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A TEN YEAR PROGRAM  
for the  
IOWA STATE CONSERVATION COMMISSION

Prepared by the  
WILDLIFE MANAGEMENT INSTITUTE

1958



## PREFACE

This report on a proposed ten-year conservation program has been prepared at the request of the Iowa State Conservation Commission. This Commission requested the Wildlife Management Institute to undertake the study but requested it to secure consultants to study the parks and the forestry programs. The forestry section of the report is the work of Jay H. Price, a former regional forester of the U. S. Forest Service who is very familiar with Iowa forestry problems. The section on parks is based on the work of McFadzean, Everly and Associates. From this firm, Arthur L. Schultz and Louis Scoggins carried on the field work and worked with the staff of the Wildlife Management Institute in formulating and developing the study and format of the report. Special mention is made of the work of William J. Allen of the Institute staff for his efforts in gathering material for the fish and game section and in the coordination of the report. The final draft and the arrangement of the report has been the responsibility of the Institute, although a rough draft was submitted to the consultants for their comments before final editing.

It has been a real pleasure to work with these people. The preparation of this report has been an interesting even if an arduous task. I am sure that the consultants, as well as the Wildlife Management Institute, hope that it will be of value to the Commission and to the people of Iowa in years to come.

Ira N. Gabrielson, President  
Wildlife Management Institute

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Introduction

In retrospect the Iowa 25 Year Conservation Plan was a masterpiece of insight into sound conservation policies and practices; a documentation of professional knowledge almost antedating the profession. It was then--and is still--a sound guide for the management of Iowa's outdoor resources. Those who drew up this plan contributed a vast reservoir of experience and knowledge to those who were later to manage the state's fish, wildlife, parks, and timber resources. They could not, however, reasonably anticipate the unprecedented expansion of our human productiveness both in number and in goods; the accompanying prosperity, material wealth, leisure time, and the subsequent demand for healthful outdoor recreation. Project as they would, anticipate as they could, they did not, they could not provide for today's needs.

Nor could they foretell the pressure of a modern industrial-agricultural economy on the natural resources of the state. Increasing demands for agricultural acreage, domestic and industrial water requirements, irrigation, erosion and pollution, flood control, all combined to reduce severely suitable growing space for wildlife, for trees, and for humans as well. Nor could they who drew up this plan prophesy the atomic age, the incredible machines and chemicals of a modern world. Nor could they, without further study, predict the reaction of wild creatures to such a world. Some animals were readily adaptable; others were less resilient.

Iowa has been fortunate to have had the 25 Year Conservation Plan to guide the management of its resources during these turbulent years, but no plan can stay apace without constant re-evaluation, adjustment to current trends, and modifications to modern concepts. It has been with this thought that the Iowa Conservation Commission, with the expiration of the 25 years, has sought the assistance of the Wildlife Management Institute to bring up to date its program of resource management and to project the management of these resources into the next decade. It must be understood, however, that with any 10-year program, or, indeed, the 25 Year Plan, many of the principles are without definite timetable and must be pursued with equal vigor at all times.

Throughout all of the surveys and plans for the management of Iowa's renewable resources, and in the review of their programs, there have been three outstanding basic problems easily evident. Without the immediate correction of these problems, no program will enjoy the success the people of Iowa deserve. First, there is need for adequate, realistic financial support. All of the Commission's work suffers from lack of money. Also there is not adequate qualified personnel to accomplish this work. Salaries are so low as to be unattractive to most technicians with field experience; younger, well-trained people work only so long as they need to gain required experience to find better paying jobs elsewhere. Iowa, in fact, has been a training school for many of the more progressive states.

Secondly, Iowa has a better resource management program than its citizens realize. The public informational service of the Commission does not fulfill its function of creating public interest and the subsequent support so badly needed by any public agency to carry out properly its assigned work.

Nor do they create the awareness of the public to their future need. No program is static, but especially not those concerned with the management of natural resources.

Finally, in the management of these resources there is a patent need for constant, long-range, closely integrated planning to assure proper recognition and utilization of all of the state's resource values. No one piece of land has a single value; no one animal a single purpose. Each is a product of the other. All living things have a mutual relationship with and are a product of the land--of soil and water. It is for this reason that the various plans of management have been formulated to best utilize Iowa's resources.

The 25 Year Conservation Plan

In order to provide a firm background on which to base Iowa's future program, it would be well to review briefly the accomplishments of the 25-Year Plan. It was, as has always been recognized, a report unique in the field of resource management. Needs were clearly outlined; methods of accomplishment were spelled out. In pausing to reflect on its success, one can only conclude that Iowa could today have the finest outdoor resources in the Central States area had sufficient money been provided for the accomplishment of the 25-Year Plan recommendations.

This lack of funds is especially obvious in those functions of the Iowa Conservation Commission that must depend upon the support of the people of Iowa collectively--the parks and forests--through legislative appropriation. Where, as in the case of fish and game, support is derived from those who use the resource directly by way of permissive license there has been more nearly adequate funds. By way of proof, the adequacy of financing is well reflected in the quality of Iowa's fishing and hunting. There is always some room for improvement, but the technical program presently advocated by the Commission is sound. The need for adjustment is only in the broad areas relative to modern agricultural tenants, water resources, and land ownership. If the state's fish and game resources hinged on--and only on-- the management of fish, animals, or birds, there would be little difficulty. Instead there must be a composite of human as well as "game" management.

Wildlife technicians have not yet well learned to manage people, to elicit their cooperation and support, to integrate the concept of game management with other resource (soil, water, etc.) problems to provide not only for the welfare of the wild creatures but to provide opportunity--opportunity for the fish and birds and game to prosper; opportunity for the recreationist and the sportsman to enjoy these resources each in his own way. The 25-Year Plan recognized this basic philosophy of multiple use, but, in no way critical of the Conservation Commission, it has not become a practice-in-fact as applied to all the spheres of its endeavor. In these times of specialization, there is too little recognition of soil and water as basic to all resource management and that each value to receive its due must be made a part and parcel of all.

Specifically, as related to the fish and game resources of Iowa, the 25-Year Plan enumerated the deficiencies of the program as then conceived and suggested several means by which these deficiencies might be mitigated. Obviously because of changing human concepts and modern living standards and facilities some have not yet been accomplished nor are they now practical. Others recognized as important were initiated, but progress has been slow. Still others have been accomplished, and the people of Iowa are now enjoying the fruits of foresight.

The many lakes in all areas of Iowa are enjoyed by recreationists of all inclinations. There is need for more, but perhaps with modern highways not so many as originally advocated. There is still a great and growing need for erosion control; no lake or stream or farm in Iowa can best serve its people while this danger threatens. The natural beauty of the state cannot survive such an onslaught. And this is not just natural erosion but human erosion as well; the mere press of numbers will destroy the natural wonders, the game habitat, the clear meandering streams and the forest cover so necessary

to the varied requirements of wild creatures just as surely as wind and unchecked water carry the soil, the wealth of Iowa, away from its farms.

Abatement of pollution in its commonest forms is not yet accomplished. Although much has been done to alleviate the more serious conditions, there is today with the growing recognition of the problem much help now at hand that has not been utilized. New regulatory laws and sewerage disposal plant participation programs offer great hope in the correction of this problem.

Nor have forests yet received their due acceptance. Perhaps there never will be widespread important commercial values to be realized, but reforestation, forest cover plants, and small woodlots contribute far more to the natural beauty of the scene, watershed protection, erosion control, and animal welfare than to monetary gain.

There, too, are other dangers not expressly recognized by the 25-Year Plan. Modern demands for water have far outstripped normal supply. This shortage has been further aggravated by pollution and siltation. Increased demand created by modern technology, unwise flood control, and drainage only serve to emphasize the need for equitable, reasonable, and well-balanced water regulation so as to preserve this all important basic resource for the benefit of all Iowans.

Similarly, the use of soils must be closely scrutinized. They cannot be "mined." Nor can they be managed to intensively as to damage other equally important resources. No one would suggest a farmer produce less than modern methods allow simply to provide for game, but new mechanical innovations, changing cultural practices, the use of powerful herbicides, pesticides, and other agricultural chemicals including fertilizers must be studied to safeguard all resources and still insure reasonable productivity. This can only be

accomplished through close coordination of wildlife precepts with those of agriculture and the strict adherence to the concept of "multiple use," meaning in this case actually "mutual benefit."

In making the suggestions or recommendations found in this report, it was not felt practicable to tie them too closely with current or even anticipated future income. Many would require no change in the Commission's financial structure; only more proper or efficient utilization of those monies presently assigned. In the majority of cases, however, additional funds, greatly augmented funds, would be required. It is unfortunate, but most of the Commission's activities have been sorely hampered by unrealistic financial support. This is equally true whether the money has been appropriated or from special funds. Some divisions have been more fortunate than others, but that the people of Iowa still possess the natural resources they do is a miracle--a miracle not because of what the people of Iowa have done to preserve these resources, but because of what they have not done.

It might seem to some now that the original 25 years have elapsed a "new" plan should be evolved, perhaps a 10-Year Plan. Such complete abandonment is not warranted; nor is it wise. The underlying principles which governed the recommendations originally advocated are timeless; they are no less applicable now than they were in 1933. Any other plan such as the present one can only be a restatement of these policies in a modern dress, a re-evaluation, a redirectioning of the effort, with some new emphasis on the most immediate needs. Therefore, it should not be implied that this is a 10-Year Plan to supplant the previous work. It is only to supplement in a brief way an already sound program; for taking but one example, consider the present controversy over water. In the 25-Year Plan there appears the following:

*note*  
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"The underlying objective is that of attaining a balanced utilization of the state's surface water resources. The specific uses to be considered are: public water supply, sewage dilution, fishing, waterfowl and other wild life, water power, navigation, stock watering, ice, recreation, and value in the landscape. The effect of surface waters on rainfall, temperature, stream flow, and ground waters are also basic considerations. The problems fall into five groups: the restoration and maintenance of water surfaces, of depth, and of water flow; the elimination or control of sewage, stock pollution, wastes, silt and algae; the provision of public access; the control and public use of water power developments; and the proper use of private and public shore lands."

This is in itself a statement of today's problem except for the specific omission of the word irrigation. Obviously, this present study, limited as it is, can only hope to direct attention to those problems already well delineated by but not solved through the application of the 25-Year Plan. Others not so well defined, in this case relating to water, are the legal rights and obligations accruing through the ownership of riparian lands. Riparian ownership by the Commission is of paramount importance. It is "money in the bank" for all forms of recreation, wildlife, or other resource management. The state has been fortunate in that it has had proprietary interest in the meandered natural waters of the state. However, this is not now sufficient (nor for that matter yet fully established). Giant engineering works, local and state regulatory or drainage laws all will combine to limit use of water except to riparian owners. The Commission acts as the custodian of this resource for the public so must assume and preserve the responsibility, and provide for capital growth as would a private fiduciary body.

The importance of water as related to any resource management program cannot be overstressed. If there is a single feature of paramount importance in the management of renewable resources, it is water--water in all its forms and applications of use. There can be no game or fish management without

water, no recreation, no outdoor sports, no vegetation, no scenic beauty. The Iowa Conservation Commission has recognized this fact and has assumed an active role in the preservation of Iowa's water resources. It is only mentioned here to emphasize the importance of this endeavor and to stress the need for an immediate but equitable solution of Iowa's water controversy. The work of the Commission, and especially the attitude it has assumed toward the controversy, is to be commended.

A problem of secondary importance, but only slightly so, is that of land acquisition and ownership by the Iowa Conservation Commission. It has already been noted that riparian ownership will greatly strengthen the ability of the Commission to manage properly the resources charged to its supervision. The ownership of land carries certain privileges but also some obligations. Even though it is recognized that the state can never own sufficient land to provide for the recreation needs of all of Iowa's citizens, they are far from the point of saturation (income balanced by maintenance) and should accelerate acquisition of all types of land, especially stream access points.

There is, however, a need for caution in such an ambitious program. A precise survey or inventory of all lands should be made, both public and private, to determine the usefulness of each parcel, the interrelation of each to the other, the specific use of each, and how it might best serve the overall program. A long-range planning program for each unit, and for the state as a whole, is needed to insure proper utilization of present lands and as a guide for the acquisition of new areas. Such planning necessarily must be related to all phases of Commission activity, but should not at this critical stage delay acquisition of any and all lands reasonably suited to public recreational use or for the management of the resource.

In relation to and because of the importance of the preceding recommendations relating to water and land so as to insure proper use and the realization of total benefits, the Commission and its employees must view these programs objectively in light of over-all service to all citizens of Iowa.

For the state as a whole, the Commission's program must consider all regions or areas. There are now localities or areas of recreative endeavor not as well served as they might be. Some require additional land; others have great potential for management; still others (all too common) do not receive equal recognition by all major divisions of the Commission. Each area, each region, each parcel of land must be managed and developed, consistent with its basic purpose, for its fullest possible potential. Only in this way will the Commission receive and deserve the support and cooperation of all of Iowa's citizens.

Similarly, there is a need for greater cooperation and closer working ties with related agencies, both federal and state. The Commission obviously feels that this is a line of productive effort, but should concentrate on obtaining the understanding and coordination of their programs with those of the Corps of Engineers, the various agricultural agencies, federal, private, and interstate groups. This too does not in any way impugn the present policies of the Commission, merely a restatement to emphasize the importance of such cooperation, to redouble the efforts to obtain understanding. At times it may seem that the Commission must go beyond its moral obligation, but it must be constantly borne in mind that fish and game are products of the soil and, at least on private land, must be produced incidental to and without detracting from the primary purpose. In many instances, the objectives of the Commission can be realized through such an approach where it would fail if justified on

single-purpose merit. The actual seeking of such support from related agencies cannot be over-emphasized.

Reviewing the specific recommendations found in the 25-Year Plan, it is evident that the Commission has accomplished much in the past few years.

Erosion control still remains a problem but it is not insoluble. Close coordination of Commission activities with those of the Soil Conservation Service, Small Watersheds Program (Public Law 566), the Agricultural Stabilization and Conservation Committee (ASC), Agricultural Conservation Program Service (ACP), and the individual landowners residing in the particular watersheds will eventually contribute much to the solution of the problem. There already are well-established working groups, such as the soil conservation districts and the Soil Conservation Society of America, which will contribute much to this work. Attacking the problem through established agencies seems to offer the best possible solution.

Contrary to the original recommendation, some land in close proximity or contiguous to state project lands should be purchased for erosion control. This land would be managed for erosion control, but would also contribute materially to the primary purpose of the project. To illustrate, the take line of all future artificial lakes should coincide with the nearest surrounding ridgeline, as far as practicable, in consideration of the topography. In every case, however, the purchase unit should include far beyond the current 300-foot line, and in no case should inholdings be allowed to remain.

The broad implications of water management and riparian ownership have already been considered. In the future consideration of water problems, fullest possible advantage should be taken of presently existing laws, both federal and state. There is now a practical avenue of recourse to alleviate interstate pollution problems. Also federal participation programs enable

small municipalities to construct sewage disposal plants at reasonable cost to the local people. Recently enacted federal legislation will make mandatory the fullest consideration of all resource values in the construction of public works projects by the Federal Government or under a federal permit. The State Conservation Commission should establish close day-to-day relations with these construction agencies so that the people of Iowa will realize the greatest possible benefits from such construction as is contemplated on the Missouri and the Des Moines Rivers, as well as others, and will not suffer resource losses without just compensation.

Other problems relating to water discussed in the 25-Year Plan are now corrected, or will be, with the application of related conservation measures. Sufficient land surrounding artificial lakes planted for wildlife and aesthetic values will contribute much to erosion control, stabilize lake levels by eliminating bank erosion, and to a great degree obviate the future necessity of dredging sediment-filled lakes.

Access to many of the natural lakes still remains a problem. Where purchase of sufficient land is not possible, "zoning" as suggested in the 25-Year Plan should not be discarded as impractical, both as a means to permit the public to enjoy their property and to control development to insure the preservation of natural beauty.

#### Fish and Wildlife

The importance of the complete integration and the interrelationship of all phases of resource management is nowhere so evident as with the management of land for wildlife. This is particularly true in states rich in agricultural land. Advantage must be taken of every bit of land to provide food, cover, and winter shelter if populations are to be maintained at such a level as to retain the interest of the public in conservation programs.

"Such suitable circumstances exist generally in places not used for the 'practical' activities of men, that is in woods, low growth, marshes, lakes, river margins, unbroken prairie, wild breaks and gullies. Wherever these types of environment are available wild things will find refuge. Hence, virtually every other element of the conservation plan has a direct bearing upon the restorations, march projects, artificial lakes, woodland conservation, and soil conservation measures, the roadside improvement program and the whole upland game schedule for re-establishing cover and feeding grounds."

This, as stated in the original plan, is just as true today as in 1933.

Like other phases of the original program the guiding over-all policies are still sound; it is only in the recommendations regarding the day-to-day application has time and additional knowledge found not error but the need for constant growth and revision of the plan if it is to succeed. Many species were once considered doomed to extinction. Deer, turkey, quail, and ruffed grouse all show more promise of increase now than a quarter century ago.

There probably is no present need for as many "refuges" as was once deemed so necessary. Conversely, however, conservationists should be ever on the alert to recognize changes in land-use patterns, new chemicals, or equipment which might endanger present populus species and to preserve those less fortunate, but only so far as they might remain in a fairly natural state. There is little need for outdoor zoos. Preservation, or enhancement, of animal habitat, however, should not be limited to "game" species. Fortunately "wild land" habitat serves most species without distinction if only all of the component parts are present and in sufficient quantity.

In reference to all wild creatures it should be self-evident that they are subject to the vicissitudes of changing land-use patterns. Some benefit; others lose. It would be foolhardy and a waste of sportsmen's money to attempt to preserve those species not now provided either naturally or by

manipulation with sufficient habitat. In most instances artificial maintenance of environmental conditions conducive to harvestable numbers of game is economically no substitute for natural conditions. Conversely, where there are species that have prospered through human occupation of the land (deer, doves, etc.), it is a waste of the resource and perhaps a disservice to the animal not to harvest the surplus within reasonable biological bounds. It should again be noted, however, that modern game management is not simply the manipulation of the wild species. It is in many instances the human population that must be controlled, i.e., "people management."

Successful management involves a reasonable balance. A case in point currently before the people of Iowa is the mourning dove. Biologically, there is no sound reason for not harvesting a reasonable crop; sentiment would, however, dictate otherwise. In any case, it is likely that the dove would regulate itself in this matter; for should a season be established, it would be within limits set by federal law. At that particular season doves are on the verge of migration. Heavy shooting would soon drive them out of the state with few ever being taken by the sportsmen. Consequently, any such controversy would undoubtedly resolve itself into "much ado about nothing."

It should not be construed, however, that unique or endangered species do not merit every attention to preserve that particular form. They provide an immeasurable contribution to scientific study and aesthetic beauty, and, in many cases, a very real economic value to the farmers.

There has probably been more progress in the effectuation of the fish and game conservation proposals as outlined in the 25-Year Plan than any of the others. There is little doubt but that this progress may be attributed to the system of financial support by the user. Not infrequently funds are inadequate to accomplish desirable aims, but at least those who

enjoy the fruits of the program carry the burden of support. Additional financial support will have to be sought if all of the recommendations found in the 25-Year Plan and subsequent reports are to be carried out.

Iowa is fortunate in that it possesses many of the natural conditions so beneficial to upland game, especially quail and pheasants. The state also possesses a great potential for waterfowl despite early misuse of the land. The fullest potential of all game animals, however, cannot be realized if complete dependence is placed on the individual landowner to provide a shootable surplus. With few exceptions the programs outlined for the management of game have been carried out with commendable success by the Iowa Conservation Commission. With more intensive habitat management there is no reason, in light of present knowledge, why all of the citizens cannot enjoy shootable populations of game which are adaptable to their particular geographic region. Deer, with an intensified program of realistic management and off-season protection, could become common statewide. Quail and pheasant similarly should provide unlimited hours of recreation within the range of each. Further extension of exotic species or extension of native or naturalized species beyond their normal range should not be attempted without first establishing productive programs of less indefinite nature.

One important key to the success of game management in Iowa has been the aggressive land acquisition program fostered by the Commission aided by federal funds. The acquisition of marsh and other wetlands will assure fine waterfowl habitat for years to come. Small lakes, streams, and their shorelines supplement wetlands and provide for terrestrial forms as well as fisheries. Adjacent farmlands contribute much to the value of these "waste-lands." There is not one species of game in Iowa that has not benefited by this program.

Except for a more equitable distribution of these state-owned wildlife lands (southern Iowa's poorer farmlands and brush-covered hills interspersed with deep valleys present a real opportunity to the game manager), the Commission to its credit has far outstripped the recommendations of the 25-Year Plan but unfortunately does not yet possess sufficient land to meet the needs of Iowa's outdoor citizens. Also it should, in the continuation of this program, begin to plan for the time when more intensive management will be needed. Fewer areas will have to produce more game; opportunity will have to be provided for increased numbers of hunters. These problems can only be met with precise long range planning for individual units, each as related to its neighbor and for the state as a whole, surveys and inventories, and continuing intensive investigation.

Although many of the recommendations of the 25-Year Plan are now a matter of fact, there are still some that for various understandable reasons have not been carried to their ultimate conclusion (if, indeed, in a dynamic field they ever can). Acquisition of areas, both natural and artificial, should continue, especially for access. The Mississippi, even in its present state of development, warrants the close attention of the Commission. The Missouri bottoms with the imminent development of engineering works is a real challenge. It could become one of the greatest recreational assets Iowa will ever possess.

The regional approach to fisheries management suggested in the 25-Year Plan is sound. Much of the work outlined has been accomplished. Both fish and game management in Iowa has reached a stage requiring some change--perhaps one to more intensive management or individual species management. Hatcheries and trash fish control have reached their ultimate development under presently practiced methods and degrees of intensity of fish management.

Fish rescue work has generally been discredited and, except for very limited special instances, should not be practiced.

The construction of artificial lakes should be continued especially in those areas lacking natural waters, for replacement of older, naturally altered basins, and to relieve increasing use of existing lakes. Full advantage should be taken in southern Iowa of the federal small watershed program to create new waters provided they are properly planned and coordinated to supplement the Commission's work. Similar programs should be worked out with the Corps of Engineers, and to protect these waters as well as all others, with the various federal programs which encourage pollution abatement and erosion control.

Stream improvement as a tool of management has been neglected in Iowa since the CCC days, but like so many other phases of management its success is predicated on good watershed management. Stream improvement, per se, should be applied to more of Iowa's drainages, but only as a phase of total watershed treatment. This concept is equally applicable to lakes as well as streams, but especially the northeastern trout streams where "gully washers" annually destroy the naturally suitable waters that have not already been made sterile by local drainage and levee districts sponsoring "stream improvement" works.

Highway construction frequently causes similar damage. With the new federal highway construction program, local people should be alert to this type of loss and, in fact, should insist on stream enhancement through construction of small stop-log structures in place of culverts under fills across streams or small drainage ways. Creation of these numerous small dams would be an important contribution to fish and wildlife but more important would supplement the federal small watershed program through flood and

erosion control. Also these many small lakes would provide ideal sites for roadside rest stops so popular with today's motorist.

The suspension of dredging operations by the Commission until watershed improvements can be made is to be commended.

### Forestry

Aside from the activities centered around Iowa State College, the state's forestry program had its real inception as a result of the conservation studies made a quarter of a century ago and published as a part of Iowa's 25-Year Conservation Plan. The Commission has drawn heavily upon the recommendations of these early conservationists and has developed a well-rounded program. Unfortunately, possibly because of its very diversity, forestry has not received the attention it deserves from the people of Iowa. The original 25-Year Forestry Program and today's program have not "gotten off the ground," sound as they are. Basically, these programs include woodlot management, revegetation of eroding and nonproductive land, and preservation of "reserves." To accomplish these aims the state has now a limited program of technical assistance for private owners, a fire control and reporting system, and foresters to administer state-owned woodlands and preserves.

The plan justifies its recommendations not on timber production alone, but even more emphatically on erosion and siltation control, improvement of wildlife habitat, outdoor recreation, and the aesthetics of the landscape. It emphasizes that to conserve any one resource, all resources must be conserved--that soil, water, forests, and wildlife are so intimately related that conservation of any one requires, and contributes to, the conservation of all the rest. This is especially true with forestry.

The Commission's latest formal statement on over-all forestry policy and objectives is one approved January, 1949. It is a comprehensive statement

in respect to the current program, but does not provide the flexibility so necessary to renewable resource management; nor does it emphasize the importance and urgency of such a program. It would appear that forestry has not occupied a place of sufficient importance in the deliberations of the Commission as related to its other interests. It has not recognized the importance of multiple-use values and purposes of state-owned forests. These areas are not just for demonstration, although they are disproportionately important in this respect in Iowa where there are no large, well-managed public or private forests. They can and should be developed into valuable state properties in their own right, performing not only the functions of timber growing and erosion control, but also serving importantly for the production and harvesting of upland game and for the more simple forms of outdoor recreation.

This multiple-purpose concept gives added weight to the Commission's requirement that detailed management plans be prepared for each of the Group 1 forests. Such management plans should not be merely timber management plans, but should cover all forms of use that are appropriate and desirable. Here, the forester will need aid from other members of the Commission's staff, particularly from the biologists, at least to the extent of developing and employing properly the criteria pertaining to uses other than those of a purely forestry nature.

In view of the present lack of strong economic motivation for private forestry on Iowa's woodlands and of the multiple public values and services involved, the Commission should develop present holdings into administrative units capable of efficient management in respect to all resources. Furthermore, it should acquire substantial additional areas of native woodlands, not only to preserve and increase public benefits, but also to increase the variety and geographical distribution, for demonstration purposes, of the state forest

system. Of special importance in this respect are the narrow, meandering stream bottomlands containing most of the remaining timber in Iowa. These strips are not now being well managed and will soon deteriorate to the level of the southern oak uplands where fire, high-grading, disease, and grazing have brought about a condition that only many years of intensive timber stand improvement work can correct.

Iowa's program of technical aid to woodland owners is competently organized and directed as far as it goes and demonstrates the value of this approach to farm forestry problems. However, under present budget limitations, only a start has been made. Immediate expansion of the program is necessary in view of the magnitude of the problem, and also in view of the many other farm programs in which forestry has a prominent place, but which, for best results, require on-the-ground integration, one with the other, and with the forestry program of the Commission. The farm foresters, if available in sufficient number, could perform this function.

### Parks

In an examination of the Iowa state park system as it presently exists in relation to that envisioned by the 25-Year Plan, the most logical criterion that will serve as a valid survey yardstick is the intent of those who created the state parks. What did they hope to accomplish? If it is understood what was intended, it is not difficult to measure facilities and operation to estimate how nearly these aims have been achieved; if they are still valid responsibilities of the state; and, if not, how the state might now best fulfill its responsibilities to the citizens of Iowa.

Newton B. Drury concedes ". . . obviously, parks are intended for human enjoyment." It is axiomatic that every taxpayer regards parks as being intended for his enjoyment; that every act of conservation, every acre acquired,

every dollar spent for development is spent to meet human requirements.

Since 1940 and World War II the population has grown at a rate inconceivable in Theodore Roosevelt's day. The Bureau of the Census estimates that if our growth follows present levels until 1975, the national population will exceed 228 million. Since 1950 the population has been moving westward at such a rapid pace that the West is growing twice as fast as other regions. Cities are steadily growing much faster than rural areas. In 1950 the Metropolitan Areas accounted for 56 per cent of the population; and in six years, in 1956, this had increased to 59 per cent.

Nowhere is the trend toward outdoor vacations so evident as in America's state park systems. Over 217 million persons visited 2,200 state parks last year, 8 per cent over the preceding year.

