AN ADMINISTRATIVE STUDY OF SOUTHERN MICHIGAN STATE GAME AREAS

By

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ABSTRACT

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In the southern half of the Lower Peninsula of Michigan, the Wildlife Division of the Michigan Department of Natural Resources administers 46 state game areas. These are situated in the DNR's Region III, and together comprise about 214,000 acres of state-owned land. State game area use has dramatically increased in both variety and intensity during this past decade. Many use conflicts are now evident, and facilities for many authorized uses are lacking. The problem of effectively administering these areas for optimal use led to this study of traditional administration.

The system of administering state game areas was examined and critiqued. Methods by which this administration could be improved were investigated, devised, and organized into a conceptual framework. This framework

consisted of main resources and administrative subsystems of the Wildlife Division. The main resources of the Wildlife Division include: clients, authorization and funding, lands, equipment, and personnel. Administrative processes were separated into three subsystems: information, planning, and control. Game area administration was viewed as a process by which the three subsystems organized and utilized the main resources of the organization into programs to achieve selected goals.

Data was gathered by questionnaires, interviews, field trips to the game areas and reviewing Wildlife Division documents and studies. Cross comparison of data derived from the various sources served as a useful analytical technique.

Many specific items of information were gathered from the nineteen field biologists working on southern Michigan game areas. Most were quite critical of the existing system of administration. All of the field biologists hunted and had other outdoor leisure time activities. Most believed that the game areas should be primarily managed for hunters. Over ninety per cent of the field biologists felt a need for additional training.

Most seemed to enjoy the basic nature of their work and expressed a desire to see game area administration improved. The field biologists pointed out severe information and communication problems within the Wildlife Division: unclear goals, lack of useful management information, a difficulty in communication between units, and red tape surrounding planned action.

The apparent primary goals of the Wildlife Division were identified as providing services and game for various types of hunting. Consideration for non-game species and non-hunting forms of wildlife-oriented recreation were secondary goals. The possibility of increasing quality-oriented wildlife recreation, such as hiking and bird-watching, is suggested.

The main resources of the Wildlife Division can be improved and increased by using proven management techniques. Clientele support may be increased by new information-education programs, client-oriented research, and public involvement. Game area lands can be more effectively utilized through a land inventory and classification program. Equipment use can be optimized through effective scheduling and maintenance. Funds can be

increased by actively seeking grants and keeping key legislators informed. The personnel resource can benefit from a formal personnel program including employee selection, socialization, training, career planning, evaluation, and performance rewards. The main resources can be balanced through benefit/cost analysis.

The selection and accomplishment of goals can be improved by utilizing the main resources of the organization more effectively. Several methods are recommended. Formalizing the subsystems of information, planning, and control will enable administrators to view them in perspective, identify administrative problems, and seek solutions. Elimination of the regional organization can lower administrative costs and increase the speed of communications. Cost accounting by project or program can result in valuable information for program analysis. Accomplishment reporting, when tied to program plans and work schedules, can be an effective means of control and evaluation.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES (Cont'd)

CHAPTER I

AN OVERVIEW

The Game Areas

Michigan's state game areas were started in 1939. They were purchased to provide land for wildlife restoration and public hunting. These lands have always been managed by the Wildlife Division of the Michigan Department of Natural Resources.[1] In southern Michigan there are now about 46 game areas totaling over 214,000 acres of state ownership. A game area use study conducted in 1961-62 showed that the use intensity of these areas was rapidly increasing and that hunting probably accounted for less than one half of the use (Palmer, 1967). District biologists directly administering these areas believe that the use has continued to increase in both variety and intensity. A rise in use conflicts, lack of maintenance, and

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[1] Game Division name changed to Wildlife Division in 1971. Conservation Department name changed to Department of Natural Resources in 1968.

biological degradation from misuse has led some to believe that the traditional form of administering the game areas is inadequate. The problem of effectively administering the game areas for optimal use led to this study of current administration.

The Study Methods

The present system for administering the game areas was examined and critiqued from the bottom levels of administration upward. Wildlife Division units on three levels were closely examined: the Division staff, the six districts, and Region III.[2] Data was gathered by questionnaires, interviews, field trips to the game areas, and reviewing Wildlife Division documents and studies. The questionnaires on personal history and game area administration were sent to the 19 district and area biologists in Region III. Their answers were particularly valuable in identifying administrative problems and causes.

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[2]Region III comprises the 35 southern counties in Michigan. The region contains 6 districts and functions as a field administration unit for several divisions: forestry, wildlife, etc.

Field trips to eight game areas dispersed in the region illustrated actual on-the-ground management problems, especially when accompanied by a biologist familiar with the areas. One game area, Dansville, was studied in depth, and six trips throughout the year were made there.

Wildlife Division documents and studies were somewhat disappointing. They lacked the output and impact information necessary to effectively evaluate management decisions. Even detailed cost information of projects was usually lacking. A cross comparison of data and information was helpful in making an analysis of the various problems identified.

Administrative Problems Identified

Most of the basic administrative problems of the game areas carry over to the entire wildlife organization. Many may be grouped into two categories: personnel and organization structure. The personnel situation is complex, but a key to understanding it is knowing the history of the wildlife organization. The organizational structure, created by the Department of Natural Resources'

staff, has produced a particularly difficult working situation. Many of the wildlife organization problems are attributable to the structure, rules, procedures, and policy in its work environment.

Almost all of the administrators in the wildlife organization were trained as wildlife biologists. The organization lacks the variety of skills so common in organizations of similar size. Advanced training in administration is especially lacking. These factors are a serious organizational weakness that limits the perspective and problem solving ability of the organization.

The wildlife organization has three administrative levels: district, region, and the Division. The Division has a Chief, staff, and research unit. Its mission is to plan programs and provide expertise. The three regions are separate organizations which administer the programs planned by many divisions. The Wildlife Chief and Regional Managers are on the same level and must bargain as equals. The regions may hire their own field biologists without approval from the Division. Clearly the Wildlife Chief does not have line authority. Field orders are required to carry out new programs. A field order must have the signature of two deputy directors

and the Wildlife Division Chief. The process is awkward and often slow.

For several reasons, efforts of the Wildlife Division do not produce desired results. The DNR[3] lacks a comprehensive statement of objectives as does its Wildlife Division.[4] For that reason, planning has no clear direction. Hence, the system of budgeting makes associated planning and control very difficult. Rules, regulations, and rewards are generally not performance-oriented. Maintaining traditional norms and division boundaries seems to occupy considerable DNR staff time.

The district and area biologists feel that the Wildlife Division staff is not serving their needs well.[5] The questions and requests they send to the staff are often lost or forgotten. Many field biologists believe that the staff has little expertise to offer them. These field biologists seem very frustrated at the lack of planning that goes into programs they are expected to

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[3]Formerly Department of Conservation until 1970.

[4]Objectives for these units are written in a variety of policy documents that are not considered by the author to be comprehensive.

[5]Results of game area questionnaire are specific in pointing this out.

carry out. They also feel that they need more and better information on game area use problems and means of solving them. The Division staff does not seem to understand why field orders and plans are not carried out as they visualized them. Many staff members have little face to face contact with the district biologists.

A Framework From Which to View Public Wildlife Administration

To better understand game area administration problems, the basic requirements of public wildlife agency administration should be examined. A useful framework for viewing these basic requirements consists of inputs, or main resources, and administrative processes. The main resources of the Wildlife Division include: clients, authorization and funding, lands (including flora and fauna), equipment and personnel. Administrative processes were separated into three subsystems: information, planning, and control. Game area administration was viewed as a process by which the three subsystems organized and utilized the main resources of the organization into programs to achieve selected goals.

The main resources of the organization should be balanced and maintained. Proven administrative techniques for achieving optimal resource conditions should be used. For example, the clientele resource can be attracted and maintained by an effective public involvement program, clientele-oriented applied research, and provision for new and better services. Efforts on achieving more clientele can be balanced against seeking funds, building up personnel, etc.

The administrative subsystems of planning, control, and information are interdependent. Controlling work carries out plans. Information input is necessary for both planning and control. Administrative planning includes objective setting and program planning. Control includes supervising, monitoring activities, and evaluating programs and personnel. The information system collects, processes, and distributes the information desired for planning and control. The quality of the decisions made by the organization depend largely on the quality of information available.

When wildlife organization problems are discussed independently, the significance of how they really affect the organization is lost. By providing a conceptual

framework, many problems may be viewed together and the relationships can be made clear. A particular problem can be classified as to whether it originates from a resource or an administrative process, or both. The problem can be further classified as to whether it is caused by imperfections in planning or information, etc. Problem identification is often half the work of solving problems.

Techniques for Achieving a More Successful Administration

The Wildlife Division[6] can adopt many techniques that will significantly improve the administration of state game areas in Region III. Some have higher priority than others. Each can be tested and refined to meet changing needs.

The techniques are presented according to the framework for viewing a public wildlife administration. The techniques concerned with the agencies' main

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[6] In common usage, Wildlife Division includes the regional wildlife units.

resources are given first, followed by those relating to administrative systems.

1. Clientele Relations

Of the main resources, clientele and personnel needs should receive first priority. Lands, equipment, and appropriations follow. Three types of programs can be adopted by the Wildlife Division to improve the clientele resource: information-education, public involvement, and client-oriented research. The intent is to make services and wildlife recreational opportunities more available through greater public awareness. Another is to build strong "grass roots" support for the agency and its goals through greater exposure and participation of clients in agency programs.

2. Personnel Management

Personnel needs can be met by establishing a formal personnel program at Division level. Needs documented by

questionnaire returns[7] are: improvements in selection, socialization, training, evaluation, career development, and the rewards system. This program could significantly increase the performance of all wildlife units at small cost.

3. Organizational Structure

An organization's structure has a significant effect on how it can function. Elimination of the regions and reducing the fourteen districts to about eight could eliminate red tape, improve communications, and make planning and control much easier. The cost of administration could also be greatly reduced. Instead of handling around five employees, the district biologist could handle eight or ten. Either the Division Chief or the Regional Manager should be given explicit line authority so that the organization can function in a more unified manner.

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[7]Game area questionnaires sent to district and area biologists in 1973.

4. Planning Process

The planning system sets the pace and future direction the organization will take. Establishing a formal planning system with an up-down flow of information can make planning easier and more effective. Meshing goals can be established to provide clear direction for the Division and all of its units. Program planning can be used to carry out the goals. Each program can be designed to provide the following information: goals to be fulfilled, methods to be used, unit roles, estimates of resources required, records to be kept, schedules, and time and methods of program evaluation. Programs become more effective and responsive to client needs when evaluations are built into them.

5. Organizational Control

Control takes over where planning leaves off. Five techniques the Wildlife Division can use to advantage in seeing that plans are accomplished are: unit inspection, accomplishment reports, cost accounting by projects, program evaluation, and personnel evaluation.

Some of these methods now in use can be improved. Unit inspection brings the Wildlife Division staff out to the district biologist where problems can be discussed on the ground with a better understanding. Inspections by all wildlife administrators should be a regular re-occurring activity and documented for evaluation purposes. Evaluations insure that each unit and individual is performing as required and give a fair basis for rewards.

6. Management Information

A formal information system can insure that decision makers receive timely information for planning and control. Such a system could focus on five information areas: assessing needs, collection, distribution, use, and storage. More emphasis on collecting output and impact information would greatly improve the planning process. Regular inspections can be made to check information for accuracy.

Implementing Change

All organizations must change with changes in their environment if they are to survive. Most significant changes in an organization are difficult and partial to some members. For example, a change in organizational structure often necessitates changes in work roles. Some members are advanced above others and all must adjust to a new work situation. A change can benefit and improve the organization even though it causes some temporary disruption of work.

The Wildlife Division needs an administrative model to work toward in order to make consistent improvements within itself. This study represents the beginning toward identifying such a model and can be used as a basis for some basic improvements in administration. Hopefully, it will be used as a takeoff point for more detailed studies seeking improvements in administering the Wildlife Division and Michigan Department of Natural Resources.

CHAPTER II

A HISTORY AND DESCRIPTION OF GAME AREAS

The Creation of Game Areas

The Wildlife Division of the Michigan Department of Natural Resources has a long and colorful history. Formerly called the Game Division, it dates from 1927 but has roots back many years before that (Michigan Conservation Department, 1928). The name Game Division was a very appropriate choice, for most of the early concerns of the Division were supplying the hunting public with ample game to shoot. The work consisted of such activities as game farming, censusing, life history studies, and exotic species trials. The change from Game Division to the Wildlife Division was made in 1971, on the recommendation of the Wildlife Management Institute (1970), to signify the many values of Michigan's wildlife resources. In the early part of the 1900's, most of Michigan's population lived in rural areas, and hunting and fishing were very common outdoor leisure time activities. The access to

hunting was excellent, often one step off the back porch. By the 1930's, a period of economic hardship set in for Michigan as well as most of the country. During this era, a considerable interest in natural resources developed in Michigan and other states. This interest stemmed from several factors: the various government conservation work projects and the civilian conservation corps, a back to the earth and nature movement, an obvious need for land reform, and increased leisure time.

The strong interest in wildlife as a natural resource at the national level led to the passage of an act that had a significant impact on Michigan's Game Division--the Pittman-Robertson Act.[8] Officially named the Federal Aid in Wildlife Restoration Act of 1937, this law provides that revenue from the federal excise tax on sporting arms and ammunition be made available to the states for various types of game restoration work, including the purchase of land for that purpose and for hunter access. The funds are allocated to the separate states for wildlife restoration based on a formula of hunting license sales and other factors. The

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[8]The act was named for Senators Pittman and Robertson.

Pittman-Robertson Act provided seventy-five per cent reimbursement to the states for approved projects (Michigan Conservation Department, 1940).

State game areas were started July 1, 1938, when the first Pittman-Robertson funds became available. A general policy, providing that from 60 to 70 per cent of the available Pittman-Robertson money should be used for land acquisition in southern Michigan, was established by the Conservation Commission in September, 1938. In the late 1930's in Michigan, many families were forced to leave their small farms and seek work in the cities. They voiced considerable concern about the future of public hunting. They wanted to be assured of not only game but access to hunting land. In response, the Game Division undertook a land purchase program in southern Michigan. Many blocks of submarginal agricultural land were examined to determine their suitability for game production and hunting. Those blocks meeting these requirements were dedicated as state game area projects, and acquisition of land was started. Those projects offering significant fishing sites as well as hunting were dedicated as state wildlife areas, since Fish Division funds were used in part. The prime responsibility

for management of game areas has always been with the Wildlife Division.

The period of 1939 to 1949 saw the creation of state game areas in twenty southern Michigan counties (Barlowe, 1949). During this period, almost 80,000 acres in 23 separate projects were acquired for this purpose. Of this, 50,000 acres was acquired with Pittman-Robertson funds, and much of the rest came to the state through tax reversion. During this same period, additional lands were acquired by the Parks Division for 15 public recreational areas also located in the southern part of the state.

This land purchase program of the 1939 to 1949 period was undertaken on a sound land use basis. An unpublished report by Raleigh Barlowe (1949) states:

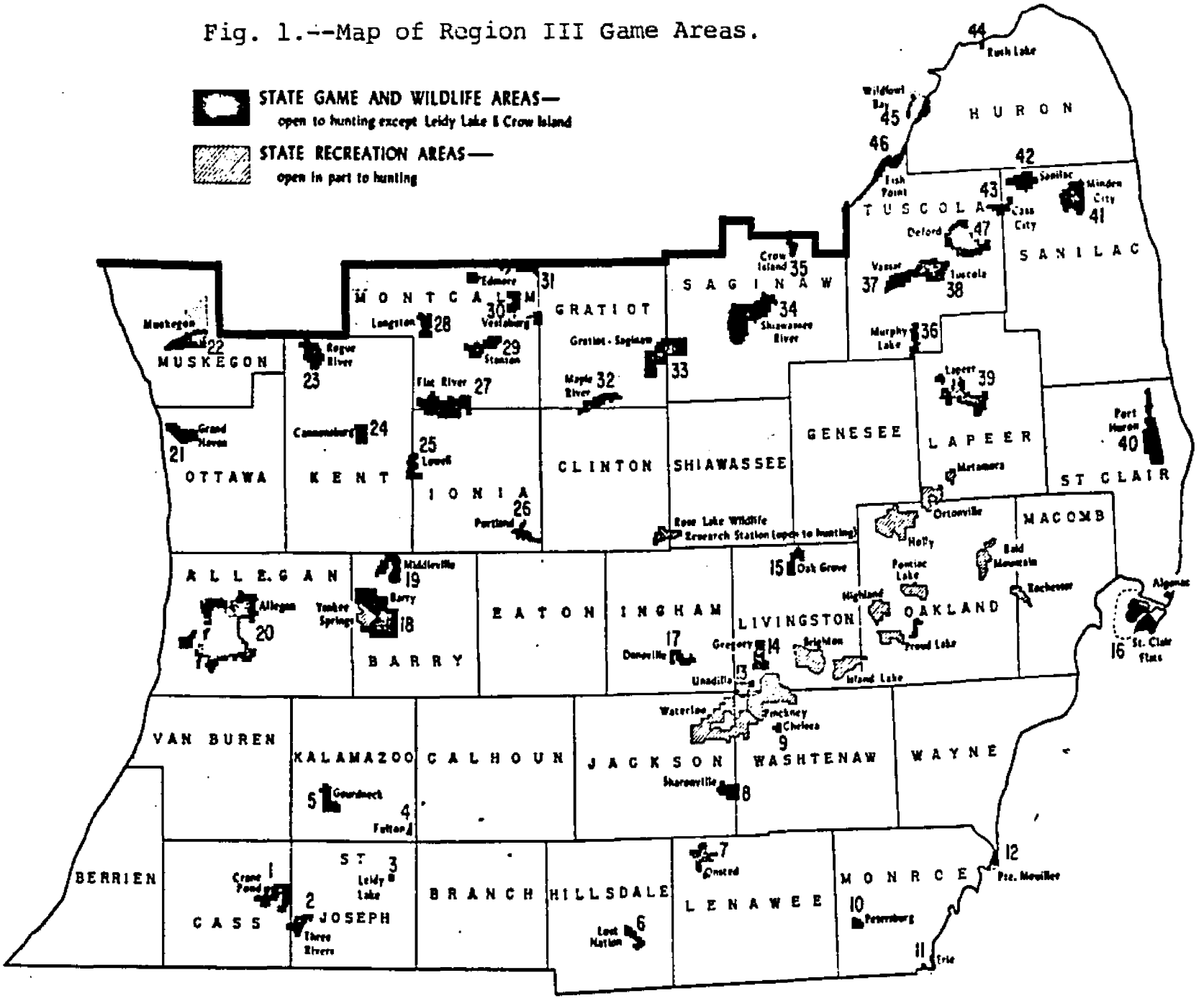
> Throughout its operation the land purchase program has aimed at putting lands to their optimum use. It has been generally recognized that good corn land can produce and support a better crop of pheasants than most undeveloped wild land. Yet no attempt has been made to acquire proven agricultural land, even where it is available, for the simple reason that it is considered better suited for crop than for wildlife restoration use. The great bulk of the lands meeting this qualification are located in the northern counties. But the concentration of

> population in the southern part of the state has made it desirable to emphasize public land acquisitions in the southern counties.
>
> Examination of the agricultural land classification maps and reports prepared by V. O. Veatch of the Soils Section of the Michigan Agricultural Experiment Station shows that the various game area projects have been located for the most part in areas of third and fourth class lands, the lands of lowest value for general farm use.
>
> Before the acquisition program has been started in any area, relatively comprehensive surveys have first been conducted. These surveys have indicated the general value of the land for wildlife restoration purposes, the land use and cover conditions and the appraised value of the land.

