{4/} Direct allocation of identifiable costs and allocation of administration and research center.

^{5/} Allocated on basis of license sale estimates -- 69% game and 31% fish.

Appendix A

PARKS CAPITAL CONSTRUCTION STATEWIDE 5-YEAR DEVELOPMENT COST ESTIMATE*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Golden Gate State Park	1	87,191	\$ 50,000	\$130,000	\$ 70,000	--	--	--
	2		130,000	98,000	100,000	--	--	--
	3		125,000		40,000	--	--	\$ 60,000
	4		105,000	20,000	35,000	--	--	55,000
	5		100,000		20,000	--	--	125,000
BOYD LAKE COMPLEX	1	230,299	50,000	20,000	50,000	10,000	2,000	--
	2		75,000	40,000	50,000		12,000	30,000
	3		50,000	--	30,000	--	10,000	--
	4		75,000	30,000	--	--	--	60,000
	5		--	--	--	75,000	--	70,000
CHERRY CREEK STATE RECREATION AREA	1	547,373	20,000	10,000	180,000	45,000	22,000	--
	2		85,000	45,000	15,000	15,000	20,000	--
	3		85,000	40,000	10,000	--	20,000	--
	4		120,000	--	10,000	--	15,000	20,000
	5		35,000	20,000	5,000	50,000	15,000	--
LATHROP STATE PARK	1	168,163	90,000	--	--	50,000	2,000	--
	2		95,000	50,000	10,000	--	2,000	--
	3		--	32,000	50,000	--	3,000	--
	4		--	20,000	10,000	--	--	40,000
	5		--	--	15,000	--	2,000	--
HIGHLINE STATE RECREATION AREA	1	21,063	--	44,000	--	18,000	--	--
	2		98,000	45,000	50,000	--	12,000	--
	3		60,000	38,000	20,000	30,000	15,000	25,000
	4		--	--	15,000	--	10,000	40,000
	5		--	20,000	10,000	--	10,000	--

* Prepared by Game, Fish and Parks Division.

(10)

(11)

(12)

(13)

(14)

Name of Area	Year	Signs	Miscellaneous	Total Engineering, Design and Cons. Sup.	Total Development Cost	Total Engineering Development Cost for 5-year
Golden Gate State	1	\$ 10,000	\$ 30,000	\$ 26,000	\$ 316,000	
Park	2	5,000	20,000	28,000	381,000	
	3	2,000	14,000	19,000	260,000	
	4	2,000	8,000	18,000	243,000	
	5	1,500	4,000	20,000	<u>270,500</u>	\$ 1,470,500
Boyd Lake Complex	1	--	10,000	15,000	157,000	
	2	5,000	5,000	17,000	234,000	
	3	--	5,000	7,500	102,500	
	4	--	5,000	13,500	183,500	
	5	--	5,000	12,000	<u>162,000</u>	\$ 839,000
Cherry Creek State	1	10,000	10,000	24,000	321,000	
Recreation Area	2	2,000	12,000	15,500	209,500	
	3	3,000	10,000	13,500	181,500	
	4	2,000	10,000	14,000	191,000	
	5	1,000	45,000	13,500	<u>184,500</u>	\$ 1,087,500
Lathrop State	1	5,000	2,000	18,500	167,500	
Park	2	--	5,000	13,000	175,000	
	3	1,500	10,000	8,000	104,500	
	4	--	5,000	6,000	81,000	
	5	1,500	10,000	2,000	<u>30,500</u>	\$ 558,500
Highline State	1	--	110,000	13,000	185,000	
Recreation Area	2	4,000	15,000	18,000	242,000	
	3	4,000	8,000	16,000	216,000	
	4	--	5,000	5,500	75,500	
	5	--	5,000	3,500	<u>48,500</u>	\$ 767,000