This trend is reflected in the growth of the leisure market, where man's hours are bid for as competitively as his dollars. The average man has 2,200 hours of leisure a year that have given rise to the leisure industry which exceeds \$33 billion dollars annual gross income. It represents from 12 to 15 per cent of the national after-tax income. To assure that these increasing leisure resources will make their maximum contribution to our culture, leadership, and appropriate provisions must anticipate phenomena and correct problems associated with increasing leisure.

Newton Drury has also said that "State Park funds are not intended to be used as a subsidy to local recreation." There must be a teaming up between state, country, and local park systems if the proper needs of the growing Metropolitan Areas are to be well met. The most critical need is for land to serve two-thirds of the nation's population. The need for land is accentuated in these areas where every form of community development, including homes, schools, parking facilities, airports, industrial plants, and traffic interchanges all require larger sites.

Fundamentally, the inspiration for the state park movement has been to preserve and maintain unusual scenic beauty, to preserve native landscape, cultural features of importance, and the wonders of nature. Park functions should be so planned as to accommodate increasing human use, applying architectural tools at hand to preserve natural features, protect flora and fauna, and harmonize human enjoyment with the natural environment.

The traditional state park standards have been defined by the National Conference on State Parks as follows:

1. **STATE PARKS.** Relatively spacious areas of outstanding scenic or wilderness character, oftentimes containing significant historical, archeological, ecological, geological, and other scientific values, preserved as nearly as possible in their original or natural condition and providing opportunity for appropriate types of recreation where such will not destroy or impair the features and values to be preserved. Commercial exploitation of resources is prohibited.

State significance of a site exists in (a) inspiration landscape and wilderness values that would attract visitors from all sections of the state, and perhaps outside of the state, or which would, in the foreseeable future, possess such qualities and attractiveness if adequate protection and access were made available, and (b) areas that are adjudged by competent authority as best exemplifying the natural landscape of the major physiographic divisions and provinces of the state as shown by accepted classifications.

An important factor is adequacy of area and boundaries to include reasonably consolidated physiographic units to permit proper protection, development, and administration. In many cases an important factor may be a determination of whether there are present scenic elements requiring the kind

of protection that park status can give; or whether, in the main, the scenic elements can be preserved and used more profitably by some other form of public reservation or device, such as zoning. Another important factor may be the practicability of developing facilities required for health, safety, and comfort of the visitors and their enjoyment of the area in a manner consistent with the preservation of the natural features of the area. Only those facilities should be provided which involve no major modification of the lands, forests, and waters or introduction of artificial features, such as athletic fields and golf courses.

State parks should be designated on the basis of state-wide significance, although where possible their distribution should provide people in all parts of the state with access to park areas.

2. MONUMENTS AND HISTORIC SITES. Areas usually limited in size, established primarily to preserve objects of historic and scientific interest, and places commemorating important persons or historic events. The only facilities usually provided are those required for the safety and comfort of the visitors, such as access, parking, water, sanitation, and interpretive devices.

3. RECREATION AREAS. Areas selected and developed primarily to provide non-urban outdoor recreation opportunities to meet other than purely local needs, but having the best available scenic quality.

Selection of areas should be determined primarily on the basis of providing adequate, non-urban recreation opportunities accessible to the people. Geographical distribution and relationship to concentrations of population are paramount. In some instances, however, exceptional and extraordinary recreational potentialities

4. NATURE SANCTUARIES. Areas often limited in size, established for the purpose of preserving distinctive natural communities of plants and

animals for their scientific and esthetic interest.

State significance exists in (a) areas which best portray the natural processes that have formed the earth and its plant and animal life, (b) areas which portray some specific natural process so dramatically and arrestingly as to be unique or of sufficient importance to be worthy of state-wide interest, and (c) areas which contain the best remaining examples of native plant and animal species, ecological relationships, and other rare natural objects and conditions.

Areas of significant scenery and objects of historic or scientific interest should be preserved. Often, however, selection of such areas for the park system on a geographical basis to meet the needs of people is not always possible. Even so areas that best portray exhibits of the various types of natural scenery, objects, or phenomena; plant and animal life; historical objects, or places commemorating important persons or historic events should be considered as possible additions to the state park system.

Logical balance among the various scenic scientific, and historical types should be sought so that a well-rounded pageant of the state's natural and cultural heritage may be preserved and presented to the public. Areas of extraordinary value, however, should be selected regardless of balance.

Preservation of areas of unique or unusual scenic, scientific, or historical interest is justifiable even when they are remote and difficult to reach. It should be recognized, however, that the element of use is one of the principal considerations, and the selection of a site that will be visited by thousands of people each year is to be preferred to one that is so remote that only a few will be able to visit it.

Consideration should be given to attaining logical balance among areas providing opportunities for various kinds of recreational activities,

and the relation of these areas to population distribution should be sought so as to provide a well-rounded system to meet the recreational needs of the people. In doing so, consideration should be given to the recreation opportunities provided by other areas administered at all levels of government, such as county, state, and national parks and monuments.

These traditional areas--state parks, monuments and historic sites, recreation areas, and nature sanctuaries--can be well adapted to aid conservation programs. Through proper acquisition, intelligent site planning, park areas can compliment the hunting and fishing grounds, as well as game preserves. Naturally, this applies to forests, artificial lakes, lake and stream improvement programs, also. The state park and recreation areas will enjoy the advantages of these added resources, as well as have future potentials for expansion.

For example, any potential river improvement, including construction of a dam, dredging a lake, controlling the erosion of banks, and diverting sewerage, should include acquisition of lands to permit development of game management areas, creation of swimming beaches, and public access to the lake for boating. The whole project has a multiple-purpose function, rather than merely preserving the scenery. Actually, the scenery may be enhanced, the forests and wildlife may be fostered and supported, and recreational activities can be provided to meet increasing human needs.

The Iowa state park program was begun in 1917, when the Board of Conservation was first organized. The first park was a tract of 1,300 acres in Delaware County and became known as Backbone State Park. By 1933 thirty-nine sites had been designated as parks. Three added sanctuaries brought the total acreage to 8,200 with sizes ranging from 2½ to 1,300 acres. Today the total acreage of state parks, state forests and preserves is 41,908.77 acres,\*

\*June, 1956 estimate

with an annual attendance in excess of 6 million. The parks offer camping for groups, in tents and trailers; overnight cabin accommodations; a number of varied concessions; state park lodge accommodations in 17 locations; and water recreation on 25 artificial lakes within state parks and public access to natural lakes and streams. Picnicking, boating, fishing, and many recreational attractions are available.

As pointed out in the 25-Year Plan, the land character is determined by glacial drift and loess. The northern one-third of the state is characterized by generally level land and many pleasant natural lakes. The western limits of the state are bluffs overlooking broad flood plains; and at the northeast corner of the state there are rough wooded gorges, river bluffs, and flood lands. The southern third of the state consists of eroded plains, deep wooded valleys and some rolling, wooded upland.

The character of the land makes Iowa a "natural" for its record of erosion. However, 95 per cent of the state's 55,986 square miles of land area is regarded as the richest soil in the United States. In the southern section of the state there is a trend toward more permanent pastured lands because of steep slopes and erosion. Likewise, in northwestern areas there is a trend to transfer to feeding livestock, with gully and sheet erosion being a problem. The northeastern area has rolling topography with erosion and drainage problems.

Iowa has some natural wooded areas, especially stream beds with well wooded banks. The state is not entirely flat. The northeastern section is particularly attractive with hills, deep ravines, rocky gorges, and bluffs. Timber is predominantly hardwoods. The need to control erosion and preserve certain values in the land poses a need for parks as a conservation measure.

The problem of land-use and conservation is today changing with greater industrialization and modern communication. Iowa can only be regarded

on the threshold of such development. Land planning should be started in advance of new superhighways, new schools, new airports, shipping centers, industrial facilities, etc. Increased pavement and roof areas increases the problems of drainage runoff. With Iowa's present problems of erosion and drainage, future growth will magnify these unless the conservation program is vigorously implemented and closely integrated with land planning.

There are 72 natural lakes, 25 artificial lakes, 4 river-lakes, and 6 other lakes, with a total of 47,309 acres. There are 900 miles of state-owned streams and rivers, in addition to the Missouri and Mississippi bounding the state.\* In the upper part of the state there is a favorable supply of deep-well water. However, toward the western and southern limits shallow wells, surface waters, and impounded surface supplies are needed to keep water at optimum levels.

The 25-Year Plan pointed out that most of Iowa's streams and lakes were not clear. Deforestation, soil erosion, silting, and pollution have characterized Iowa's waters for many years. Some progress has been made since 1933, but modern living, increasing at a great pace, has almost negated the progress made. Effluent from septic fields, use of water for industrial and air conditioning purposes, use of water for disposal and similar conditions conflict with the use of rivers and lakes for recreational purposes.

It is recognized that water resources have other uses than recreation alone. Iowa has 70 water power plants that meet utility and power requirements. There are also the potentials of the Missouri and Mississippi to carry barge traffic. If the state increases its industry, if it makes use of any large amount of nuclear energy, water resources will be in much greater demand.

Those factors that are conducive to best conservation of water resources will also be factors contributing most to recreational use of waters.

\*1956 estimate

For parks and recreation purposes, waters should be kept at a reasonably good level. There should be good biological balance. Pollution from all sources should be eliminated. Erosion and drainage of watershed areas should be controlled. In consideration of any future artificial lakes, the state should undertake measures to control all riparian rights even if such requires outright ownership of lands surrounding the lakes.

Commission Policies

The present program of the Iowa Conservation Commission appears to have followed closely recommendations of the 25-Year Plan. Individually, the major divisions have reasonably good programs. Present individual section or division work schedules are adequate but would be immeasurably better if they were to receive the guidance of Commission-wide integrated planning and coordinated development. If there can be any criticism, it is only in this area of long-range, over-all planning. This applies equally to all the endeavors of the Commission but especially to the acquisition and development of state lands. Also much could be accomplished--to the benefit of all Iowans--if closer working relations were established with and between all agencies or groups interested in the proper management of Iowa's resources.

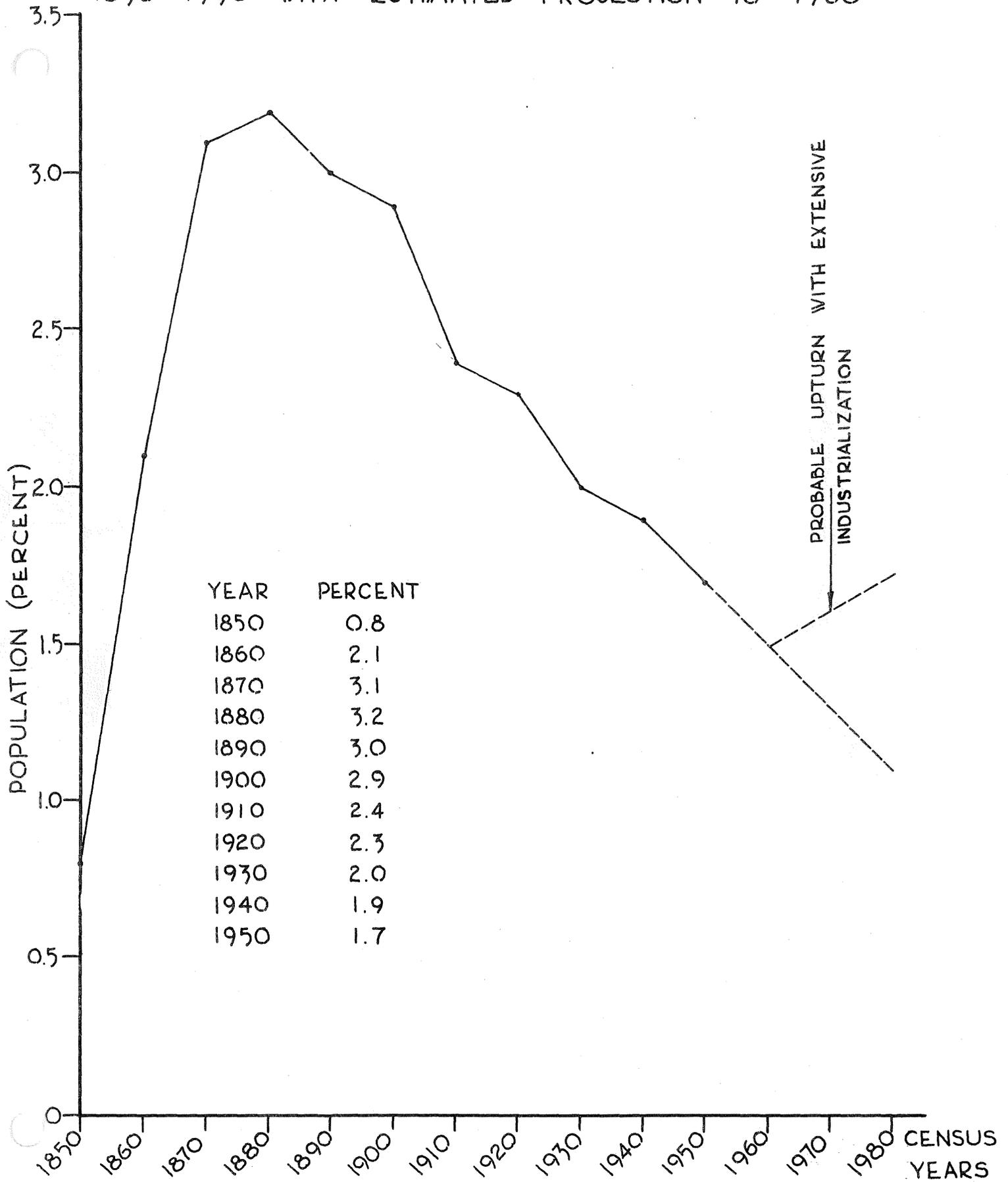
No matter how good the projects of the Commission are, either individually or collectively, the public will not support its efforts without some knowledge of its aims and purposes. Along with a clear-cut statement of policy regarding future planning and development, the Commission will have to establish to a much higher degree an awareness on the part of the public of what the Commission has done, what it proposes to do, how the work will be accomplished, when and what they anticipate for the future. A good public information relationship is absolutely necessary. As this awareness of the Commission's aims and desires is developed, so will be the solution of the Commission's most perplexing problem, insufficient funds to accomplish the most rudimentary program--too little money to retain sufficient qualified personnel to accomplish the work the citizens of Iowa have every right to demand.

Closely coordinated plans between all of the divisions would in a small way help to alleviate the money problem but would not obviate the need for greatly increased appropriations. In no division has the income even matched the decreasing value of today's dollar. The Commission is actually operating on less purchasing power today than was available at the time of the drafting of the 25-Year Plan.

Should this situation continue, it can only result in sharply curtailed services which in turn will endanger the future of all Iowa's outdoor resources. The Commission cannot now keep up with public demand; much of the work has been reduced to a "caretaker" status. How then can the Commission cope with the increased pressures of modern living or new lines of endeavor or investigation being forced upon it by agriculture or industry, or the growing demand of future generations for more and more opportunity to enjoy outdoor resources while the space necessary for the creation of that opportunity grows less--less in acreage, in number of areas and animals, in the kind of areas and animals, and in distribution?

There is no such thing as "planning too big" for the future of natural resources. Those persons who drew up the 25-Year Plan recognized this fact, yet could not envision the growth that would come during the next quarter century. Iowa has not changed materially in this time as far as human population dynamics are concerned. Population figures compiled today with projections for the future are not materially different from those of 1933. Indications at that time were for a total population of approximately 2,700,000 by 1970; current figures indicate this number might be reached by 1965. The total population is less significant for resource management purposes, however, than is the distribution of these people and the way in which they live.

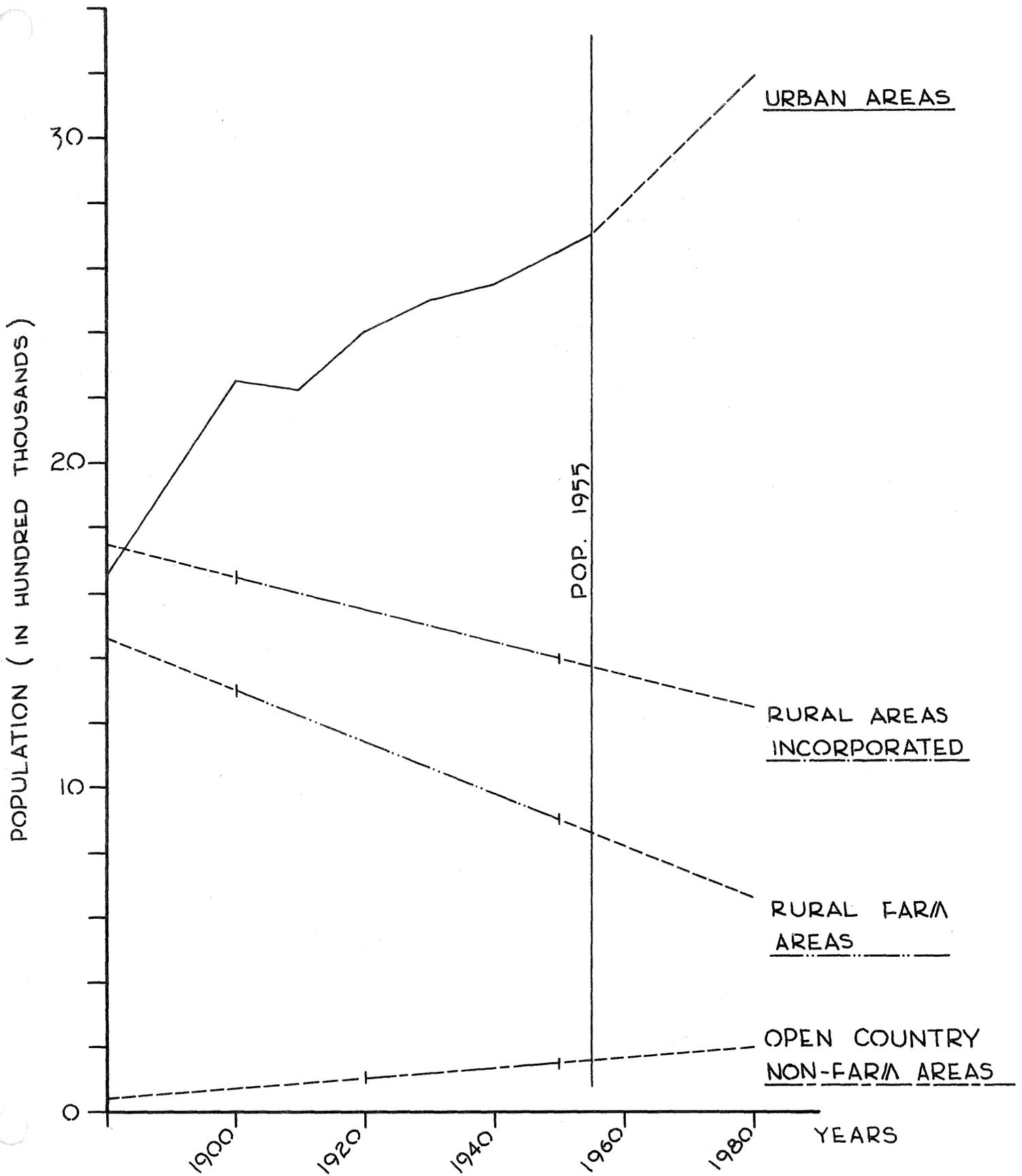
# PERCENT IOWA POPULATION IS OF TOTAL U.S. POPULATION 1850-1950 WITH ESTIMATED PROJECTION TO 1980



(DATA - COURTESY OF RAY E. WAKELEY, COOPERATIVE EXTENSION SERVICE, IOWA STATE COLLEGE)

Figure 1.

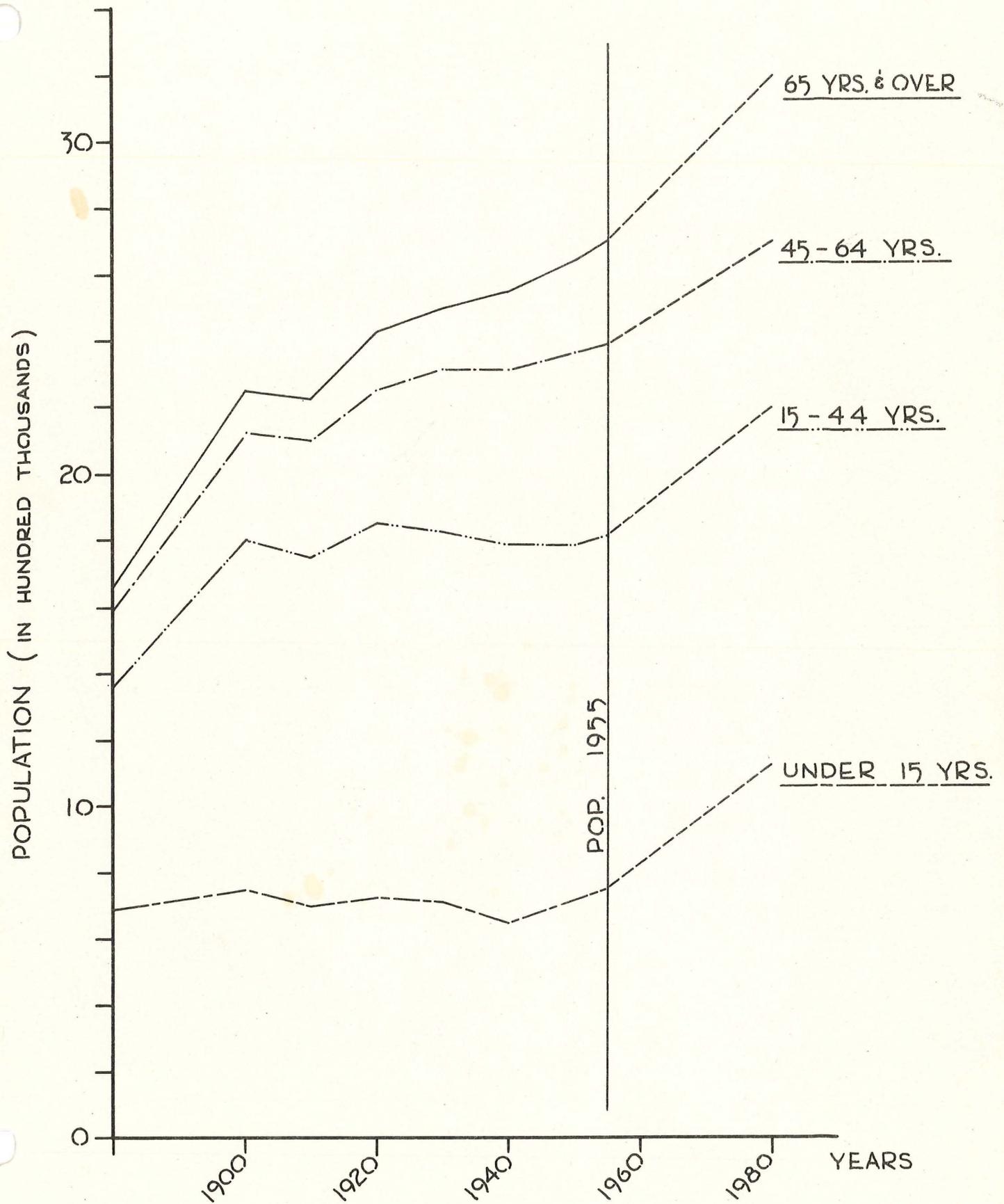
# APPROXIMATE POPULATION TRENDS BY RESIDENCE AREAS



(DATA - COURTESY OF RAY E. WAKELEY, COOPERATIVE EXTENSION SERVICE, IOWA STATE COLLEGE)

Figure 2.

# APPROXIMATE POPULATION TRENDS BY AGE GROUPS



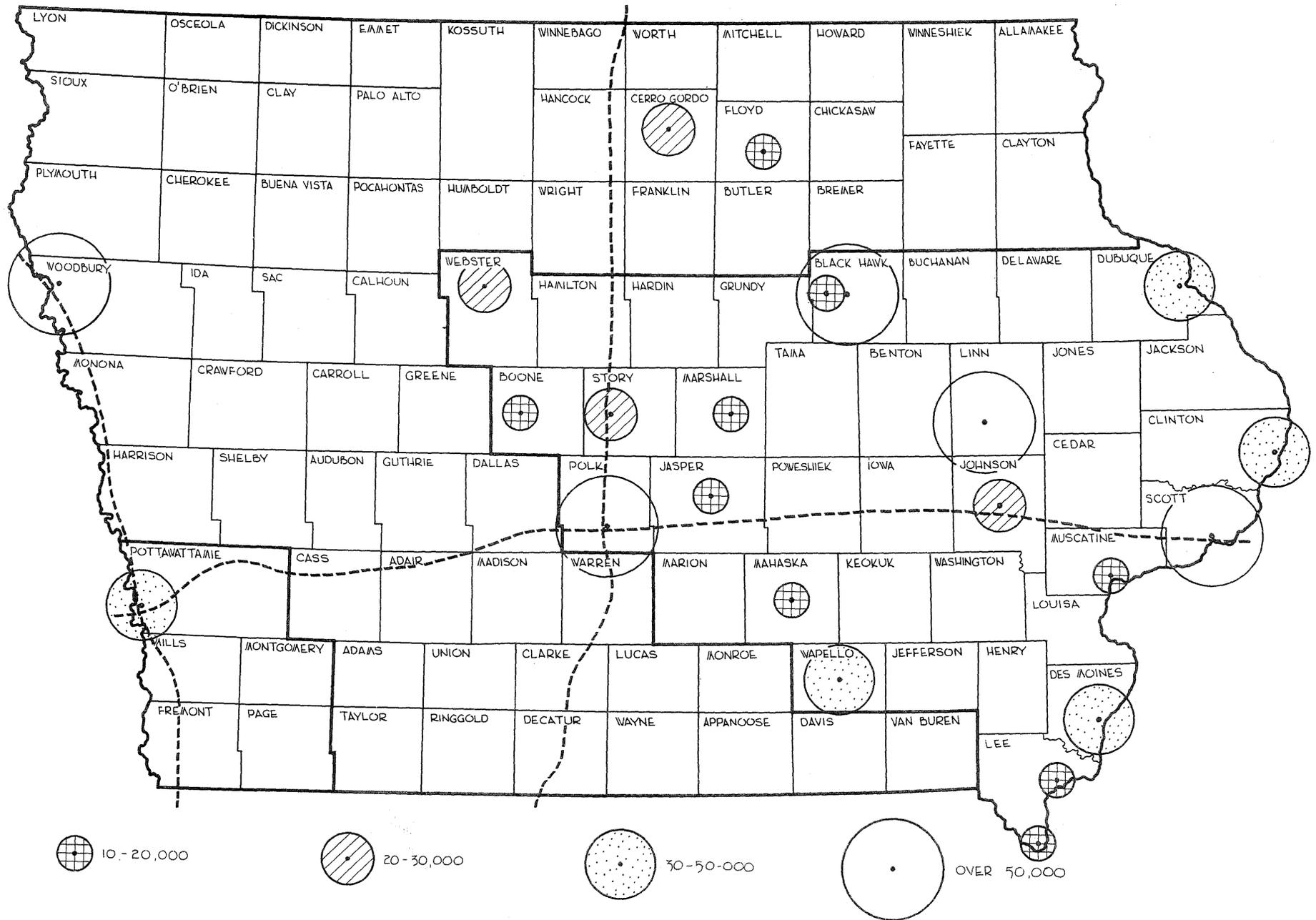
(DATA - COURTESY OF RAY E. WAKELEY, COOPERATIVE EXTENSION SERVICE, IOWA STATE COLLEGE)  
Figure 3.

Iowa is but another state that is feeling the national change in population in composition of age groups. One of these trends is the rising child population and the increasing family size. Along with increasing numbers of children, we have greater longevity, and the proportional number of older adults is increasing.