There are now approximately 46 game areas in Region III which comprises the southern half of Michigan's Lower Peninsula (Fig. 1). Another 13 game areas lie north of this area. Total acreage of game areas in Region III is approximately 214,150 acres (Michigan DNR, 1972).

Although Pittman-Robertson funds served to start the game area projects, the land was and can be acquired through several other means: the Fish and Game Protection Fund, tax reversion, recreational bonds, land transfer, and gift or trade. The Fish and Game Protection Fund is made up of hunting and fishing license revenue and serves

Fig. 1.--Map of Region III Game Areas.



as a major source of funding for several DNR divisions, including the Wildlife Division. Land acquisition money from this fund can be spent anywhere in the state and is normally used to acquire high priority lands not included in approved Pittman-Robertson projects. Tax-reverted land was very common during the 1930 depression, and the state picked up sizeable blocks of submarginal farm land. Many of these blocks were included in game areas. Key parcels of land can and have been acquired by gift or trade.

Pittman-Robertson funds still are used to acquire lands in game projects that have been approved for purchase by the U.S. Bureau of Sport Fisheries and Wildlife. These include game and wildlife areas, experiment stations, and some projects where game interests predominate. Pittman-Robertson funds are normally restricted to sizeable project areas, due to the complicated procedure in obtaining approval by both the U.S. Bureau of Sport Fisheries and Wildlife and the Michigan Conservation Commission. Pittman-Robertson funds serve other wildlife activities competing with land acquisition, such as research and habitat improvement.

The acquisition program has all but ceased. In the early 1940's the average price paid by the Game Division for land purchased in southern Michigan was about $18.00 per acre. Payments in lieu of taxes averaged about $ .11 per acre per year. Today the average tax on lands within Region III state game areas approaches $4.00 per acre per year (Michigan DNR, 1970, 1972). This money is taken out of the Fish and Game Protection Fund (hunting and fishing license revenues). The current tax on game areas makes some of them a considerable liability as well as an asset to the Wildlife Division. The tax rates have increased over the years and largely reflect the increased value of land. Much of the land bought for $20.00 per acre would sell for over $1,000.00 today. A small game hunting license cost $1.00 in 1940 and could approximately pay the taxes on 9 acres of public hunting land in Region III. In 1972, a small game hunting license cost $5.00 and paid the taxes on about 1.3 acres of the same land. In 1940, 541,000 small game licenses were sold in the state; in 1972, 539,000 were sold. In 1940, Michigan population was about 5,300,000; in 1973 it was about 9,000,000 (Verway, 1974). The situation is painfully obvious. Small game hunting as a leisure activity has

decreased dramatically on a per capita basis during this period 1940-1973. At the same time, the license money received is covering less and less of the program costs of maintaining game areas and making payments in lieu of taxes.

The game area land purchased usually falls into two general physical categories: poor land or poorly drained land. These two factors make the land poorly suited for agriculture and also, more significantly, less expensive. The soil fertility that makes for high crop production also makes for high game production and the reverse. In Region III, the upland game area lands are not naturally capable of supporting the wildlife populations that could be supported on an equal area of the surrounding agricultural land. Most of the forest land acquired has been cut over and is of low productivity. Good hardwood stands are rare and most are too small to encourage a serious timber management effort. In the lowland, poorly drained areas, the productivity of waterfowl and furbearers may be good, since the underlying soil and/or nutrient-carrying water can supply the fertility needed for the natural food chain. Controlled floodings on many of these areas attract large numbers

of migratory waterfowl. Most of the game areas were recently abandoned farms at the time they were acquired and were in the early stages of plant succession. Most are now in the middle to late stages of plant succession, so that the habitat usually favors forest and bushland animals. Deer and grouse are on the increase, while pheasants, which seemed to have peaked out in the 1940's and 1950's, are in slow decline (Hawn, 1973). Cottontail rabbits and fox squirrels have increased in some areas and decreased in others.

The Unique Character of Game Areas

Today the state game areas in Region III represent rather unique bodies of public land. They have a wildlife and wildland character approached in size and variety only by the state parks and recreation areas in the region (Michigan DNR, 1971). For management and descriptive purposes, the game areas can be separated into four classes: general recreation, rabbit-squirrel-pheasant, waterfowl, and deer-grouse. This

classification is based on the types of use restrictions, the water development features, and the ground cover and its associated game species. The one general recreation area was formerly a state forest and is subject to a wide variety of uses such as camping and snowmobiling. Rabbit-squirrel-pheasant areas are upland areas, usually abandoned farm lands of low fertility and rolling topography. The forest cover is of the central hardwood type. Common game species on these areas are deer, cottontail rabbits, pheasants, and squirrels. Waterfowl areas are predominantly lowland marsh or Great Lakes shore line. These areas are usually highly developed by systems of dikes and ditches to attract migratory waterfowl. I would estimate that most of the money spent on developing game areas for use has been spent on waterfowl areas. Deer-grouse areas are like farm areas except that they are located in a northern forest type transition zone, usually along the northern edge of Region III. Common game species include deer, grouse, and rabbits (Table 1).

The game areas lend themselves to many uses, and use trends are becoming evident (Fig. 2-4). This is confirmed by Walter Palmer's Game Area User Investigation of 1961-1962 (1967), in which he noted that only about half

Table 1.--Fifty-five Region III State Game Areas.

Name of Game Area	Approximate Total Holdings in Acres[a]	Classification for Use Survey[a]	Land Costs in Dollars[a]	Central Location by County
1. Allegan	43,751	REC (1)	417,637	Allegan
2. Barry	14,841	R-S-P	338,650	Barry
3. Cannonsburg	1,336	R-S-P	37,295	Kent
4. Cass City	723	D-G	50,950	Tuscola
5. Chelsea	654	R-S-P	Transferred from State Admin. Board	Washtenaw
6. Crane Pond	3,111	R-S-P	185,261	Cass
7. Crow Island	1,157	W-F (2)	100,100	Saginaw
8. Dansville	4,143	R-S-P	152,202	Ingham
9. Deford	9,607	D-G	261,342	Tuscola
10. Edmore	2,439	D-G	60,728	Montcalm
11. Erie	1,795	W-F	37,824	Monroe
12. Fish Point (3)	3,076	W-F	197,068	Tuscola
13. Flat River	10,268	D-G	304,450	Montcalm, Ionia
14. Fulton	672	R-S-P	14,640	Kalamazoo
15. Gourdneck	2,000	R-S-P	52,575	Kalamazoo
16. Grand Haven	913	W-F	127,700	Ottawa
17. Gratiot-Saginaw	13,098	D-G	154,687	Gratiot, Saginaw
18. Gregory (3)	3,350	R-S-P	158,955	Livingston

Table 1.--Continued

Name of Game Area	Approximate Total Holdings[a] in Acres	Classification for Use Survey[a]	Land Costs in Dollars[a]	Central Location by County
19. Langston	2,902	D-G	65,118	Montcalm
20. Lapeer	6,736	R-S-P	333,008	Lapeer
21. Leidy Lake	107	W-F (2)	10,000	St. Joseph
22. Lost Nation	2,374	R-S-P	147,081	Hillsdale
23. Lowell	1,833	R-S-P	54,758	Ionia, Kent
24. Maple River	5,928	D-G	242,000	Clinton, Gratiot
25. Middleville	3,375	R-S-P	146,947	Barry
26. Minden City	4,636	D-G	98,610	Sanilac
27. Murphy Lake	2,560	R-S-P	93,960	Tuscola
28. Muskegon	7,664	W-F	303,302	Muskegon
29. Oak Grove	1,796	R-S-P	65,341	Livingston
30. Onsted	512	R-S-P	14,000	Lenawee
31. Petersburg	435	R-S-P	10,964	Monroe
32. Pointe Mouilee	2,903	W-F	477,255	Monroe
33. Port Huron	6,179	R-S-P	170,624	St. Clair
34. Portland	1,906	R-S-P	140,840	Ionia
35. Rogue River	5,292	D-G	177,334	Kent
36. Rush Lake	668	W-F	82,600	Huron
37. St. Clair Flats (3)	6,614	W-F	147,805	Macomb
38. Sanilac	1,464	D-G	72,490	Sanilac

Table 1.--Continued

Name of Game Area	Approximate Total Holdings in Acres[a]	Classification for Use Survey[a]	Land Costs in Dollars[a]	Central Location by County
39. Sharonville	2,248	R-S-P	110,750	Jackson
40. Shiawassee River	8,341	W-F	763,965	Saginaw
41. Stanton	4,223	D-G	166,763	Montcalm
42. Three Rivers	2,060	R-S-P	105,942	St. Joseph
43. Tuscola	8,343	D-G	159,265	Tuscola
44. Vassar	3,059	D-G	80,450	Tuscola
45. Vestaburg	1,516	D-G	29,860	Montcalm
46. Wildfowl Bay (3)	1,542	W-F	89,901	Huron
TOTAL	214,150		7,012,997	

[a]Information from game area use survey and 1972 biennial report.

Legend: 1) Former State forest, only game area with campgrounds
2) Difficult public access
3) Wildlife area (includes Fish Division purchased land)

REC	General recreation area
W-F	Waterfowl area
R-S-P	Rabbit-squirrel-pheasant area
D-G	Deer-grouse area

Fig. 2.--Duck Hunter on Shiawassee State Game Area.

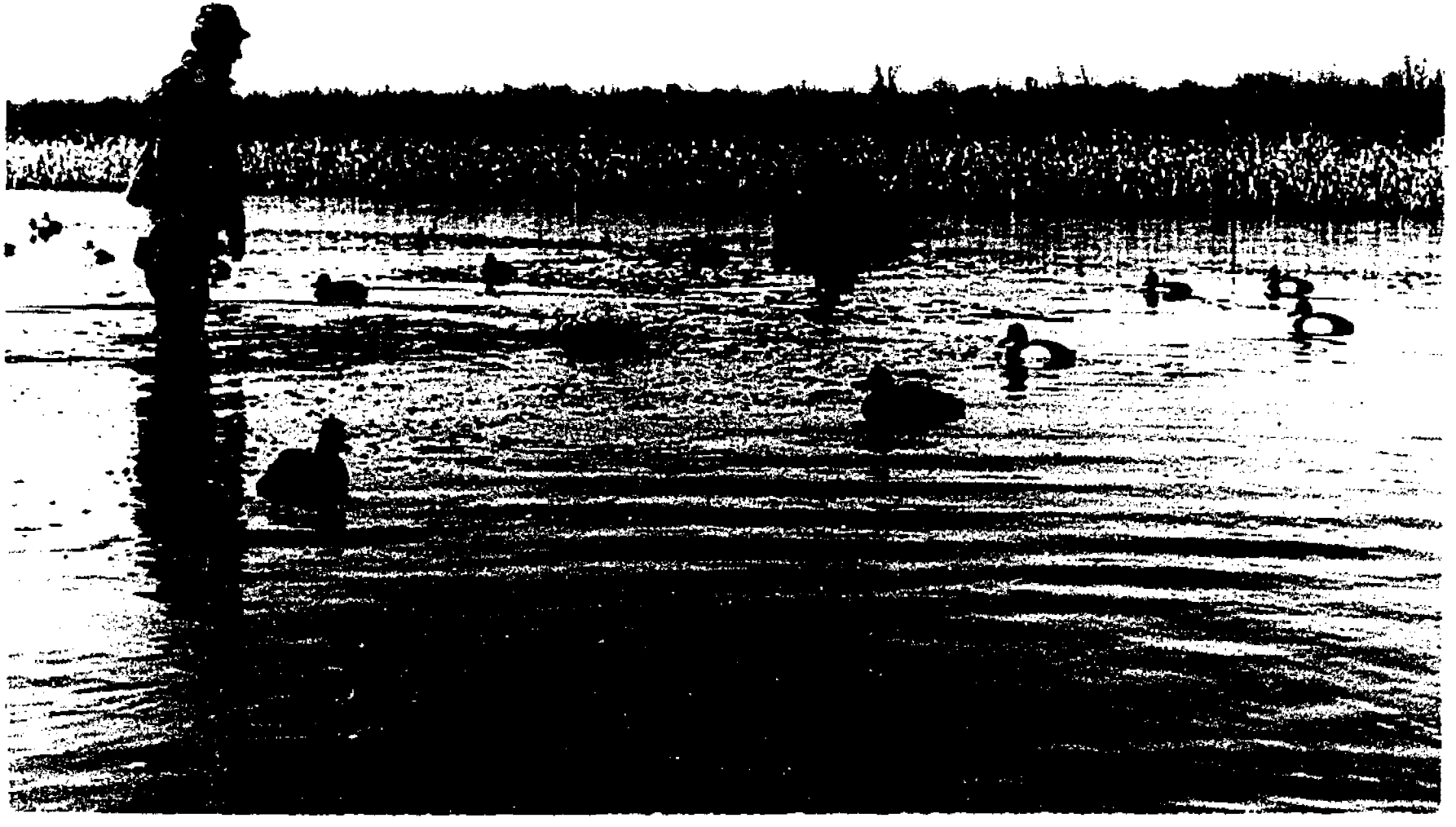


Fig. 3.--Man-Made Waterfowl Habitat on Maple River State Game Area.

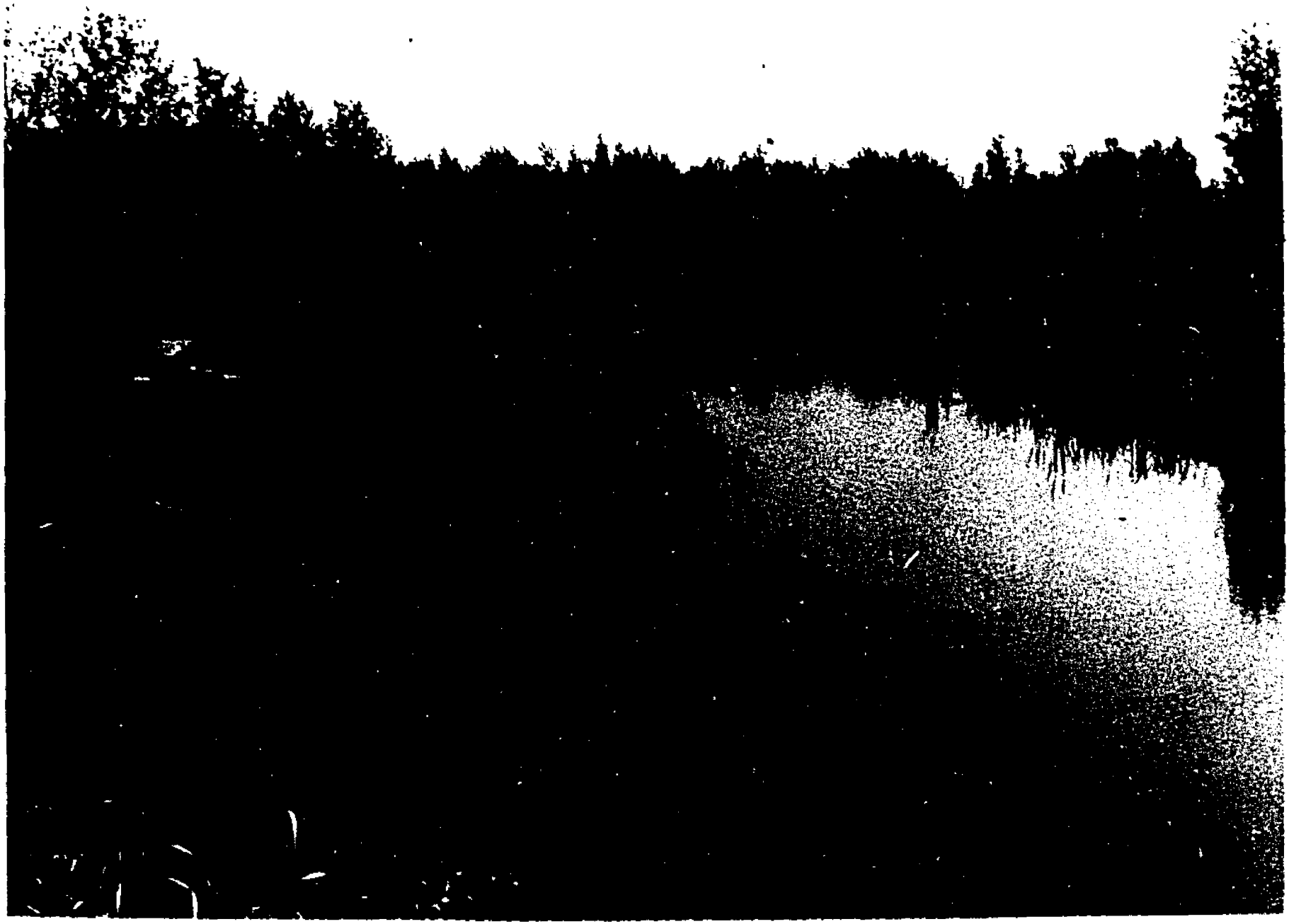


Fig. 4.--Ice Fishing--A Common Activity on Many Game Areas.

of the day time use is hunting. Another user study is now being undertaken, and preliminary results show a trend of increased variety and intensity of use. For example, motorcycles and snowmobiles were hardly visible in 1961, but in 1973 they were common in many areas even though their use was highly restricted or prohibited by law. Other non-hunting activities such as birdwatching, hiking, cross-country skiing, mushroom hunting, and fishing are probably on the increase. Hunting activities, when taken collectively, seem to be holding at about the 1961-1962 levels, but as a total percentage of game area use, hunting is declining.