PARKS CAPITAL CONSTRUCTION STATEWIDE
5-YEAR DEVELOPMENT COST ESTIMATE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Flagler Reservoir	1	23,968	-	-	-	-	8,000	-
	2		40,000	-	-	-	-	-
	3		-	27,000	12,000	-	-	-
	4		-	-	20,000	-	-	20,000
	5		-	-	-	-	-	12,000
John Martin Reservoir	1	-	50,000	20,000	50,000	40,000	2,000	-
	2		50,000	40,000	10,000	20,000	-	-
	3		-	-	35,000	-	-	25,000
	4		-	-	-	-	15,000	-
	5		-	-	-	-	10,000	-
Summit Lake	1	-			-	-		
	2		50,000	25,000			-	-
	3		-	-	25,000	10,000	-	-
	4		-	-	-	-	-	-
	5		-	-	-	-	-	-
Sylvan Lake	1	-	-	-	-	-	-	-
	2		-	-	-	-	-	-
	3		-	-	-	-	-	-
	4		-	-	-	-	-	-
	5		-	-	-	-	-	-
Lester Creek	1	-	-	-	-	-	-	-
	2		20,000	-	-	-	-	-
	3		-	-	-	-	-	-
	4		-	-	-	-	-	-
	5		-	-	-	-	-	-

	(10)	(11)	(12)	(13)	(14)
<u>Name of Area</u>	<u>Year</u>	<u>Signs</u>	<u>Miscellaneous</u>	<u>Total Engineering Design and Con. Sup.</u>	<u>Total Engineering Development Cost for 5-year</u>
Flagler Reservoir	1	-	-	--	8,000
	2	-	-	3,000	43,000
	3	-	-	3,000	42,000
	4	-	-	3,000	43,000
	5	-	-	1,000	13,000
					<u>\$149,000</u>
John Martin Reservoir	1	-	20,000	30,800	212,800
	2	-	-	10,000	130,000
	3	-	-	5,000	65,000
	4	-	10,000	2,000	27,000
	5	-	-	--	10,000
					<u>\$444,800</u>
Summit Lake	1	-	1,200	1,800	3,000
	2	-	-	6,000	81,000
	3	-	-	--	35,000
	4	-	-	--	-
	5	-	-	--	-
					<u>\$119,000</u>
Sylvan Lake	1	-	-	--	-
	2	-	5,000	--	5,000
	3	-	10,000	--	10,000
	4	-	10,000	--	10,000
	5	-	-	--	-
					<u>\$ 25,000</u>
Lester Creek	1	-	-	--	-
	2	-	-	2,000	22,000
	3	-	-	--	-
	4	-	5,000	--	5,000
	5	-	10,000	--	10,000
					<u>\$ 37,000</u>

PARKS CAPITAL CONSTRUCTION STATEWIDE
5-YEAR DEVELOPMENT COST ESTIMATE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Steamboat Lake State Recreation Area	1	--	50,000	35,000	85,000	25,000	12,000	--
	2		125,000	60,000	30,000	--	--	26,000
	3		50,000	40,000	20,000	75,000	--	25,000
	4		75,000	40,000	10,000	--	--	50,000
	5		50,000	35,000	50,000	--	--	40,000
Horsetooth Com- plex	1	--	50,000	20,000	85,000	25,000	12,000	--
	2		125,000	65,000	80,000	50,000	15,000	--
	3		50,000	45,000	20,000	--	10,000	60,000
	4		50,000	35,000	10,000	--	--	--
	5		20,000	15,000	10,000	--	--	--
Barbour Ponds	1	58,168	40,000	45,000	10,000	--	20,000	--
	2		25,000	35,000	10,000	--	10,000	--
	3		--	30,000	--	--	10,000	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Jackson Reservoir	1	175,220	50,000	61,000	85,000	--	2,000	--
	2		75,000	40,000	10,000	32,000	13,000	--
	3		55,000	30,000	15,000	--	--	45,000
	4		--	--	20,000	20,000	10,000	--
	5		--	--	--	--	--	--
Bonny Reservoir	1	129,590	50,000	10,000	--	15,000	10,000	35,000
	2		75,000	20,000	30,000	65,000	15,000	--
	3		75,000	25,000	--	45,000	10,000	50,000
	4		50,000	25,000	15,000	--	10,000	--
	5		--	25,000	10,000	--	--	50,000