In 1840 all of the people living in Iowa were rural people. There were small farms with plenty of room to fish and hunt and to produce game. There was little need to get into the country to relieve city-bred tensions. By 1956 the total population of 2,692,000 was equally divided, half rural, half urban. With more intensive farm management there was less area for game, but with half the people living away from the country, there was an increased demand for recreation areas. In a recent 10-year period (1940-1950), the rural-to-urban migration brought about a 13 per cent increase in city (over 2,500) dwellers. During this same period farm dwellers decreased by 11 per cent.

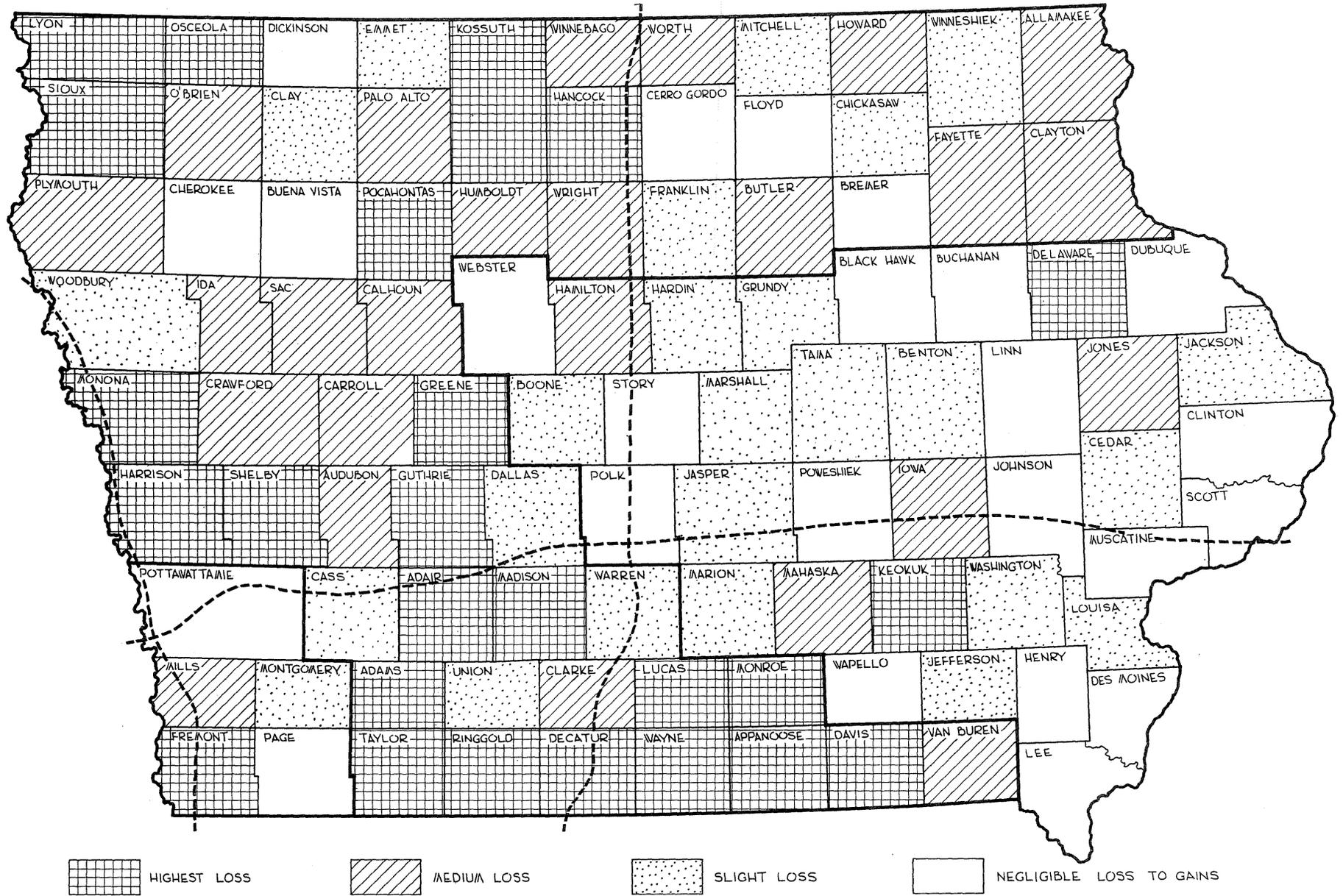
An examination of census figures and those of the Crossley S-D survey indicates an immediate need for an expanded fish and game program, for 32 per cent of the people of Iowa either hunt or fish, or both, but over two-thirds of these people live away from the country. If the normal increase in federal duck stamp sales can be applied as indicative of increased hunting and fishing activity (Fiscal year 1944, 36,749; 1954, 70,510), or if the increase in license sales in Iowa could be correlated (1931, 280,000 combination hunting and fishing licenses sold; 1955, 606,202 resident fishing, hunting, and combination licenses sold, plus others), it would seem to indicate a growing trend toward the utilization of these resources.

Figure 4.



URBAN POPULATION CENTERS  
(1950 CENSUS DATA)

Figure 5.



NET POPULATION CHANGE THROUGH MIGRATION (PERCENTAGE 1940 POPULATION)

(DATA - COURTESY OF RAY E. WAKELEY, COOPERATIVE EXTENSION SERVICE,  
IOWA STATE COLLEGE)

Similarly, the park attendance figures (1931, 2,000,000; 1955, 5,695,000) support this conclusion. Because it is unlikely that these trends will in any way change, the Iowa Conservation Commission should increase the tempo of its activity and should acquire more land to accommodate even the present level of recreational demand.

While these changes are occurring, evidence exists to show that population migration has had no effect on farm production. Between 1939 and 1949 agricultural production increased 20 per cent, and the living index level increased from 133 to 178, or 34 per cent. At present Iowa has one of the highest living index levels. In 1955 Iowa's agricultural products sold was \$2,162,475,000, with only 26.3 per cent of the working force in agriculture.

This is not to imply that Iowa is not an industrial state. Actually, the industrial output of \$3,931,700,000 is considerably larger than farm output. The total number of employed in 1950 was about 1,002,000, of which 273,000 were in agriculture; 152,000 in manufacturing; and 577,000 in other business activities. If current trends hold, by 1965 it is expected that only 230,000 will be in agriculture, 230,000 will be employed in manufacturing, and 750,000 will be in other activities. The state needs industry to take up unused marginal farm help and needs the cushion industry will supply in distressed farm periods. Industry moves into areas where recreational opportunity is provided for employees.

Transportation is another element in the growth of Iowa and its need for more recreational opportunity. There was once a day when communication and travel was primitive enough to permit broad areas of the country to exist with little or no connection with outsiders. These conditions have changed with the automobile, the airplane, and good roads, making the entire area only a few hours from such large centers of population as Chicago and Kansas City.

The early pioneer trails followed from Dubuque, Davenport, and Burlington westward through Des Moines. These routes roughly define the area of Iowa with increasing industrial growth. The tollways now under construction will soon tie this triangle to the tollways leading into Chicago and eastward to New York. Closely following the tollways will be links between Chicago and Europe via the St. Lawrence Seaway. The importance of this link to Iowa rests in the possibility that the Illinois-Mississippi Barge Canal could be improved to handle barge traffic between Davenport and Chicago.

Thus, the industrial importance of Iowa will increase. Iowa's healthy agriculture and potentials for land and water resources make it the new frontier for the Chicago Regional Area. There are similar channels of communication and routes of transport from Kansas City northward. This kind of growth and development can only go hand-in-hand with good conservation if natural resources are to be preserved. A conservation program planned and instituted in advance of growth can assure Iowans that many of the values they hold dear will be preserved--the lakes, the forests, wildlife, and the best conceivable use of the land assured.

Values, in terms of money, are difficult to estimate, but it is generally accepted as a fact that parks and recreation are worth many times more to a community than they cost in dollars and cents. It is hard to put a price on inspiration, relaxation, pleasure, and beauty, but people have never hesitated to spend money in pursuit of the happiness that comes through them.

#### Land Acquisition

In any commission program there are always some features more pressing than others. In Iowa land acquisition is one of these. More specifically, the Conservation Commission should during the next few years strive for a

more equal distribution of state areas. There is a tremendous potential for recreational lands of all types throughout the southern half of the state, along the Missouri River, and in northeastern Iowa. Not only should the Commission buy more land, but in each of these localities there is a good opportunity for them to combine their program with that of some other agency. In southern Iowa there is a great need for small watershed development; along the Missouri and Mississippi Rivers, Corps of Engineer works could be made beneficial to recreation of all types without destruction of these values, but only with close coordination of purposes; in northeastern Iowa there already is close cooperation with the federal agencies on the river.

Despite an aggressive land acquisition program, there already is too little "wild land" left in Iowa. Even if all state lands were managed for their fullest possible game and fish potential consistent with the primary purpose (multiple use), they could not compensate for the normal habitat loss suffered by way of highway construction and urban expansion.

Because it is unlikely that the Commission ever will have adequate funds to purchase sufficient land to alleviate this shortage, it is imperative that the current litigation concerning state ownership of meandered waters be settled. The state should, however, continue to obtain as many areas as possible consistent with income, balance of program, and planned development to insure sound resource management, opportunity to enjoy the resource, and to preserve the natural beauties of the state.

These two facts, the ever-increasing number of outdoor recreationists and equally increasing loss of natural habitat, combine to make the job of producing increasing numbers of wildlife on fewer acres very difficult.

However, the benefits derived from Commission-owned lands could be multiplied many fold. All parks and forest preserves are refuges, but cannot

fully function as such without adequate fish and wildlife improvements. By the same token, all other areas could more adequately fulfill the needs of Iowa's outdoor public if provided with small public-use areas, tree and shrub plantings to control erosion and enhance their natural beauty, or demonstration sites to promote sound silvicultural practices.

All areas, again consistent with primary use, including leased farmlands withdrawn for wildlife, should be re-examined to determine if they are being used comprehensively. Lands acquired under the federal-aid program most nearly meet this standard, but as applied to all lands owned by the state, their usefulness is dependent on comprehensive planning of individual sites, areas, regions within the state, the state as a whole, and at least for waterfowl as related to the flyway.

To accomplish this aim the Conservation Commission should:

1. Compile a complete land and water survey and inventory, making use of all previous data, such as soil classifications, forest and timber surveys, wetland surveys and socio-economic information as, for example, land-use patterns and the new highway system. Since these data would be basic to all future activities of the Commission, they should be subdivided further to permit accurate reappraisal of fisheries, waterfowl, upland game, forestry, and parks programs. Much of the needed information for the compilation has already been secured. It should be put into easy reference form as soon as possible.

2. It should be the established policy of the Commission that in the future complete and comprehensive planning will precede the acquisition and/or development of all Commission lands. Predicated on the above survey and inventory information, this would include the determination of basic

and collateral values, the relation of the particular area to the state program, complete development programming, and financial data. It would also include the taking of options to insure adequate land both for development and perimeter protection at reasonable cost.

In no case should a project be approved if it is in any way restricted or limited. This would include inholdings; limited recreation values, except in the case of unique biological or historical features or endangered values requiring preservation; lack of sufficient peripheral areas; and inadequate control of drainage or watersheds to protect water supplies. The above survey will indicate the locale and number of areas needed, permit adequate planning, and with a backlog of projects permit considerable flexibility in such undertakings. Such planning would also relieve the Commission of local pressures, demands for unwise projects, and the difficulties of financing unanticipated projects.

3. To insure the complete success of such land developments, the Commission should, after the completion of the planning stage, approach local groups to solicit their assistance. This could be in the form of option taking, legislative endorsement, or, as was proposed by the 25-Year Plan, actual financial participation.

4. Planning for the development of all state lands will specifically include, first, the consideration of the biological and recreational values. Secondly, the service groups of the Commission (land acquisition, engineering, etc.) will consider their function only in light of the needs of the basic services. But in no case should any project be considered without benefit of initial planning by all divisions of the Commission.

5. Some lands should be acquired by the Commission for special

purposes in addition to those areas that will receive the public. This should not be construed to mean that the public would necessarily be excluded but that the lands would have some basic use other than directly serving the public. These would include experimental and research areas, nursery plots and possibly farm lands. The Forestry Division is in particular need of such areas. The Game Division could also profit by an experimental farm operated in cooperation with the Wildlife Research Unit and other branches of the College as a commercial venture (without profit) to determine the various interrelationships of farm practices to game management.

6. Where the Commission contemplates divesture of public lands, no matter what the reason or merit of the individual case may be, it should do so only on the advice of all of the divisions. Where the transaction is only a simple transfer between units of the Commission, only the participants need be considered. In any case, regardless of circumstances, the Commission should retain all lands having actual or potential riparian values.

The above recommendations should guide the Commission in the development of its future land policies. There are other recommendations regarding land acquisition and management, but since they are for the most part not related to broad policy determination, they are taken up in the discussions relating to the technical programs of the various divisions.

Obviously there will be many special instances where it will behoove the Commission to acquire land without delay or where future development will be contingent on other factors. Advantage should be taken of these opportunities as they present themselves.

Also there are still some naturally valuable areas extant, such as the small pothole marshes in the northern section of the state. Stream bottoms and small woodlands are in a similar category. Such areas should be acquired as rapidly as possible. If for some reason desirable land cannot be purchased in fee title immediately, leasing with option to buy at a later date should be considered.

### Water

It should not be implied that land acquisition should be the only important consideration of the Commission at this time. Water, its regulation and use, the legal obligations and privileges accruing through riparian ownership, and the overriding importance of this commodity to all forms of recreation rightfully place the consideration of "water" on a first priority basis.

The existing water law of Iowa, Chapter 455A, Iowa Natural Resources Council, grants certain benefits to a relatively few persons to the exclusion of a majority of the state's citizens and makes cumbersome the management of this resource by imposing dual authority on divergent state agencies. Applying the antiquated prior appropriation doctrine of the West (how ever modified) to Iowa will not solve its water problems. The wisdom of granting an exclusive right to such an important resource is already questioned in western states. In many places it has become an economic straight-jacket denying municipalities and industries of their fair share while establishing prior appropriation rights for agricultural use. Changing conditions indicate that such is not always the most advantageous use for the public as a whole.

The prior appropriation doctrine was developed largely on a basis of stored flood water. There are relatively few places in Iowa on the headwaters of its streams where any storage reservoirs could be built that would not flood more good farmland than it could supply irrigation water for further

downstream. Similarly, downstream reservoirs would flood even more good farmland and could provide water for only a limited number of downstream irrigators.

The Commission is to be commended for and should continue to:

1. Seek clarification of, and/or the modification of, Iowa's water law so that it might equitably serve all of Iowa's citizens without priority or special privileges granted minority groups. Excepting domestic use, no single use should be granted exclusive right without recourse.

2. Seek clarification of laws relating to sovereignty lands.

3. Consider a system of zoning to preserve the recreational value of meandered state-owned waters.

4. Accelerate program for acquisition of lands which will give proprietary riparian rights to the Commission on all major waters of the state, but especially all rivers and streams. This will not only provide access for all recreative purposes but will insure the acceptance of Commission planning in all public works relating to water resources.

5. Seek to insure the recognition and consideration of fish and wildlife values in all water projects whether federal or state. Recreation, as well as fish and wildlife planning, should be a part and parcel of the original planning of all such developments.

The new Fish and Wildlife Coordination Act of 1958 (Public Law 85-624) directs federal agencies to take these values into consideration when planning federal water projects. One of the new provisions of this law permits the expenditure of federal monies for the enhancement of renewable resources affected by the project. Passage of a similar law by the state recognizing all values with provision for study by the Conservation Commission of private and local as well as state water projects is needed.

All water development projects should be subjected to a general state policy that would require every proposal utilizing water, or changing its character or properties, to be carefully considered as to its long-term effect on all resources including recreation and fish and game in the planning stage. In this way the maximum values of these resources can be maintained and sometimes improved where, if no established policy exists, they might be adversely affected.

6. The Commission should be able to maintain the waters of the state in a clean and usable condition. Most of its waters today are not in such a condition, largely because of siltation. Passage of an adequate pollution law now would be much less difficult than when there is an increased number of potential polluting industries. Farmers will eventually be forced to take corrective measures against erosion if they are to retain any at all of their farms. This would not be the case with industry. A sound law and firm enforcement would make prevention cheaper than correction at a later date.

7. The Commission should adopt a simplified water traffic code consistent with federal Public Law 85-911, including provision for income to meet administrative costs.

Special mention should be made of the federal and state public works programs which will continue to increase in importance in Iowa. The development of the Mississippi River is fairly complete, but the Missouri work has hardly begun. Coralville is complete; Saylorville reservoir project, the Clinton navigation project and the Floyd River flood control works are still in the planning stages. Red Rock, Rathbun, Central City, Rochester and Mercer Reservoirs are all authorized for construction but have not yet been started. These are but a few examples of what Iowans can expect in

the future. It is, therefore, imperative that a "river basin unit" be established. It must be headed by a person thoroughly grounded in all resource fields who will work directly with all construction agencies, federal, state or private, to plan for recreation, fish, wildlife, and collateral values in conjunction with the purely engineering features of the projects. Without such planning these projects, such as Coralville, will not best serve the people of Iowa.

There is an obvious and definite need for some effort to improve the programming and cooperation of all of the divisions in the Commission. This could be brought about either by periodic conferences between the various heads and the Director's office, or by the establishment of an Operations Programming Committee to assist the Director in attaining complete coordination of the Commission's various functions. Such a committee would also improve Commission relations with such outside programs as the new pollution law (Public Law 660), the Small Watersheds Act (Public Law 566), ACP, Soil Bank, and other U. S. Department of Agriculture programs, the Corps of Engineers, and the Mississippi Flyway Council.

#### Finances

The third and final area requiring some major revision of Commission policy is that related to the financial structure of the department.

Since money seemed to be one of the major problems in 1933, it can be remarked that this is no less true today. It was also recognized then that the only solution to this problem was an informed, solicitous public. The Game and Fish Division through the earmarking of license income has fared well in this respect as compared to divisions wholly dependent on legislative appropriations. No program however well conceived and founded will provide the results expected without a sound financial structure.

Obviously then the problem is threefold, not just a simple lack of adequate financing but also a lack of understanding on the part of the public as to the needs of their resource managers, and, conversely, the absence of a sound fiscal policy to guide Commission employees.

To insure public acceptance of the Commission's activities and to solicit their support, the Commission should:

1. Seek means that will insure intimate integration of all Commission activities, programming and coordinated planning, within and between divisions. There seems to be no better way of emphasizing this need than restating the 25-Year Plan.

"Out of this confusion sprang the idea of preparing one comprehensive conservation plan in which each element could take its proper place, coordinated with the others, and in which the effort and moneys expended could be directed most effectively and economically."

And,

"It seems regrettable that such conservation planning could not have been undertaken much earlier, for it could have saved huge sums of money, for example in checking unwise drainage operations; and the legal and administrative difficulties would now be far less serious than they are."

2. Seeks means to better inform the public of the purpose and aims of the Commission. The program of the Commission is a good one by any standard of measurement, but, as with any program, it occasionally needs some little additional emphasis, re-evaluation, or redirection. The public, however, is only moderately aware of even the more obvious undertakings, such as the construction of large artificial lakes. Again, for emphasis, from the 25-Year Plan:

"But the principal need is to inform the public about the plan and the economies and satisfaction to be derived out of following it in a consistent, far-sighted way. Not conservation in itself, but conservation planning must be impressed upon the public mind, if orderly development is to proceed and effort and money are to be saved."

In consideration of methods by which the Commission might improve its financial structure, those portions of the program that depend on general appropriations (as opposed to special "fish and game funds") require some special discussion. The purpose of parks is to make a public facility available to many people; a park is as public as the roads and highways. It is contrary to park philosophy to seek high revenues even though it could lead to self-sufficiency. However, the fact remains that parks cost money, and the only answer is a tax to support the service, whether it be a cigarette tax, sales tax, or some other innovation.

There is no doubt that a partial answer to this problem is to create more revenue-producing activities in the park program. However, this is not the whole answer and should not provide an escape from facing the fact that a tax base is required for the service.

Other potential sources of funds include a fair reapportionment or division of concessionaires income and the exploitation of special park services. In all recreation areas every special service facility should be paid for at a reasonable rate by the user. This is not to say the parks are to be converted to commercialized traps to get the tourist's dollar and to exclude all free recreation, but they should more nearly approach a pay-as-you-use basis. Suggested additional revenue sources are listed below.

CAMPING. \$1.00 per night per camping unit. No weekly rates.

FIREWOOD. \$1.00 per unit or based on cost of handling.

FAMILY VACATION COTTAGE. \$7.00 per day. \$45.00 per week.

DELUXE VACATION COTTAGE. \$10.00 per day. \$60.00 per week.

GROUP CAMPING. \$ .50 per day per person.

LODGE RENTAL. Rates should be adequate to maintain, replace, or improve facilities provided as required.

CONCESSIONS. Increase Commission percentage of gross receipts.

In most cases special fees such as parking or firewood are only practical where an attendant is required for other purposes. All too frequently expenses incurred in their collection exceed income.

In the whole financial picture operation costs cannot be significantly reduced except through the transfer of several sites to other divisions, or to county and community agencies. Some savings could be made if prison labor used in the parks were paid out of funds designated for correctional purposes. Also the Commission should not be required to pay for maintenance of state or county highways through the parks under any circumstances.

If there is to be any measurable progress in the management of Iowa's outdoor resources during the next ten-year cycle, heroic measures must be adopted:

1. Consideration should be given to the passage of a tax to support parks and other common-use facilities provided by the Conservation Commission. These would include erosion control, roads, artificial lakes, and multiple-use state lands providing some values in watershed protection, game, fish, access, park and picnic facilities, and forestry, as well as pollution control and indirect agricultural benefits (plantings of trees and shrubs, soil bank and ASC cooperation, small watersheds program, etc.). A general appropriative fund would still be required.

2. Limited-use facilities provided by the Commission but still of common value (technical forestry; historical or other unique value areas; water conservation; and all other special legislative directed works) should be included in and receive a proportionate share of the biennial general appropriation fund.

3. Special interest facilities (fishing, hunting) would continue to receive their funds from earmarked license income. But because there are

numerous collateral values derived from fish and game management, a proportionate share of total expenditures should be appropriate. These would be funds expended indirectly for farm program research, aesthetic values, "bird watching," enforcement of all state resource regulations, pollution abatement, erosion control, special education programs, water retention works, and others.

4. All appropriations should be made on the basis of detailed plans and budgetary programming for all Commission functions.

5. All license fees should be increased (as with appropriations) to at least match increased costs of operation and deflated dollar values.

Above and beyond the obvious need for more realistic financial support, there should be no special appropriations made to the Conservation Fund for the purpose of engaging in special local projects, such as the construction of municipal sewage systems, individual lake or dam repair projects, etc., which are not anticipated in the biennially approved Commission program. All work of the Commission should be in accordance with the pre-established program and budget so as to insure orderliness and continuity of work, and sound utilization of Commission personnel. However, should such appropriations be necessary (and they should not, for this is the purpose of contingency funds), they should be expended as soon as practicable and the accounts closed, but not to the degree of rapidity that would hinder work scheduled in normal programming.

An examination of the current budget (1957-58) of the Commission indicates a reasonably well-planned program through the proper allocation of funds, but one lacking in imagination. There is little provision for growth or future involvement in related programs just now being considered a proper function of a conservation program. It is difficult, however, to be imaginative when there are too few funds to maintain even the barest program.

A broad grouping of the expenditures allows 14 per cent (all percentages approximate) for administration, information and education; 50 per cent for fish and game; 14 per cent for game law enforcement; and 17 per cent for lands and waters. In detail, the 3 per cent allowed for information and education work is far too low. Conversely, 4 per cent for engineering is too high. The Commission should contract much of this type of work, for it is impossible to maintain an adequate staff requiring such highly skilled personnel in competition with industry without a completely out-of-balance budget.

The 20 per cent grouping federal aid monies does not properly reflect the class of expenditure. This section should be an administrative section, not an operational one. It should be a liaison group between the federal and state agencies. Thirteen per cent of the total funds is allocated to park work. This is completely inadequate both relatively and in total funds available. Similarly, 3 per cent for forest work is ridiculously low.

The 5 per cent allocation to unclassified expenditures does not reflect well on cost accounting procedure. Some of this might be a part of funds more accurately described as contingent. In any case 2 per cent contingency funds is a little low for a period of program expansion.

#### Responsibility

The Commission should assume greater responsibility in functioning as a policy and budgetary board representative of the state as a whole in the programming of actual physical projects and the initiation, development, and continuity of less obvious functions, such as employee and group education, specific resource research, public informational service, or study of land-use patterns and/or trends as well.

Also a special reaffirmation of the 1954 recommendation regarding dual legislative supervisory bodies seems to be in order. It is within the jurisdiction of the controller that a final approval of expenditures should rest, but it should not be used to delay or circumvent desirable programs. Conversely, the standards of employment, individual employment, etc. should be strictly the prerogative of the Commission. Legislative or executive control should not extend beyond establishment of broad salary schedules.

Attorney-at-Law

The Commission should have the immediate counsel of an attorney representing the Attorney General's Office at all times. Such a representative should be assigned full time in the office of the Conservation Commission. He should be conversant with land and water jurisprudence.

### Legislation

Specifically, these are some of the legislative needs of the Commission that seem to merit attention at this time. Some of the recommendations are those that have been made during previous studies of the Commission. While the Commission is to be commended for carrying out numerous of these previous suggestions, there are still some that would increase efficiency if applied as soon as practical.

The existing statutes of the State of Iowa relating to its natural resources are unnecessarily complex. In their multiplicity they are confusing to the sportsman and administrator alike; oftentimes compounding the difficulty of administering the resources rather than providing guidelines to sound administration. These laws have served well in the past to protect the state's resources, but do not now provide the flexibility necessary and desirable and possible under modern tenets of commission-type resource management.

Recent modifications of the law such as the "biological balance" section are a distinct improvement; yet, there are numerous ambiguities and areas subject to interpretation that could in the future cause much harrassment to the Commission.

Chapter 107 of the existing statutes creating the Conservation Commission could easily be modified to meet ideal conditions stipulating the management of the state's parks, forests, fish and wildlife, and waters.

The remaining statutes would be given force of law as regulations of the Commission, recodified, and, in those instances where appropriate, amended or repealed.

Specifically, sections of Chapter 107 that require modification even if the recommendation in the preceding paragraph is not immediately carried out are:

107.5 Compensation. Members of the Conservation Commission should not be compensated except for actual expenses as provided in section 107.6. Provision for direct compensation should be repealed.

107.12 Term and Salary. Salary specifications for the Director should be altered to meet the suggested range of \$9,000-\$12,000 per year.

107.13 Officers and Employees. All reference to employee salaries other than the Director's should be eliminated. Salary schedules should be fixed by the Commission at the suggested rates for all employees (See table of Salary Comparisons, Midwestern States, page 55). Recent increases considered, salaries are still not adequate to attract and retain employees of the caliber needed. All positions should be re-examined and job specifications and qualifications redrafted to reflect the higher personnel requirements needed today to serve the public. All area managers, including parks and forests as well as fish and game, should have the benefit of formal training in their particular field; indeed, higher educational requirements should be considered for all positions. There should also be some flexibility in salary schedules to provide greater recognition of training, education, and experience as well as meritorious service and longevity.