Management Efforts on the Game Areas

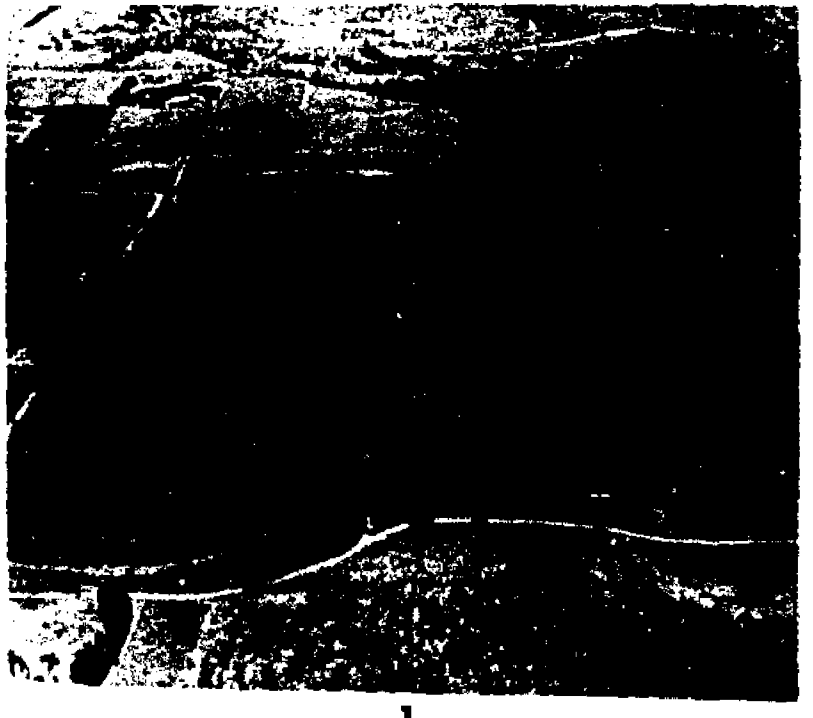
The first biologists to manage game areas believed that their primary objective was to provide large numbers of small game and waterfowl for hunters. Little consideration was given to other uses. The state of wildlife management in 1940 was such that few proven techniques for small game production were known. In the 1940's and into the 1950's, the biologists spent considerable effort on habitat improvement, planting up fields

into trees and shrubs to furnish food and cover for pheasants, rabbits, and squirrels (Fig. 5).

The first attempts at land management and inventory consisted of the development of "forty" plans (Fig. 6). The intent was to insure that an adequate variety of habitat was available for small game on every forty acre legal description. The game biologists patiently mapped every "forty" on their game areas and wrote a detailed management plan for each. A game area with say, 4,000 acres would, therefore, have 100 management plans. The information was not often summarized into a more comprehensive form. Biologists seldom made effective use of the plans for any purpose other than tree and shrub planting. Today most of the "forty" plans are outdated because the plant succession has changed, and the recommended techniques have not been updated with better and proven methods. The "forty" planning system has not, yet, been replaced.

On most game areas, a rapid natural plant sucession from bare fields to trees and shrubs took place in a span of twenty years. The planting of trees and shrubs only hurried the process. Today, many open fields on game areas are sharecropped by local farmers. Several attempts

Fig. 5.--Game Area Improvements.



1

Irregular plantations and food patches at Barry State Game Area. These are designed to furnish food and cover to wildlife. They are also aesthetic to many users. The actual effect on game populations of such wildlife practices is difficult to measure.

2

A small wildlife flooding on the Minden City State Game Area. Note the numerous conifer plantations in the surrounding areas. Some similar wildlife floodings furnish opportunities for fishing. They may be very costly to build, however.

MICHIGAN DEPARTMENT OF CONSERVATION — Plan No. 21
GAME DIVISION
HABITAT DEVELOPMENT PLAN

I

1. Area Imeville State Game Area
2. Sub. [illegible] Sec. 22 T. 2 S R. 1 E
3. Acres Open Fields 1[illegible] Acres Woodland 13(1) Acres Other 13.8(2)
13.8 acres are wet areas (water impoundment, marsh and [illegible] Explain

II — WOODY PLANTING

Species	Site No.	Spacing	Number	Ac.	Planting Season	Soil Type	Drainage	Topography	Ground Cover
Austrian Pine	1,2	8x8	200	xxx	1958	Sandy L	2	B	2
Morrows Honeysuckle	3	3x3	220	xxx	1958	Sandy L	2	A	2
Multiflora Rose	3	3x3	220	xxx	1958	Sandy L	2	A	2
				xxx					
				xxx					
				xxx					
				xxx					
				xxx					
				xxx					
TOTAL	xxx	xxx	640	4	xxx	xxx	xxx	xxx	xxx

GROUND PREPARATION: Plow and disk Site 3 in the summer of 1958. Scalp and dibble pines on Sites 1,2.

III — HERBACEOUS DEVELOPMENT

Type	Site No.	Ac.	LIME Tons	LIME Year	Rotation	Soil Type	Drainage	Topography
a. FOOD PATCH	B,C	2.2	1.5(2)	1958	[illegible] (3)	Sandy L	2	B
b. FERNANDINA MEAD	A,B	2.6	1(4)	1958	[illegible] (5)	Sandy L	2	A,B
c. SMALL GRAIN								
TOTAL	xxx	4.8	2.5	xxx	xxx	xxx	xxx	xxx

d. MISC. HERB. CROPS EXPLAIN FULLY: Site C will be seeded to rye in the fall of 1958. Plow and disk sites C,D in 1959. Seed Site C to rye in the spring of 1959. Sites C,D will only need one ton of lime per acre.

IV — OTHER DEVELOPMENT

I Explain any development problems that may require clarification, in space below. Include any additional information not shown above.

(1) This includes 2.6 acres of recent conifer and shrub plantings (1953-54). The two low marsh areas in the center of the "40" have white spruce planted along the edges in a dibbled manner (1954).
(2) Lime Site C only (1.5 acres).
(3) True for Site C only. Site B has already been planted (corn) as a food patch and will be maintained as such.

Planned By: R. F. Aartila — Date Jan. 2, 1958
Approved By: Marvin Cooley — Date Jan 27 1958
Approved By: [illegible] — Date 1-29-58
Approved By: [illegible] — Date 1-31-58

Ga.311

(See Legend on Back)

(OVER)

Fig. 6.--"Forty" Plan.

MICHIGAN DEPARTMENT OF CONSERVATION

GAME DIVISION FIELD SHEET

Area Dansville St Game Area Co. Ingham Sub SW¼ SE¼ Sec. 29 T. 2N. R 1E

Plan No. 21 Mapped By R. C. Bartha Date Jan 2 1957

COVER LEGEND

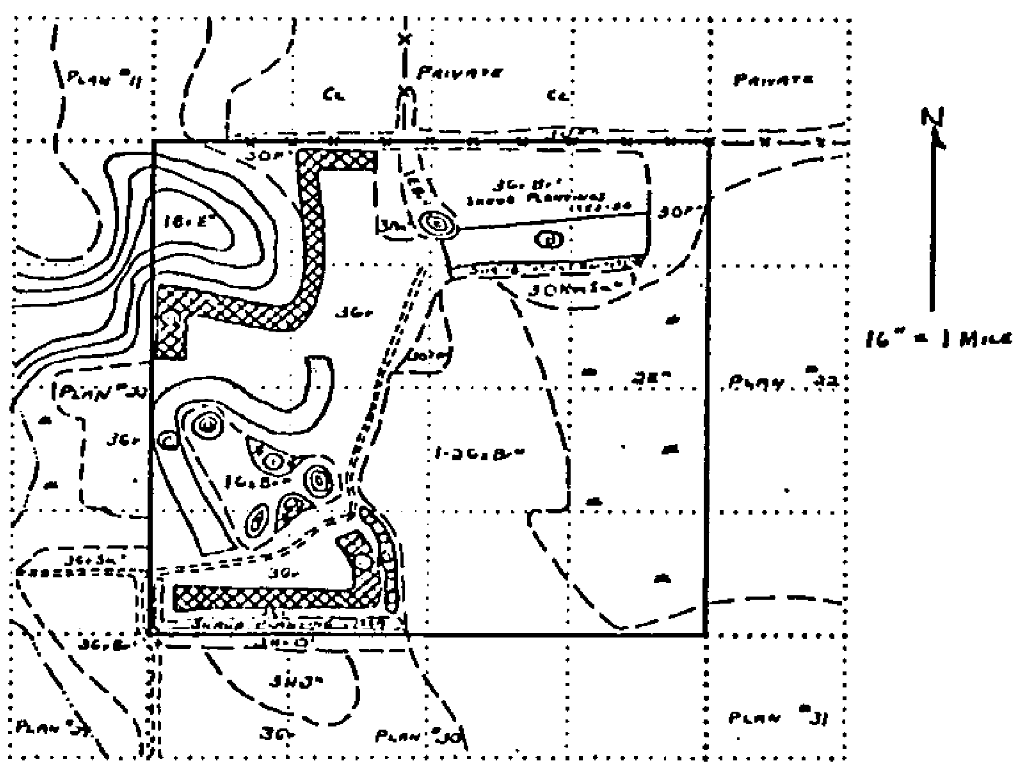
IDLE LAND
CROP LAND
PASTURE
ORCHARD
UPLAND GRASS
OPEN MARSH
RECENT CUT OVER
SWAMP SITE
LOWLAND SITE
UPLAND SITE
BRUSH LAND
SUMAC
SWEET FERN
POOR STOCKING
MEDIUM STOCKING
GOOD STOCK
SWAMP HARDWOOD
CEDAR
SPRUCE
TAMARACK
BALSAM
CHERRY
RED MAPLE
POPLAR
LOCUST
OAK
HICKORY
HEMLOCK
MAPLE - BEECH
RED PINE
WHITE PINE
JACK PINE
Austrian Pine

DEVELOPMENT LEGEND

NEW CONIFER PLANTING
NEW HARDWOOD TREE & SHRUB PLANTING
FOOD PATCH
PERMANENT MEADOW
SHARE CROP
BULLDOZING OR MOWING TO CREATE OPENINGS EXPLAIN METHOD
ORCHARD HABITAT DEVELOPMENT OR SIMILAR WORK ON FENCE ROWS & WOODLAND BORDERS
SMALL WATER IMPOUNDMENT
BRUSH PILE DEVELOPMENT

BASE LEGEND

HARD SURFACE ROAD
GOOD DIRT OR GRAVEL ROAD
TRAIL OR WORK ROAD
RAILROAD
INTERMITTENT STREAM OR DITCH
RIVER
CREEK
LAKE OR POND
WET SPOT
SAND DUNE OR BLOW OUT
STONE PILE
FENCE
FIELD OR COVER BOUNDARY WITH NO FENCE
BUILDING SITE
BUILDING

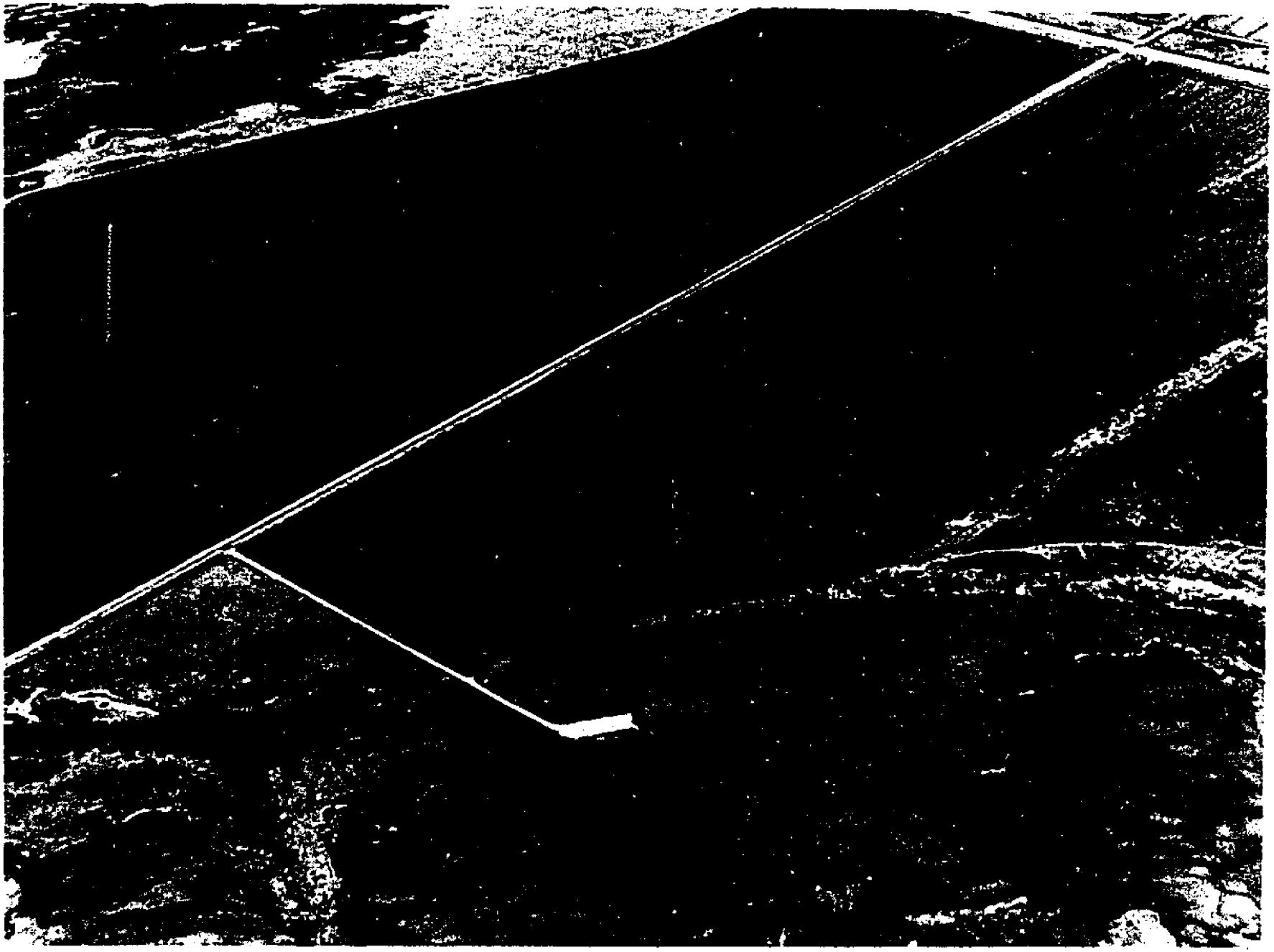


to set plant succession back to stages more favorable for small game have been made. None were successful. The effects of pesticides and hay-mowing practices used on nearby farms may have a marked effect on game populations. Deer, favored by the bushy habitat, are today on the increase in most game areas. Because of crop damage and the high rate of car accidents, management for deer in southern Michigan is not encouraged (Fig. 7).

Impoundments have been developed on many areas that furnish excellent waterfowl-hunting opportunities. The migrating waterfowl are attracted by flooded fields of sharecropped corn. The hunters hidden in the corn or nearby woods shoot the migrating ducks and geese throughout the day. The impoundments rely on the production of both Canadian birds and birds produced on other areas in Michigan, and do not contribute significantly to the direct production of waterfowl. Because they do accommodate larger migrations, however, they do make an indirect contribution. They are very effective at bringing game to the hunter, and the hunter success rate is considered to be good (Fig. 8). The development and

Fig. 7.--Deer Hunting--A Growing Sport on Game Areas in Southern Michigan.

Fig. 8.--An Aerial View of Fish Point Game Area's Managed Waterfowl Hunting Grounds.



maintenance costs of such areas is very high, perhaps as much as twenty dollars per hunter day[9] in some areas.

In an attempt to restore small game hunting, the Wildlife Division introduced put-take pheasant hunting in 1973. The hunters enjoyed the free program, and most of the 60,000 birds released were shot. Unfortunately, the cost of pheasant production is high, about $6.00 to $9.00 per bird.[10]

The general use of game areas is increasing, but there are few facilities, and regular maintenance is usually lacking. Often roads are badly rutted, trash is not picked up, and signs are not replaced. Many boundaries of game areas are so poorly marked that the user has to read a map to know where the area terminates and where private land begins. Some areas are much more developed than others and receive better maintenance. Most waterfowl impoundments are well cared for and are show pieces compared to the average forest game area. Management has traditionally favored the hunter, and

---

[9]Estimate based on 1969 records of Shiawassee Game Area.