		(10)	(11)	(12)	(13)	(14)
				TOTAL Engineering, Design and Cons. Sup.	Total Development Cost	Total Engineering Development Cost for 5-year
<u>Name of Area</u>	<u>Year</u>	<u>Signs</u>	<u>Miscellaneous</u>			
Steamboat Lake State Recreation Area	1	--	--	20,000	227,000	
	2	15,000	20,000	24,000	300,000	
	3	--	10,000	18,000	238,000	
	4	5,000	5,000	15,000	200,000	
	5	--	5,000	14,500	<u>194,500</u>	
						\$1,159,500
Horsetooth Com- plex	1	--	--	18,000	210,000	
	2	10,000	10,000	28,500	385,500	
	3	--	5,000	15,000	205,000	
	4	2,000	5,000	8,000	110,000	
	5	--	5,000	4,000	<u>54,000</u>	
						\$962,500
Barbour Ponds	1	--	25,000	12,000	152,000	
	2	4,000	5,000	7,000	96,000	
	3	--	5,000	4,000	49,000	
	4	--	--	--	--	
	5	--	--	--	<u>--</u>	
						\$297,000
Jackson Reservoir	1	--	10,000	18,000	226,000	
	2	2,000	--	14,000	186,000	
	3	--	5,000	12,000	162,000	
	4	--	5,000	4,000	59,000	
	5	--	--	--	<u>--</u>	
						\$633,000
Bonny Reservoir	1	--	20,000	19,000	159,000	
	2	--	--	16,500	221,500	
	3	3,000	5,000	17,000	230,000	
	4	--	5,000	8,500	113,500	
	5	--	5,000	7,000	<u>97,000</u>	
						821,000

PARKS CAPITAL CONSTRUCTION STATEWIDE
5-YEAR DEVELOPMENT COST ESTIMATE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Ralph White Reservoir	1	--	--	--	--	--	--	--
	2		30,000	--	--	--	--	--
	3		--	30,000	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Vega Reservoir	1	--	--	--	--	--	--	--
	2		--	30,000	--	--	--	--
	3		--	--	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Navajo Reservoir	1	-	--	--	--	--	--	--
	2		--	--	--	--	--	--
	3		--	--	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--

		(10)	(11)	(12)	(13)	(14)
<u>Name of Area</u>	<u>Year</u>	<u>Signs</u>	<u>Miscellaneous</u>	Total Engineering Design and Con. Sup.	Total Development Cost	Total Engineering Development Cost for 5-year
Ralph White Reservoir	1	-	-	--	--	
	2	-	-	2,000	32,000	
	3	-	-	2,000	32,000	
	4	-	-		5,000	
	5	-	5,000	--	10,000	
		-	10,000	--		\$ 79,000.
Vega Reservoir	1	-	--	--	--	
	2	-	--	2,000	32,000	
	3	-	10,000	1,000	11,000	
	4	-	10,000	1,000	11,000	
	5	-	10,000	1,000	11,000	
						\$ 65,000
Navajo Reservoir	1	-	--	-	--	
	2	-	10,000	-	10,000	
	3	-	5,000	-	5,000	
	4	-	5,000	-	5,000	
	5	-	5,000	-	5,000	
						\$ 25,000

PARKS CAPITAL CONSTRUCTION STATEWIDE
5-YEAR DEVELOPMENT COST ESTIMATE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Echo Canyon	1	--	18,000	15,000	10,000	5,000	--	--
	2		75,000	25,000	50,000	--	10,000	--
	3		--	25,000	15,000	--	5,000	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Ramah Reservoir	1	37.763	20,000	10,000	15,000	--	2,000	--
	2		12,000	15,000	15,000	--	--	--
	3		--	--	25,000	15,000	--	--
	4		50,000	--	--	--	--	--
	5		--	--	--	--	--	45,000
Island Acres	1	32,077	35,000	20,000	23,000	--	--	20,000
	2		55,000	30,000	40,000	20,000	--	--
	3		--	--	--	--	--	45,000
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Tarryall Reservoir	1	47.563	25,000	30,000	--	2,000	--	--
	2		--	10,000	20,000	2,000	--	--
	3		--	--	--	10,000	2,000	--
	4		--	--	--	2,000	--	--
	5		--	--	--	2,000	--	--
Central City	1	--	40,000	6,000	--	--	--	--
	2		40,000	13,000	4,000	--	2,000	--
	3		--	--	10,000	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--