SALARY COMPARISONS - MIDWESTERN STATES

Position	Present Iowa Salaries	Average Midwest Salaries	Proposed Iowa Salaries
Director	\$7,000	\$10,500	\$9,000-12,000
Assistant Director	6,900	9,000	8,000-10,000
*Chief, Administrative Div.	6,450	8,000	
*Chief, Lands & Waters	6,600	8,000	
*Chief, Fish and Game	6,600	8,000	
**Chief, Administration		8,000	7,000- 9,000
Water Resources		8,000	7,000- 9,000
Fish and Game		8,000	7,000- 9,000
Forestry		8,000	7,000- 9,000
Parks		8,000	7,000- 9,000
I. & E.		8,000	7,000- 9,000
Field		8,000	7,000- 9,000
***Superintendent, Forestry	6,000	7,000	6,000- 7,500
Superintendent, I & E	5,250	7,000	6,000- 7,500
Superintendent, Fed. Aid	6,000	6,500	6,000- 7,500
Superintendent, Game	6,000	6,700	6,000- 7,500
Superintendent, Fish	6,000	6,700	6,000- 7,500
Superintendent, Parks	6,000	6,150	6,000- 7,500
Superintendent, Waters	5,100	6,250	6,000- 7,500
Area Super-Cons. Off.	5,100	6,000	4,500- 6,000
Area Fish Managers	5,100	5,700	4,500- 6,000
Area Game Managers	5,100	5,500	4,500- 6,000
Area Park Managers	5,100	5,100	4,500- 6,000
Conservation Officers F & G	4,200	4,500	3,500- 4,500
Conservation Officers Parks	4,200	4,500	3,500- 4,500
Biologist I	4,200		3,500- 4,500
Biologist II	5,100	4,500	4,500- 5,500
Biologist III	5,220	5,500	5,500- 6,500
Forester II	4080-4800	4,600	4,500- 5,500
Forester III	4620-5340	5,400	5,500- 6,500
Unit Managers-Game	3060-3780	4,650	4,000- 5,000
Park Caretaker II	2400-2880	3,500	3,500- 4,500
Park Caretaker III	2760-3240	4,000	4,500- 5,000

\*It is recommended that these positions and the respective divisions be abolished.

\*\*Chiefs of the seven operating units recommended would be equivalent in salary to the abolished division positions.

\*\*\*The present Superintendent positions in some instances would be consolidated (along with the existing Chief positions) into the recommended Chief position for the seven new units. However, as in the case of Supervisors of Game, Fish, River Basin Studies, Real Estate, and Editor, IOWA CONSERVATIONISTS, this salary classification should be retained.

107.21 Divisions of Department. This entire section should be repealed. The Commission's ability to manage the resources in accordance with varying conditions is severely limited by legal definition of its organization. Under the present division setup, two of the division heads are serving in dual capacities; that of supervisor of the division and one of the sections. This does not permit adequate administrative supervision of the full division. The operating units of the Commission should be reorganized according to the recommendations made in the Appendix of this report.

107.23 General Duties. 107.24 Specific Powers. Provision should be made in these two sections to give legal authority to the Conservation Commission (now found elsewhere) to manage the state's parks, forests, and waters if Chapter 107 is to be used as a basic conservation law.

107.26 Interpretation and Limitations. Portions of this section that are inconsistent with Section 109.39 should be repealed.

Throughout the various statutes now regulating the activities of the Conservation Commission and governing the utilization of the state's resources are allusions to the sharing of regulatory authority with some other state agency. Dual authority in the regulation of natural resources cannot be considered as contributing to sound management practices.

#### Parks

In addition to the general recommendations already made regarding legislation, specific mention of provisions relating to parks is appropriate. In general park laws and regulations are adequate, but the Commission should seek to clarify those provisions of the law reserving final approval to the Natural Resources Council. Such dual authority fosters confusion and subsequent mismanagement of public resources.

During the 54th General Assembly an Act was passed establishing County Conservation Boards and authorized counties to acquire, develop, and maintain small, local recreation areas. The boards have five members on five-year overlapping terms. The county board must have approval of the Conservation Commission for all land acquisitions and development plans.

The county conservation boards may expend appropriations for conservation purposes, and they may employ an executive officer and other necessary employees. Certain employees may be designated to hold police powers. The board of county supervisors may appropriate funds from the General Fund of the county for the expenses of the county conservation board. The county board may collect a tax of 1/4 mil to 1 mil on assessed valuation of real and personal property to be known as the County Conservation Fund.

This law is advantageous to the people of Iowa and is an important contribution to the conservation of natural resources. It should not, however, be a vehicle for the divestiture of public lands of state-wide significance simply because the state does not now have the facilities for adequate management or because local pressure groups seek to convert these lands to their own purposes. Many of the state lands, particularly parks, are in such small parcels as to constitute administrative white elephants. Many might better serve the public if administered by local governments, but in no case should land possessing riparian values be transferred from state control; nor, after a thorough study by the Commission should any land having significant fish, game, or timber values, or potential values, be transferred except to an appropriate division within the Commission.

There is sufficient legislation of a broad, general character to meet most of the state and local needs for parks and recreation services.

One added feature might possibly be a park district law, such as exists at present in Illinois. This is suggested because each of the boards permitted under the Iowa law must depend upon either the city, county, or the county board for funds. The Illinois law permits the park district to levy its own tax and to operate as a separate legal entity.

#### Prison Labor

The use of prison labor is a commendable project insofar as the rehabilitation of the prisoners is concerned, but it should not be considered an easy or "cheap" way to get necessary work accomplished. Appropriations for this purpose should be increased and the use of prisoners extended, but not necessarily as laborers on state areas.

There are many projects that could be undertaken within and under the supervision of the prison or at a limited number of state areas. This would reduce transportation costs and alleviate the housing problem. Among these projects and most urgently needed are signs designating state boundary lines, entrance and area name signs, directional signs to be erected at nearby towns or crossroads, and the many others needed to assist the public in locating and using all state areas. Not only will these signs direct public usage, but they will serve to acquaint all Iowans, whether they use state facilities or not, with the active program of the Iowa Conservation Commission. Such signs should be attractive, distinctive, and prominently displayed.

Articulated concrete boat launching ramps are needed at nearly every access point. There is no need to call anyone's attention to the phenomenal increase in the use of transportable boats and outboard motors. Concrete ramps will prevent miring of heavily laden trailers, preserve the site, and cut maintenance.

Fire grates, small buildings, and picnic tables could all be pre-fabricated by prison labor at a central point without detracting from the rehabilitative value of such work and still not inconvenience park patrons or aggravate transportation and housing problems.

Division of Administration

The current program of the Administrative Division is good. Its sections are generally well organized but could be modernized. In line with the recommendation to eliminate the three "super divisions," the present division would be altered in name only for its main functions would be continued but on an operating level equal to other units of the Commission. There must necessarily be some reorganization of the sub-sections, however, to more nearly reflect the needs of the operating sections to which this group acts as a service agency.

Except for the Education and Public Relations Section which is recommended to be an individual and separate unit, Administration will consist broadly of the following: Property (equipment and property inventory, files, and any other accountable property), Personnel (employment records, payroll, and other matters relating to Commission employees), Fiscal (accounting, bookkeeping, budget control, purchasing, license records, etc.), Real Estate Acquisition (real property inventory, options and purchasing, tax and plat matters), Engineering (architects, engineers, construction and land surveys, construction planning and inspection, and maintenance of physical properties).

The Commission budget is now sufficiently large to require for proper handling a complete machine accounting system. There should also be some revision of the present system of license distribution and accounting. This might also be mechanized to eliminate the possibility of error on the part of inexperienced license sales people and to obtain a more direct connection between these people and the Commission.

The present system of property accounting and inventory is now being brought up-to-date and modernized. The Commission is to be commended on this needed work. They should also specify some policy or procedure regulating the use and loan of all equipment between divisions, particularly trucks, tractors, and all heavy equipment. Because of seasonal use some of these items might be traded among field personnel at a considerable saving to the divisions. All depreciation or replacement funds for vehicles (of all types) should be earmarked for specific replacement to the individual, section, or division.

The personnel section should develop and maintain up-to-date job descriptions and specifications (this has already been undertaken). They should also draft higher job standards and qualifications and salary schedules compatible with such qualifications for all Commission positions. A merit system and performance review for all employees should also be adopted.

The present Design and Construction Engineering Section should be drastically cut, if recommendations contained in this Plan are carried out. This section represents a considerable investment on the part of the Commission which it could better contract, monetarily and in services rendered. The Commission should have some experienced construction engineers, but only those needed to determine broad features and needs of construction which would be contracted; some inspection to determine if contracts and performance bond standards are met, and small, day-to-day construction and maintenance work done by Commission employees; cadastral and map survey work on state lands, and platting for areas to be acquired. These latter functions would derive from the present Land Acquisition Section.

The new Real Estate Acquisition Section would be primarily a real estate administrative group. It would relieve the operating divisions of

administrative duties requiring experienced real estate judgment. It would acquire all lands for the Commission and perform all functions incidental to acquisition (appraising, optioning, platting, purchasing, etc.).

After acquisition this division should continue as the housekeeping unit for all of the Commission's real estate, but only so far as maintaining inventories, descriptions, tax and assessment matters, etc. are concerned. All lands would be allocated by the Commission to the particular management division it determined the lands to be primarily suited for (parks, forestry, fish, or game), but (only upon the completion of the all-inclusive, multi-purpose plan of development, the formulation of which would be by all divisions.) This would apply equally to new lands as well as those now owned by the state. New acquisitions would be made by the Real Estate Acquisition unit only upon the recommendation of an operating division with the approval of the Commission.

This division should maintain a precise and complete inventory of all state lands which will be adequately identified both in the field and on suitable maps. It should also maintain but in less detail a running inventory of non-state lands of actual or potential value to the Conservation Commission. This section should maintain a complete real estate service for the Commission, but the Commission still should consider the possibility of contracting these services also, at least the legal aspects, platting, etc., after options have been obtained.

Land acquisition for the long range where there is considerable acreage involved should be set up on a purchase unit system. A substantial contingency fund should be established to acquire lands unexpectedly available. The Commission should also insist in all land development that sound plans be drawn for all anticipated development, that there be established a broad timetable and budget, and that sufficient land be optioned prior to any

purchase of land to protect the natural beauty and watershed values of the area, and there be no inholdings or other reservations in title transfer. Where artificial lakes are to be constructed or land acquired that will have only local appeal to the public, the Commission should insist on local participation, financially or in the obtaining of option.

The State of Iowa now has approximately 112,942 acres\* of land administered by the Conservation Commission for recreational purposes. In total acreage these lands are woefully inadequate to serve the current, present needs of the outdoor public; geographically and in relation to centers of population they are also inadequate. Because of the high cost of land today, the location and type of various sites, and whether the anticipated use may be intensive or extensive, it is nearly impossible to recommend any specific acreage required to meet this public demand. However, it is obvious that most parks are suffering from human erosion; that there is inadequate opportunity to hunt or fish, especially the former because the production of most game requires relatively large acreages and it is not a sport that permits crowding, the latter for lack of access and the phenomenal increase in recreational boating.

If the Conservation Commission were to meet the present need for recreational areas today, it would require at least double its present acreage. In addition, there is an equally pressing need for extensive forest lands. Should this demand continue at its present level (there is every evidence that this would be a conservative estimate), and that there would be even only a moderate increase in human population but with greater leisure time and income, the State of Iowa would require in ten years at least four times its present total state-owned land and water acreage.

\*1956 estimate

Iowa, because of its particular soil types and intensive agricultural use of the land, is subject to serious erosion problems. Obviously it is not practical or feasible for the Commission to acquire in fee title sufficient land to prevent siltation or erosion damage to state areas when the source of the trouble is on adjacent holdings. It should, however, acquire as much land as is practical consistent with sound resource management first and economics secondly. If the problem still persists, easements should be acquired to permit application of control measures.

Erosion is a state-wide problem and important to the entire economy. Zoning, originally suggested in the 25-Year Plan as a means to control erosion and other land-use problems, still has much merit and should be considered as a possible solution.

#### Information and Education

The Education and Public Relations Section should be given status equal to other operating units, and it should be greatly strengthened, for it is upon this unit that the Commission must depend to obtain public endorsement of the entire conservation effort. If there is any one outstanding weakness in the program of the Iowa Conservation Commission, it is in acquainting the public with that program. It has a sound land acquisition program, but few beyond local people (and not all of those) know the whereabouts of these lands, their purpose, or how to get to them. When a person inquires about one of these areas, the appropriate division should have an attractive, colored, multifold pamphlet prepared by the information unit describing the area, locating it and mapping its facilities that could be sent or given to the individual.

An examination of the past several years' issues of the IOWA CONSERVATIONIST indicates its format is outdated, but that it gives reasonably good coverage of subject material. The IOWA CONSERVATIONIST should be modernized along the lines of those of neighboring states, more feature stories (possibly one from each division with each issue), but fewer newspaper-type articles. A suggested feature would be an article with a map of each state area in each issue, perhaps located on the back covers. The mailing list of the IOWA CONSERVATIONIST should be revised and improved. Subscription rates should be raised to meet printing costs.

Greater attention should also be given the subject matter and distribution of newsworthy events and happenings within the Commission so that the public might always be immediately and accurately informed. The Information and Education unit should especially report all transactions of the Commission in session when not directly inappropriate for public release. Surveys, census, research, or other biological work of the Commission always is readily accepted by newspapers. Stream and lake conditions--but not who caught the most or the biggest--should be available to the public.

The house organ should improve its usefulness by similar reporting of Commission activities and policy decisions but in greater detail for employees.

The teacher, group, and employee educational camps are all good and should be expanded as personnel and funds permit. As this type of educational work develops and facilities as well as quality of training are improved, some monetary participation should be solicited from the benefited parties, i. e., school boards, service clubs, other state agencies, etc. Work seminars for Commission employees are especially important. All employees should be required to and provided with the opportunity to become fully conversant with all phases of Commission work and be provided in-service training in their own

field. Curricula and teaching methods for in-service training and group camps should be developed in cooperation with the State Board of Education, the college, and the Cooperative Wildlife Research Unit to provide the highest type technical schooling available.

Television and movie films are not creating the public awareness of conservation needs as might be expected of them. Further expenditure along this line should be slow until an evaluation of the program has been made.

All Commission employees, but especially conservation officers, should always be available for public speaking engagements before church groups, civic or youth organizations. The Commission should establish clear-cut policies regarding subject matter, Commission program, etc., and should even assist in the preparation of speech material. All employees too should seek out and become members of local civic clubs, soil conservation districts, advise youth groups, or adopt any other method that might legitimately give them an opportunity to "sell" conservation.

Division of Fish and Game

It is impossible to state briefly major program needs which should be adopted for the management of fish and game without interrelating them to the management of other major resources. This is not only true for other units within the Commission, but perhaps more importantly, for outside agencies whose programs involve land and water management. Fish and wildlife are collateral values derived from good soil and water conservation practices. Often programs for the management of these resources are entirely beyond the control--but not the influence--of the Fish and Game unit. Also the effectiveness of these related programs usually has a greater influence on the future of fish and wildlife than does its own immediate program. In other words, the management of fish and game resources calls for the close integration of its management program with those of all other resource management agencies.

Iowans have good reason to be proud of their fish and game resources. Since the formulation of the 25-Year Plan, the Commission has followed a good program for the management of game with very few exceptions and these, for the most part, beyond its immediate control. At present the most urgent need, aside from the more obvious money and personnel shortages, is the need for exceptionally broad, comprehensive planning--planning and programming for all possible eventualities that might have some influence on these resources.

An example is typified by the recent report of the U. S. Department of Agriculture which states that in Iowa and the nation farmland values have increased nearly 4 per cent during the past year, and by nearly 10 per cent the previous year. With a national average return of only 3 per cent to the

farmer on his capital investment, this would indicate most farmers must farm more intensively. Most important to game people, however, is the type of use to which this farmland is subjected. The value of this land to wildlife will be in direct proportion to the ability of game people to "sell" conservation.

The land acquisition program that the Commission has been following for the past few years, largely supported by federal excise tax monies, will alleviate the hunter access problem and should be continued. These areas will also help preserve game stocks, especially waterfowl. Small areas, such as Bays Branch, Lakin Slough, and Brown's Bottom, are invaluable. Waterfowl will continue to stop in Iowa only as long as there are resting areas that provide them with food. More of these areas could and should be constructed throughout the agricultural regions of Iowa. Protective margins surrounding these areas should also be acquired to supply needed waterfowl food and to provide cover for upland game.

A second, and equally valuable opportunity, exists along the major river systems bordering and within the state. Similar developments should be made in these areas. The possibility of large units through cooperation with flood control and navigation agencies will be occasioned by need of these agencies for some land taken either in fee title or easement, the lower cost to the Commission brought about by multiple-use construction and federal laws requiring replacement and, where possible, enhancement of fish and game values affected by these projects.

To meet these opportunities the Commission must "plan big." There is a need for adequate financing; more and better trained technical personnel; in-service instruction of all personnel to keep abreast of resource needs; and planning so that all functions of the Commission will provide the greatest benefits for all the people of Iowa.

Specifically, in connection with the acquisition and management of land, the Fish and Game unit should:

1. Draw up long-range plans for the multiple-use management of all its areas. Many areas, particularly those purchased with federal participation, already have such plans. These should be extended to include all areas individually, and as they relate one to the other. A fine example of this type of planning is the participation of Iowa in the formulation of the Mississippi Flyway Management Plan.

2. The Fish and Game unit should acquire and develop more small artificial marshes such as those already cited. It should also acquire all natural areas of similar value by lease or easement if purchase is not possible. It should also investigate the possibility of developing water supply reservoirs for such areas to provide a greater flexibility of water level control. Construction of such a reservoir might well make Big Marsh an ideal upland game-waterfowl management unit.

3. The Fish and Game unit should initiate a continuous program of acquiring wooded bottomlands adjacent to streams and lakes. Such riparian acreage is limited now and will become less extensive and more expensive as time progresses. It is the last remaining "natural" area in Iowa and should be preserved for the future. It too possesses great potential for multiple management--for recreation, for timber, for water rights, as well as fish and game.

4. The Commission should acquire control of sufficient acreage in all watersheds on which it anticipates management programs by purchase, easement or zoning and to insure adequate supplies of clean water where required. This is true for all artificial lakes and especially so in cold-water streams inhabited by trout and smallmouth bass. These fisheries can never be managed

adequately without watershed protection no matter what type of stream improvement or put-and-take stocking program is initiated. Critical zones in these drainages must be purchased; as an example, the reaches the local people have straightened on the Paint Creek drainage.

5. More access areas (not necessarily large) are needed to permit boating and sporting enthusiasts access to all the streams and lakes in Iowa, particularly on the Mississippi and Missouri Rivers. These streams and lake-side areas are important not only for recreationists but for the legal implications as related to water and water resource development programs.

6. The Commission should also acquire fairly large blocks of timbered land for the management of deer and timber resources. It already possesses some such areas but is handicapped in the management of these areas by in-holdings or discontinuous boundaries creating administrative problems. On those areas presently managed for timber, there should be more wildlife development such as food plots and small water impoundments. Timber stand improvement work should be done according to site capabilities, using those areas less suited for timber growth for wildlife and watershed improvement work.

In order to provide information that will permit the orderly development of the land acquisition program, the Commission should immediately compile complete data on all lands public and private regarding:

- a. Wetlands (already reasonably complete in the Fish and Wildlife Service Wetland Survey but requiring more specific detail for state use).
- b. Lakes and streams (also fairly complete but not compiled to permit easy reference).
- c. Cover and food types.

This information should be well mapped and in easy reference form. These should be all-inclusive inventories as to site, cover types, species composition, physical properties, present, current, or anticipated value with and without development. A system of land and water classification should be devised to facilitate future planning.

These surveys are examples of the type of research in which the Commission should be engaged. Populations and population dynamics, diseases, habitat requirements, farm-game relationships, and species management are still others. The Commission has, with the assistance of the Cooperative Wildlife Research Unit at Ames, already perfected census methods for the most important species in Iowa. Most such work can now be assigned to non-technical Commission personnel with the exception of fish population studies and creel census methods which require additional work to insure the degree of accuracy required. The contracting of statistical analysis of such data is well worth its cost.

The assistance provided the Commission by its cooperative program with Iowa State College pertaining to long-term research is good, lending continuity to its basic research program and freeing Commission personnel to perform the more immediate short-term management-type investigations. The research work now in progress at the College relating to both fish and game will in the future make the Commission's task of providing more fishing and hunting for Iowans much easier.

The research program both within the Commission and the cooperative work should be subject to periodical re-examination to be sure that future needs are anticipated and that it is a well-rounded program neglecting no area

of the Commission endeavor. A staff biologist assigned to and working with the Cooperative Wildlife Research Unit would be a valuable contribution to both agencies in their research and training program.

Organization will play an important part in the determination of the ability of the Commission to meet the needs of the people and of the fish and wildlife. As has already been noted, the present organization of the Commission is good, but its future efficiency will depend on flexibility to meet changing environmental conditions and program desires as voiced by the people. (See Appendix I)

#### Federal Aid and Biology Sections

Specifically, within the Fish and Game unit, the Federal Aid Section should be an administrative group to assist in and supervise the expenditures of federal aid funds by the appropriate fish or game section. The federal aid section should not be an operating section, but it should function in such a way as to cut across all sectional interests of the unit. This across-the-board interest is one of the values of the present Biology Section and should be encouraged, but in the Biology Section it is occurring at the operational level too much to the exclusion of this type of thinking at the administrative level. Consequently, abolition of the Biology Section and a reapportionment of the biologists among the fish and game sections would not detract from their individual value (much of the fisheries biological work already is done by that section), would permit closer association of the biologists with the sectional problems, and quite possibly would contribute to the training of non-technical employees in these sections.

Specific recommendations for both the Federal Aid and the Biology Sections are fairly closely related. Each section as now constituted is well

operated, but will better serve the Commission as outlined previously. Much of the survey and inventory research recommended would be compiled through use of federal aid monies by the biologists of the Commission. The Commission should enter into another line of inquiry, that of the relationship of agricultural practices and trends to resource management. What is needed to induce farmers to set aside small waste areas for game? Why can't more farmers realize the need for erosion control? What effect does the use of chemical fertilizers, pesticides, and herbicides have on game? These are but a few of the questions, but they illustrate the line of investigation that future management must consider if game managers are to provide for increasing numbers of hunters on less area than is available today.

#### Game Section

The present Game Section of the Fish and Game unit, which would normally be assumed to be the primary agency in matters relating to the management of birds and animals, confines its work almost exclusively to farm habitat improvement and farmer-sportsmen relations. There is some other incidental work, such as predator control and hatchery operations. Much of the normal activities of such a section, either at the direction of the Commission or through expediency, have been assumed by other sections. It was partially to return these functions to their proper place that the consolidation of the Federal Aid and Biology Sections was recommended.

This section should also develop an aggressive program to coordinate the activities of the Commission with those of the various agricultural agencies. The habitat improvement program depending on short-term leasing of small "waste" areas on farms is good and should be continued, but only on a limited scale. In most cases the farmers cannot be depended upon to make plantings or tend them afterward. Also, in many cases, the areas planted are too small.

The value derived from this type of work would be much greater if the Commission took permanent easements on fewer larger areas so that more individual attention may be given to each unit.

The wildlife packet distribution program is better, for at least the person seeking the plants has a pre-established interest assuring somewhat better attention to the plants; then, too, the Commission has little investment other than production costs. The production of these packets and the other plant stock produced by the nursery should be increased, but except for the wildlife packets, careful selection of planting sites should be made, not only to assure the success of the planting (most should be made on state-owned lands such as parks, preserves, management areas, and forests) but to determine the site relationship of that particular plant to its growth, and its value to wildlife. Only plants eminently suited to each particular site classification should be stocked. Site classes should be related not only to plant success but to wildlife usage.

Actual on-the-land application of wildlife practices always will interest some landowners, but many are often too busy earning a living to carry on much more than the most elementary of practices. Consequently, all farmland owners must have some incentive, either through subsidy payments or in the hope that good conservation practices in the long run will net some farm income gain. Many of the ACP practices, the Soil Bank, and the small watershed program fit one or both of these classifications, and usually modification of these programs to include wildlife enhances their primary purposes.

It would better serve the sportsmen of Iowa if the Game Section depended less on individual farmer contact and more on the integration of

wildlife work into these programs to obtain actual on-the-land wildlife values. It would also lessen the work of the Commission and would eventually draw converts to conservation if agricultural workers were convinced of the merit of real multiple use. There is already established a good introduction to this approach in the soil conservation districts. They are already convinced of the true value of conservation; it only remains for them to be convinced of the value of wildlife practices.

The maintenance of a game bird hatchery by the Commission is closely related to habitat improvement. Although there always will be a limited need for hatchery-produced birds, biologists have found generally that where suitable food, cover, and water conditions exist, the species adaptable to that environment will naturally occupy it in direct proportion to the quality and extent of the required conditions. Only in the most unusual of circumstances has stocking been found necessary. The Commission recognizes this fact and recently has been operating the hatchery commensurate with need. A value of a hatchery, perhaps more important than its original purpose, is that of scientific investigation. The Commission is now engaged in several such lines of inquiry using the hatchery facilities in cooperation with Iowa State College. Generally the present operation of the hatchery is meeting management requirements for planting stock.

The Game Section should be assigned the operation of all state lands primarily used in the management of terrestrial game and waterfowl, including those now assigned to the Federal Aid Section. They should also, in cooperation with the other divisions, assume the responsibility for game management on all other state lands such as parks and forests.

This section should also have the responsibility for collection of data regarding all phases of game management. Much of this work could be

accomplished by field personnel under the supervision of the biologists assigned to this section.

Some specific recommendations regarding the program of this section are:

1. Increase the production of wildlife nursery stock. Stock selected for production should be critically examined to be sure it will meet the desired specifications and will require a minimum expenditure of time and money to produce the intended results. Where possible, wildlife food and cover plants should be used for erosion control on state lands.

2. Manage all state-owned wildlife lands, including those presently managed by the Federal Aid Section. Select large wooded areas for acquisition in cooperation with the Forestry unit for low intensity deer management. Install food plots, small water holes, and other game practices on other state lands. Hedges and native game food plants can be used effectively on parks to direct human usage of these areas and still benefit game.

3. Public shooting areas so far developed are excellent, but there is need for more. Access areas are needed along the river bottoms. There is considerable posting of land intervening between highways and water. The Commission should re-examine its farmland leasing policy. All such areas unless specifically intended as refuges should be open to the public. Where possible, the size of these areas should be increased to include some of the drainage above the unit and a small acreage of bordering farmlands. Planting of border areas will provide food for wildlife and some small income for the owner. Such work should be coordinated with existing agricultural programs and agencies. The Commission should also lease forested or low value farm lands contiguous to state lands (purchase where possible) to protect and

increase the value of the state land. All leased areas should be managed according to a plan of management as are state-owned lands. All naturally valuable game or fish areas especially small potholes endangered by drainage or otherwise altered not considered for purchase should be leased to forestall such losses. Management practices would not necessarily be applied to such areas.

4. A large experimental farm would be of value for research on farm-game relationships. It should be operated in conjunction with the Agricultural College and the Cooperative Wildlife Research Unit.

5. The Game Section should undertake erosion control work on all watersheds containing state lands and/or lakes. Plantings would be primarily for game, but could include some timber types. This work is especially needed on trout and smallmouth bass streams.

6. The Game Section should persuade farmers to fence farm ponds and woodlots. As an inducement for this and ACP or Soil Bank work, the Commission might pay costs over and above subsidy payments.

#### Fisheries Section

The Fisheries Section of the Game and Fish unit has a well-rounded program meeting most of the needs of the state's fishermen. This section, however, like all the others, has three prime difficulties that must be solved before any real progress can be made.

1. Lack of adequate funds. Salaries particularly must be increased.
2. Public informational services are inadequate to elicit public support.
3. Sound planning. There is an obvious lack of imagination in anticipation of future needs.

The Fisheries Section, however, insofar as the responsibility for these areas of difficulty does not fall directly within the normal activities of the section, is not at fault. In fact, individual efforts to correct these faults within the section has resulted in greatly alleviating the administrative difficulties arising from these basic problems.