[10]Confirmed by letter from Wildlife Division Chief, April 1, 1974.

other users are frequently not well received or planned for.

Much of the history of state game areas can be attributed to leaders of the Wildlife Division. This Division has had only three chiefs since its start in 1927. The first was P. S. Lovejoy who Allen (1962) refers to as "Michigan's conservation philosopher." From 1931 to 1967, Harry D. Ruhl commanded the Division. According to some who served under him, he was autocratic and had little patience with those whose ideas did not match his own. Reportedly, Mr. Ruhl did not rely much on his staff for information but on key individuals brought into the organization or located in many communities of the state. He recognized talent and attracted many capable researchers, often young, aggressive PhD's. Most left after a few years service. Almost all of the top wildlife administrators today served for fifteen years or more under Harry D. Ruhl's administration. Many of the beliefs they carry are strongly influenced by Mr. Ruhl as evidenced by not infrequent referrals to "the way Mr. Ruhl would do it." The present Wildlife Chief, Merrill L. Petoskey, is a dynamic, charismatic leader. He spends much of his time in activities that will

increase the public support and funds for the Wildlife Division. He is well liked by those who serve under him. He authorizes and entrusts the staff to make many decisions and plan programs they formerly did not do under Harry D. Ruhl's administration. The Division staff has had to adjust to unfamiliar tasks in a rapidly changing organization where they are not told, but must decide, which course of action to take.

CHAPTER III

THE CURRENT SYSTEM OF ADMINISTERING THE GAME AREAS

The Region III and Wildlife Division Organization, Structure, and Responsibility in the DNR

The Michigan Department of Natural Resources is a very large and complex organization. It has three regional field organizations to carry out the work planned by twenty-one administrative divisions. The divisions are structured along traditional work area lines and grouped under six Deputy Directors (Fig. 9). The Wildlife Division is under the Deputy Director of Resource Management, along with Forestry and Fisheries. The regions fall under a second Deputy; Parks and Recreation, a third; while Personnel, Information and Education, and Lands Division are under a fourth Deputy Director.

The Department of Natural Resources established its general operating policies by means of Department Letters (Fig. 10). Department Letter 157, March 5, 1971,

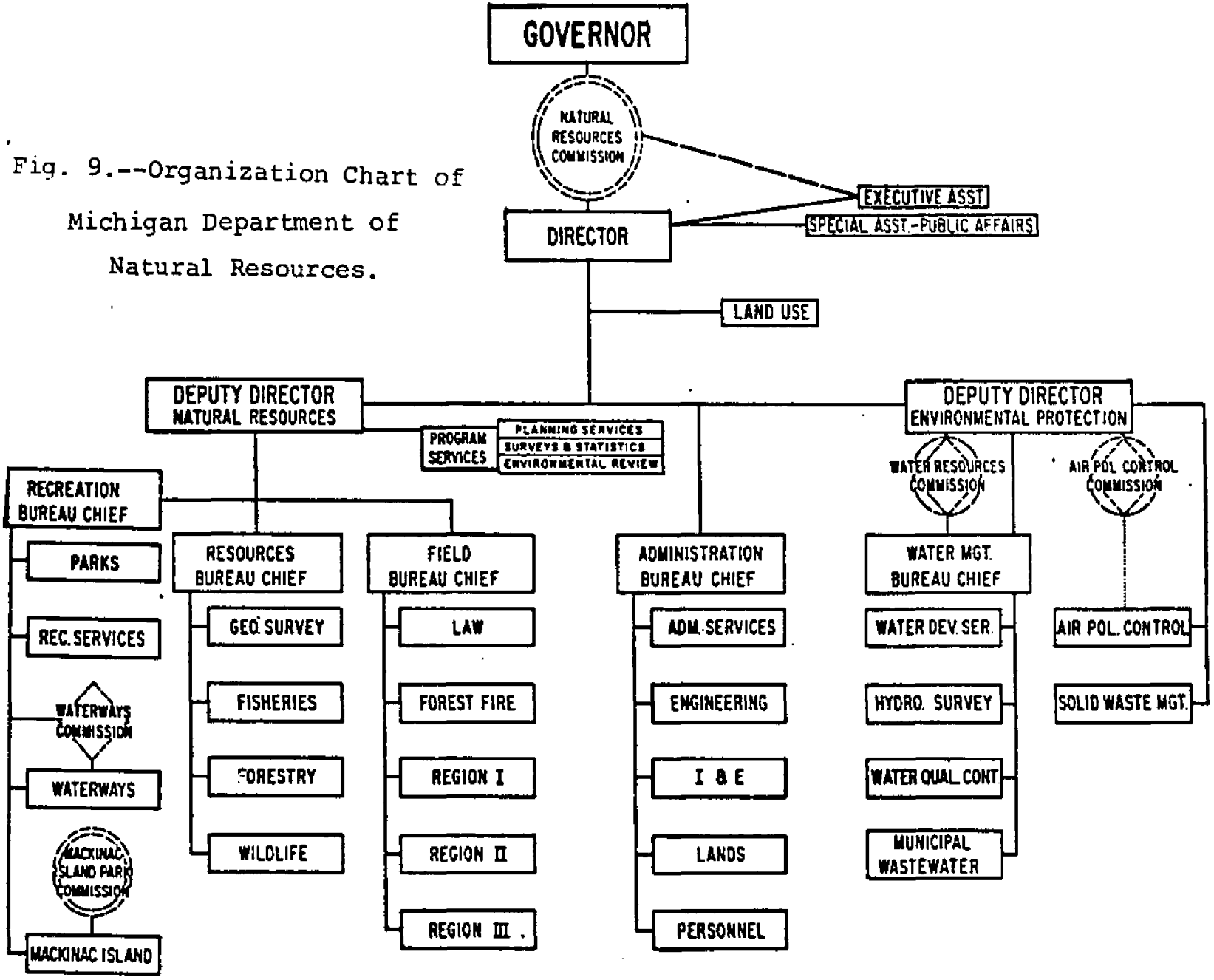


Fig. 9.--Organization Chart of Michigan Department of Natural Resources.

Fig. 10.--Department Letter.

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926

A. GENE GAZLAY, Director

DEPARTMENT LETTER NO. 206

April 30, 1974

TO: All Unit Supervisors

FROM: A. Gene Gazlay, Director

SUBJECT: Lunch Period

For years the regular or standard work schedule for DNR personnel has been from 8 a.m. to 5 p.m. with a one hour lunch from 12 noon to 1 p.m. In fact, this has been, and still is, the standard work schedule for most industry and government.

In certain types of employment, and because of work situations, the 8 a.m. to 5 p.m. work schedule does not prevail, as for examples the conservation officer and park personnel.

During a recent meeting with MSEA-DNR Committee the possibility of a half hour lunch for certain field survey parties was discussed. It was pointed out that these employees in the winter must stand by the fire for a half hour after lunch, try to keep warm, and wait until the one hour lunch period has passed before they can return to work. In the summer they swat flies and mosquitos for half an hour waiting for the time to resume work. Now, this doesn't make sense to the employees and it doesn't make sense to management either. The problem of course is -- where do you draw the line?-- what employees should be given consideration for a half hour lunch? Now, it is quite possible that many DNR personnel would like a half hour lunch and then quit work at 4:30 p.m. This situation cannot develop and we must continue the 8 a.m. to 5 p.m. regular or standard work schedule.

The following policy has been adopted on a trial basis for six months beginning May 19, 1974. It may be discontinued at any time in the trial period and/or it may be extended beyond the six months period.

1. Personnel in all DNR installations and offices will continue to have a one hour lunch period and the regular or standard work schedule remains from 8 a.m. to 5 p.m. except as provided in (2).

2. When necessary only for the purpose of becoming a member of a car pool to conserve gas, it is permissible for the immediate supervisor to approve an employee's request to work from 7:30 a.m. to 4:30 p.m. The noon lunch hour of 12:00 p.m. to 1:00 p.m. will continue.

3. Upon approval of the regional manager and/or division chief when appropriate, it is permissible for personnel assigned to field survey crews, maintenance of access sites or camp grounds or any similar work activity to reduce the lunch period to one half hour and adjust the work day accordingly.

A. Gene Gazlay

serves as the working document for delegating authority and responsibility within the organization. In outlining the staff and field relations, the following statement was made:

> Planning of programs, policies, and final budget preparation is the basic function of Staff. The basic function of Field remains the implementation and execution of the plans Staff prepares. Both Staff and Field have numerous other duties, and today Field has a large contribution to make toward Staff planning. This is an intricate arrangement, but it will be harmonious as long as both Field and Staff resist the urge to interfere in the special responsibilities of the other. They should be particularly careful not to inject themselves into each other's administrative affairs, personnel supervision, discipline, etc. . . .

Under this system, the Wildlife Division Chief does not have line authority over his field organization. He must deal as an equal with each of the three Regional Managers.

The Wildlife Division carries out its programs through a system of field orders (see Fig. 11 for an example of a field order). An approved field order is necessary to change existing programs or to implement new programs that involve the field organization. A field order must be approved and signed by at least two Deputy

Fig. 11.--Field Order.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

sent 4/1/74 pm

(14)

March 29, 1974

TO: William E. Laycock, Regional Manager - Region III

FROM: W. W. Shapton, Chief - Bureau of Field Operations

SUBJECT: Proposed sewage treatment facilities

Our meeting with local officials and representatives of Williams & Works on Wednesday, March 20, 1974, was the first formal indication of a proposal by Yankee Springs Township for sewage collection and treatment facilities in the Yankee Springs Recreation Area and Section 14 of Yankee Springs Township of the Barry State Game Area. The first notice of this proposal, suggested by Williams & Works involving several hundred acres in Section 14, was brought to the attention of the public at a meeting on February 2, 1974.

We are attaching a portion of a lands suitability study prepared by the planners. They have indicated several sites in addition to Section 14. We would appreciate having a field evaluation of the alternates plus any suggestions that you may feel are relevant to sites other than Section 14 and the alternates.

Under present definition, spray irrigation limits use of land so dedicated to this single-purpose use because of possible viral and other disease source contacts.

W. W. Shapton, Chief
Bureau of Field Operations

Written by:
Merrill L. Petoskey

Approved by:

Merrill L. Petoskey, Chief
Wildlife Division

Plan Approved:

C. D. Harris, Chief
Bureau of Resources Management

Directors and the Division Chief. Even if the Wildlife Division staff designs a new program and receives funds from the Legislature to carry it out, it still must obtain a field order before the program is instituted by the region.

The Wildlife Division staff has the responsibility for designing programs for each of the three regions. It also obtains and allocates a budget to each region based on the programs it desires to carry out. It has the leadership responsibility for planning all wildlife programs in the region down to the district level.

Region III takes in the lower half of the lower peninsula (Fig. 12). The region has administrative responsibility for all field and resource personnel including hiring and promotions. This includes district wildlife biologists. It has the task of coordinating the various districts, made up of personnel from several divisions, to meet specified program objectives. The programs are designed and funded by the respective divisions. Without Wildlife Division program funds, the regional manager could not pay the regional wildlife employees. The budget allocation to Region III

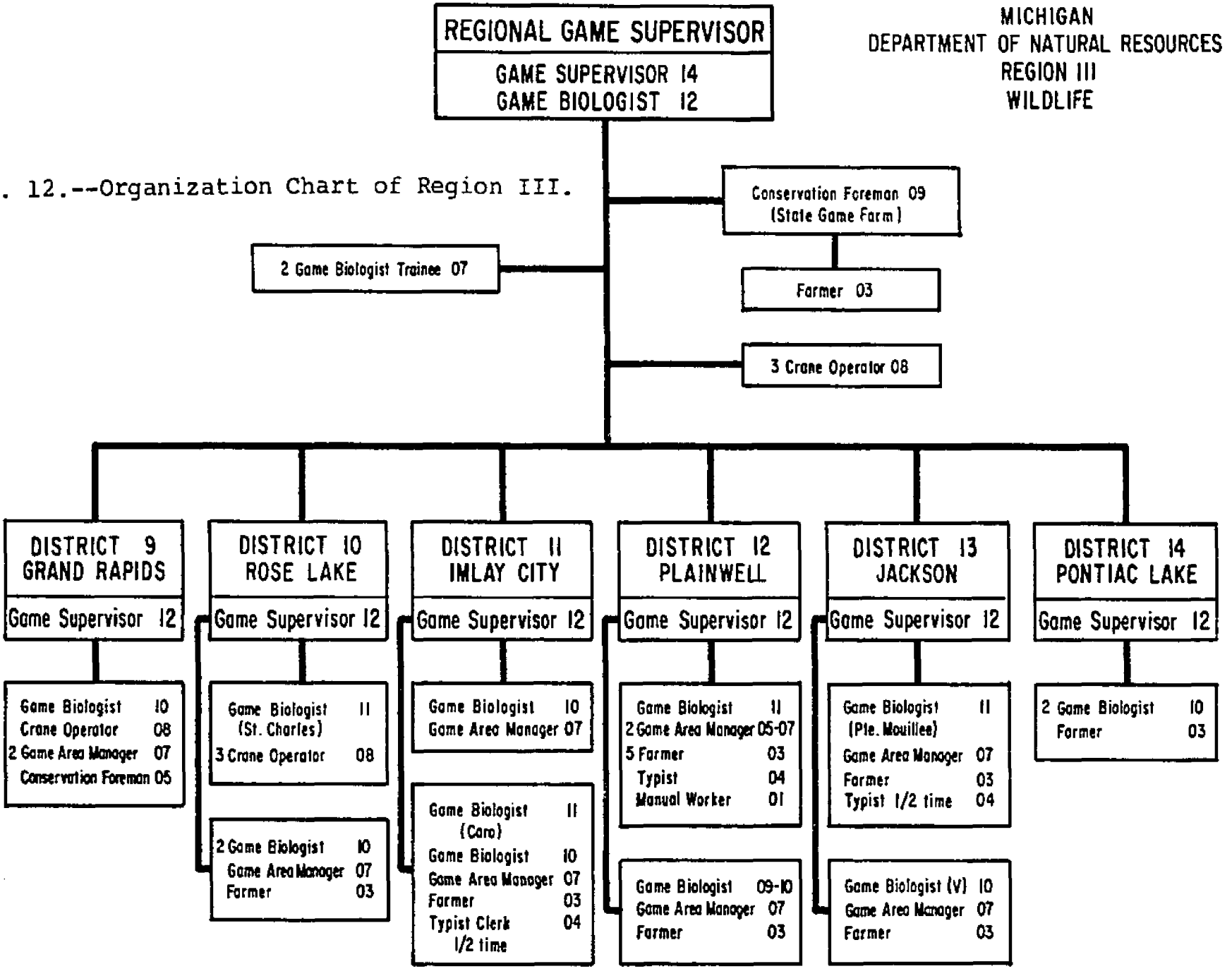


Fig. 12.--Organization Chart of Region III.

represents the Wildlife Division staff's primary control mechanism over its programs in the region (Table 2).

The Division Role--An Emphasis on Hunting

The current Wildlife Division role is primarily one of providing hunter services. Durward Allen (Atwood et al., 1970), states that the question of how to use wildlife resources is heavily influenced by tradition. The hunters have been the traditional clients of the Wildlife Division and are quite dependent on the Division for their hunting opportunities. The Division has a strong influence over the price of licenses, the location of game area purchases, hunting regulations, and now the level of "put-take" pheasant hunting. It has direct control over the location of habitat improvements and impoundment construction. In the Legislature, hunters and hunting have always been of great political concern, sometimes a personal concern. The Wildlife Division is under no great pressure by the Legislature, yet, to provide services for clients other than hunters.

Table 2.--Wildlife Division Allotments to Region III, 1972-73.[a]

	Wildlife Services	Forest Wildlife	Farmland Wildlife	Wetland Wildlife	Deer Range Development	Totals	Snowmobile Funds
Salaries & Wages	138,004	89,098	235,034	183,178		645,314	15,580
Force Account		8,000	17,951	7,142		33,093	6,040
Unemployment		824	5,260	1,372		7,456	1,400
Contractual Services, Supplies & Material	30,000	11,514	104,454	48,500		194,468	7,500
Equipment		9,245	45,560	7,050		61,855	
Special Maintenance			3,000	4,000		7,000	
SUB-TOTALS	168,004	118,681	411,259	251,242		949,186	30,520

[a] These figures are taken directly from Wildlife Division documents.

How Planning is Done

At present there is no clear policy for carrying out administrative planning for state game areas in Region III. Administrative planning is concerned with what work should be done in contrast to technical planning which is concerned with how, when, and where work should be accomplished. There now exists at least four separate levels of administrative planning for any given game area. Two of the four levels exist on the Lansing staff, one level at region, and one at district. A diagram of how planning is usually accomplished is shown on page 53. The type and character of each program determines how closely this pattern is followed. Programs seem to take on the nature of objectives for planning. Most of the actual planning workload involves detailed budget allocations for each program. On the Division staff, one man is involved with establishing comprehensive management plans for the game areas, which now have none. Another is concerned with long-range planning for the Division and is attempting to build a five-year work plan to be updated yearly. As yet, no

long-range objectives have been worked out and established for the management of state game areas.

The contributions of the six districts and Region III to the overall planning effort are a small proportion of the total. The districts request funds for accomplishing new projects or programs and for continuing existing programs, usually with few changes. Region III reviews the district requests, makes deletions and additions, and forwards the plans to the Division staff for examination. The Division staff reviews the various district requests along with those of the region. Only at this point are actual dollar figures attached to the request. The Division staff does not always provide feedback to the districts about changes in their plans, because the object of most of the planning effort is to secure Pittman-Robertson funds to achieve a larger budget. This source of funding will reimburse the state up to 75% of the cost of certain approved Wildlife projects and programs in Region III.