	(10)	(11)	(12)	(13)	(14)
<u>Name of Area</u>	<u>Year</u>	<u>Signs</u>	<u>Miscellaneous</u>	<u>Total Engineering Design and Con. Sur.</u>	<u>Total Engineering Development Cost for 5-year</u>
Echo Canyon	1	--	--	7,000	55,000
	2	--	5,000	13,000	178,000
	3	--	5,000	4,500	54,500
	4	--	10,000	--	10,000
	5	--	--	--	--
					\$297,500
Ramah Reservoir	1	--	10,000	9,000	66,000
	2	--	--	3,000	45,000
	3	--	--	3,000	43,000
	4	--	--	4,500	54,500
	5	--	--	3,500	48,500
					\$257,000
Island Acres	1	--	--	6,500	104,500
	2	--	--	11,000	156,000
	3	--	5,000	4,500	54,500
	4	--	--	--	--
	5	--	--	--	--
					\$315,000
Tarryall Reservoir	1	--	--	14,000	71,000
	2	--	--	2,500	34,500
	3	--	--	1,000	13,000
	4	--	8,000	1,000	11,000
	5	--	10,000	1,000	13,000
					\$142,500
Central City	1	--	1,000	6,000	53,000
	2	1,000	--	5,000	65,000
	3	--	5,000	1,000	16,000
	4	--	--	--	--
	5	--	--	--	--
					\$134,000

PARKS CAPITAL CONSTRUCTION STATEWIDE
5-YEAR DEVELOPMENT COST ESTIMATE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Name of Area</u>	<u>Year</u>	<u>Number of Visitations for 1967</u>	<u>Roads and Parking</u>	<u>Sanitation and Water</u>	<u>Camping and Picnic Facilities</u>	<u>Boating, Fishing, Beach</u>	<u>Land- scaping</u>	<u>Build- ings</u>
Sawhill Ponds	1	--	50,000	20,000	--	25,000	15,000	--
	2		--	60,000	25,000	--	--	25,000
	3		65,000	--	60,000	30,000	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
La Jara Reservoir	1	--	15,000	6,000	2,000	4,400	--	--
	2		25,000	10,000	--	--	--	--
	3		--	--	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Miramonte Reservoir	1	--	40,000	10,000	8,000	8,000	--	--
	2		35,000	25,000	25,000	--	10,000	--
	3		--	10,000	20,000	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Jumbo Reservoir	1		50,000	20,000	10,000	--	12,000	--
	2		--	50,000	2,000	--	10,000	--
	3		--	--	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--
Lake Avery	1	21,788	22,000	15,000	20,000	--	10,500	--
	2		55,000	20,000	--	--	--	--
	3		--	--	20,000	--	10,000	--
	4		--	--	--	15,000	--	--
	5		--	--	--	--	--	--
Rio Blanco	1	18,106	--	--	--	--	--	--
	2		--	--	--	10,000	--	--
	3		--	--	--	--	--	--
	4		--	--	--	--	--	--
	5		--	--	--	--	--	--

		(10)	(11)	(12)	(13)	(14)
<u>Name of Area</u>	<u>Year</u>	<u>Signs</u>	<u>Miscellaneous</u>	<u>Total Engineering Design and Con. Sup.</u>	<u>Total Development Cost</u>	<u>Total Engineering Development Cost for 5-year</u>
Sawhill Ponds	1	--	5,000	10,000	125,000	
	2	--	--	8,000	118,000	
	3	--	--	12,000	167,000	
	4	--	--	--	--	
	5	--	--	--	--	\$410,000
La Jara Reservoir	1	--	--	7,750	35,150	
	2	--	5,000	3,000	43,000	
	3	--	10,000	1,000	11,000	
	4	--	--	--	--	
	5	--	--	--	--	\$ 89,150
Miramonte Reservoir	1	2,000	2,000	11,500	81,500	
	2	--	5,000	8,000	108,000	
	3	--	--	2,000	32,000	
	4	--	10,000	1,000	11,000	
	5	--	10,000	1,000	11,000	\$243,500
Jumbo Reservoir	1	--	10,000	9,000	111,000	
	2	5,000	--	5,000	72,000	
	3	--	--	--	--	
	4	--	--	--	--	
	5	--	--	--	--	\$183,000
Lake Avery	1	--	--	15,000	82,500	
	2	--	--	6,000	81,000	
	3	--	--	3,000	33,000	
	4	5,000	5,000	2,000	27,000	
	5	--	10,000	1,000	11,000	\$234,500
Rio Blanco	1	--	18,500	2,000	20,500	
	2	--	5,000	500	5,500	
	3	--	10,000	1,000	11,000	
	4	--	--	--	--	
	5	--	--	--	--	\$ 37,000
Grant Total						\$11,882,450