Just meeting the needs of the public, however, is not the entire responsibility of the section. Under the guidance of the Commission, they should help the sportsmen recognize and anticipate their future requirements. Most important of these has been in the acquisition of stream bottomlands. Numerous access areas have been made available; yet, while serving an important function, these access points do not provide all of the values inherent in large contiguous holdings bordering streams or lakes. Acquisition of such areas should be based on a unified Commission-wide plan of development including all phases of their activity.

Closely related to the stream bottom activity is the need for upstream management to control erosion on all of the state's waters. In part depending on the topography, the small watershed program of the U. S. Department of Agriculture could be correlated with that of the Commission to accomplish this work. In other areas there is a need to purchase lands or obtain easements to permit intensive and continuous planting to tie down the soil. Dredging of state waters should be discontinued until these lands are stabilized and erosion is no longer a problem. Dredging then could be reinstated on a limited scale to develop desired environmental conditions.

Waters that have suffered environmental changes brought about by alteration of water supplies, simple lack of sufficient water, and shoaling because of sedimentation are in need of specific management for species of fish previously determined to be best suited to these habitat conditions.

This is not to imply that these waters should or could only be managed for those kinds of fish that are normally present. The Fisheries Section should enter into a program of species management supported by adequate research that will provide the best possible fisheries resource for all waters, natural and artificial lakes, trout streams, middle reaches of the various rivers, and the turbid, slow-moving streams of the south. The most neglected waters of the state which need intensive management fall in the two extremes--the trout waters of the northeast and the southern rivers. Much additional data are needed regarding species composition and fishing success; which fish and in what number would best occupy the warm, middy rivers? Or, is put-and-take trout planting economically sound and aesthetically proper without some stream improvement? Is the intensive management of walleyes justified because of the esteem fishermen hold for this particular fish?

Specifically, the Fisheries Section should:

1. Develop more accurate means of determining fishing success, and/or interest. These data are prerequisite to any balanced fisheries management program. This already has been determined for the popular fishes, but studies relating to other less popular fishes or areas of less fishing intensity should receive more attention.

2. The fish hatchery program is well run and is capable of supplying sufficient stock for any demand in the immediate future. Expansion of this program does not seem warranted, but the efficiency of operation could be increased by improving water supplies and construction of new ponds to replace nursery lakes. Seining fingerlings from these large natural areas does not seem to be practical when the time and effort needed to recover the fish is considered.

3. The fish rescue program has been curtailed. It should be discontinued entirely except for very special purposes, possibly the rescue of large mature fish for planting in certain waters to control overpopulations.

4. Initiate species management on selected larger bodies of water.

5. Curtail rough fish control by present netting system and substitute as conditions warrant the use of chemicals. Traps and barriers should be maintained to assure adequate control. Chemicals to control species composition and for sampling should be used more extensively.

6. The Commission should acquire as many access areas as possible. Development on these areas should be kept to a minimum, but there should be simple sanitary facilities and hard-surfaced launching ramps at each area.

7. The Commission should initiate watershed management on at least the smallmouth bass and trout streams prior to and in conjunction with stream improvement work.

8. The Fisheries unit should evaluate the effectiveness of stocking programs and the cost-benefit ratios as presently done and in conjunction with (7) above. Cost of the put-and-take programs should be borne by those engaged in the particular sport by use of special permits or licenses.

#### Field Unit

It is recommended that the enforcement sections of the various divisions be consolidated into a Field unit where all enforcement problems can be integrated and coordinated according to immediate need. This unit would include a conservation officer section, lake patrol, fire control, and aircraft.

At present these groups are divided and supervised through technical sections whose activities are not closely associated with enforcement. The

law enforcement duties and functions of these officers should be combined into a single job specification permitting greater flexibility and more efficient utilization of field personnel. All conservation officers, lake patrol officers, special officers, and fire control patrolmen should be assigned areas of patrol according to region rather than specific park or other management unit.

The similarity of these functions, conservation officers, fire control, and lake patrol, dictates that all personnel assigned to the Field unit perform these jobs equally as the need arises. Assignment of aircraft to this section is only a matter of convenience since this equipment is available for any assignment.

Close coordination with the operating divisions should be maintained, and duties relating to other than law enforcement be continued. Special attention should be given to public relations work by these officers, since to the general public the Commission is their local conservation officer. Qualifications for these officers should be high. They should be encouraged to take an even greater active interest in all phases of the Commission's activities than is now the case. Similarly, they should take an active interest in all community affairs, conduct themselves in a manner that will bring credit to the Commission, and take every opportunity to "sell" the public on the Commission's program. Conversely, the Commission must assist these officers to carry out such a program. Training and in-service schools within their own field and in all other phases of conservation are needed. Close coordination of all divisional activities, constant advice on Commission policy determination, and adequate supervision of and for the field staff will bring the Commission adequate public support.

There are only two specific recommendations other than the above regarding enforcement:

1. Take every means possible to encourage the field staff to engage in information activities.
2. Pay actual mileage costs on all travel.

Division of Lands and Waters

The present organization of the Division of Lands and Waters includes three sections: Parks, Forestry, and Waters. The Parks Section is the largest unit of the division. According to the Code of Iowa, 1954, the purpose of the division is to "include matter relating to State waters, State parks, forests and forestry, and lakes and streams, including matters relating to scenic, scientific, historical, archeological and recreational matters."

Presently the Lands and Waters Division receives an appropriation of \$550,000 with miscellaneous revenue estimated at \$97,755. The total budget requested for the Division covering the biennium of 1957-58 is \$1,235,205, of which \$629,675 would be for the parks section, proposing \$402,795 for the year of July 1, 1957, to June 30, 1958.

To perform its functions, the Division employs 143 employees. There are approximately 110 employed in state parks; 22 in state forests, and 8 on matters relating to state waters. These people operate 91 parks, 9 state forest areas, and 25 lakes in excess of 100 acres.

Parks Section

The Iowa state park system was founded to provide the people of Iowa with attractive places where they may enjoy healthful outdoor recreation, and also to maintain these areas of scenic, historical, scientific or recreational values, and to preserve them for the enjoyment of future generations.

To do this the Commission must acquire typical portions of Iowa's unspoiled landscape, in such acreage, and location, as will be accessible to

all of Iowa's people. Over the years such a system has been developed, including many fine artificial lakes. The Commission is confronted now with two basic problems: How can the value of these areas be preserved without adequate financial support and public understanding, and still provide for the enjoyment and use of these areas by the public?

The Parks Section is among the more important functions of the Commission and should be elevated to the status of an independent unit on par with other major divisions of the Commission, separate and apart from minor unrelated activities. This would permit closer coordination of park activities with the other operating units, with the service unit, and place the deliberations of the Commission on park matters in their proper perspective.

At the present time all of the park activities are supervised through three regional offices. This leads to a disproportionate amount of administrative work at the field level. The park unit should be so organized that all operational activities relating to individual parks will be in a single section. Special functions, such as those relating to concessionaires requiring particular talents, or research or planning requiring special training, should be located in and supervised directly from the central office. In most cases such activities are applicable equally to all parks, preserves, or other areas. With the centralization of such responsibilities it should not be necessary to divide field supervision among several offices. Individual park superintendents could devote more time to the immediate operation of their area and require only the direct supervision of the operations supervisor.

Personnel actually manning the parks now includes three principal classifications: Park Conservation Officers, Park Caretakers III, and Park Caretakers II. The highest grade is the Park Conservation Officers. They

are generally in a supervisory capacity; however, it appears that there is too little difference in these positions to warrant different classifications. Also it appears that the title "Park Conservation Officer" is a misnomer and that they might better be referred to as "Park Superintendent." Where their primary or major activity involves law enforcement, they should be assigned to the Field unit. All of the park positions require redefinition of the job specifications and requirements with considerable "up-grading" of the supervisory class. Salaries should be commensurate with responsibility.

For example, the employees in each classification reported a relatively high percentage of time spent cleaning parks, mowing, driving trucks and tractors, repairing facilities and furniture. There seemed to be no marked difference in qualification or experience. The 48-hour week was largely reported as standard, with most men working excessive overtime, some as high as 107 hours per week. Park coverage has been so thin that any semblance of an orderly personnel system is almost lost.

While there is a very small staff, it is one of the lowest paid in the country. The Chief of the division's salary range is \$5,400-\$6,300. Caretakers' salaries range from \$2,400-\$2,880. On this basis it is very difficult to attract professionally qualified people, and those with know-how acquired in Iowa cannot be blamed for moving out of the state where higher salaries are offered.

Park personnel should be allocated in accordance with the number of areas served and the program conceived for the system; the type of area (as reclassified below), and anticipated public utilization.

<u>Facility Classification</u>	<u>Totals</u>
State Parks	17
Recreation Areas	20
Nature Sanctuaries	9
Monuments & Historic Sites	<u>7</u>
TOTAL UNITS. . . . .	52

The problem of determining personnel needs is directly related to the park program. Will the state park service remain largely janitor-type maintenance work? Will camping or naturalist services be extended? Will recreation leadership be provided?

Having a suitable number of parks meeting the idealistic standards--being well maintained--is yet not the complete picture of an adequate park service. The park system must have a program--interpretation of natural and scenic features of the park, proper supervision and leadership of recreational opportunities, suitable measures to assure public safety and sanitary conditions, and a good park public relations program. Iowa is simply not offering a park program in this sense.

One of the prime deficiencies is a state parks idealism, fostered through public education to the point where every citizen in the state is well acquainted with the intent and program. The service even lacks the more obvious symbols of a "dressed up" appearance, posters and signs, alert and hospitable employees, facilities that are painted, clean, and attractive. However, it is clearly evident that many citizens and visitors are seeking outdoor recreation and generally seem satisfied with the kind of parks and playgrounds that have been developed around artificial lakes and, to a limited extent, on the natural lakes of the state. This might well be one clue to defining future program, goals, and objectives.

New ideas should be added to the already popular forms of recreation. The activities which are out of style and are no longer popular should be

supplanted with new, more productive attractions. The ones which are more or less standard and well established should be constantly improved and every advantage exploited.

To arrive at personnel needs, there are three factors to consider:

(a) the proposed organization pattern, (b) the number of units, and (c) program emphasis. From these three factors an optimum staff would be:

- 1 Chief
- 1 Superintendent, Operations
- 1 Superintendent, Concessions
- 1 Superintendent, Planning
- 1 Superintendent, Maintenance
- 1 Prison Labor Supervisor
- 54 Superintendents of parks/forests/ lakes/monuments/or Nature Reserves.

Maintenance

- 1 Shop Manager, plus others as required.

Research and Planning Sections

- 1 Naturalist
- 1 Historian
- 1 Recreationist
- 1 Landscape Architect
- 1 Engineer

Operations Staff (Per area--to be determined on specific local conditions)

- 1 Superintendent (listed above), full-time employee  
Program specialists in natural life, camping, recreation, history as needed.
- Foreman of Maintenance, full-time
- Conservation Officers, full-time and one assigned for each county, function to deal with public safety, public relations and law enforcement
- Park caretakers and unskilled labor on full-time, seasonal, or as-needed basis.

The Director should periodically review the work loads and defined functions of personnel. In one of the districts there have been no major increases in personnel in spite of the fact that the work load has materially increased. This leads employees to report, truthfully or otherwise, excessive hours of overtime. Employees should be provided with suitable work space,

15%	Land Acquisition	\$ 712,500.00
25%	Capital Improvement	1,187,500.00
60%	Operation and Maintenance	<u>2,850,000.00</u>
	TOTAL. . . . .	\$4,750,000.00

Much of Iowa's park development was the result of emergency programs during the depression, and very little replacement or rehabilitation has taken place since. Many of the facilities are in need of repairs and some should be replaced or removed. Structures built during the recent years are often found to be of a temporary nature, such as the pit latrines and changing booths set up in unplanned locations near beaches and in campgrounds and picnic areas.

The number of cottages should be increased to more nearly meet the demand for rentals. In most cases where vacation cottages exist, there are not enough of them to operate economically.

It is not intended to blame the staff when citing "poor" maintenance, because much of this condition is due to factors beyond their control. For example, there are many instances of maintenance crews working with poor and outdated equipment; there is a handicap due to insufficient means of communication either by phone, radio, or actual roadways; and, finally, there is a need for some kind of shop or maintenance facilities.

On many areas there is need for reforestation; there are some instances of urgent need to prevent erosion and provide better drainage of park sites. Iowa's park investment must be protected, not only for today, but for future generations.

Most parks and recreation areas have multiple entrances with public roads passing through the parks. These should be changed, where possible, to provide only one entrance. In any instance, the number of entrances should

whether for clerical, shop, or maintenance work. Most supervisors perform their work in their home, which is not good management.

Supervision is very thin as is actual operational coverage. For example, in one district there are 16 full-time employees in 33 counties, managing 26 separate parks. The office for this district is in a home, and communication is by letter, telephone, or personal visit. The fact of the matter is that in the true sense of the word, park service is not possible on this basis. Actually, all that is accomplished is sort of a remote supervision of land reserves, with minimum amount of maintenance performed by part-time prison labor and by full-time workers when they can get around the district.

Current annual appropriations for the operation of the parks is unrealistic; providing for only the meanest "caretaker type" program, and nothing for modernization or for anticipated future needs. The physical structures and natural attractions of the park areas are in imminent danger of complete destruction through overuse and lack of protective maintenance.

Indeed, to even accommodate the current estimated annual 6 million visitors, a minimum annual capital improvement expenditure of \$500,000 is urgently needed, \$200,000 for the construction of new facilities and \$300,000 for the rehabilitation of existing facilities. In addition to a minimum annual appropriation of at least double currently available funds (\$630,000) the Commission must anticipate and provide for future public use by inaugurating a capital improvement program designed to accommodate at least 10 million visitors by 1960. In the development of such a program a reasonable distribution of expenditures and total funds required pro-rated over ten years is:

be reduced when possible. Physical structures appear to be unnecessarily dispersed. Comprehensive planning will reduce expensive utility lines, roads, etc., and make the park easier to manage and protect against fire and vandalism. However, there should be clear separation of types of use, and the public should be encouraged to spread their usage so as to prevent abuse of the more readily available portions of the park. Private property should not be provided access through state lands. Where this is the case or where there are inholdings, they should be acquired as rapidly as possible.

The Commission is charged by law with maintaining roads in state parks. The burden of maintaining 125 miles of state park roads cuts deeply into the maintenance budget. A large number of these roads must be maintained during the off-season or winter months, since school buses and mail routes utilize these routes. As many roads as possible are closed during the spring thaws to protect them from breaking up, but maintenance runs high regardless of the precautions.

The State Highway Commission makes major repairs needed on the bituminous roads and is paid by the Conservation Commission on a cost basis. The tremendous increase in traffic over state park roads has presented an annoying and dangerous dust problem. Some relief has been given the public by applying dust palliatives in limited quantities. Funds do not permit an adequate coverage of all roads, but the dust is kept to a minimum in the most congested areas.

Park land acquisition.--According to Charles G. Sauers:

"Land acquisition programs should run concurrently with development and maintenance programs. Courage and means to buy land, years in advance of need, are essential. Delayed acquisition is either so costly as to be inadequate, or often altogether impossible. There are many instances where acquisition is sacrificed to development and, a decade later, the fault plagues the administration."

It is obvious that the Iowa State park system has suffered as a result of this kind of fault. In many instances no acquisition has been accomplished since the first master plans were prepared during the CCC program, many of which plainly indicated that the park boundaries should be extended either to prevent undesirable encroachment, provide satisfactory approaches and traffic control, or enhance the beauty and usefulness of the park. The more recent developments, which have been done at the artificial lakes, illustrate the dangers of sacrificing acquisition to development. In most instances these areas provide only minimum space for immediate development around the lakes, provide no room for future expansion, and they are exposed to the most dangerous encroachments on all sides.

In looking to the future, certain acquisitions seem needed and desirable. A priority should be established, and an organized program of acquisition set up to expand present facilities and to acquire new parks particularly in the following areas:

1. Central - the proposed new Saylorville Reservoir on the Des Moines River, and on all artificial reservoirs constructed by or with the approval of the Federal Government.
2. Western - the Loess Hills, along the Missouri River valley, where land is available in a large block and where topography is most rugged.
3. Northern - an additional tract along the eastern shore of East Lake Okoboji.
4. Northeastern - the hills along the Mississippi River; should be an extensive area over 1,000 acres.
5. Southern - a large block of suitable land should be acquired in the rolling hill country of the southern one-third of the state.

In considering the acquisition of these recommended areas, cooperation with the Forestry and Game sections should not be overlooked.

Land utilization.--The existing state parks are listed on the following pages and are classified according to their best potential use. Some do not meet the suggested park standards and are recommended for disposal. These are indicated in the column to the right. Many of these areas have riparian, fish, wildlife, or other collateral values and would best be managed by some other division of the Commission. Still others, generally very small, have only local value and should be transferred to the county under the new County Parks Law.

ALPHABETICAL LIST OF STATE PARKS AND OTHER AREAS  
AND SUGGESTED CLASSIFICATIONS

Name of Area	Acreage	Park	Mon. & Histor. Sites	Recr. Areas	Nature Sanct.	County, Comm. or other Division	*
Allerton Reservoir	382					XX	
Backbone	1597	X					
Barkley Memorial	40					X	
Beaver Meadows	74					XX	
Beeds Lake	291					XX	
Bellevue	145					X	
Bixby	69					X	
Black Hawk	266			X			
Browns Lake	17					XX	
Brush Creek Canyon	216				X		
Call, Ambrose A.	130					XX	
Clark, T. F.	24					X	
Clear Lake	71			X			
Cold Spring	104					XX	
Dolliver Memorial	572	X					
Eagle Lake	20					XX	
Echo Valley	100					XX	
Fish Farm Mounds	3		X				
Fort Atkinson	4		X				
Fort Defiance	181					X	
Frankel, Margo	135				X		
Galland School	1		X				
Gardner Sharp Cabin	1.5		X				
Geode	1574	X					
Gitchie Manitou	91				X		
Gotch, Frank A.	57					XX	
Green Valley	988			X			
Gull Point	59			X			
Heery Woods	380					XX	

Suggested Classification of Parks--continued

Name of Area	Acreage	Park	Mon. & Histor. Sites	Recr. Areas	Nature Sanct.	Co., Comm. or other Division
Indian Village	5		X			
Inn Area	7			X		
Kalsow Prairie	160				X	
Kearny	45					XX
Lacey-Keosauqua	1653	X				
Lake Ahquabi	770			X		
Lake Darling	1377			X		
Lake Keomah	366			X		
Lake Manawa	919			X		
Lake McBride	847			X		
Lake of Three Fires	385			X		
Lake Wapello	1143			X		
Ledges	854	X				
Lennon Mill	21					XX
Lewis & Clark	285			X		
Lost Island Lake	31					XX
Maquoketa Caves	111	X				
McGregor Heights	211	X				
McIntosh Woods	60			X		
Mill Creek	157			X		
Mini-Wakan	20					XX
Nine Eagles	1080	X				
Oakland Mills	84					XX
Oak Grove	102					XX
Okamanpedan	18					X
Palisades-Kepler	688	X				
Pammel	281				X	
Pikes Peak	140	X				
Pikes Point	31			X		
Pilot Knob	368	X				
Pine Lake	548			X		
Pioneer	14					XX
Plum Grove	4		X			
Point Ann		X				
Preparation Canyon	187				X	
Red Haw Lake	420			X		
Rice Lake	47					XX
Rock Creek	1220			X		
Rush Lake	62					XX
Sharon Bluffs	144				X	
Silver Lake	42					XX
Springbrook	680	X				
Spring Lake	240					XX
Steamboat Rock	5					XX
Stone	815	X				
Storm Lake	31					XX
Swan Lake	229					XX

Continued.

Name of Area	Acreage	Park	Mon. & Histor. Sites	Recr. Areas	Nature Sanct.	Co., Comm. or other Division*
Trappers Bay	57					XX
Turkey River Mounds	62		X			
Twin Lakes	15					XX
Union Grove	280					XX
Viking Lake	1017			X		
Wanata	160				X	
Wapsipinicon	248	X				
Waubonsie	735	X				
Wildcat Den	321	X				
White Pine Hollow	650				X	
Woodman Hollow	63					XX
Woodthrush Preserve	25					X
Wyth, Geo. Memorial	419					XX
<b>TOTAL</b>		17	7	20	9	36

\*X--for transfer to county or community

XX--for transfer to another division of the Commission

Of the 17 indicated as state parks, the acreages vary from slightly more than 100 acres to one park with well over 1,600 acres. There were five which were considered as model state parks: Backbone, Lacey-Keosauqua, Ledges, Waubonsie, and Stone Park. These parks were found to have fine natural features, some desired basic facilities, and with some improvement could measure up to standard with little delay. Ledges will possibly be flooded when the Saylorville Reservoir is created, but could be redeveloped into one of the finest parks in the state with proper advance planning in cooperation with the Corps of Engineers.

Iowa has a great heritage, but very few landmarks remain to highlight the historic spots. The outstanding example of an historic monument is Fort Atkinson in northeastern Iowa. This historic spot was a military outpost erected of native stone to protect local friendly Indians from the marauding Sioux. It is the only fort of its kind. Although the fort and the buildings stood deserted for years, except for squatters, they are excellent examples of landmarks worth restoration and inclusion in the park system.

Nine parks are identified as Nature Sanctuaries. These sites should not be developed to attract anyone other than persons interested in scientific or educational inquiry. In some instances, improvements were provided in these areas that need not have been made. A nature sanctuary should be arranged so that no man-made improvements are provided beyond the access road, the parking area, the fence, and the sign or bulletin board giving directions to visitors. In some cases, where convenient, water and sanitary facilities should be provided at the parking area, but in such a way that regular maintenance would be unnecessary.

Future program.--It is extremely difficult to outline a park program except in a general way without reference to particular park sites. One of the more immediate problems that the Conservation Commission must face will be the development of a parks program that will appeal to the public and thereby gain their endorsement. This might best be accomplished by bringing several of the better parks up to the recommended standards as soon as possible, to be model parks upon which future development of other areas will be patterned.

Construction is an important element of the program. Modern roads, well planned trails, utilities, camp and picnic grounds, and many kinds of structures are needed to meet the requirements of an expected increase of visitors. But, they are simply one means by which "enjoyment-without-impairment" is to be provided.

Under this program, outmoded and inadequate facilities should be replaced with physical improvements adequate for expected demands, so designed and located as to reduce the impact of public use on valuable and destructible features. It should provide both facilities and personnel for visitor

services of the quality and quantity that the public is entitled to expect in its state park system. It is intended to assure the fullest possible service to the visitor and protection for the resource.

While the program applies specifically to eight sites, it is assumed that the same principles can be applied to others. For example, there are a number of Recreation Areas that, with added land and future development, might eventually become standard state parks. This is a long-range program that the Commission might strive to accomplish in ten or twenty years; however, it should be feasible on a sound dollar basis in ten years. Specific proposals regarding the model sites are:

Saylorville Reservoir

Large undetermined acreage required

In the valley of the Des Moines River, near the center of the state, there will be created a 15,500-acre lake. Along its shores will be many desirable sites for locating recreational facilities, particularly those pertaining to water. These sites will provide the greatest benefit if they are selected where they touch the conservation pool and where the water level fluctuation is at the minimum.

Such a park development is justified on the basis of the need for more water recreation, adjacent to a large population center, and to compensate for the loss of one of the major parks, Ledges, due to flooding when the reservoir is created.

A unique feature, for central Iowa, will be the large body of water on which many forms of recreation can be enjoyed that have heretofore not been available to the citizens and visitors to central Iowa.

This area lies near the southern limit of the glaciers. The stately hardwood forests, the profusion of wildflowers, the bird and animal life, and

the magnificent panoramas of the Des Moines River valley, especially from late spring until the period of autumn coloration, will provide great enjoyment for the visitor. The system of trails, motor boating, sail boating, and other active recreational facilities always have great appeal.

The operation and development of this park should be directed toward protecting and preserving the area's natural and scientific features and in aiding the visitor to see and enjoy them to the best advantage. The visitor should have easy and attractive access to all the major vantage points for enjoyment of the scenic overlooks, and to those little-frequented parts of the area with the better displays of plant and animal life. Oral and written explanations of things present and museum exhibits which describe the natural features of the park should be available.

The recent increase in activities among boating enthusiasts should reach its climax at this reservoir. It will be one of the largest bodies of water in Iowa, comparing favorably with the natural lakes in the northern part of the state. The effect of this increased activity on the economy of the community is incalculable. There will be a demand for boats, motors, fishing tackle, and other paraphernalia by people who enjoy water recreation.

Proposed development calls for public access roads leading to this reservoir and from the park entrance or entrances to the parking areas serving the various activities such as boat docks, picnic grounds, cabins, group camping, and other facilities. Trails which lead from the parking areas to scenic and scientific spots in isolated areas where cars cannot be driven will provide for the safety of those hiking or riding horseback.

Museum exhibits should be supplemented by signs and exhibits along the trails and at the principal use areas. Extensive research should be carried out to acquaint the visitor with the area and to provide information

for leaflets or booklets describing the botanical, wildlife, and other features of the park.

In some cases it may be desirable to provide naturalistic programs for school groups and others interested in the natural features of the park. Park visitors should be permitted to participate in naturalist-conducted tours or programs according to their wishes.

Expansion of ranger service and adequate patrol of roads and trails during the visitor season will be necessary for the purpose of fire control, enforcement of regulations, and protection of the visitor. Patrols will be needed to protect park wildlife during the season when hunting is in progress on adjoining lands. A check for indications of tree disease and other plant diseases affecting the trees or plants in the park should be made each year. These measures help maintain the natural features and the scenic quality of the area. Periodic inspection of use areas, such as boat landings, wharfs, and other facilities, are necessary to insure safety of the visitors.

Modern and approved water and sewer facilities, although seldom evident, are vital to the visitors' comfort and impression of the area. It is necessary to construct facilities to serve the public for drinking water, comfort stations, employees' residences, and other utility buildings. Extension of communication system will be necessary. The administrative office of the park should be in a well-selected, centrally located spot, both for the benefit of park visitors and to conserve the time of the operating personnel.

All details concerning the construction program should be in accord with the master plan.

Year-round, full-time supervision and protection of the area require the presence of a number of employees in the area for whom residences must be constructed. Facilities to provide for the visitors will be extensive and,

in many cases, widely separated. These should be staffed by competent managers and designed and operated as nearly as possible to provide self-sustaining revenue.

A park of this nature must be staffed by capable, professionally qualified employees, loyal to the service and thoughtful of the wishes of the visitors. They should be provided with leadership and periods of in-service training which inspire them to provide high quality service to the public. This can only be done by the selection of proper personnel for every position and sufficient funds to pay attractive salaries.

The project for Saylorville Reservoir Park includes construction of roads and trails, parking area, boat launching centers, outdoor exhibits, museums, modern utilities, maintenance and storage buildings, employees' residences, lodges, and all other facilities necessary for a complete and well-rounded outdoor recreational program. The entire shoreline of this reservoir should be acquired from the Federal Government for park or other recreational purposes.

Waubonsie State Park

736 Acres

The Loess Hills of southwest Iowa, overlooking the broad Missouri River valley offer many ideal park sites, but Waubonsie State Park has long been a favorite attraction to lovers of nature, scenic beauty, and history. Only a few of the many activities that are desirable in a park of this character have been encouraged here. An interpretive program could reveal many new facets of enjoyment to be found in the scenic, scientific, historic, and recreational features of Waubonsie State Park.

Many recreational opportunities which appeal to the out-of-state visitor could be provided here, for a fee, that would enhance the park income and give great satisfaction to the visitor. Vacation cottages, group camps,

museums (Indian and natural history), horseback riding, historic drama, and other activities should be considered. This beautiful park also offers great appeal to the picnic groups, hikers, nature lovers, and general outdoor enthusiasts.