Current System of Administrative Planning and Evaluation for State Game Areas

1. Existing or new programs take on the nature of objectives to be accomplished.

2. Each district makes a yearly work budget based on the above programs. No cost figures are attached, only man-hours needed, and a list of equipment needed, etc. This work budget is sent to region for approval over a year in advance.

3. The Region III Biologist and Region III Manager review the six district budgets and estimate whether or not they are "in line." When all budgets are judged appropriate (still with no figures attached), they are sent to the Wildlife Division staff in Lansing.

4. The Wildlife Division staff reviews and revises the regional budget and attaches detailed cost figures to it. The staff uses these figures in requesting its yearly budget for the entire Division. This budget is submitted about a year in advance to the

Bureau of the Budget, where some checks for accuracy are made.

5. The budget request is acted upon by the State Legislature, which grants to the Division an appropriation that is often heavily earmarked. This budget appropriation often comes after the start of the fiscal year.

6. When the appropriation is received by the Wildlife Division staff, it is quickly allocated to each region, and major projects are approved or disapproved at this time.

7. The region receives the budget and distributes it among the districts, not necessarily according to the directions of the staff or on the basis of the original district work budget.

8. The districts receive an approximate budget and some directions from region on how it should be spent. The districts proceed to carry out their yearly activities without a formal schedule but with a work plan. The work plan is for the most part a large list of Pittman-Robertson approved projects.

Figure 13 is a work plan for one of six game areas in District 10.

9. Accomplishments and expenditures are reported in a monthly summary report by each district (Figs. 14 and 15). Daily activities are reported by field biologists and technicians, but not staff, every two weeks (Fig. 16).

10. Most of the formal program evaluation is done by the staff. Programs once established tend to be carried as long as money is available to fund them. Most of the evaluation done centers not on program impacts, but on items purchased, etc.

The Six Districts--A Variety of Management Situations

Each of the six districts in Region III is unique in many ways: number, type and size of game areas, local clientele and land use situation, personnel, equipment and facilities, and programs and management intensity. The game areas range in size from 107 to 43,751 acres. The soil types and topography vary considerably from

Dansville State Game Area
WORK PLAN
1973-1974

II.

A. Type of Work

1. Buildings, maintenance

a. Work to be accomplished: Paint 1 unit (Hewes Lake barn)
b. Location: On Dexter Trail at North end of Hewes Lake Trail

4. Bridges

a. Work to be accomplished: Construct 3 units (culvert bridges)
b. Location: Plans 20, 30, 108

5. Roads and trails

a. Work to be accomplished: Maintain 2,765 feet of trails
b. Location:

Plan	No. of Ft.
Hewes Lake Trail	950'
Old Turkey Project Trail	165'
Food Patch Trail Plan 98	660'
West Hewes Lake Trail	330'
West Branch Seven Gables Road Plan 60-61	660'
TOTAL	2,765'

8. Public Use Facilities

a. Work to be accomplished: Maintain 25 sites, develop 1 site
b. Location: As needed

11. Signs and Boundary Markers

a. Work to be accomplished: The following groups of signs will be posted: boundary (develop) - 1.0 miles; boundary (maintain)- 2.0 miles; information (develop) - 60 signs; information (maintain) -150 signs
b. Location: As needed

14a. Thinning and Clearing - mechanical and manual

a. Work to be accomplished: 20.4 acres
b. Location:

Plan	Acres	Plan	Acres
21	2.9	60	1.5
31	3.6	67	.5
45	2.3	94	1.0
56	1.8	102	6.8

TOTAL: 20.4 acres

14d. Edge Development

a. Work to be accomplished: Develop 2,130 feet of woodland edge
b. Location:

Plan	Feet
73	230
60	950
21	950
TOTAL	2,130

19a. Brush Piles

a. Work to be accomplished: Construct 14 brush piles from edge development
b. Location: Plans 21, 60, and 73

21. Building Site and Area Clean-up

a. Work to be accomplished: 1 building site
b. Location: Wheeler Place

22. Nest Box and Den Construction

a. Work to be accomplished: Develop 50, maintain 100 rubber tire squirrel dens
b. Location: Place in appropriate woodlands

28. Equipment maintenance and moving

a. Work to be accomplished: Repairing equipment used on development projects
b. Location: At most advantageous site

29. Miscellaneous

a. Work to be accomplished:

1. Work plans, miscellaneous reports, office work
2. Making reports and maps of development projects and keeping records for reporting purposes
3. Gathering biological data
4. Trespass and use inspections

Fig. 13.--Dansville State Game Area Work Plan: 1973-74.

MONTHLY SUMMARY

District 10 Wildlife

May 26 -- June 20, 1974

Crow Island S.G.A.

Advertisement for sealed bid sale of all buildings.
Acquisition of aerial photos for future management.
Memo to Reg. III to request the status of the entire area (include new acquisition) to a Wildlife Refuge for 1974 to facilitate temporary management.

Shiawassee River S.G.A.

Equipment maintenance -- movement of tractors, blades, farm equipment. Fertilizer hauling for Reg. III from Lake Odessa to Harsens Island (32 tons -- 2 trips). Equipment hauling for Parks, and Wildlife Research. Ditch cleaning, dike repair, road surfacing. The first sharecrop fields were worked in the week of June 17th after the major mid-May flood. All efforts are being made to plant corn.

Gratiot-Saginaw S.G.A.

Timber permits underway for habitat improvement. Sharecrop fields are still wet. Planting delayed. Area needs cleanup, trail repair, etc. Saginaw County side of the area will be open to Pheasant Put & Take this year.

Maple River S.G.A.

Sharecrop fields in good shape. (Marsh unit on US 27 has opened up this year with the treatment of muskrat trapping closure and high water.) High water in mid-May may have affected the waterfowl nesting adversely in the low areas along the Maple River.

Area needs cleanup and bulldozing of some roads and old building sites.

Olive Twp. Mini-game Area

Sharecrop permits on 110 acres. State share = 1/3 - corn - wheat. Beaver are back -- dam replaced -- water level up. (Protected from trapping in 1974)

Dansville S.G.A.

Sharecrop activity good -- area needs work on parking lots, roads, cleanup. Discussion still underway with Ingham Co. Road Commission on closure of .5 mile of Seven Gables Road.

Fig. 14.--District Monthly Summary (Cover).

Fig. 15.--District Monthly Report of Unit Allotments (Cover).

NATURAL RESOURCES

OF UNIT ALLOTMENTS

SUMMARY - C.S.S. & M.

UNIT NAME: District 10

UNIT NUMBER: 32010,20,30 & 40

REGION: III

DIVISION: Wildlife

MONTH(S) AND YEAR: Dec. 1973

EXPENSE FOR REPORT PERIOD	CONTRACTUAL SERVICES, SUPPLIES AND MATERIALS	CODE		ANNUAL ALLOTMENT	EXPENSE YEAR TO DATE
79.59	310 Telephone and Telegraph	310			405.10
89.54	320 Utilities	320			978.74
	330 Rentals and Leases – Land, Buildings	330			
	340 Rentals and Leases – Equipment	340			
	370 Insurance and Bonds	370			
	310 320 Fees and Compensation	310 320			
	330 Advertising, Dues and Subscriptions	330			10.70
	340 Postage	340			
214.80	350 Maintenance Services: Vehicles, Machinery Equipment, Buildings, Highways, Forests, Boats, Bridges	350			2,760.73
311.54	360 Travel and Subsistence-state employees	360			4,404.64
	390 Other Contractual Service Expense	390			11.00
	410 Food	410			
1.29	420 Fuel	420			1.29
	430 Agriculture and Horticulture	430			4.17
	440 Clothing and Textiles	440			
	450 Educational and Recreational	450			
	460 Household and Laundry	460			52.84
	470 Hospital and Laboratory	470			
7.57	480 Office Supplies and Printed Matter	480			46.65
1,247.78	490 Construction and Maintenance	490			7,875.21
	570 Miscellaneous Supplies	570			66.58
	660	660			
1,952.11	TOTAL - C.S.S. and M.				16,617.65
	Salaries and Wages Regular				
	Salaries and Wages - Other				
	Equipment				
	OTHER				
1,952.11	TOTALS			27,300 16,000	16,617.65

STATUS OF ALLOTMENT BALANCES

	C.S.S.&M.	SALARIES AND WAGES Regular	SALARIES AND WAGES Other	Other	EQUIPMENT	OTHER
Brought Forward	1,334.46					
Allotment for Period	-0-					
Transfers During Period						
Total Available During Period	1,334.46					
Expenses for Report Period	1,952.11					
BALANCE AT END OF PERIOD	(617.65)					

REMARKS: (Use reverse side if necessary)

Sarah D Rapp — UNIT SUPERVISOR

1/9/74 — DATE

Fig. 16.--Individual Bi-Weekly Activity Report.

DAILY ACTIVITIES REPORT -- [redacted] March 24 - April 6, 1974

March 24	Pass
March 25	Rose Lake office, bi-weekly activity report - 1 hr. Habitat plans - 7 hrs. (H1-7, G8-1)
March 26	Mason building assisting Ed Mikula on wetland Program - 8 hr. (S2-4 H1-4)
March 27	Habitat plans - 4 hrs. Went to Charlotte High School, talk to 9th, 11th, 12th grade students about carriers and ecology - 4 hrs. (H1-4, G2-4).
March 28	Gratiot-Saginaw - inspected commerical timber cutting - 4 hrs. Worked on habitat pland 4 hrs. (H1-4, H12-4)
March 29	Gratiot-Saginaw Area - use study - 6 hrs. Habitat inspection and planning - 2 hrs. (H1-2, A4-6)
March 30 & 31	Pass
April 1	Rose Lake office, end of month reports - 1 hr. Habitat planning for Maple River and Gratiot Saginaw State Game Areas - 7 hrs. (H1-7, G8-1)
April 2	Gratiot-Saginaw State Game Area - inspected timber cutting operations - 3 hrs. Worked on habitat plans - 5 hrs. Met with Dale Herndon of the Ruffed Grouse Society, discussed habitat development and census methods on management 40 - 5 hrs. (H1-8, H12-3, G4-2)
April 3	Gratiot-Saginaw State Game Area, attended Law Div. Deer Meeting - 6 hrs. Worked on habitat plans Rose Lake - 2 hrs. (H1-2, S4-2, G1-4)
April 4	Mason Building, assisted Ed Mikula, wetlands section - 8 hrs. (H1-4, S2-4)
April 5	Gratiot-Saginaw SGA, inspected commercial cuttings - 4 hrs. Inspected flooding conditions and habitat Maple River Game Area - 4 hrs. (H1-4, H12-4)

DEPARTMENT OF NATURAL RESOURCES
GAME DIVISION
BI-WEEKLY
ACTIVITY REPORT

NAME [redacted]
TITLE Wildlife Habitat Biologist
BI-WEEKLY PERIOD (INCLUSIVE DATES) March 24, April 6, 1974
REGION III
DISTRICT 10

ACTIVITY		S	M	T	W	T	F	S	S	M	T	W	T	F	S	TOTAL
Game Birds	SPECIES MANAGEMENT AND TECHNICAL SERVICES															
Waterfowl				4									4			8
Small Game Mammals																
Big Game												2				2
Furbearers and Predators																
Other																
Technical Services Related to Species																
Environmental Services																
Habitat Planning	HABITAT PLANNING AND MANAGEMENT		7	4	4	4	2			7	8	2	4	4		46
Habitat Cutting and Mowing																
Edge Development and Forest Disking																
Brush Piles: Nest and Den Construction																
Floodings																
Wetland Maintenance																
Dike Construction and Level Ditching																
Pothole and Nesting Islands																
Herbaceous and Sharecrop Plantings																
Woody Plantings																
Controlled Burns and Herbicides																
Timber Sales and Inspection						4					3			4		11
Equipment Maintenance																
Private Land Management																
Recreational Development	AREA ADMINISTRATION															
Managed Hunting Areas (Operations)																
Area Maintenance																
Special Land-Use Investigations							6									6
Intra-Department Cooperation	GENERAL PROGRAM ACTIVITIES											4				4
Cooperation Other Government Agencies				4	4											4
Organized Groups																
Sportsmen's Club											2					2
Press, Radio, T.V.																
Department Training																
Informal Public Contact																
General Correspondence			1							1						2
Miscellaneous																
Annual	LEAVE															
Sick																
Compensatory																
TOTAL HOURS		0	8	8	8	8	8	0	0	8	13	8	8	8	0	85

area to area. Access to some areas is difficult, whereas others have well-maintained roads and parking lots.

The management possibilities for game areas are quite variable due to the unique character of each one. While the areas can be grouped into four general classes--rabbit-squirrel-pheasant, deer-grouse, general recreation, and waterfowl--each has a certain potential that is best measured individually. For example, some waterfowl areas have low deer populations, but at least one carries a very high number of deer, and hunting them is one of the major uses of the area. One can not generalize about deer hunting on waterfowl areas.

The district biologist receives very little management guidance from above. Some biologists are quite aggressive workers and accomplish a number of yearly projects on their game areas. Others put less emphasis on area maintenance and improvement. Most district biologists clearly favor some areas and uses over others and apply their project and maintenance funds quite selectively.

The local interests and benefits vary considerably from area to area. A few game areas receive heavy use year around while others receive only a light seasonal

pressure. On some areas, the use may be less than about one day per acre per year, but on others, it may be above twenty.[11] Some areas allow for more quality use and attract clients from a large radius. Other areas are off the beaten track and have less to offer in many respects than other areas nearby. The district biologists usually are very familiar with their areas and are aware of the types and locations of major use activities.

Information and Control Methods

The information system of the Wildlife organization uses both formal and informal communication methods to select, transfer, and utilize information. The informal channels of communication seem most important in that the transfer of information occurs more rapidly and is more selective. Most of the district biologists feel that they are expected to use a chain of command in approaching higher units about their problems. They send formal

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[11]Estimate based on Palmer's study (1967), and personal observations.

written or verbal communications first to Region III which they expect will forward the communications to Division.

Information is regularly collected on the activities of district and area biologists and game area managers (technicians). A bi-weekly activity report serves the staff need to allocate activities to specific accounts. The report can also be used by the region or Division staff to check on activities. A monthly budget statement and separate accomplishment report are made by each district and higher units. These reports are used to monitor budget expenditure and work accomplishment by both Region III and the Division staff.

Control and coordination of field units is carried out primarily in the budgetary process coupled with field orders. The district biologists in disfavor receive less funds than those who stand out in their accomplishments. Field orders are usually quite detailed as to the performance required. Inspections of projects and areas is not a regular activity of either staff or region. When inspections are made, they are seldom formally documented.

A Critique of the Department Level Administration

The DNR is operated without a tightly written set of objectives. For that reason its overall planning lacks positive direction. Long-range planning by the divisions can not be carried out effectively until common goals are clearly formulated and understood.

The Department of Natural Resources may be described as a task-oriented organization. Instead of revamping existing divisions to handle new tasks, the Department has grown by creating new divisions. With six Deputy Directors and twenty-one divisions, the complexity of interrelationships makes actual work accomplishment difficult. A large number of administrators are needed for consensus before a relatively minor decision is made. Work area boundaries are protected by each division and the DNR staff so that competition for programs is not allowed to any extent.

The process for obtaining a field order is tedious and often time-consuming (Wildlife Management Institute, 1970). Because the field order must be approved and signed by at least two DNR Deputy Directors and the Division Chief, the process does not encourage new or

redesigned programs. Even a minor objection by any of the three persons involved may kill the field order.

In spite of the DNR structure and its top staff attitudes, two divisions have shown significant attempts to update themselves, take on new programs, and provide new services. Both the Parks Division and the Wildlife Division have strong leadership that reflects genuine public concern. Both divisions have sought information through client-oriented research to plan effectively for their clients and best utilize the resources that they have available. These two divisions are standouts in the DNR organization even though they may have significant administrative problems from above and within.

Budget instability, resulting from shifts in the Fish and Game Protection Fund (derived from license sales and furnishing funds to several divisions), hurts the effectiveness of many programs. Budget cuts and additions are frequent but difficult to predict. The tendency in cuts is to hold on to personnel and let projects, services, and new equipment go. Therefore, actual performance decreases far out of proportion to the actual amount of the budget cut. Competition for available

funds within the DNR is based more on politics than performance-oriented standards (Wildlife Management Institute, 1970).

Problems of Internal Planning in the Wildlife Organization

Like the DNR, the Wildlife Division lacks a comprehensive statement of objectives. The focus is on programs rather than on desired impacts. For example, a put-take pheasant program has the stated goal to release 200,000 birds a year, not to provide a quality hunting experience for numerous people. The subunits of the Wildlife Division and Region III function in a similar manner.

A close working relationship does not exist in the planning effort. The staff may make major changes in a district plan without informing the district. The lack of communications between operating units is a serious organization weakness and detracts from the combined planning effort. The staff has provided very little information or guidelines to district biologists that would be useful in planning. The regional

biologist has urged the district biologist to use the chain of command in approaching the Wildlife staff. Requests from all units are frequently not answered for one reason or another.

Any organization has some problems of matching plans to the budget. In the Wildlife Division, several major budgetary problems exist for planning purposes:

1. The budget comes from some very unpredictable sources,

2. Funds are heavily earmarked, often at the last minute by the Legislature, and

3. The Division does not establish priorities in its programs and projects before the budget is received.

Because of these problems, comprehensive planning has received little emphasis by the Division staff. A "wait and see" attitude prevails. The staff does a very effective job of presenting the budget for review by the Bureau of the Budget and the Legislature. The thrust is on using plans to achieve a larger budget and satisfy the funding sources.

Most managers at all levels--district, region, and staff--are reluctant to seek outside expertise and advice in planning. Public and private grants for this purpose are not actively sought by the organization. Decision makers should make the most of what resources they have (McKean, 1958).