The successful development and operation of Waubonsie State Park is dependent upon an acquisition program which will remove the dangers of encroachment that now exist around the boundary. In many places it seems advisable to acquire adjacent lands so that present developments are protected, and that there will be room for expansion of existing facilities and the creation of new ones. Acquisition in this park seems to be a major problem. The operation is dependent upon the completion of new facilities and a properly well-trained staff to maintain the park and to interpret the natural features which justify the area as a state park. Archaeological and related research should be accomplished to provide information and materials for the proper interpretation of the historic interest in this area.

The area was established as a state park in 1926 but was not developed until the days of the Civilian Conservation Corps activity. Since that time funds have not been available for further development nor for proper maintenance and operation. The assets of the area have been well preserved by comparatively light use, but the time has come when a full use program should be developed for the benefit of increased numbers of visitors coming to this section from neighboring states and population centers in Iowa. In effect, this scenic spot has never actually been discovered by the mass of people who pass nearby.

This park has the basic buildings and facilities for its present usage, but if an expanded program is realized, major improvements will be

required. There is an excellent system of nature trails, picnic areas, and overlook shelters, but money has not been available to maintain properly these facilities. If increased use occurs, there will be danger of serious deterioration and the possible destruction of the natural features which make this park so attractive.

Proposed development calls for the present roads to be paved to relieve the dust nuisance and prevent a serious maintenance problem. If there are to be added units in the recreational facilities, new roads, trails, and parking areas will have to be installed to serve them. All of this, of course, should be done according to a completely developed master plan which will control the location of all major and minor facilities.

The need for vacation cottages and group camping facilities will have to be met by finding new locations, either on presently unused land or on new and to be acquired land. These facilities should be arranged so that they do not conflict with the present and anticipated day-use activities.

A trailside museum, self-conducted tours on the nature trails, and naturalist programs, both guided and self-guided, should provide a well-balanced interpretive program.

Expansion of the park and the activities therein will require more adequate organization of personnel during the season of heavy visitation, both to facilitate the viewing of the park by visitors and to enforce regulations for the proper protection of the park and the visitors.

Fire fighting facilities should be improved, and fire lines constructed around the area to protect it from the danger of fires outside the park. A modern fire fighting unit, such as a power wagon or jeep with water tanks and water pumps attached, should be provided for prompt use in case of emergencies.

Modern water and sewer facilities are needed to replace the present outmoded sanitary facilities.

A modern communications system should be installed to facilitate the handling of operation and administrative affairs within the park. This could be accomplished by providing telephones.

Year-around supervision and protection of this park will require full-time employees. In order to increase the efficiency of the operation, residences for the permanent employees should be provided on or near the park.

A park of this nature, widespread as it is in area, and being isolated from communities, should be staffed with sufficient personnel to provide protection at all times and provide leadership and supervision for all park activities. Much of the work in this park will be done by common labor, but the most important part, that of contact with the public, should be done by people trained in that field.

Backbone State Park

1,597 Acres

This was the first state park and is situated in northeast Iowa. It enjoys a fine reputation among Iowans but is not widely advertised. It attracts picnickers, campers, fishermen, swimmers, sightseers, and others in limited numbers, but the potential of this park has scarcely been recognized.

In addition to its general appeal as an excellent recreation area, Backbone State Park possesses a unique geological feature, a rock formation roughly suggestive of a backbone, giving the park its name. Many of the better features of this park go unrecognized because they are overshadowed by the grandeur and physical dimensions of the Backbone.

The use of the park for educational purposes is neglected. Family vacationing in the park should be expanded, and wider appreciation of its

many desirable features should be promoted. The combination of geological features, wild flowers, forests, animals and birds, and recreational features in Backbone State Park can scarcely be equalled elsewhere in Iowa.

The park deserves a more serious and dignified interpretation and managed so as to prevent "human erosion." The Backbone and other attractions in the park must be preserved by a better system of traffic control and new facilities built to provide for additional vacationing and active recreational programs.

Exhibits, conducted trips, trailside museums, and other services will make it easier for the visitors to understand and fully appreciate the natural features of the park. The plant and animal life, the spring flowers, and autumn colors of the foliage provide beauty and enjoyment for the visitors. However, the high light of any recreation program in the park probably will always center on the Backbone. Sufficient information should be presented to enable visitors to understand and appreciate the geological history of the park area.

This park was established in 1919. Limited development was accomplished by the state, and later a more extensive program of development was carried out under the CCC, but it was never done in a comprehensive way because the obvious leads were followed, and the full value of the area has never been realized.

Acquisition of additional land is a major problem here to provide space to spread facilities so as to reduce wear on the outstanding features. The overuse of certain spots in the park can be largely overcome by providing new facilities designed to lead the visitors to every feature in the park without undue wear on the landscape or the facilities. The maintenance and

operation problems have been so pressing that the limited staff rarely has time to devote to conservation measures.

Increased staff and better trained personnel will be required for successful operation.

The program calls for improved trails and better control of traffic over the Backbone. Parking, picnicking, and any other activity not directly related to the study or the appreciation of this special geological feature should be removed from the immediate vicinity and located on sites within easy reach but distinctly separated from the main features of the Backbone. The new trail and road system should be treated so that there will be little or no dust raised during a heavy flow of traffic, since this detracts from the beauty of the plants growing alongside the roads and trails. More convenient and attractive approaches should be developed for entrances to the park and for approaches to campgrounds, vacation cottages, and other facilities. Additional parking areas must be provided for the anticipated increase in attendance.

Special attention should be paid to the need for better communication between the widely separated units of the park.

The immediate vicinity of the Backbone is, in itself, an outdoor museum, but the entire park could be much better interpreted to the visitor with a series of trailside exhibits and possibly a more complete natural history museum served by a ranger-naturalist. The importance of wildlife and plant life in this area has scarcely been recognized, due to the fact that emphasis has always been on the Backbone.

Adequate fire protection should be provided this as well as all other parks.

Lacey-Keosauqua State Park

1,614 Acres

This park is located in the hills of southeast Iowa, overlooking the Des Moines River where the steamboats once loaded before departing for New Orleans. This is one of the few state parks in Iowa that demands state-wide attention because of the abundant natural features to be found here and a colorful, historic background.

Lacey-Keosauqua is a 1,614-acre tract bordering the precipitous valley just above the confluence of the Des Moines River with the Mississippi River. Settlements near this location were among the earliest and most important in the history of the state. The beautiful forests, wild flowers, water, rugged terrain, bird and animal population present a biological community of surpassing interest.

Lacey-Keosauqua offers a wide variety of recreational, educational, and aesthetic opportunities. Suitable interpretive aids will help the visitor to understand the importance of this area in the life of the state and the nation. The spring flowers, fall coloring of foliage, and the trails over the steep hills offer a challenge and great appeal to the outdoor enthusiast.

The operation and development of this park is directed toward protecting and preserving natural features and aiding the visitor to see and enjoy them. The visitor should have easy and attractive access to the major vantage points and to those little-frequented parts of the area which better display the plant and animal life.

Established early in the history of the state park movement in Iowa, Lacey-Keosauqua had little work accomplished until major development was started under the CCC program. Since then, the park has been neglected to some extent, but deserves more attention as one of the major state parks of Iowa.

Roads and trails have been allowed to deteriorate. Buildings, such as cabins, boathouse, and lodges were constructed, but for lack of a balanced program the facilities have been little used. A lack of funds prohibited promotion of the park as an attraction; consequently, few people have visited it.

Since this park is located in the new industrial triangle of the state, increasing attendance and interest can be reasonably expected. Arrangements should be made early to meet the new demands on recreational areas, due to a rapid influx of population with more leisure. An increased staff will be required, particularly during the busy period from April to October.

Wildcat Den

321 Acres

Wildcat Den is a small area which must be enlarged if it is to become a first-class state park. The geological, botanical, and historic values are extremely important and should be given a more prominent role in the park program for the inspiration and benefit of the visitors.

This park is located in a rapidly growing section and will assume an increasingly important role in the over-all recreational picture for the industrial triangle which surrounds the park. The rugged landscape, forests, wild flowers and other plants, and the varied bird and animal life represent a biological community of absorbing interest.

The operation and development of Wildcat Den are directed toward protecting and preserving the area's natural features and aiding the visitor to see and enjoy them to best advantage. To this end, the visitor must have easy and attractive access to the points of interest, but done in such a manner that natural features are protected and the visitor's safety assured. Additional land must be acquired and new facilities provided.

The problem is to expand the holdings around the present area and to provide room for increased traffic, both pedestrian and vehicular; and to provide better opportunities for park visitors to see the points of interest.

Always a popular attraction, the old grist mill should be reconditioned and brought into full use and prominence as soon as possible. This can be made more attractive by telling the history of the area at the same time. A museum or nature center would assist park personnel in the interpretation of the area for the benefit of park visitors but should also permit self-guided tours for people who are seeking less formal activity. It will also be necessary to provide additional space for camping, picnicking, and similar activities which are now a part of the park program.

Concentrated use of the comparatively small area in which the main features of the park are located poses a maintenance problem. This could be alleviated by the acquisition of additional land so that active recreational pursuits can be distributed over a wider area, giving the park personnel an opportunity to interpret the scenic, historical, and geological features to better advantage.

Stone State Park

815 Acres

Sensational topography overlooking the broad Missouri valley marks this rugged land. There are scenic values on a grand scale, located near populated centers; historical, scientific, recreational, and other interests; hills and valleys covered with attractive vegetation of wide variety; unique botanical species; and land suited for development of park purposes.

Stone State Park is an 815-acre tract in the northwest corner of Iowa in the rugged loess hills that form a rampart facing the west beyond which is the Missouri River. This region offers attractions that are state-wide in their appeal. It is a contrast to the broad spread of flat farm

land to the east, and holds within its bounds some of the most interesting panoramic scenes and plant life in the state.

Exhibits, conducted trips and other services and facilities will help the visitor to understand the character of the hills as they were formed and something of the people who have made history in this region. The forest, wild flowers, bird and animal life, and the magnificent panorama of the Missouri River from the top of the hill provide great enjoyment and inspiration for the visitor. The motor roads, horseback trails, and footpaths appeal to the outdoor lovers.

The operation and development of Stone State Park are directed toward protecting and preserving the area's natural and scientific features and in aiding the visitor to see and enjoy them to the best advantage. To this end, the visitor must have easy access to all overlooks and facilities within the park. He should also be given written explanations of things to see and provided with museum exhibits which describe the area. The visitor should be assisted by conducted tours of botanically important spots within the area.

The overwhelming problem in this park is one of land acquisition to remove the ever-present danger of encroachment by undesirable private developments on and near the present park roads and trails. Since its establishment the park development has been largely limited to work done during the CCC program and other similar work projects. There have been few artifacts gathered in the area for the benefit of trailside and museum exhibits. Further research and work should be done along this line to insure a proper interpretation program when the park is completely developed.

At the present time, it is evident that vandalism is responsible for serious destruction. This vandalism is fostered by apparent neglect in the care of facilities which breeds contempt among the more active visitors who,

for lack of a constructive program, find many things to do which are destructive.

Proposed development calls for a complete overhauling of the present master plan, and in view of needed acquisition this should be accomplished as soon as possible. Once this plan is prepared, it should be adhered to religiously.

Springbrook

680 Acres

In the rugged country along the middle fork of the Raccoon River in west central Iowa has been developed a playground for people who love the outdoors. Springbrook is a 680-acre tract which has an artificial lake and many facilities that have been in use for several years after they were built during the CCC program. Cabins, campgrounds, group camping, bathing beaches, boat landings and docks, picnic grounds, shelter and trails, and fine fishing grounds provide a variety of activities.

The forests, wild flowers and other plant and animal life represent a very attractive biological community for the enjoyment of the park visitors. In addition to the active recreation program provided by the existing facilities, the area offers inspirational and educational opportunities for those seeking a change from the ordinary routine.

The park was developed as a project to provide work during the depression of the 30's and to create a recreation area for the people living nearby. It is an area of considerable beauty and attractive landscape, and with the improvement of transportation methods, it should serve a better purpose than catering only to local people.

If the park is to provide for recreation as it should, additional land must be acquired and improved facilities built. Improvement and extension of the present roads, trails, and parking areas need to be accomplished to

better provide for the park visitors and protect the natural features of the park. The group camp should be enlarged to provide for larger groups than is presently possible. Additional vacation cabins are also necessary. Improved bathhouse and sanitary facilities are in great demand at this popular swimming area. Service to the public could be improved by providing a visitors' center, where refreshments could be served, and a nature center or museum with self-conducted tours would add to the enjoyment of the park visitors.

Nine Eagles

1,081 Acres

This is a park of considerable beauty and possessing an attractive artificial lake. The planning of this park is somewhat awkward, making administration difficult.

The park is presently equipped for picnicking, hiking, boating, fishing, camping, and swimming. Additional activity could very well be added as an inducement to vacationists and tourists who are seeking new outlets for recreation. Forests, wild flowers, and wildlife in abundance and great variety make this an area attractive to many park visitors.

This is one of the state parks which has been developed without benefit of CCC or other outside help. It illustrates how raw land can be beautified and made useful with the state's own resources and determination on the part of its people.

The problem is to find ways and means to improve the facilities and extend them sufficiently to provide recreation for all who care to visit the area without damaging the features which make the park attractive.

Trailside exhibits, maps, signs, printed matter, a nature center, and nature trail with guided tours will do much to acquaint the visitors

with features of the park. Interpretation will curb vandalism and explain the need for erosion and fire control.

Roads and trails should be relocated and improved to give full access to all points of interest and to protect the natural features of the area. More parking places and turn-outs are needed and existing ones extended and improved.

Good roads, trails, parking area, and a communication system, as well as erosion control and safety measures, will aid in improving the wildlife and increase the beauty and usefulness of the park. A check of the plants for serious disease outbreaks should be made periodically.

Such things as modern water and sanitary facilities, personnel residences, vacation cottages, visitor center, additional swimming, boating and fishing facilities, signs, conducted tours on the foot trails, and other innovations will increase attendance and appreciation of the park.

Year-around, full-time supervision and protection of the area require the presence of additional employees. The development program calls for a small increase in permanent staff and seasonal help to better serve the park visitors and protect the park against vandalism and over-use in certain spots.

Probably the basic problem facing the Park Section is that there is considerable public apathy regarding the financing of the park program. The solution of this problem lies in the development of a good public relations program and the designing of the parks to meet a well-conditioned public concept of how they want their parks to serve them. A State Park Citizens Committee to advise the Commission on these matters would be helpful.

1. A state park idealism should be created that has substance and meaning to the average taxpayer. When once established, this concept should be fostered by a State Parks Citizens Committee and an active public relations program.

How this idealism should grow in Iowa is the problem for the leaders in that state's park movement. There should be continual emphasis on preserving natural values, but these values should be skillfully integrated with the growing need for utilization. The problem is to develop a harmonious relationship between human enjoyment and natural environment.

It is obvious that physiographically speaking the State of Iowa does not have the glamour nor the sensational park opportunities of certain other states. There is some beautiful, wooded, rolling terrain. There is a number of interesting geological and historic attractions. However, for the people of Iowa, especially the growing urban population in contrast to the declining rural population, the real attractive features will be the artificial lakes and other opportunities of a more active recreational character.

Although control of the state's legislature for the foreseeable future will be dominated by rural thinking, the fact is that industrialization is proceeding in Iowa. The agricultural economy of the state is relatively high and, with its industrial possibilities, the only forecast is for a healthy economic future. This condition will be improved with the new interstate highways, tollways, and river barge traffic.

2. On the basis of what appears to be a fairly healthy economic future and the prospect of increasing industrialization, it is recommended that a state tax be created dedicated to support State Parks that will provide capital as well as operational funds, and that a more popular balance between conservation and recreation be established in the policy of expending the funds.

It may be presumptuous to submit a rounded estimate of financial needs. However, to bring the system up to a desirable level of service, the tax should produce roughly one million dollars a year for maintenance and operation, and one-half million dollars a year for land acquisition and development. This level should then be adjusted from year to year in accordance with price levels and population increase which, under present experience, would approximate 8 per cent a year.

The matter of establishing a tax base for the park system raises the question of legislation--legislation for state, county and city parks, to coordinate all park services in the state. The possibilities for coordination are ample; the city park legislation is acceptable. The new county legislation is also satisfactory. The greatest legislative need is for a tax in support of the state parks. A provision that should be repealed is the requirement in the county law that the county conservation board may not pay its employees compensation in excess of that paid state employees for similar service.

3. State parks are not substitutes for local recreation. In some areas of the state, local interest is doing a good job; while in others, services are non-existent. Some means should be created to permit coordination of services between governmental levels. This could be done by the Conservation Commission, with some definite advantages to the unit.

An officer on the administrative staff of the state parks unit should be assigned the responsibility of serving as a consultant to stimulate local initiative in organizing parks and recreational programs and to achieve the utmost cooperation between city, county, and state parks departments.

4. For planning and administrative purposes areas have been classified according to their primary use. The system adopted by the National

Conference on State Parks to conform with professional park practices includes four classifications.

It is recommended that the following areas be regarded as State Parks, Monuments and Historic Sites, Recreation Areas, or Nature Sanctuaries, as follows:

STATE PARKS--17

Backbone	Palisades-Kepler
Dolliver Memorial	Pilot Knob
Geode	Point Ann
Lacey-Keosauqua	Springbrook
Ledges (Saylorville)	Stone Park
Maquoketa Caves	Wapisipinicon
McGregor Heights	Waubonsie
Nine Eagles	Wild Cat Den
Pike's Peak	

MONUMENTS AND HISTORIC SITES--7

Abbie Gardner Sharp Cabin	Indian Village
Fish Farm Mounds	Plum Grove
Fort Atkinson	Turkey River Mounds
Galland School	

RECREATION AREAS--20

Black Hawk Lake	Lake of Three Fires
Clear Lake	Lake Wapello
Green Valley	Lewis and Clark
Gull Point	McIntosh Woods
Inn Area	Mill Creek
Lake Ahquabi	Pike's Point
Lake Darling	Pine Lake
Lake Keomah	Red Haw Hill
Lake Manawa	Rock Creek
Lake Macbride	Viking

NATURE SANCTUARIES--9

Brush Creek Canyon	Preparation Canyon
Margo Frankel Woods	Sharon Bluffs
Gitchie Manitou	Wanata
Kalsow Prairie	White Pine Hollow
Pammel	

5. It is recommended that the Commission concentrate on developing five parks as demonstration areas to show how parks should be developed and

what benefit can be attained through more liberal expenditures.

The following parks are recommended because they are the best representative areas in the central, northwest, northeast, southwest, and southeast sections of Iowa. They are Ledges, Backbone, Lacey-Keosauqua, Waubonsie, and Stone Park. They are also the parks having the natural features, some basic facilities in place, and will require only modest acquisition and capital improvement programs to complete them. These five parks could be put into full operation with a minimum of delay, because, in most cases, the immediate need is for proper staff and equipment. The full schedule for a model park program can be built along with the park improvement program. However, all requirements of the five model parks should receive high priority and, if necessary, other projects of less importance should be held in abeyance. Any and all activities conducted within or in connection with the five model parks should be done in such a way that the people of Iowa would point to them with pride.

6. It is recommended that immediate and positive steps be taken to bring the General Site Plan, or the Master Plan, for each park site up to date, and a long-range improvement program projected that will forecast new, needed structures, land acquisition, road and utility provisions.

In considering monuments and historic sites, no activities or facilities of any kind that are not directly related to the interpretation of the history of the monument or historic site should be provided or allowed on the area. Parking areas, sanitary facilities, and visitor comforts should be provided on land adjacent to the actual site. Museums, or exhibits or artifacts, essential to interpretation of the authentic history of the area or its relation to other historic sites of the region are only acceptable improvements. A competent authority should be designated to rule on exhibits

in case any doubt as to authenticity arises. All artifacts should be owned by the state; loans should be refused.

7. There are many areas now classified as parks and managed by the Parks Section that do not meet these standards. This is not to imply, however, that they are not valuable tracts of land. There are 36 such sites that should be transferred from the Parks Section. All those abutting on lakes or streams should be held by the Commission for their riparian value. Some would be ideal access points for fishermen. Most have game or fish values that would warrant their transfer to a more appropriate division of the Commission. Where the park is a small area developed in conjunction with a larger unit, it should be transferred to the division having primary jurisdiction. Twenty-nine of the 36 areas recommended for transfer have some alternate value to the Commission and should be retained.

The remaining 7 parks listed below should be transferred to either the county where they are located or some other local governmental body:

Barkley Memorial	Bellevue
Bixby	Theo. F. Clark
Fort Defiance	Okamanpedan
Woodthrush	

8. In addition to an active land acquisition program designated to improve existing park areas, the Park unit should be constantly alert to obtain valuable new sites particularly in regions of the state not now served by adequate park facilities or to preserve unique natural features. Of the latter there are numerous sites in the loess hills along the Missouri River that possess unique plant communities that should be preserved.

The demand for recreation sites, particularly those for water sports, will increase. When they are located near large centers of population, the demand will be especially acute. The Commission should acquire abundant

acreages along the shorelines of all artificial lakes. When constructed by federal agencies, these lands can usually be obtained in fee title at no cost to the state providing contemplated improvements are planned during the initial stages of development.

There are numerous such projects now authorized or in the planning stage in Iowa. They include:

Saylorville Reservoir	Little Sioux River Project
Boyer River Project	Red Rock Reservoir
Missouri River Project	Mississippi River Projects
Clinton Navigation Project	Floyd River Flood Control Project
Rathbun Reservoir	Central City Reservoir
Rochester Reservoir	Mercer Reservoir

9. It is recommended that an artifacts law be passed to protect actual and potential park sites from looting.

10. It is recommended that all through roads included in either state, county, or city systems that traverse Commission land be maintained by the state, county, or city.

11. In most parks and recreation areas concessions should be operations operated by private individuals or a corporation, but the Park unit should prescribe the rules by which such operations are conducted and provide inspection to guarantee compliance. The state should not compete with private enterprise where the public is being served adequately by concessionaires, but in isolated cases where the business does not attract a reliable concessionaire, the Park unit should supply minimal service necessary for complete park operation on a self-sustaining basis. By demonstration, the Park unit should show that a profitable business can be developed, and thereby attract a desirable concessionaire, or close the operation if it does not prove to be desirable.

The park unit should review carefully all concession contracts to insure an operation that will be profitable to both the concessionaire and to the state.

Present attendance figures indicate 6 million visitors a year, and concession receipts of only \$9,352. This indicates that either too much special service is being rendered free of charge, or that the percentage paid by concessionaires is too low.

### Forestry Section

Iowa's position in respect to forests and forestry is in many ways unique. A major contributing factor is the geographical location of the state, situated as it is between the open plains to the west and the originally forested areas to the east. In effect, it straddles the transition zone between the prairies and the forests, a situation where climatic and soil variations, coupled with the results of man's occupancy, are not likely to have profound ecological effects. In the north and south directions, too, the state is a meeting ground of flora typical of the northern tier of states and of that found in more abundance in the states to the south and southeast.

Iowa has no forests typically its own, unless the burr oak stands along the Missouri River bluffs can be so regarded. It is a meeting ground of invaders from the north, the east, and the south--all of which adds interest as well as complexity to forestry in Iowa.

Economically, too, the situation differs from that of most states carrying on forestry programs. It has no "north woods" or forested mountain ranges where timber and recreational uses are major factors in the economy, or where the water yield constitutes the lifeblood of downstream agriculture and industry. Iowa's forests are in little chunks, dispersed widely, although

not uniformly, over the state. On the prairies the natural growth is confined mainly to the stream courses. Elsewhere clearing for agricultural use has relegated the forests to the bottomlands and the breaks adjacent thereto. Ownerships are therefore small, averaging for land classified as commercial forest land well under 100 acres per owner, with a mere handful of ownerships exceeding this average. In Iowa there are 34,000 owners of commercial forest land, but nearly all are farmers whose principal interest is not forestry. Conversely, there are probably an equal number of farms where woodlot management, old field planting, or shelterbelt establishment has enjoyed limited if not extensive application.

Iowa is basically an agricultural state; yet, in the total, there is a substantial acreage of small discontinuous woodlands. According to the latest forest survey (1956) the state has 2.6 million acres of commercial forest land; that is, land that is wholly or partly covered with forest growth, or if denuded, is not being used for other purposes. In addition, it has been estimated that there are 664,000 acres of wooded areas occurring as stringers along drainage courses, as narrow planted shelterbelts, or as natural or planted woodlots of less than one acre in size, all too narrow or too small to have been counted in the forest survey. Plantings for shade and ornament around farmsteads are not counted in this figure.

Conservation surveys have not yet reached the stage where a close estimate can be made of the planting needs on non-forested lands. However, a quite commonly accepted figure is that at least 300,000 acres, now or recently tilled, are of such poor quality or are so steep that they should be converted to forest growth.

It may be said, then, that forestry has a place on 3.5 million acres of Iowa's land area, or nearly 10 per cent of the total. In deriving

this figure no mention has been made of the acreage, relatively small in total, but of obvious importance in the control of wind erosion and conservation of soil moisture that should be devoted to field shelterbelts. Of equal importance is the need for all types of ground cover to help retain moisture and control floods before they become disastrous. Nor has the aesthetic value of scenic wooded hills and valleys been considered; yet, all are important to the well being of the people of Iowa--socially and economically--especially so as the trend for larger consolidated farming acreages and industrialization with attendant increasing urban populations becomes more pronounced.

Of the 2,620,000 acres of commercial forest land, farmers own more than 2 million acres -- 88 per cent of the total. Other private owners hold somewhat less than 300,000 acres for industrial, investment, recreational, or other purposes. Of the 2 per cent in public ownership, the state owns about 22,000 acres not counting the forested area in state parks. The Federal Government holds about 13,000 acres of which 4,700 acres were purchased under authority of the Weeks Law for forestry and watershed purposes.

About 39 per cent of the commercial forest area supports sawtimber stands containing 1,500 or more board-feet per acre of sawlog material, the average being about 4,200 board-feet per acre. Stands mainly of poletimber class occupy about 32 per cent of the forest area, and those consisting mainly of seedlings and saplings occupy 11 per cent. The remaining 18 per cent is non-stocked, with little prospect of improvement unless protected from grazing.

The total sawtimber volume is 5.1 billion board-feet, 80 per cent of which is found on 39 per cent of the total commercial forest area. The other 20 per cent is scattered through the pole and sapling stands. American elm, with somewhat limited although growing use, accounts for 15 per cent of the sawtimber volume, followed by cottonwood with 12 per cent. White oak and

northern red oak, two of the better hardwood species, account for 10 per cent each. Among the other desirable species are sugar maple with 9 per cent, basswood with 7 per cent, and black walnut with 4 per cent. A wide range of species make up the remaining third of the volume, with slippery elm, willow, and burr oak accounting for about half of the remainder.

The current annual growth on Iowa's commercial forest land is about 87 board-feet per acre. The annual cut is about one-third of this amount. The current cutting is mainly of the high quality trees of more desirable species.

The growth rate, considering the condition of the growing stock, indicates that Iowa's forest soils are productive and may well be doubled or even tripled with better stocking and better management. If then through better management of its existing forests and the gradual improvement of these forests Iowa could triple its annual production of forest products, the modernization of the forestry unit to meet this goal would be a wise investment on the part of the people of Iowa. The broad features of a long-range program requiring the attention of the Commission have been considered in some detail. Basically, they entail two concurrent areas of endeavor that the division must undertake--working with the people who own the land to cause them to recognize the need for forests and sound forest management; the relationship between forests and the general welfare of the land; and hence, in an agricultural state, to themselves. Secondly, the state must recognize its stewardship to the land and forests; to manage them adequately and well in as economic a way as possible; to perpetuate and add value to these forests; to protect them now and for future generations.