Information Problems in the Wildlife Organization

One information problem is that formal communications are slow in arriving and/or the response is also slow. Frequently these formal communications are blocked or arrive so late that the matters are resolved before a response is made. In reaction to the formal system, an informal system of communication, the grapevine, carries a large load of information and can be regarded as essential to the organization's performance. Critical pieces of information are passed candidly by word of mouth to those who can benefit or who are at least interested.

Much of the information formally collected by the Wildlife organization has little value for management purposes. Either the information is of a historical

nature or no effective means for utilizing the information has been devised. Much of the information compiled is task-and-user information, such as so many shrubs planted and so many small game licenses sold. Information on the actual impacts of license sales or shrubs planted is lacking. Frequently, major decisions are made without important pieces of relevant information being presented, because no one had thought of utilizing the information for decisions when it was collected. The Division is just beginning to obtain some valuable user information from research efforts. It should be of significance in making many management decisions.

The accounting and budgetary system is still traditionally oriented toward a line-item approach. The main reason for this is that a planned program budgetary system requires evaluation of performance and accomplishments to work effectively. At the present, both forms of evaluation are insufficient for this purpose. A district receives a budget for certain activities and projects, but there are few checks to see if the work was attempted and whether the impact of the work was as planned. The recently adopted system of accounting hinders program evaluation. Actual expenditures on projects are kept

under broad funding headings, so that the cost of producing a pheasant or building an impoundment can not be easily traced. This makes cost control very difficult, and large overruns on a project are often not known until the project is near completion.

Control Problems in the Wildlife Organization

Control over personnel performance is basic to effective control of work projects, etc. In the various units of the Wildlife organization, evaluation of personnel is casual and has little effect on controlling or improving performance. Normative performance standards are often met with a few hours of work each month. Examples would be sending reports in on time, showing up for meetings, and performing certain surveys. Actual on-the-ground accomplishments are not heavily weighted. The bi-weekly activity reports are not tied to plans, schedules, or actual work accomplished. The reward system has little effect on encouraging high performance. The penalty of getting fired for poor work is rare in the civil service environment, especially when a person can often

acquire a tenured status after a year's work. Promotions are the only means of monetary reward, and these opportunities occur infrequently for district biologists and are not always desired.

Control over unit performance is not very effective, either; very little formal evaluation is done. The district work plans and the actual accomplishment reports do not always correlate. Budgetary control is maintained only to the extent that items purchased are justified and the unit does not exceed available funds. Project costs are hidden in the general classification of "expenditures."

The Wildlife Division staff has very little recourse if Region III does not carry out the planned Wildlife programs effectively. The Division Chief lacks the line authority common to Natural Resource chiefs in other agencies. He can only bargain as equals with the Regional Manager. The Wildlife Division Chief has the responsibility but lacks the power and authority to insure that programs are accomplished effectively.

CHAPTER IV

REGION III DISTRICT AND AREA WILDLIFE BIOLOGISTS

A Management Study

Management consultants generally concede that the best way to study an unfamiliar organization is to learn what is happening at the lower management levels and trace the problems upward. Not being able to interview all nineteen district and area biologists in the region, I had two options: I chose both, using the interview as a followup after the questionnaire.

The questionnaire was in two parts. One sought a personal inventory of experience, skills, education, and interests. The other sought management strengths and weaknesses and was kept strictly confidential. Some considered it quite a nuisance and expressed their displeasure by sending the forms in late with added comments. I learned, above all, that most of the biologists in Region III dislike paperwork. All answered the

questionnaires; most very conscientiously. I consider the questionnaire results to be very valuable to my research effort. The remarks taken individually and collectively point out problems of which I would not otherwise be aware. I found the biologists' integrity and accuracy very high from followup work on their statements. They did not seem overly critical and expressed a genuine concern for the wildlife organization and those they considered as clients.

The first-line administrators are the district biologists. These men and their assistants, the area biologists, represent the professional level of career Wildlife Division employees in the field. Region III and the Wildlife Division staff represent an older group of administrators who were once field men. The district and area biologists represent the future staff and regional administrators, and, therefore, the future promise of the Division.

The Variety of Education and Skills Represented

The district and area biologists have marked similarities as can be seen from the following chart of personal histories obtained in January, 1974. Their area of education as a group is very narrow, oriented mostly towards the technical applications of wildlife and forest management. Background in areas like business, management, law, economics, and related areas is not apparent. The group's educational training is excellent for technical applications of wildlife management but hardly conducive to the role of administering a work force, budget, and large land area.

Professional Interests and Hobbies

The list of outdoor activities and hobbies shows that the Region III district and area biologists are outdoor men strongly oriented toward hunting and fishing activities. This interest gives them a considerable understanding of, and empathy with, other hunters and fishermen who use the game areas. Unfortunately, it also

creates a stereotype system of viewing clients as well. Many biologists seem to resent such uses as hiking, cross-country skiing, and picnicking, which they regard as conflicting to some degree with hunting. Most of the biologists are not active in professional societies or public affairs commensurate with other men of equal education according to Wildlife Division staff estimates. Perhaps this is due in part to the policy of discouraging political activity and hunting club membership.

Methods of Updating Skills

Almost all of the district and area biologists feel a need to update themselves professionally and acquire new skills. The biologists find it extremely difficult or impossible to attend college courses while working full time. Few view the professional Wildlife Society or wildlife journals as relevant to their training needs. Most would be eager to attend short courses or training programs to acquire new skills in wildlife management, administration, or related areas. Field training in the region is rare and has usually amounted

to one-day sessions. The annual meeting of all biologists in the Wildlife Division is too short for significant training activity, but some training interest is evident there. Technical publications seldom filter down to the field from the staff, but those that do are often valuable in updating skills. The status of the district and area biologists' skills has never been evaluated, but from their own assessment, updating skills is difficult in their current situation.

Type of Training Desired

The biologists desired training in two major areas: administration and technical field-oriented skills. They voiced that these were the areas necessary for effective job performance. The skills listed that fall under administration are:

1. Decision-making and management,
2. Administrative and office procedures,
3. Public speaking,
4. Law,
5. Policy,

6. Program implications,
7. Budgetary methods,
8. Supervision, and
9. Natural resource administration.

Those that would be listed under technical skills are:

1. Basic zoology and botany,
2. Cartography and surveying,
3. Agriculture,
4. Wildlife diseases,
5. Engineering, and
6. Biometry.

Most of the training desired has direct application to everyday work. The strong desire to acquire new skills, by older biologists especially, is evidence of considerable initiative.

The System for Hiring New Personnel

New biologists are hired by the Regional Manager and Regional Biologist. Only those with a degree in wildlife management are considered. The Wildlife Division

Chief and staff may disapprove of the person hired but have no effective recourse to prevent it. In Region III, the biologists appear to be hired not on the basis of advanced skills and diversity of experience but rather on how well they fit into the traditional role. In this way the organization remains relatively unchanged because few new skills are acquired by hiring a four-year graduate with little or no outside experience. Both the will and the ability to carry out assigned tasks are needed in employees.

The introduction of new employees to an organization, called socialization, is crucial in that the attitudes and understanding first formed by the new employees has been shown often to last for many years. The new Region III employees do not enter a formal socialization program but do work with several biologists and have some chance to ask questions and receive answers about the organization. However, they are not now given a chance to receive an effective work exposure in other regions or on the Division staff. The new biologist may work for many years before he develops an understanding of how the entire organization operates.

Personal History and Skills Inventory

In Table 3, a list of the Region III district and area biologists can be found that was compiled from their returned forms in January, 1974. The form sent to each biologist is listed in the appendix.

Table 3.--Region III District and Area Biologists, January 1974.

	Age	Years with Wildlife Division	Years at Current Location	Degrees, Dates & Location	Outside Professional Experience, Date & Location	Locations Worked Outside of Region III	Outdoor Activities & Hobbies	Wildlife Specialties
1)	40	8	2	B.S. Wildlife, MSU, 1956	Biologist, Wildlife Div., Indiana DNR, 1959-1966	Region II, Grayling	Shooting, hunting, fishing, camping, canoeing	Upland game species & deer
2)	57	31	26	B.S. Forestry, MSU, 1938 M.S. Wildlife, Utah State, 1941	U.S. Forest Service, 1937-1943 Utah Wildlife Research Unit, Seasonal, 1939-40	None	Hiking, camping, horseback, swimming, sailing, farming, photography, gardening	Big game management, forest management, waterfowl management
3)	56	26	9	B.S. Wildlife Mgmt., U. of Minnesota, 1942 M.S. Wildlife Mgmt., U. of Minnesota	Biologist aide, Wildlife Service, North Dakota, June 1941-Sept. 1941	None	Hunting, fishing, boating, camping, Boy Scouting	Waterfowl management, habitat development on private land, environmental education
4)	53	25	12	B.A. Zoology, MSU, 1948	None	Checking Stations, Region II	Hunting, fishing, photography, bird banding, birding, camping	Trapping, banding, identification of birds
5)	54	27	7	B.S. Wildlife Mgmt., MSU, 1947	None	District 7, Wildlife biologist	Hunting, fishing, camping	Farm game biology, habitat development techniques, forest game management, waterfowl management, intensively managed waterfowl hunting

Table 3.—Continued

	Age	Years with Wildlife Division	Years at Current Location	Degrees, Dates & Location	Outside Professional Experience, Date & Location	Locations Worked Outside of Region III	Outdoor Activities & Hobbies	Wildlife Specialties
6)	30	6	1	B.S., MSU, 1967	None	Region II, Indian River & Atlanta	Hunting, fishing, camping, nature photography, trapping, hiking, farming	None
7)	29	4	1	B.S., U of Minn., 1969	Wildlife biologist, Minnesota Dept. of Conservation, 1967-68 Environmental specialist, Office of Environmental Review, Mich. DNR	Region II, Paris	Hunting, hiking, fishing, skiing	Forest wildlife & waterfowl mgmt., prairie chicken management
8)	36	7	2	B.S., MSU, 1960	Biology & Science teacher, 1960-65	None	Hunting, fishing, bird watching, hiking, camping, gardening	Planning & implementing habitat improvement work for grouse, deer & pheasants. Planning & managing a managed hunting area for waterfowl.
9)	50	20	7	B.S., Wildlife Mgmt., MSU, 1947	Wildlife biologist, Georgia Game & Fish Commission, 1947-51	None	Hunting, fishing, boating, camping	Waterfowl management, waterfowl general, heavy equipment, managed hunting, public relations

Table 3.—Continued

Age	Years with Wildlife Division	Years at Current Location	Degrees, Dates & Location	Outside Professional Experience, Date & Location	Locations Worked Outside of Region III	Outdoor Activities & Hobbies	Wildlife Specialties
10) 25	2	2	B.S. Wildlife Mgmt., MSU	None	None	Outdoor competitive sports, hunting, fishing, bird watching, hiking, archery, outdoor photography, taxidermy, trap shooting	None
11) 49	21	17	B.S. Wildlife Mgmt., U. of Minnesota M.S. Economic Zoology, U. of Minnesota	As a student in Minnesota & South Dakota	None	Hunting, fishing, wildlife photography, bird watching	Waterfowl identification, management & habitat management, trapping & banding, aerial census
12) 48	22	15	B.S., U of M, 1948 B.S.F., U of M, 1951 M.F., U of M, 1951	None	Region II, Atlanta	Hunting, fishing, wildlife painting, wildlife carving, bird watching	Wetland management
13) 45	18	1	B.S. Forestry, U of M, 1950	None	None	Hunting, fishing, golf, gardening, camping, swimming, hiking	Forestry

Table 3.—Continued

	Age	Years with Wildlife Division	Years at Current Location	Degrees, Dates & Location	Outside Professional Experience, Date & Location	Locations Worked Outside of Region III	Outdoor Activities & Hobbies	Wildlife Specialties
14)	59	26	10	B.S., M.S.,PhD candidate	Texas Game Commission 1938-1941	None	Canoeing, cross-country skiing, bicycling, photography, travel	Mammals, waterfowl management, hunter management, game habitat planning & management, local program planning & administration
15)	49	23	18	B.S.F., Wildlife U of M, 1950	Parks Division 1950-51	None	Hunting, fishing, photography, hiking	Habitat management techniques, planting desirable trees & shrubs, initiating small waterfowl floodings and management of same
16)	52	25	3	B.S.F., U of M, 1948	None	Special assignments during deer season	Hunting, fishing	Public relations representative, public lands administrator, personnel manager
17)	31	9	3	B.S. Wildlife Mgmt., U of M, 1964	None	None	Hunting, fishing, woodworking, carpentry	Waterfowl management, upland game management, public relations

Table 3.—Continued

Age	Years with Wildlife Division	Years at Current Location	Degrees, Dates & Location	Outside Professional Experience, Date & Location	Locations Worked Outside of Region III	Outdoor Activities & Hobbies	Wildlife Specialties
18) 26	1	1	B.S. Fisheries & Wildlife, MSU, 1972	None	None	Hunting, fishing, camping, back-packing, reloading, wildlife photography, decoy carving, fly-tying	Habitat analysis, photography
19) 31	7	2	B.S. Wildlife Mgmt., U of M, 1964 B.S.F. Forestry, U of M, 1966 M.S. Wildlife Mgmt., U of M, 1968	Timber marking, U.S.F.S. Idaho, Summer 1963 Study Delta Waterfowl Research Station, Manitoba, Summer 1964 Ecological Study Weyerhauser Forestry Research Center, Washington, Summer 1964	Region II, Indian River Region I Wagduneo	Canoeing, fly-fishing, archery hunting, camping	Forest habitat management, public relations

CHAPTER V

SOME GAME AREA PROBLEMS AS SEEN BY THE DISTRICT AND AREA BIOLOGISTS

The Game Area Questionnaire

I sought to learn about the management of game areas by sending questionnaires to all of the district and area biologists. The intent of the questionnaire was to find the strengths and weaknesses of the current system of management and the nature of each. The questionnaire cover letter and forms are in the appendix. I learned in advance that some biologists feared retaliation if their remarks were known. This is unfortunate. I therefore, agreed to keep the individual comments strictly confidential and only the summaries, in which individuals are not identifiable, are made available. The questionnaire was followed by a few interviews which yielded additional information and gave added support to the questionnaire results (Table 4).

Table 4.--Summary of Answers to Game Area Questionnaire Sent to Region III District and Area Biologists

1. Uses to be provided on state game areas:

	Use	Responded
a.	Hunting: most stressed hunting, particularly quality aspects. Only two mentioned put & take.	19
b.	Fishing:	15
c.	Hiking:	14
d.	Skiing: cross country, sledding	10
e.	Birdwatching and banding:	9
f.	Canoeing, row-boating	8
g.	Rifle, skeet-trap, archery ranges:	8
h.	Photography:	8
i.	Trapping:	7
j.	Dog training--field trials:	6
k.	Picnicking:	6
l.	Nature trails, interpretive center and/or service:	6
m.	Mushrooming:	5
n.	Wildlife observation:	5
o.	Camping:	5
p.	Horseback riding:	4
q.	Berry picking:	4
r.	Nut, leaf, flower gathering:	3
s.	Sightseeing:	3
t.	Swimming:	3
u.	Snowmobiling:	2
v.	Bicycling:	2
w.	Nature study:	2
x.	Timber production:	1
y.	Habitat research:	1
z.	Protection of endangered species:	1
aa.	Arrowheading:	1
ab.	Motorcycling:	1
ac.	Auto sightseeing:	1
ad.	Solitude seekers:	1
ae.	Food production: (sharecrop)	1

Table 4.--Continued

2. Uses of State Game Areas that are significantly, physically or biologically detrimental to the area.

	Use	Responses
a.	Snowmobiles: noise, cover and vegetation damage, wildlife disturbance & stress, litter	18/19
b.	Motorcycles: soil erosion, noise, wildlife harassment, litter	15
c.	A.T.V. or auto: litter, erosion, compaction, noise, physical damage to vegetation, wildlife disturbance	11
d.	Horseback riding: demand for trails consumes land area, erosion, littering, wildlife disturbance	8
e.	Littering--dumping:	4
f.	Camping: sanitary conditions	2
g.	Motor boats: dike erosion from wake, interference with nesting & brooks, noise, damage to aquatic plants	2
h.	Hunting over-use: wildlife stress, elimination of some species in an area	2
i.	Put-Take Pheasant Program: trampling, litter, killing all forms of wildlife, wildlife stress	1
j.	Non-regulated hunting use: wildlife stress, elimination of some species in an area	1
k.	Over manipulation of habitat:	1
l.	Right of way clearing: drains productivity of land	1
m.	Poachers:	1
n.	Special events--military:	1

3 &
4. Specific Objectives of Game Area Management:

Type of objectives mentioned by topic to provide recreational and other opportunities for:

a. Small game hunting
b. Waterfowl hunting
c. Deer hunting
d. Upland game hunting
e. Put & take pheasant hunting
f. Fishing

Table 4.--Continued

g. Horseback trails--camp
h. Snowmobile trails
i. Hiking trails
j. Ski trails
k. Testing new farming--habitat practices
l. Birdwatching
m. Nature photography
n. Boating & water skiing
o. Motorcycling
p. Food gathering--nuts, fruits, berries
q. Camping
r. Sale of forest products
s. Solitude seeking
t. Swimming
u. Dog training
v. Trapping
w. Waterfowl sanctuary
x. Picnic areas
y. Wildlife observation
z. Wildlife education
aa. Shooting ranges

Most of methods to achieve these objectives dealt with game production practices:

Habitat improvement, regulation of hunting, gaining more wild land, and limiting uses which conflicted with game production. Overall, very little emphasis was placed on research experiments, wildlife education, and activities not connected with hunting. Perhaps, the current management situation and budget led many to stress maintenance rather than development.