These principles cannot be attained on the present budget of the unit. Most of the money now spent by the unit is wasted, wasted not because

the program is unsound or poorly managed, but simply because there is too little to operate effectively an efficient organization. Money begets money--in this case, forests. There is simply not enough work being accomplished to stem the natural deterioration of the state's forests. How then can capital improvements be made to protect the original investment--the timber resources of Iowa? In a way, this is but another example of the interest eating up the capital for lack of a sound investment procedure.

Iowans should not write off their forests as a bad debt just because they are not now productive or are less productive than other areas of endeavor. They are a long-term investment and should not be sold short. Extensive management over a long period of years will improve the species composition, stocking, and growth rates to where a healthy forest industry can be maintained.

The forestry program of the Commission is generally good, but it lacks the impetus necessary to incite public support; many of the recommendations made in previous studies have not yet been fulfilled (unfortunately some have not been within the power of the Commission to correct); nor is there sufficient leeway to permit broad planning and programming to meet anticipated future demands.

Here, as with the other divisions, the technical, day-to-day program for and administration of the state's forests is sound. It is only in the broader aspects of policy determination and planning that the program is faltering. There are several recommendations to be made regarding forestry, but primarily to all of these is the need for consolidation and blocking out of all state-owned land, so that they constitute administratively sound management units; the acquisition of several large acreages in phytographic regions not now receiving the attention due them (i.e., the southern oak uplands, the breaks along the Missouri, and the stream bottomland hardwoods);

and an aggressive multiple-use management program on these lands similar to that of the U. S. Forest Service including forest management, demonstrations, research, and marketing; watershed management; recreation and wildlife.

Obviously an ambitious program will require a budget far exceeding that of the present. It will also require many more technical foresters than the Commission now employs; consequently, the question of appropriated funds and legal authorization and/or limitations must receive the immediate attention of the Commission. Even though the forestry situation has improved materially recently because of tree planting stimulated by the Soil Bank and pay increases for forestry personnel, the program still is lagging. Its budget has remained unchanged for six years. The Commission must find a means to create an awareness of the need for forest management on the part of the people, and through them, the legislature, if the situation is to be changed materially for the better.

The Commission has long been engaged in one method by which this might be accomplished--the farm forester. Its program in this respect, and as related to fire control, is excellent. Its only fault is in the extent of application. The Commission has concentrated these activities in those regions of the state where forestry is most likely to be accepted and understood. The principles of this success should be applied now in other regions, in areas where forestry is not generally considered in so favorable a light.

Also the work of the Commission as related to the Soil Bank forestry plantings, especially farmer acceptance of the need to withdraw eroded and generally poorer soil sites, is very good. If the Commission would provide a marketing specialist to assist farmers in finding buyers for their wood products, there would undoubtedly be even greater enthusiasm for this type of forest conservation.

It is evident that the limited budget of the section has not been conducive to sufficient planning and programming for the management of the state-owned forests and the conduct of its business on other forested lands. Most cultural practices have been of a stop-gap or emergency character. If all the potential elements of value are to be realized, long-term management programs must be developed--and adhered to--for all state forests.

Farm forestry.--The Commission has correctly assumed that one of the most productive methods by which this might be achieved is through on-the-land assistance to Iowa's approximately 70,000 small forest landowners. This is one of the most important elements of the program. As the recommended forestry program progresses, there will be an increasing need for farm foresters, possibly as many as twenty. These foresters are responsible primarily for the development of well-rounded forestry programs on small acreages, but also are required to develop and maintain working relationships with all the agencies and programs relating to their field. They must also protect their areas from fire usually by means of cooperative agreements with existing fire companies.

Much the same as the conservation officers, they are the Conservation Commission to the local people. They should engage in all phases of community life, service clubs, etc.; help promote conservation education, and strive for recognition of forestry practices in the development of other resource conservation programs, especially those relating to soil and water. Conversely, they should assist other divisions or agencies in integrating their programs with that of the Forestry unit.

The farm forester is not an area or forest supervisor and should not be assigned the management of any state lands. Even with the recommended number of farm foresters it will be difficult for them to serve adequately all small landowners in their regions.

The specific attention of the farm forester is called to the need for some method by which younger rural people might be indoctrinated to the value of forest cover and subsequently practice forest conservation. This might be accomplished by establishing with the aid of existing agencies a youth woodlot program to accentuate 4-H achievement work.

State forests.--Forest cultural practices on state lands are largely limited to planting of old fields with some salvage work in the more mature stands and release cuts on older plantations or where more desirable species are repressed.

Physical improvement of state lands, in addition to necessary buildings and equipment, include construction of access roads, fire breaks, small ponds, and fences. Construction of small ponds on forest lands is a fine example of mutual benefit to the forests and wildlife, for watershed and fire protection, and for drinking water. Fencing is likewise necessary for the prevention of trespass and control of grazing. Also to be commended is the development of several modest recreational areas. These areas are much appreciated by the local people and are an important contribution to the unit's public relations program.

While there are many long-range cultural practices that should be applied to the state forests, such work should not be carried on to the detriment of other perhaps more important features of the Commission's program. Shrewd programming is necessary if a balanced schedule is to be achieved. Consequently, much of the cultural work required to restore the state's forests to a productive level will have to be extensive in nature. However, there are exceptions to this rule. An accelerated program of timber stand improvement on the Yellow River Forest is needed so as to place all stands in good growing condition as soon as possible to prevent further timber losses and to demonstrate the practicability of such work.

Extensive stand improvement is necessary on both the Stephens and Shimek forests; perhaps even complete conversion of the species composition to a more desirable type would be advisable. Substantial portions of the entire oak-hickory complex are in similar condition. Small interplantings well distributed throughout the area should be started now so that timber will become an important product in years to come. For the present such work can be well justified on the basis of wildlife habitat and watershed improvement.

The present experimental charcoal project of the Commission, and the U. S. Forest Service work on the Amana Colony, will probably aid stand improvement work further south in the future if acceptable markets for low-grade material can be developed.

Like other state lands the forests require comprehensive planning and programming to insure the realization of all their inherent benefits. Careful consideration must be given to soil and site qualifications, cultural practices to be applied, the ultimate purpose of the area, and when and how it is to be accomplished. So-called collateral values such as watershed protection, limited grazing, wildlife, and recreation are not infrequently more important in the preservation of an area's basic qualities than is timber and should not be discounted as inferior land utilization.

Each major state-owned forest should have a full-time resident supervisor. The development and application of long-range technical programs cannot be accomplished on a part-time basis. Indeed, current central office workloads make it impossible for any of the forest areas to receive the attention due them, not considering a moderately expanded program.

Acquisition.--The Commission's expressed objective of blocking in and rounding out the existing state forests is highly commendable, and should be prosecuted more vigorously than in the recent past. Acquisition should be carefully planned in respect to topography, access, present use, and other factors affecting administration and security, and with all conservation uses in mind. Even a modest program will require funds, most of which should come from appropriation sources. However, in view of the values of the state forests to upland game, some sharing of the costs of acquisition between the funds of the Commission appears to be equitable. Also there are some situations like that of Little Paint Creek, where stream improvement might well increase its value as a trout stream several fold. The state owns only a fraction of the watershed, even of that part forested. The acquisition of the wooded areas immediately to the east and to the north of the present holdings, the latter containing the live springs that feed the stream, would add much to the protection of the stream, without which stream improvement could not be justified.

The Group 2 state forests represent an interesting and valuable part of the forestry program. White Pine Hollow is a notable example and should be protected by the acquisition of additional area to the west and north where there are good stands of pine.

The Commission should determine the need and feasibility of acquiring a substantial area, one measured in thousands rather than in hundreds of acres, somewhere in the bluff region east of the Missouri River. This proposal was originally made in the 25-Year Plan. It should be an area such as that surrounding Preparation Canyon State Park, where most of the land appears to be little used except for grazing and where something approaching natural conditions still prevail.

The federal forest land in southern Iowa, consisting of about 4,700 acres purchased nearly 20 years ago as a start toward a national forest in that area, became, after abandonment of the project, a sort of "no man's land." Its disposal has been discussed for many years, but nothing has been done about it to date. It is strongly recommended that it be transferred to the state to become part of the state forest properties. About half of the federal acreage is intermingled with, or closely adjacent to, the state lands in the Shimek Forest. The other half is more scattered but near enough as to be an administrative part of the Stephens Forest.

This area includes the site of a former tree nursery which would be of special value to the state in the event of the expansion of nursery activities.

The forest land acquisition program should over the next decade strive to block in all present forest units to facilitate administration and purchase new units as recommended. In total this would represent approximately 14,000 acres, or double the present holdings. Some of these lands would necessarily have to be purchased from appropriated funds but supplemented by joint participation with the other units of the Commission and nominal transfer costs of federal lands. Such a program should not entail unreasonable expenditures on the part of the forestry unit.

Research.--There are five forest research projects being more or less currently carried on by Iowa State College in which the Commission is participating. The first three of the five listed below are under the direction of the Department of Forestry; the other two are handled by the Department of Botany and Plant Pathology:

- Adaptation of Trees in Iowa
- Management of Bottomland Hardwoods
- Economics of Forestry in Iowa
- Oak Wilt
- Rate of Decay (in living trees)

Adaptation of trees in Iowa and management of bottomland hardwoods are continuing studies dealing with questions of more than average importance in Iowa. The former is particularly timely and important because so much of Iowa's forestry program involves planting, and there are so many variations in climate and site. The latter is also of special importance since the bottomland areas contain most of the better hardwoods remaining in Iowa and possess the greatest potential for future productivity. The economic study has been mainly the determination of the feasibility of small-scale production of charcoal, the quality of the material produced, and the techniques of reforesting the area cut over in the process. It was designed primarily to find some profitable use for the low-quality oaks in the south.

The oak wilt study is closely correlated with other similar investigations and constitutes an important segment of the whole. Damage to the oak stands in the state parks was a determining factor in the Commission's decision to support this study. The rate of decay study, which requires but a small contribution from the Commission, will have an important bearing on stand improvement work throughout Iowa.

The Commission's total contribution to the foregoing work is approximately \$16,000 annually. This is not a large amount; however, it represents about 18 per cent of the forestry budget and nearly 30 per cent of that portion of the budget supported by state appropriations. Consequently, these projects should be reviewed carefully each year with the view of either termination or redirection as soon as the desired answers are obtained, or other agencies accept more of the burden.

Forest fire protection.--Only an extensive type of organization for forest fire control is needed in Iowa. Much of the effort in the present

program is directed to fire prevention and to the enlistment of local agencies as rural fire companies. Many of the field employees of the Commission aid in the program, and a small fraction of the time of conservation officers and park custodians is recognized by the Federal Government in computing the allotment of cooperative fire protection funds.

The burned area record during the last few years has been reasonably satisfactory. However, the system is not entirely adequate. To be able to cope with the occasionally severe years and meet unusual emergencies, the fire prevention system should be expanded to:

1. Intensify prevention efforts and the training of cooperating groups in all parts of the state where protection is needed.
2. Provide additional cooperator education through expansion of the farm forestry program.
3. Provide and maintain adequate supplies of tools for employees and cooperating groups, including reserve supplies at strategic points throughout the area being protected.
4. Provide detailed and up-to-date fire plans for areas of special interest and value, such as White Pine Hollow and many of the forested state parks, and for areas of special hazard, such as the plantations on state forests.

The suggested reorganization of the conservation officers, fire personnel, and others into the Field unit will greatly supplement the fire prevention program through the addition of personnel giving state-wide coverage. A state fire marshall should be appointed by the chief of the Forestry unit to direct this activity of the field staff and to initiate an intensive fire fighting training program. Such training should be compulsory for all field personnel but available also to all cooperators.

Tree and shrub nursery operation.--The Ames nursery, after many years of restricted operation, has increased its production rate to meet planting stock demands created by new agricultural programs and expanded Commission activities. Some of the restrictions on tree distribution have been lifted, technical direction has been employed, and more recently, the Soil Bank program has provided incentive and means for betterment and expansion of space and facilities. This year, considerable stock was purchased from other states to meet current orders, and presumably the same practice will be necessary for another year or two. However, the seeding program now in effect should produce about 8 million coniferous seedlings annually thereafter, plus the shrub and food plant stock needed for game plantings.

Except for the salary of the forester in charge, the nursery is self-supporting from the sale of stock. This makes the cost of stock higher than in most neighboring states, where the nurseries are supported in part by appropriated funds; however, unit costs at Ames should decrease as production increases.

It is difficult to forecast future needs for forest planting stock. However, considering the large area in need of planting and the incentives offered by federal farm programs, it seems that the demand is quite likely to outgrow the capacity at Ames within a few years. Expansion of the farm forestry program would, no doubt, stimulate tree planting in those portions of the state not yet served by the Forestry unit. Since it is likely that an additional nursery will soon be needed, plans for its development should be initiated now. A nursery cannot be put into operation overnight, nor can suitable coniferous seedlings be produced in less than two or three years.

The second nursery should be located in the southern part of the state to permit earlier lifting of stock than is now possible at Ames. The federal nursery site near Keosauqua appears to meet the location and soil requirements. Some facilities still remain on the site.

Broadly, there are several courses of action that the Commission should follow--first, to establish a sound, well-rounded forestry program capable of expansion to meet future needs as they arise, and, secondly, to secure the public understanding and support for such a program. These are:

1. Acquire large acreages of land in areas of the state not now served by the Forestry unit, especially in the south and west. Purchase on a continuing basis stream bottomland to be managed for watershed purposes, recreation, and wildlife, as well as forestry. It is these lowlands that have the greatest remaining potential for "wildlands" in Iowa. Block in all present holdings to facilitate management. Acquire experimental areas to be managed jointly with the forestry schools of the state college, and additional nursery grounds. Since there are no such facilities in the southern phyto-graphic zone, the acquisition of the old U. S. Forest Service purchase unit would offer an ideal solution at practically no cost.

The Commission should also initiate a purchase program for peripheral buffer strips surrounding all state lands endangered by encroachment or lack of watershed management. Forest and wildlife plantings on these buffer strips could be used as demonstration units to encourage private farm woodlot management as well as contribute materially to the aesthetic appeal of recreation areas.

2. The farm forestry program is sound and should be extended to all appropriate areas in the state. In support of this work the Commission

should add a marketing specialist to the staff to assist farmers in the location of prospective purchasers and in the improvement of their forest products. In some areas of the state, cooperatives, such as the soil conservation districts, might possibly be induced to purchase planting and harvesting equipment resulting in reduced private investment. It could also assist in an economic survey of woodlot management which undoubtedly would demonstrate the practicability of small woodlot ownership.

3. Education, especially for the younger farm people, to create an awareness of the need for forests and forest management obviously is not receiving the emphasis it should. Farm woodlot and home-site shelter plantings no longer seem to be appreciated. Much of this land is being converted to grow already over-abundant crops. This "awareness" might be more easily fostered if the Commission entered into a cooperative youth woodlot program with such organizations as the Soil Conservation Society of America, 4-H, or the Boy Scouts who already have programs of a similar nature.

It has been many years since forests were an important feature on the Iowa landscape. Young people have only known expansive farmlands; forests are foreign to their concept of a modern agrarian economy. They do not comprehend the interdependence of farms and forests; of watershed protection and soil conservation; indeed, they do not understand biotic balance, nor the simple beauty of a tree. It is too easy for a farmer to take a short term profit from his land today and ignore the long-term capital gain. The Commission by working with youth groups and our present farmers can mold an appreciation for and an understanding of these values. Demonstrations would show them how to manage their woodlots. An economic survey would show the land need not be growing corn to return a profit. Extension foresters would help train inquiring minds into the ways of living with the land, taking

advantage of the natural biota; of not engaging in a constant struggle against nature. The marketing specialist would develop ways of merchandising these secondary products. In the long term, Iowa would profit from a good forestry program--socially and materially.

4. Equally important to the molding of human concepts is the manipulation of the forests--improved species composition, stocking rates, optimum growth conditions, freedom from disease and pests, and application of forest management principles correlated with collateral values. Throughout southern and western Iowa there are large acreages of particular forest types that are not now producing at an optimum rate. They are not potential agricultural areas, nor, perhaps, are they eminently suited for forestry. But removing cull trees, planting of selected species according to site classifications, and even the introduction of new species such as Iowa's hybrid poplar would increase the productivity of these lands.

In such marginal areas income from forestry alone should not be the only criterion upon which to justify such work. Frequently, even in productive areas, watershed erosion, or wildlife values, are paramount to "sawlog forestry." Also, in many instances, where the one value does not justify the expense of management it, in combination with others, will contribute far in excess of the original value. The oak-hickory type forest occupying most of southern Iowa is in this classification. Reproduction is poor; the better individuals have been removed and lacking management have grown into near pure stands of cull trees. Yet, for Iowa, with its forest-covered coves and valleys, this region is a fine recreation area. Forest management will improve the stands, but of more importance will be the game cover, the clear streams, small lakes, and beautiful vistas.

Water Resource Unit

The remaining functions of the Division of Lands and Waters pertain to the management of the state's waters. These duties have been limited for the most part to regulation of water traffic and to the removal of sand and gravel from the state's water bottoms. In general the activities of the Commission have outgrown this section, and it no longer reflects the true importance of water as a natural resource or the interrelationship of water to the renewable resources administered by the Conservation Commission.

Water is now, and will become increasingly so, the most important single element in the sound and proper management of the state's renewable resources and recreational facilities. It has in fact become so important that to give water the proper stature and recognition in the deliberations of the Commission, it must be handled by a new and separate unit on the same organizational level as other operational divisions of the Commission.

The primary function of such a unit would be to assist the Commission in the formulation of administrative activities and policies relating to the management of the 188,771\* acres of meandered streams and sovereign waters now charged to the Commission for administration by law.

Other parts of this unit would administer those functions previously handled by the old section (sand and gravel) with others (water traffic) being transferred to the Field unit.

Heretofore, the Commission has performed certain duties regarding water as related to fish and wildlife but without formal recognition of this important obligation. As the complexities of modern life become more intense, the importance of these duties will increase manyfold. A single unit to study

\*June, 1956, estimate.

and manage these relationships is solely needed. A river basin studies section, patterned after that of the Bureau of Sport Fisheries and Wildlife, would examine all proposals relating to water and coordinate the Commission's activities with those of the other agencies to preserve and protect Iowa's water resources.

A second new unit recommended is the pollution abatement section. Duties of this section would include, in cooperation with other divisions, the elimination of siltation. It would also inspect and prevent pollution from all potential sources. These operations would be conducted in close cooperation with the state public health organization.

Since these sections are not now operative within the functions of the Commission, detailed recommendations regarding their programs cannot be made. The need for their establishment, however, is so important that recommendations covering the broader aspects have already been made in the section of this report relating to policy determination and Commission duties.

APPENDIX

Organization

The general organization of the Iowa Conservation Commission is good, especially since several of the earlier recommendations both from the 1947 and 1954 reports have been adopted. The most important of these include job specifications, policy and operating procedure instructions for employees, and a clear statement of operating spheres for both the Commission and the Director's staff. More recently, a distinct improvement was the creation of the Assistant Director position in fact, and not as a dual position. Previously divided attention brought about by division responsibilities severely limited the proper function of this office.

The following recommendations regarding the physical organization of the Commission staff are made because the actual accomplishment of the suggested program is closely allied with the composition of the work group. The suggested form has proven to be the most conducive to orderly management of natural resources at the state level, and provides a vehicle most nearly capable of utilizing state facilities to their ultimate degree.

As previously noted the three major divisions of the Commission established by law should be abolished. To give proper stature to the various functions of the Commission and to permit closer supervision of the staff by the Director (and within the units by their respective chiefs), it is recommended that seven new units be established to replace those abolished or otherwise realigned. The new organization form will more accurately delineate

the duties and obligations of the Commission and will clarify areas of supervision.

These units (divisions or sections) are: ADMINISTRATION, to include fiscal, property, personnel, engineering, and real estate acquisition; WATER, to include pollution abatement, river basin studies, administration of state-owned water bottoms and related water problems; INFORMATION AND EDUCATION, to include all the present functions of that office with additional emphasis on newspaper information dissemination, a modern format for the Iowa Conservationist, and an expanded in-service training coordination group; FISH AND GAME, to include federal aid (which should be reorganized as an administrative liaison between the state and federal agencies with its current field operations transferred to the appropriate game or fish section), game, and fish. The present Biology Section should be abolished and its personnel transferred to the appropriate fish or game group. FIELD, to include all conservation officers (no longer divided as to division), lake patrol, aircraft, and fire control; FORESTRY, which would include all of the current functions of that section except those relating to field fire control (program supervision would still remain in the Forestry unit); PARKS, which would include its current functions but not those relating to conservation officers. Some of the current subsections of the Division of Lands and Waters would be eliminated in name but not in fact, for their duties would be absorbed and conducted by all of the major units. Still others would have a reassignment or a reapportionment of their current duties. These will be taken up in discussion of the various divisional programs.

All of the units must be made acutely aware of the importance of coordinating their activities with those of other resource agencies, both

public and private, so as to take full advantage of the benefits to be derived from such programs and to prevent or alleviate potentially damaging features of others. Some sections, such as the proposed River Basins Unit, are charged to work in cooperation with specific agencies, in this case, among others, the Corps of Engineers and the Iowa Natural Resources Council. Similarly, the Game section must work in close cooperation with all of the various agricultural programs, such as the Small Watersheds Program, the Soil Bank, ACP, and others. Indeed, no section will attain the proficiency due the people of Iowa without close attention to related agencies and their programs, in many cases indirectly, or sporadically, and without specific direction, but important none the less.

PROPOSED TABLE FOR ORGANIZATION

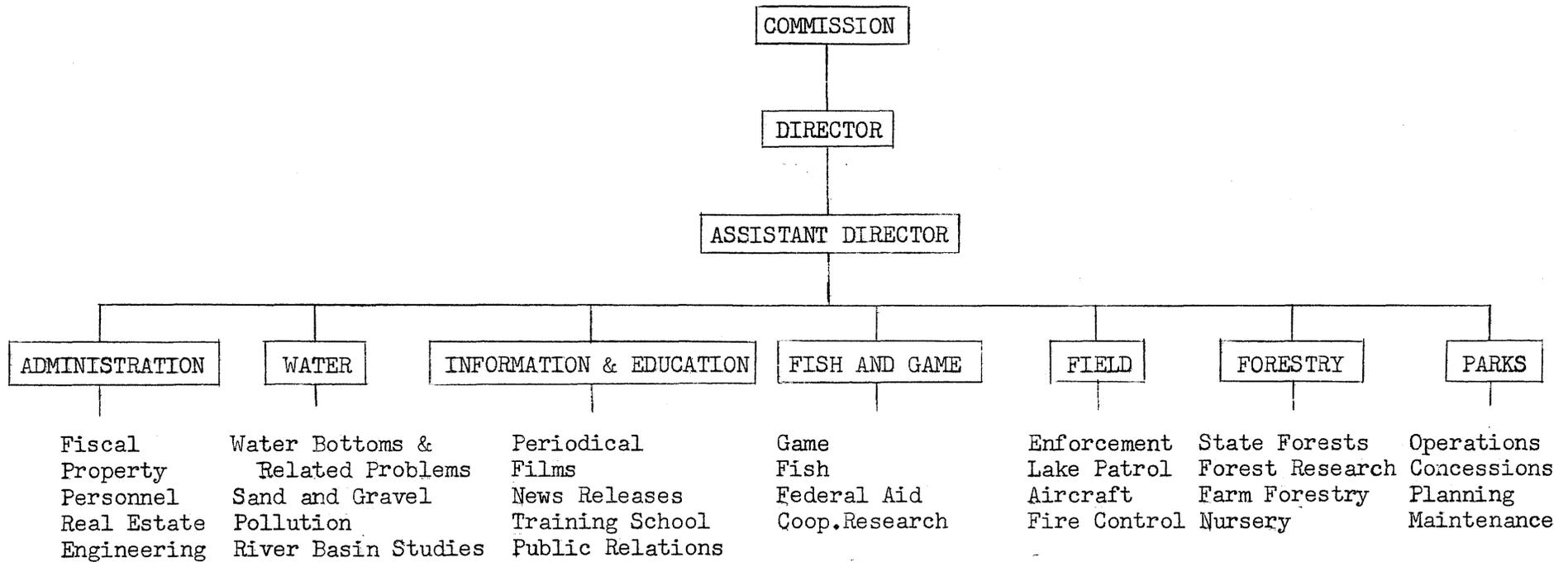
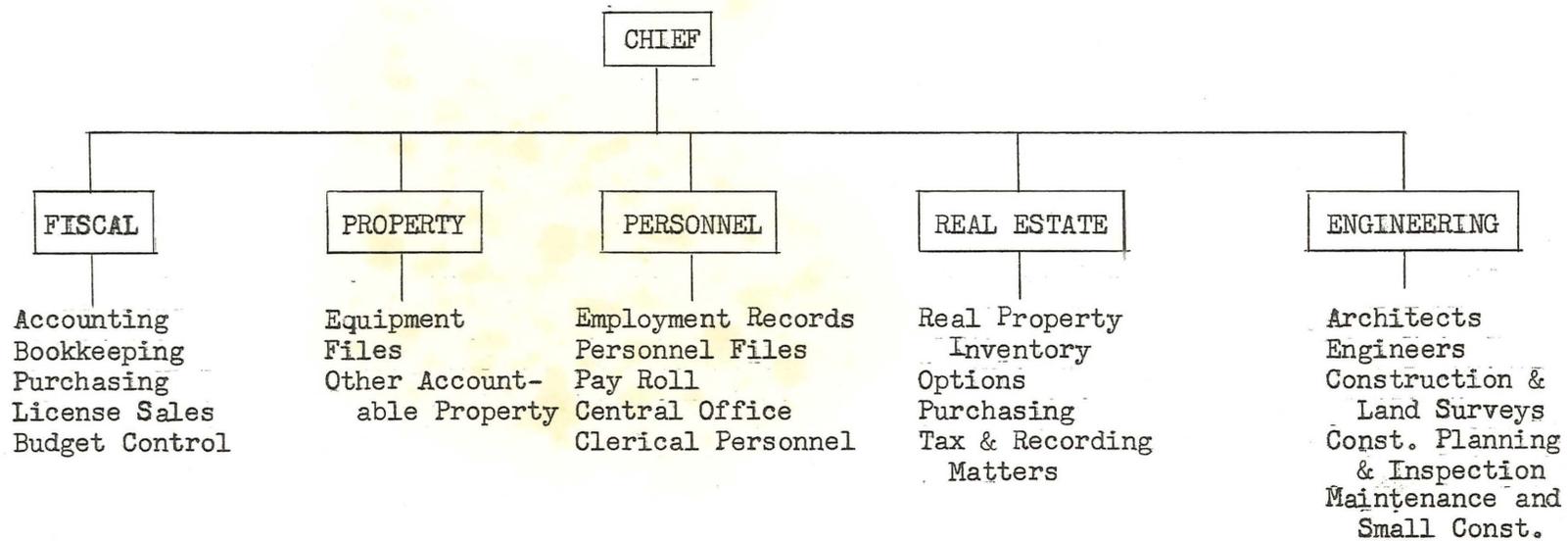
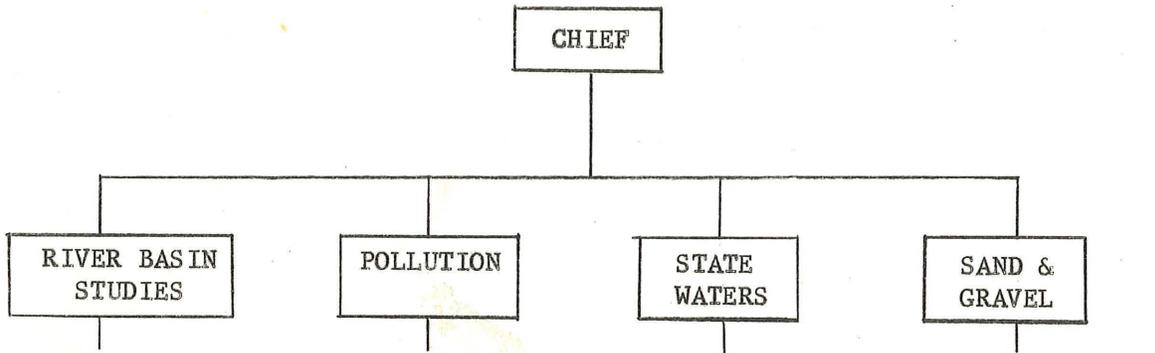


Table of Organization

ADMINISTRATION



WATER



2 Field Crews  
(1 each game &  
fish biologists)

Coop. work with:  
Fish & Wildlife Ser.  
Corps of Engineers  
Bur. of Reclamation  
Soil Conser. Dists.  
Nat. Res. Council  
Etc.