5. Types of information used to manage game areas and the source of it.

a. Population (game) surveys: 1. Region III deer kill
2. Harvest statistics
3. Waterfowl population reports
b. Timber management: cutter comes asking
c. Users: conservation officers, personal observation
d. Proposed projects: those of previous years

Table 4.--Continued

e. Budget: wildlife division, approved P.S. & E., Regional office
f. Management plans: field and staff agreement
g. Species management guides: research, division, and region, other state's publication, and fish & Wildlife service, technical journals.
h. List of available equipment; its use, supplies and materials: region equipment operators
i. Available free manpower: local sources
j. Habitat management: field inspection, game area publications, reports on post manager work
k. Mapping: field inspection, "40" plans
l. General knowledge of area: field inspections
m. Public relations and user needs: talking to sportsmen

It is of interest that while Division was mentioned the staff was not by name mentioned once as a source.

6. Information desired for management:

a. Management plans for each game area
b. Objectives for managing game areas including a system for evaluation of those objectives.
c. Guidelines for project proposals
d. Use (type and intensity) on each area
e. User attitudes and needs
f. Cover maps--habitat inventory
g. Timber resource inventory
h. Habitat and species research recommendations--updated guidelines including evaluation of habitat practices
i. The latest methods for species inventory
j. Advance notice of budget for coming year--including availability of supplies and fuel
k. Better inventory of wildlife species (in time for analysis)
l. A benefit/cost analysis of major programs
m. Voting records of local legislators (like what do they and their constituents want?)

Table 4.--Continued

7. Current successful programs in Region III

   a. Waterfowl flooding management program--with hunter permit system a quality experience, more hunter opportunity.
   b. Put & take pheasant program--hunter success extended season.
   c. Land acquisition program--makes hunting more "public."
   d. Controlled deer hunting--reduced pressure, large public interest.
   e. Special seasons--turkey, squirrel, grouse, scaup give hunters more time afield.
   f. Habitat program--shrub planting, edge development, controlled burns, commercial clearcuts, brush piles.
   g. Public relations activity--gains us support among sportmen's clubs, disseminate useful information.
   h. Interdepartmental activities.
   i. Public relations--successful for money spent.
   j. Timber sales--depending on type and application of cut.
   k. Quail hunting--needs re-evaluation after good start.

8. Wasteful activities:

   a. Programs ineffective because of non-optimum scale of activity.
   b. Food patch program--wrong species or wrong place planted, poor site preparation, poor site selection, overplanting.
   c. Collection of pheasant wing & foot specimens due to little direct application in actual management.
   d. Collection of biological data from yearling deer in southern Michigan check stations since it is biased and insufficient for analysis, overstaffed check stations.
   e. Timber sales--cutting during nesting periods, cutting most desirable trees.
   f. Some surveys are unnecessary since data is available in other forms.
   g. Pheasant census contributes little as a management tool, crowing counts invalid.
   h. Waterfowl check stations since no use is made of age and sex data. If used sampling procedure should be set up.

Table 4.--Continued

i. Put & take program--high expenditures of men and money on program which provides questionable returns. Considerable damage to image and reputation of hunting and sportsmen. Anti-hunters have doubled their efforts as a result of P & T hunts, vegetation trampled, littering.
j. Construction of impoundments without control structures.
k. Sharecropping for sake of sharecropping--fields are too large.
l. December grouse season may have a detrimental effect on spring populations because birds are now oriented to home territories.
m. Reporting could be made easier, simpler, currently too time consuming.
n. Engineering on many projects is of poor quality, wasteful of materials and man power.
o. Poor use of heavy equipment, no priority schedule, equipment idle much of time.
p. Professional biologists working by the hour instead of the day concept 8 AM - 5 PM; not always compatible with job requirements.
q. Mini-game area program--most are sterile, costly to administer, and provide limited recreational use. Much better to block in present areas.

9. Directives originate from:

a. Lansing Wildlife Staff (12)
b. Regional Biologist (11)
c. Wildlife Division Chief (6)
d. District Biologist (5)
e. Regional Manager (2)
f. Deputy Director-Field (2)

Compliments to: Mikula & Cooley

10. To change a policy:

a. Use chain of command (11)
b. Go to wildlife staff while using chain of command (6)
c. Prayer (1)
d. Go to legislator (1)

Those who said "use chain of command" were often critical of its efficiency, lack of follow through, and resulting outcome.

Table 4.--Continued

11. For help in management problems, go to:

*a. District Supervisor (10)
b. Regional Wildlife Supervisor (6)
c. Assistant Regional Wildlife Supervisor (2)
d. Member of Division staff (1)

*Most area biologists listed their District Supervisor.

12. Three most time consuming activities (19 x 3 = 57)

	Activity	Responses
a.	Habitat planning and management	9
b.	Manage hunting, including put & take	8
c.	Supervision, program planning and implementation	7
d.	Public relations, talks and phone calls	7
e.	Reports and office work	6
f.	Game Area administration	5
g.	Wildlife surveys	2
h.	Species management	2
i.	Field inspections	2
j.	Waterfowl management	1
k.	Nuisance or problem animals	1
l.	Farming operations	1
m.	Land management	1
n.	Check stations and hunter check	1
o.	Game and recreation area use survey	1
p.	Game area development	1
q.	Supervising timber harvest	1
r.	Pheasant farm	1

13. Additional need for training (18 responded): Yes 16 No 2

Why yes: We are not being adequately informed about what is going on and have to depend on outside sources of information. We are weak in several areas--administration, biometry, etc.

Why no: Probably overtrained for assigned work, present needs adequately met.

Table 4.--Continued

How: Sabbatical leave periodically, Higgins Lake school, training manuals sent out by staff, field seminars, new employee training program, regional sessions.

Type of training desired:

a. Decision making and management
b. Administrative and office procedures
c. Basic zoology and botany
d. Cartography and surveying
e. Public speaking
f. Law
g. Policy (DNR)
h. Current program implications
i. Budgetary methods
j. Agriculture
k. Supervisory
l. Natural resource administration
m. Wildlife disease
n. Engineering
o. Biometry

14. Preferred activities and reasons (17 x 3 = 51):

	Activity	Responses
a.	Habitat planning and management	8
b.	Public relations	8
c.	Wildlife surveys	5
d.	Managed hunting	4
e.	New project development and implementation	4
f.	Trapping and banding	3
g.	Field investigations	2
h.	Land management on areas	2
i.	Wildlife information	2
j.	Hunter checks	2
k.	Water control development	1
l.	Farming	1
m.	Informal public contact	1
n.	Job training of new men	1
o.	Waterfowl management	1

Table 4.--Continued

p.	Upland management	1
q.	Report writing	1
r.	Promoting hunting	1
s.	Wildlife management assistance to landowners	1
t.	Supervising activities	1
u.	Species management	1

15. Most distasteful tasks (total = 47, some had no distasteful tasks).

	Distasteful tasks	Responses
a.	Report writing, questionnaires, position descriptions, activity reports, etc.	14
b.	Giving talks to disinterested or critical groups or persons.	4
c.	Struggle with low funds, equipment, and manpower.	4
d.	Answering "nuisance" telephone calls	4
e.	Making excuses for the DNR's failures	3
f.	Planning programs	3
g.	Answering needless requests	3
h.	Coping with non-hunting uses of game areas	2
i.	Admonishing employees or supervising work	2
j.	Going to worthless meetings	2
k.	Handling animal complaints	2
l.	Managing a wildlife re-ource without goals	1
m.	Running a poorly prepared managed hunt	1
n.	Coping with inadequate filing system	1
o.	Enforcing rules on game areas	1

The district and area biologists are in an excellent position to assess the game area management situation. These men spend considerable time on the areas coping with the year-around problems that occur. They meet the game area users face-to-face and receive considerable feedback about the services and management effort they provide. The "on-the-ground" problems faced by these biologists are often symptoms of problems at a higher level, and some of the responses identify these problems quite specifically.

Management Aims

Management of game areas must discriminate against some uses and encourage others. The first question of management is for which use or group of uses should the area be managed? The use, or uses selected also determine who the clients will be. The view held by most biologists is that hunting should be the first priority on game areas, and that other uses can be tolerated if they do not conflict significantly with hunting. This answer coincides with Game Policy #36, approved in 1961

by the Director's Office of the Conservation Department:

> Wildlife management with particular emphasis on game species has been, and shall continue to be, the primary aim of State Game Projects. Plans, development, and management shall keep this aim in mind at all times. Other uses of the acquired land are approved only when such uses do not conflict with the primary objective of wildlife restoration.

Of the thirty-one uses listed by the biologists, only four were mentioned by half or more. There is no close agreement on which uses should be provided and those that should not. One reason hunting and fishing are so strongly favored is that the game area management funds come directly from hunting and fishing license revenues. When sales drop, they are adversely affected. Some regard the game areas as being owned by the hunters, in that much of the land was purchased with firearms tax and hunting license revenues.

There has been no valid attempt to set use priorities or to weigh use values by the Division staff. The biologists feel frustrated in that there are no directives to tell them what clients to provide for. Also lacking is a list of priorities or weighted use values.

These problems were brought out by several biologists in the questionnaire answers.

The Access and Facilities to Provide

There is very little agreement between biologists over what type of access and facilities should be given hunters and others using the game areas. Some favor greater access and facilities so that the areas can be utilized more effectively. Others seek to block most access so that fewer people use the areas. They point out that facilities require maintenance, and they can not at present do a sufficient job of maintenance. Some argue that roads and trails encourage motorcycles, horses, off-road vehicles, and snowmobiles to use the area. These uses they feel create wildlife stress and damage the vegetation. Some districts have recently built hiking trails, snowmobile trails, and cross-country skiing trails on their game areas, while others have blocked off many existing trails roads. Such facilities as toilets and picnic tables are not present on the majority of areas. Each district biologist is given considerable

discretion over the access and facilities he wishes to provide.

What are Project Costs?

The district biologists believe they do not have adequate cost information to accurately predict project costs. Most of the receipts for expenditures are handled by a district biologist. The summaries of expenditures are in broad program headings so that the cost of any particular project can be hidden. Heavy equipment hours are not charged to individual projects. Equipment costs on such projects as dike building and road repair usually represent over half of the actual project cost. The lack of detailed cost information hinders the planning ability of the district biologist. He may have some estimate of what his budget is likely to be, but he lacks the information to spend it effectively, such as accomplishing those projects which offer the greatest benefits for the costs invested. Only through conscientious cost accounting can inefficient methods be fully exposed and improvements made.

The Use Conflict Problem

Many biologists are quite concerned about use conflicts on the game areas. The variety and intensity of use has increased dramatically over the last ten years. Where formerly a rabbit hunter could walk alone with his dog, he may now have cross-country skiers on his right, other hunters ahead of him, and hear a snowmobile roaring in the distance. The mere presence of one user type may seriously conflict with another. The biologists feel that they do not have sufficient guidelines or ready means of preventing most of the conflicts that do occur. They strongly desire to prevent use conflicts since they are a major source of client irritation and complaint. Several biologists suggest that the Division staff does not share their concerns over use conflicts, and that it does not actively seek means of preventing the possibility of conflicts. Most of the attempts to prevent or resolve conflicts thus far have been restrictive regulation of horses and motorized vehicles, and mandatory permits on crowded hunting areas. These measures were in reaction to existing problems of a crisis nature.

Which are the Best Biological Techniques to Produce and Inventory Game Species?

One skill expected of a wildlife biologist is that he knows how to produce and inventory game species. The state of the art, however, is such that there exists considerable doubt over some traditional methods, and better techniques are rapidly being advanced. Several biologists experienced in inventory work realize that some of the inventory methods currently used are outdated, inaccurate, or both. Their suggestions for updating methods have gone largely unheeded by the Division staff charged with this responsibility. Much of the habitat work done thus far has not been proved to benefit game species. Some techniques currently used, such as shrub planting, were questioned and rejected by Division researchers before 1940. Most field biologists have not been able to keep up with the latest methods suggested by research. They rely on the Division staff for such information. Most field biologists realize that they can not measure the effectiveness of their habitat improvement work but attempt to do that work which seems logical within their framework of knowledge.

The Imbalance of Staff and Field

Many of the district biologists desire more technicians and a larger labor force. They believe that these extra men could make significant gains in providing maintenance and improvement on the game areas. The field biologists look at the organizational pyramid and see about fourteen biologists on the Division staff and only about eight technicians working on the game areas in Region III. The labor force is small and largely seasonal. According to many district and area biologists, the result of having a large number of administrators and staff specialists and a small number of workers is that there is much talk and little "on-the-ground" accomplishment. Some of the more experienced field biologists question the need for such a large Division staff. They believe that their own proficiency is such that they are equal to or better than most staff specialists. Therefore, some field biologists rarely, if ever, approach the staff for advice on wildlife matters.

Communication Within the Organization

Many of the area and district biologists are very discouraged with the communications system within the organization. The problems they mention most frequently are delayed responses and blocked messages. For example, a district biologist may suggest a change in hunting regulations and forward a written proposal to the Regional Biologist. The Regional Biologist should inform him of his view on the recommendation and, if justified, forward the letter to the Division staff with recommendations. Actual cases brought out indicate that such a message may be lost at the regional or the Division level. Replies are frequently not made. Even when replies do come, they often arrive months later. Therefore, the district biologist does not know the status of his recommendation. Existing policy favors the use of the chain command in sending messages. However, most biologists find it necessary to personally communicate messages to the unit they wish to reach. Most favor phone calls or personal contact because, that way, they at least receive some response.

The Relationship to Clients

A public involvement program is desired by the field biologists as a means of improving game area management and the client-administrator relationship. Most biologists are not trained in public speaking and feel uncomfortable in front of large and/or critical audiences. There is an admitted tendency on their part to speak only to small, interested groups. Most feel that the time spent on public involvement is beneficial but feel a greater effort is needed before success would be evident. Most of the groups they select to talk with appear to be school classes or hunting clubs. At least a few biologists feel that a successful public involvement program will require considerable Division staff input, support, and coordination.

The Planning Process

By far the most common problem of game area management mentioned in the questionnaire returns was that of planning. The biologists want plans that they can

carry out; something to provide direction. They see several problems with the current system of planning:

1. Technical "forty" plans are outdated and poorly formulated,

2. Master planning concept is not functional,

3. Multi-level planning lacks coordination,

4. Current planning process does not specify priorities,

5. Programs are implemented without consideration of long term effects,

6. There is failure to predict client trends by not using available information, and

7. There is a failure to anticipate use problems.

Most biologists do not use the "forty" plans to any extent for planning purposes. They serve some use for habitat manipulation and shrub planting. Many are ten or more years out of date, and the cover type has changed significantly during this period. According to some biologists, the "forty" plans are of little use in

that the perspective of forty acres is too small. One biologist pointed out that the master planning concept is not functional because it has been prepared without adequate information so that it is outdated before its completion.

New programs and special reasons are frequently a surprise to some biologists. They resent not being included in the planning of programs which they are expected to carry out (Wildlife Management Institute, 1970). Some biologists point in particular to a lack of coordination in this matter between the district and Division levels. Planning a yearly work schedule on the district level is also made difficult because priorities are not established by the Division for the different projects and programs. Of the many possible tasks a biologist can undertake, which one should he take? Currently each district biologist has his own route so that management efforts are quite different between districts. The individual questionnaire returns show that most biologists spend most of their time on their favorite type of work activities.

Several biologists are critical of the planning that went into the "put-take" program. Two implied that

the program was implemented without consideration of the long-term effects, and heads the Division toward disaster. Will wildlife management come to mean pen rearing animals that have no chance of survival? Is this activity restoring and perpetuating the wildlife resource for the benefit of Michigan's citizens? Does this type of activity require the services of professionally trained wildlife biologists? What kind of hunter wants to shoot pen-reared birds? These questions were brought up by two biologists in interviews.

Some other programs received criticism along the same lines. Biologists searching for an explanation for what they believe to be misdirected programs, suggest that insufficient Division goals are one cause. Others believe a lack of available information used in program planning is primarily responsible. For example, some believe that the results of Walter Palmer's game area use study (Palmer, 1967) have not been considered in planning major game area programs. A failure to anticipate use problems was given as possible evidence for this belief.

CHAPTER VI

THE DANSVILLE GAME AREA--A CASE STUDY OF CURRENT MANAGEMENT

The Selection--An Overview

During my study I examined nine game areas on four different districts. The Dansville Area was selected in advance for a case study, due to its close proximity. The management intensity is far below that applied to such areas as the Shiawassee Game Area located in the same district. The district in which the Dansville Game Area is included seemed to have a management level equal or better than any of the other districts I examined. The management is intensive on one waterfowl area and much less on the four other deer-grouse and rabbit-squirrel-pheasant areas. Dansville should not be considered as a typical game area, since one cannot easily generalize from such a variety of situations. Its level of management is similar to many game areas, however, and the overall management problems are representative of most

game areas. The rather large state owned land parcels favor management (Fig. 17).