Do actual planning &  
accomplishment of  
Comm. work in conn.  
with water develop.  
in consultation with  
other Comm. units.

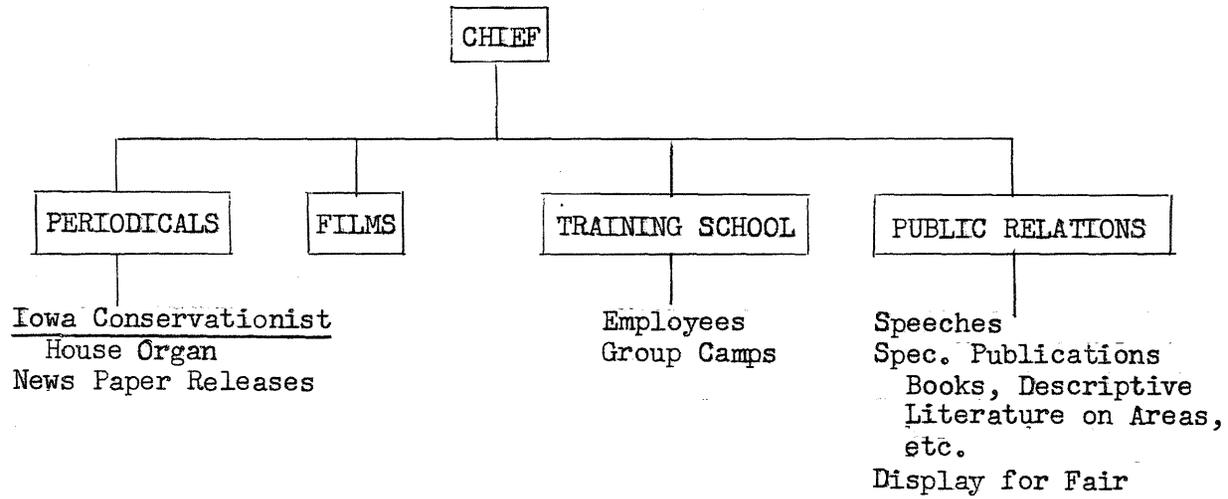
Laboratory  
Field Crew  
(including  
a chemist)

Problems relating  
to accreted land,  
meandered streams,  
etc.

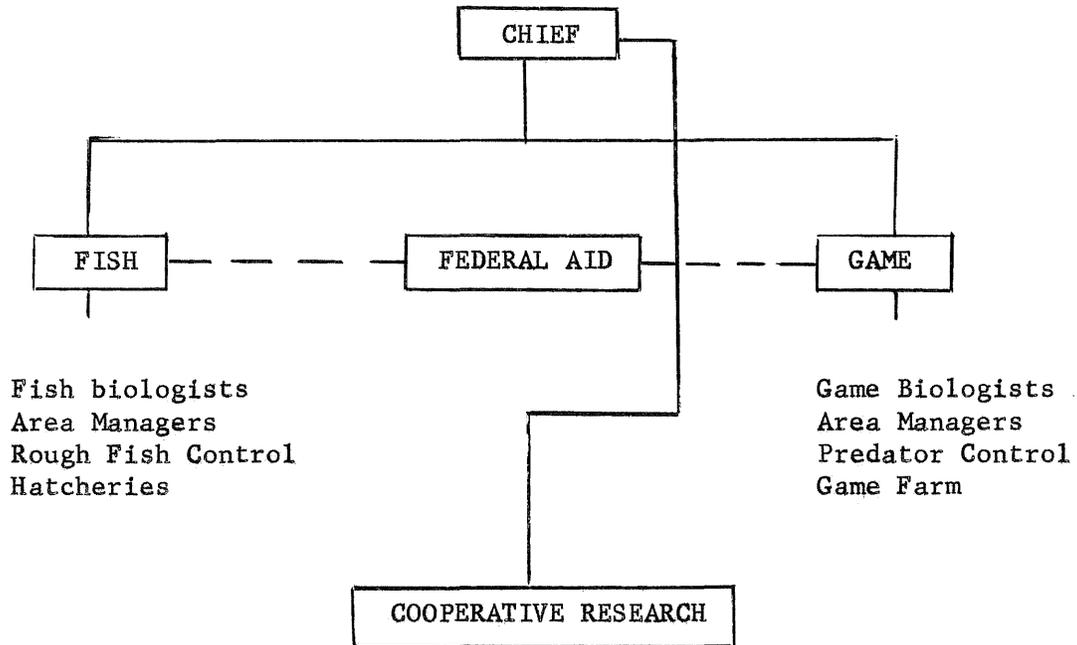
State Water Law  
Coop. Water Research

Permits  
Inspection

INFORMATION AND EDUCATION

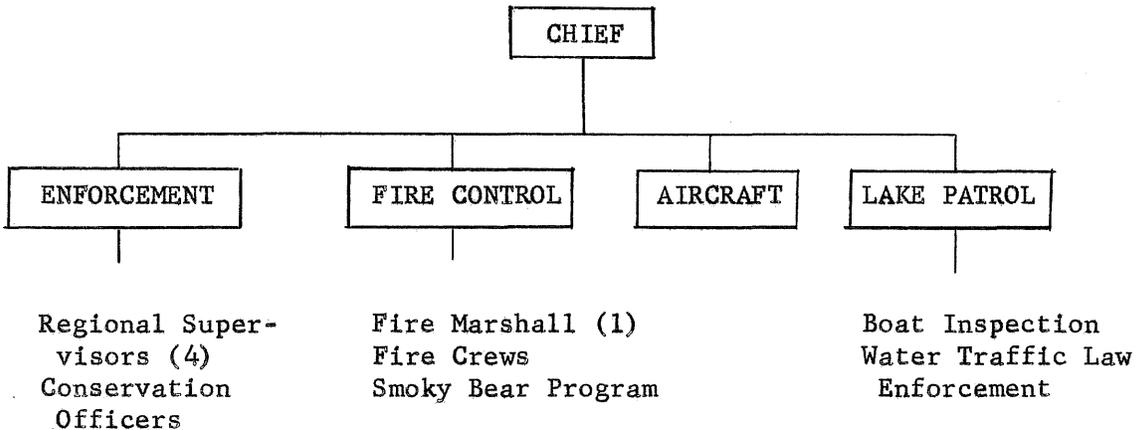


FISH AND GAME



There should be a reorganization of all operating division field staffs. The present regional offices and area (by regions) manager concept should be eliminated. Personnel should work through the central office if on state-wide projects or be assigned a specific management project unit. Iowa is not sufficiently large or diverse geographically to support regional management (except for conservation officers.)

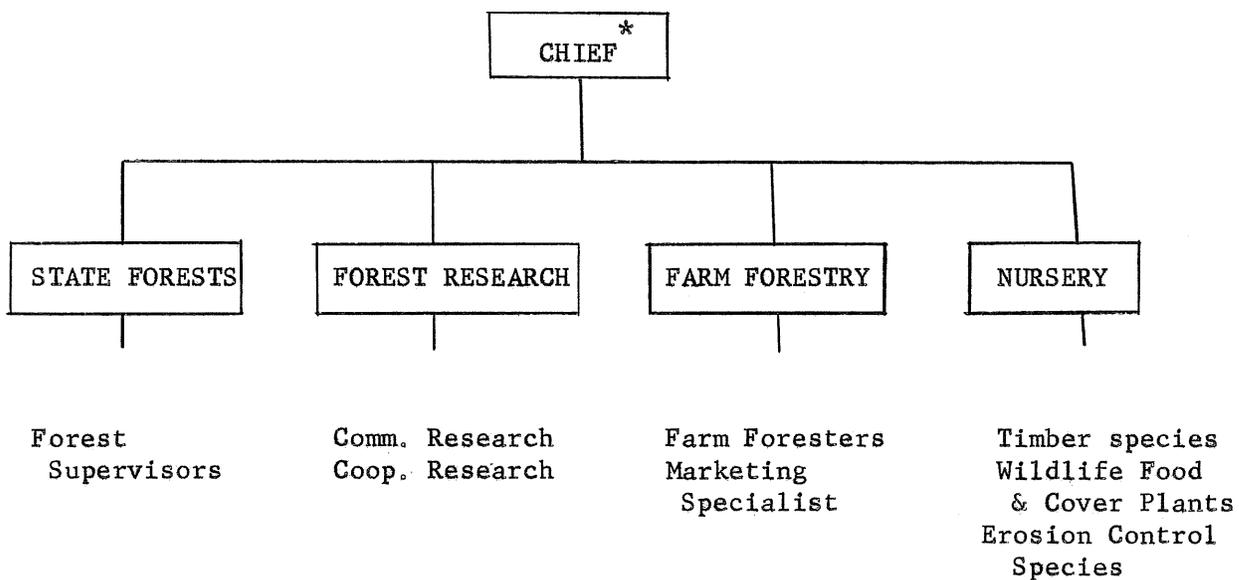
FIELD



The similarity of these functions (except for aircraft) would dictate that all personnel perform these jobs equally as the need arises. The aircraft would be on call for all Commission jobs according to prior arrangement.

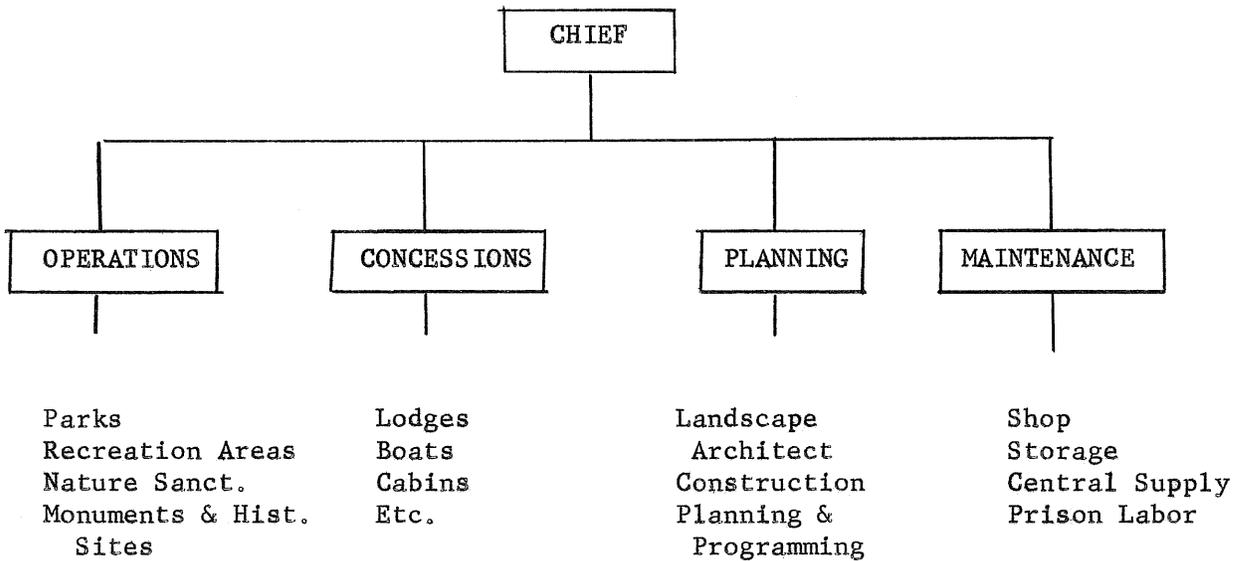
The fire control unit is placed in the field unit so as to provide extended coverage of this important function among all field personnel. Policy determination and program development would remain as a function of the technical forester.

FORESTS



\*Coordinate fire control work with Field Division

PARKS



Park Superintendents will supervise all work on individual areas such as erosion control, road maintenance, building maintenance, etc. Small areas not large enough for a superintendent will be assigned to the nearest large park.

All superintendents and park operations will be supervised from central superintendent's office (no regional supervisors).

Summary of Major Recommendations

General Commission Policies

Page 29

1. The Commission should strive for better coordination of all phases of its program, integrated planning and development so as to insure the realization of all potential values.
2. The Commission should develop a sound understanding on the part of the public of its aims and purposes; to create a public awareness and consequently enjoy their support and assistance in the management of renewable resources.
3. The Conservation Commission should reorganize its staff according to the suggestions found in this report so as to facilitate the management of the state's resources.

Commission Policies Regarding Land Acquisition

Page 40

1. Compile a complete land and water survey and inventory, making use of all previous data, such as soil classifications, forest and timber surveys, wetland surveys and socio-economic information so as to better manage those resources charged to the Commission.
2. It should be the established policy of the Commission that in the future complete and comprehensive planning will precede the acquisition and/or development of state-owned lands.
3. In the development of all projects the Commission should seek the assistance and support of local people.
4. In planning for the development of all state lands, the primary consideration will be for recreational or biological values. All Commission units should take part in the formulation of such plans.
5. Provision should be made for the acquisition of land primarily intended for research purposes or other collateral uses directly related to the basic function of the Commission.
6. Where the Commission contemplates the divestiture of public lands, it should do so only after a complete review is made of the needs of all its various units. Riparian values should always be retained.

Commission Policies Regarding Water

Page 44

1. The Commission should seek the modification of Iowa's water law so that it might equitably serve all of Iowa's citizens without priority or special privileges granted minority groups. Excepting domestic use, no single use should be granted exclusive right without recourse.
2. Seek clarification of laws pertaining to sovereignty lands.
3. Consider a system of zoning to preserve the recreational value of meandered state-owned waters.
4. Accelerate program for acquisition of lands which will derive proprietary riparian rights to the Commission on all major waters of the state, but especially all rivers and streams. This will not only provide access for all recreative purposes but will insure the acceptance of Commission planning in all public works relating to water resources.
5. Seek to insure the recognition and consideration of fish and wildlife values in all water projects whether federal or state. Recreation, as well as fish and wildlife planning, should be a part and parcel of the original planning of all such developments.
6. The Commission should be able to maintain the waters of the state in a clean and usable condition. Most of its waters today are not in such a condition, largely because of siltation. Passage of an adequate pollution law now would be much less difficult than when there is an increased number of potential polluting industries.
7. The Commission should adopt a simplified water traffic code consistent with federal Public Law 85-911, including provision for income to meet administrative costs.

Financial Support of the Commission Program

Page 49

1. Consideration should be given to the passage of a tax to support parks and other common-use facilities provided by the Conservation Commission. These would include pollution and erosion control, roads, artificial lakes, and multiple-use state lands providing some values in watershed protection, game, fish, access, park and picnic facilities, and forestry.
2. Limited-use facilities provided by the Commission but still of common value (forestry; historical, or other unique value areas; water broadly interpreted; and all other special legislative directed works) should be included in and receive a proportionate share of the biennial general appropriate fund.
3. Special interest facilities (fishing, hunting) would continue to receive their funds from earmarked license income. But because there are numerous collateral values derived from fish and game management, a proportionate share of total expenditures should be appropriate. These would be funds expended indirectly for farm program research, aesthetic values, bird watching, en-

forcement of all state resource regulations, pollution abatement, erosion control, special education programs, water retention works, and others.

4. All appropriations should be made on the basis of detailed plans and budgetary programming for all Commission functions.

5. All license fees should be increased (as with appropriations) to at least match increased costs of operation and deflated dollar values.

Legislative Needs

Page 53

1. The Commission should seek the amendment of the Code of Iowa (1954) as related to Conservation so as to create a basic authorization of Chapter 107 under which the State Conservation Commission might function with flexibility as required in the management of renewable resources. The remaining statutes, or portions thereof, Chapters 108, 106, 109, 110, 111, 112, 161, 308 and others, should be given the force of law as regulations under the basic authorization. The subsequent regulations where appropriate should be recodified and amended or repealed to conform with the intent and letter of the basic law.

Specific portions of Chapter 107 requiring amendment are:

107.5 Compensation. Members of the Commission should not be compensated except as provided in Section 107.6

107.12 Term and Salary. Salary of the Director should be made to conform with the recommended basic salary schedule (See page 55).

107.13 Officers and Employees. All references to salaries other than the director's should be eliminated. Salaries for all employees should be made to conform with the suggested schedule, and should be fixed by the Commission, not by law.

107.21 Divisions of Department. This entire section should be repealed. Organic structure of the Commission should not be fixed by law.

107.23 General Duties; 107.24 Specific Powers. Provision should be made in these sections to give legal authority to the Conservation Commission to manage state parks, forests, and waters if Chapter 107 is to be the basic conservation law. This authority is presently found in other statutes of the State of Iowa.

107.26 Interpretation and Limitations. Portions of this section that are inconsistent with Section 109.39 should be repealed.

Prison Labor

Page 58

1. Prison labor should be limited to a central location where small pre-fabricated items can be manufactured for later installation on Commission areas by regular employees.

2. Conservation Commission funds should not be used for prison labor except for the purchase of materials required in the manufacture of signs, fireplaces, launching ramps, small buildings, etc.

Administration Unit

Page 60

1. The accounting and license sales systems should be brought up-to-date with modern accounting equipment.
2. The license distribution system should be revised to permit closer supervision of sales personnel.
3. Equipment subject to seasonal use should be available for loan among all units of the Commission. Depreciation or replacement funds for such equipment, especially vehicles, should be earmarked for replacement to the specific individual or unit.
4. The personnel section should maintain up-to-date job descriptions and standards. They should also draft higher qualifications and requirements and salary schedules compatible with such qualifications. A merit system and performance review for all employees should also be adopted.
5. Engineering and architectural services should be contracted as much as possible.
6. A land acquisition unit should be developed administered by an experienced realtor. The Commission should immediately launch a well-planned, aggressive land acquisition program.

Information and Education

Page 64

1. The Commission should immediately establish an information and education section or unit separate and apart from the Administration unit, equal to other operational units of the Commission.
2. The format of the Iowa Conservationist should be modernized and its contents revised so as to stimulate public interest through service to outdoor people.
3. Greater emphasis should be applied to newspaper releases and other informational services so as to keep the public and employees accurately informed of all Commission actions.
4. Group educational activities for both the public and employees should be expanded as rapidly as funds and facilities permit.
5. All Commission employees should engage in "selling" conservation to the public, but especially the Commission should encourage conservation officers to acquaint the public with the Commission's program.

6. The Commission should immediately launch an aggressive campaign designed to acquaint the public with all of its services and facilities but especially its public-use lands.

Fish and Game Unit

Page 69

1. Draw up long-range plans for the multiple-use management of all its areas.
2. The Fish and Game unit should acquire and develop more small artificial marshes. They should also acquire all natural areas of similar value by lease or easement if purchase is not possible.
3. The Fish and Game unit should initiate a continuous program of acquiring wooded bottomlands adjacent to streams and lakes. Such riparian acreage is limited now and will become less extensive and more expensive as time progresses. It is the last remaining "natural" area in Iowa.
4. The Commission should acquire control of sufficient acreage in all watersheds on which it anticipates management programs, upstream from the project to insure water supplies and protection from siltation.
5. More access areas (not necessarily large) are needed to permit boating and sports enthusiasts access to all the streams and lakes in Iowa, particularly on the Missouri and Mississippi Rivers.
6. The Commission should also acquire fairly large blocks of timbered land for the management of deer and timber resources.

Federal Aid and Biology Sections

Page 72

1. The Federal Aid Section should not be operated as a management unit of the Commission. Instead it should function as a state-federal liaison to effectuate the state programs carried out by the operating units of the Commission with federal monetary assistance.
2. The Biology Section should be abolished and its personnel reassigned to the appropriate fish or game section.

Game Section

Page 76

1. Increase the production of wildlife nursery stock. Stock selected for production should be critically examined to be sure it will meet the desired specifications and will require a minimum expenditure of time and money to produce the intended results. Use such plants for erosion control where possible.

2. Manage all state-owned wildlife lands. Select large wooded areas for acquisition in cooperation with the Forestry unit for low intensity deer management. Install food plots, small water holes, and other game practices on other state lands. Hedges and native game food plants can be used effectively on parks to direct human usage to these areas and still benefit game.
3. Public shooting areas so far developed are excellent, but there is a need for more. Acquire more public access areas along the river bottoms. The Commission should re-examine its farmland leasing policy. All such areas unless specifically intended as refuges should be open to the public. Acquire as much naturally or potentially valuable wildlife land as possible. All naturally valuable game or fish areas especially small potholes endangered by drainage or otherwise altered not considered for purchase should be leased to forestall such losses.
4. A large experimental farm would be valuable for research on farm-game relationships. It should be operated in conjunction with the Agricultural College and the Cooperative Wildlife Research Unit.
5. The Game Section should undertake erosion control work on all watersheds containing state lands and/or lakes. Plantings would be primarily for game, but could include some timber types. This work is especially needed on trout and smallmouth bass streams.
6. The Game Section should persuade farmers to fence farm ponds and woodlots. As an inducement for this and ACP or Soil Bank work, the Commission might pay costs over and above subsidy payments.

Fisheries Section

Page 79

1. Develop more accurate means of determining fishing success and/or interest. These data are prerequisite to any balanced fisheries management program.
2. The fish hatchery program is supplying sufficient stock for any demand in the immediate future. Expansion of this program does not seem warranted, but the efficiency of operation could be increased by improving water supplies and construction of new ponds to replace nursery lakes.
3. The fish rescue program has been curtailed. It should, however, be discontinued entirely except for very special purposes.
4. Initiate species management on selected larger bodies of water.
5. Curtail rough fish control by present netting system and substitute as conditions warrant the use of chemicals. Traps and barriers should be maintained to assure adequate control. Chemicals to control species composition and for sampling should be used more extensively.
6. The Fisheries Section should acquire as many access areas as possible. Development on these areas should be kept to a minimum.

7. The Fisheries Section should initiate watershed management on at least the smallmouth bass and trout streams prior to and in conjunction with some stream improvement work.

8. The Fisheries Section should evaluate the effectiveness of stocking programs and the cost-benefit ratios as presently done and in conjunction with (7) above. Cost of the put-and-take programs should be borne by those engaged in the particular sport by use of special permits or licenses.

Field Unit

Page 82

1. Take every means possible to encourage the field staff to engage in informational activities.
2. Pay actual mileage costs on all field travel.
3. Consolidate all enforcement activities and not specifically assigned non-professional field employees into a single unit so as to provide a closely knit state-wide force of diverse capabilities (i. e., enforcement, field survey parties, fire control, etc.).

Park Unit

Page 113

1. A state park idealism should be created that has substance and meaning to the average taxpayer. When once established, this concept should be fostered by a State Parks Citizens Committee and an active public relations program.
2. On the basis of what appears to be a fairly healthy economic future and the prospect of increasing industrialization, it is recommended that a state tax be created dedicated to support state parks that will provide capital as well as operational funds, and that a more popular balance between conservation and recreation be established in the policy of expending the funds.
3. State parks are not substitutes for local recreation. In some areas of the state, local interest is doing a good job; while in others, services are non-existent. Some means should be created to permit coordination of services between governmental levels.
4. For planning and administrative purposes areas have been classified according to their primary use. It is recommended that the areas be managed as State Parks, Monuments and Historic Sites, Recreation Areas, or Nature Sanctuaries, as enumerated in the text.
5. It is recommended that the Parks unit concentrate on developing five parks as demonstration areas to show how parks should be developed and what benefit can be attained through more liberal expenditures. The following parks are recommended because they are the best representative areas in their respective sections of Iowa: Ledges, Backbone, Lacey-Keosauqua, Waubonsie, and Stone.

6. It is recommended that immediate and positive steps be taken to bring the General Site Plan or Master Plan for each park site up to date, and a long-range improvement program projected that will forecast new needed structures, land acquisition, road and utility provisions. In considering monuments and historic sites, no activities or facilities of any kind that are not directly related to the interpretation of the history of the monument or historic site should be provided or allowed on the area.

7. There are many areas now classified as parks and managed by the Parks Section that do not meet the standards previously referred to. This is not to imply, however, that they are not valuable tracts of land. There are 37 such sites that should be transferred from the Parks Section. All those abutting on lakes or streams should be held by the Commission for their riparian value. Twenty-nine of the 37 areas recommended for transfer have some alternate value to the Commission and should be retained.

8. In addition to an active land acquisition program designed to improve existing park areas, the Park unit should be constantly alert to obtain valuable new sites particularly in regions of the state not now served by adequate park facilities or to preserve unique natural features. The demand for recreation sites, particularly those for water sports, will increase. When they are located near large centers of population, the demand will be especially acute. The Commission should acquire abundant acreages along the shorelines of all artificial lakes.

9. It is recommended that an artifacts law be passed to protect actual and potential park sites from looting.

10. It is recommended that all through roads included in either state, county, or city systems that traverse Commission land be maintained by the state, county, or city.

11. In most parks and recreation areas concessions should be operations operated by private individuals or a corporation, but the Park unit should prescribe the rules by which such operations are conducted and provide inspection to guarantee compliance. The state should not compete with private enterprise where the public is being adequately served by concessionaires. The state park agency should review carefully all concession contracts to insure an operation that will be profitable to both the concessionaire and to the state.

#### Forestry Unit

Page 133

1. The Forestry unit should acquire large acreages of land in areas of the state not now served, especially in the south and west. Purchase on a continuing basis stream bottomland to be managed for watershed purposes, recreation, and wildlife, as well as forestry. Block in all present holdings to facilitate management. Acquire experimental areas to be managed jointly with the forestry schools of the state colleges, and additional nursery grounds.

2. The farm forestry program is sound and should be extended to all appropriate areas in the state. The Commission should add a marketing specialist to the staff to assist farmers in the location of prospective purchasers and in the improvement of their forest products.
3. Education, especially for the younger farm people, to create an awareness of the need for forests and forest management obviously is not receiving the emphasis it should. Farm woodlot and home-site shelter plantings no longer seem to be appreciated. Much of this land is being converted to grow already over-abundant crops. This "awareness" might be more easily fostered if the Commission entered into a cooperative youth woodlot program with such organizations as the Soil Conservation Society of America, 4-H, or the Boy Scouts of America who already have programs of a similar nature.
4. Equally important to the molding of human concepts is the manipulation of the forests--improved species composition, stocking rates, optimum growth conditions, freedom from disease and pests, and application of forest management principles correlated with collateral values. Throughout southern and western Iowa there are large acreages of particular forest types that are not now producing at an optimum rate. They are not potential agricultural areas, nor, perhaps, are they eminently suited for forestry. But removing cull trees, planting of selected species according to site classification, and even the introduction of new species such as Iowa's hybrid poplar would increase the productivity of these lands. In such marginal areas income from forestry alone should not be the only criterion upon which to justify such work. Frequently, even in productive areas, watershed erosion, or wildlife values, are paramount to "sawlog forestry."

Water Resources Unit

Page 136

1. The Commission should immediately establish a unit equal to the other operating units of the Commission to manage the state's water resources.
2. Included in such a unit should be a River Basins Section charged with the coordination of the Commission's program with those of other governmental or private water developments.
3. Water pollution from all sources including siltation should be abated as soon as possible. To accomplish this need a Pollution Section should be established immediately with adequate legal authority to enforce its findings.