Management of the Dansville Game Area can be described in two phases: an early development phase and a later maintenance phase. The first phase lasted until the late 1950's, and the second phase is still continuing. Management activities in the first phase consisted of planting trees and shrubs, creating small impoundments, and various forms of habitat treatments (Michigan Conservation Department, 1928-1960). Small game hunting on the area was the main client activity and was very popular until the late 1950's. The decline of the pheasant population may have been responsible in part for the gradual management shift away from this planting and habitat work. It became obvious to biologists in the late 1950's that it would take more than shrubs to rebuild the pheasant population. Funds in the department were diverted to provide for other species and types of hunting. During the 1960's and 1970's, shrub planting and habitat work has been sharply decreased from former levels (Michigan DNR, 1970-1972). Much of the recent work consists of such activities as putting up signs, prohibiting public access to sensitive areas

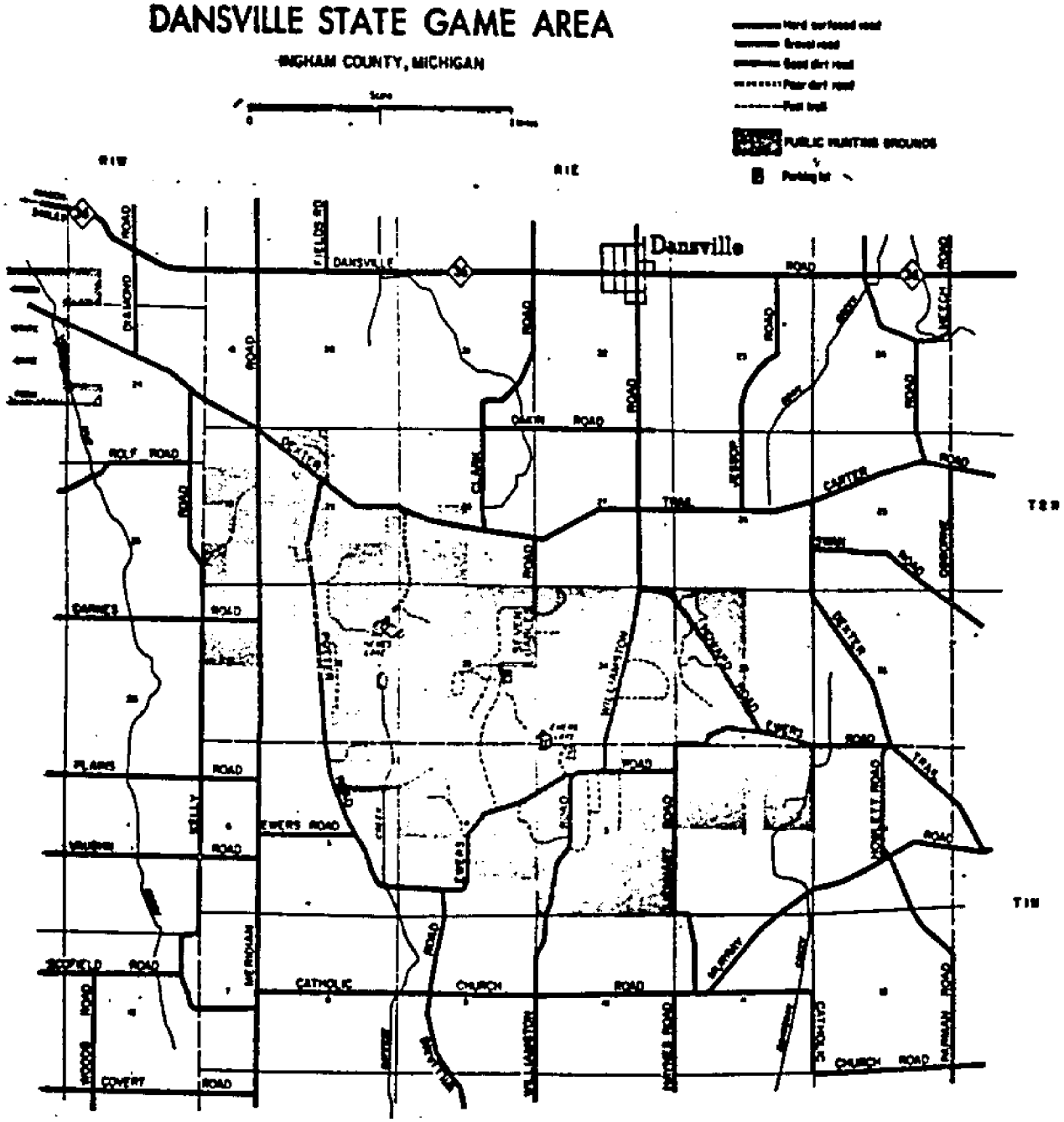

Fig. 17.--Map of Dansville State Game Area.

and inspecting the area for compliance of rules. The recent put-take program brought intensive use of the area this past year. Currently, the roads maintained by the district are badly rutted and parking areas are heavily littered.

History

The land now contained in the Dansville Game Area was farmed for several generations before the State acquired it. The land is poor for farming. The soil is predominantly sandy loam, and much of the area is poorly drained. The topography is rolling with some glacial deposits evident. None of the land was acquired through tax reversion. Game Protection Fund purchased about one-fourth of the land, and Pittman-Robertson Funds the rest. About half of the area was acquired by 1950. The first parcels, 1,220 acres, were acquired between 1939 and 1945, at an average cost of about $23.00 an acre. During the next five years, 553 more acres were added at a cost of about $50.00 an acre. State holdings at Dansville total 4,143 acres today, representing a total land cost of

$152,000 (Michigan DNR, 1972). At the current, 1974, market price, the land is probably worth in excess of two million dollars.

Unique Features

The Dansville Game Area has several rather unique features on it: a large variety of trees and shrubs, a tract of northern forest type complete with bog succession, and many small pothole lakes and impoundments. Because of the variety of habitat, there are many wild animal and bird species present. A considerable portion of the area is lowland swamp and marsh, inaccessible by vehicles (or even foot unless you have hipboots or a boat). This area is largely undisturbed. Even most hunters avoid it, and it furnishes a natural sanctuary for some species, such as deer. Having both upland and lowland cover types contributes to the variety of plant species. Besides, Dansville has had, perhaps, the most intensive tree and shrub planting program of any game area. Patches of fencerows and plantations blanket many former farm fields. Figure 18 shows four

Fig. 18.--Land Features at Dansville State Game Area.

1

2

3

4

views of the Dansville Game Area: 1 shows a share-cropped field, 2 shows a lowland field, 3 former farm field, and 4 a lowland marsh. The tract of northern forest type contains paper birch, tamarack, and yellow birch, species rare in this region of Michigan. Some of the pothole lakes dry up during the summer, but others remain year around, and some of these contain pike and panfish.

Clients and Uses

The clients in the early development phase of the 1940's were primarily hunters. A few picnickers, fishermen, and hikers used the area during the summer months, but most of the users hunted during the fall and winter. The majority of the hunters were from Ingham County, especially the Lansing area. Most had a rural background.

Walter Palmer's game area use survey in 1961-1962 showed a marked use trend away from hunting had taken place on most game areas, Dansville included (1967). Although a considerable number of hunters used the

Dansville Area, about half of the use hours were for other forms of recreation. At that time, two other game areas in the district received considerably more hunting use than Dansville.

Another game area survey is now being undertaken, 1973-1974, and preliminary results indicate that an increase in the variety of game area uses continues. Even with the popular put-take pheasant program, which may have involved a total two thousand hunters at Dansville, I expect that hunting will not account for more than one-third of the total use hours on the area. Much of the non-hunting use is not wildlife-wildland oriented. Examples would be beer parties and secretive love affairs. However, a considerable amount of birdwatching, hiking, fishing, wild food collecting and other such quality-oriented activities also occur. Certain activities have been regulated against, due in part to strong Pittman-Robertson protests that they conflicted with wildlife restoration. These include summer camping, off-road motorcycle, vehicle, and snowmobile driving, and horseback riding. Summer time scout camping has been allowed under permit but may not be continued.

Fig. 19.--Closeups at Dansville State Game Area.

1

2

3

4

Most of the younger users of the area, say ages 12-25, tend toward non-hunting activities such as fishing, bicycling, hiking, wild food collecting, birdwatching, photography, and nature studies. Most hunters appear over thirty-five and do not seem to be recruiting enough younger members to continue the present hunting level.

The Management Effort-- A Lack of Continuity

As one examines the various management projects on the area, a lack of continuity becomes evident: trash barrels sit with over half a year's accumulation of trash surrounding them, shot away signs are not replaced, roads are not graded, and cables torn off roadblocks are not repaired. Figure 19 shows management problems on the Dansville Game Area: 1. user built dock in bad repair at Hewes Lake, 2. trash around parking area, 3. blackberries for man or animals? and 4. severely rutted trail road. There exists no regular maintenance schedule, inventory of signs and facilities, or detailed trail maps. Many of the use facilities in existence are user designed and made. For example, trash barrels were

brought in by an ecology group (who never emptied them), and a boat dock on one pond was built by fishermen. There is obviously a demand for such facilities, for they are heavily used. Quality recreation requires use planning.

The technicians and manual workers necessary to accomplish construction and maintenance are in short supply and are given other priorities. The area biologist assigned to Dansville is conscientious and patrols the area at regular intervals. Without additional manpower, however, he cannot achieve the standard of maintenance he desires. The put-take program on Dansville cost about twenty-five thousand dollars for the 1973-74 season, but not one thousand dollars has been spent for any facility maintenance this past year.[12]

The "forty" plans for Dansville are almost all in excess of ten years out of date. There is no reason to update them because they are not used to any extent except as an approved basis for habitat work. The aerial photos are equally outdated and, therefore, are of little value in cover type mapping. Habitat work such as

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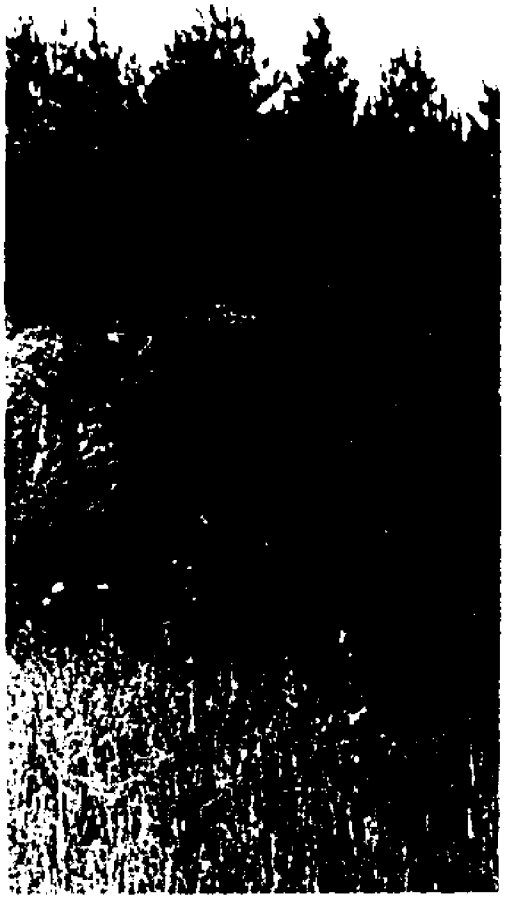
[12]Estimate is crude, based on number of birds released and activity reports by an area biologist.

creating openings and planting shrubs is done mostly on the basis of personal knowledge of the area rather than type maps or "forty" plans (Fig. 20). "Forty" plans are used when convenient to justify habitat work and receive approval for Pittman-Robertson funds. The 1973-74 work plan (Fig. 13) for Dansville includes work on "forty" plan twenty-one (Fig. 6). This "forty" plan was made in 1958 and has not been updated. The plan is now being carried out in 1974 based on 1958 conditions and recommendations. Note that the individual bi-weekly activity report (Fig. 16) and monthly summary (Fig. 14) do not often refer to specific projects or plans.

A Failure to Recognize Management Options

The concentration on providing game but not use facilities and maintenance shows a failure to recognize management options. The blame for this should not rest so much on the district and area biologists as on the region and Division staff. Facilities such as trash barrels, hiking trails, and boat launch docks enhance the area for hunters and non-hunters alike. Provision

Fig. 20.--Management Efforts on the Dansville State Game Area.



1

Some early plantings of multiflora rose and Scotch pine designed to furnish food and cover for wildlife.

2

Signs are frequently destroyed and, therefore, must be regularly replaced to identify area boundaries.

3

A former horse trail, blocked off with old stumps, now seeding back to pioneer plant species.

of facilities for quality wildlife-wildland experiences encourages clientele support and gives clients greater satisfaction.

The Division strategy of increasing the number of hunters through offering more game is not very effective if costs are considered. Encouraging an increased interest in wildlife by non-hunting programs seems to have been overlooked.

A Budget Problem or Suboptimal Use of Funds?

A shortage of funds is usually blamed for the lack of maintenance on the Dansville Game Area. If one examines the budget request, he can notice little emphasis is placed on road maintenance or trash collection. There is an unwritten policy against this type of activity. Thousands are spent on planting and habitat manipulation even though the benefits are highly questionable. Use facilities and management information are clearly low priority activities even where the benefits are obviously high. One cannot use the amount of physical activity as

a measure of performance unless the activity is translated into a measure of utility or value (Churchman, 1968).

CHAPTER VII

BASIC REQUIREMENTS FOR ACHIEVING A MORE SUCCESSFUL ADMINISTRATION

A Framework

The primary tasks of administration are deciding what work to do and seeing that the work is done. The criteria for judging any administrative system should be based on the above tasks: How well is work selected and accomplished? In more primitive societies, tradition and need dictate most of the work to be done. Our society today is well past this stage, and considerable attention is given to planning activities and controlling the performance of large work groups. Special planning and control procedures have been developed to meet these needs. Modern administrative practices require the use of certain planning and control systems. These are necessary to overcome the problems of a large organization faced with complex tasks in a rapidly changing society.

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Every organization possesses certain necessary resources to enable it to function and accomplish certain goals. There are five main resources upon which the Wildlife Division depends for functioning: the clientele served, legislative authorization and appropriations, land (including flora and fauna), equipment and personnel. The Wildlife Division's administrative system cannot function without every one of these critical resources.

The Wildlife Division will be discussed in terms of how its main resources are utilized in the two primary tasks of administration, planning and control. Before proceeding with detailed planning and control, the values of the main resources and their effective use should be recognized and weighed. The resources of an organization interact in the administrative process. For example, top quality personnel cannot be hired if the budget is not sufficient to pay them. A particular assortment of resources should be selected that will best enable the organization to serve its clients and maintain itself. Too often administrators feel that the budget is everything. If wastefully spent, though, the budget is not the resource it appears to be on paper. The real skill

in administration lies both in acquiring resources and in combining them effectively to meet organizational goals.

Increasing the Resource Base

The resources of the Wildlife Division can be increased with little or no increases in expenditure. The emphasis is on improving the use of existing personnel and seeking outside expertise when required. Of the main resources, clientele and personnel deserve immediate attention in that the questionnaire and interview results show that these resources are especially underdeveloped. Lands, equipment, and appropriations are secondary in priority. The first question is, "What needs to be done?" A review of client and personnel needs is necessary to know what may be later required in the way of lands, equipment, and appropriations.

Clientele

Clients are not always viewed as a resource by the Wildlife Division who markets its goods and services

indirectly. Without client support, however, the Legislature might abolish the Wildlife Division. With good clientele support, the agency can profit in terms of legislative interest and appropriations and achieve the stability desired for effective operation. The game area questionnaires show that there is little provision for clients other than hunters. Seeking client support and interest is a challenging task. In our modern society, changes in norms and activities occur very rapidly. An agency must be able to predict in advance what the clients want. It is essential that managers understand the consequences of their actions before they evaluate alternatives (Bell and Thompson, 1973).

The Wildlife Division should recognize the value of numerous well-organized clientele. It should also seek to select and service that clientele to the advantage of both the agency and the public. There are several means the Wildlife Division can use to achieve an optimum clientele situation:

1. Collect information on use trends and public desires to update services,

2. Foster only those clients whose programs provide the most favorable benefit/cost ratios,

3. Make the clients and potential clients aware of the services the agency provides and the goals it desires,

4. Seek to expand services to clients who can be reached and serviced by new programs,

5. Attempt to prevent use conflicts through careful planning and regulation, and

6. Offer extension services for interested organizations, private or public, to provide desirable wildlife services that cannot be furnished directly by the wildlife agency.

These means will be described in detail in the following paragraphs.

Client desires and use trends must be predicted in time for the organization to plan its services to accommodate them. This is a continual task and requires gathering and processing large amounts of information. Present uses are not always indicative of the uses the

public desires as shown by Walter Palmer's study (1967) and interviews with area biologists. Demand can be created by well-designed programs based on indicators of need. For example, a family-oriented birdwatching program could be instituted on public wildlife lands based on a measured resurge in Sunday family outings. Posters and contests could be used to popularize the program and draw further interest. Heinselman (undated) believes nature reserves have many public benefits. Yet, the Wildlife Division does not quantitatively measure indicators of client needs other than hunters in its program plans.

There are many techniques available through which the desires of clients and potential clients can be learned: opinion surveys, public hearings, open houses, etc. Each serves to gather information. This information must be processed and organized, however, before it can be used effectively in decision making. This requires a well-structured information system to insure that decision makers are informed of client desires. Collection of client information for planning should be a regular programmed activity but it is not at this time.

Recognizing whom to provide services for is a major administrative problem (U.S. Bureau of Sport Fisheries and Wildlife, 1972). The resources of the Wildlife Division are limited. The Wildlife Division should recognize the value of benefit/cost analysis in the selection of clientele over its traditional bias toward hunters as shown from staff interviews. There is also the need to recognize political demands and meet them effectively. A balance is needed. A client group which receives ten dollars worth of benefits at one dollar cost to the agency would normally be favored over a client group who receives two dollars worth of benefits for the same cost. Programs whose costs exceed benefits in the long run should be dropped unless the political costs of doing so are very high. Unfortunately, good information on costs and benefits is very difficult to collect. Many times the estimates are crude.

Every client program should have an evaluation built into it to give some idea of cost and benefits. Wildlife programs currently do not have a built in evaluation system. Both direct and spillover cost and benefits should be calculated in an evaluation. For example, if the average snowmobiler is shown to cause two dollars

worth of habitat destruction for every hour of his activity, this cost must be allocated to his program cost. This type of thorough cost analysis shows the real advantages of the more nonconsumptive uses of game areas.

A public recreation agency has an obligation to provide for those who can least afford, but need, such services. Peter Steiner says the types of recreational opportunities provided should allow for easy participation by those in the lower economic classes (Haveman et al., 1972). For example, user charges for shooting pen-reared game could severely discriminate against those in a lower economic status.

It is not enough to just provide services. The clients and potential clients must be made aware of the goals, programs, and problems of the Wildlife Division. This includes providing literature, signs, posters, radio advertisements, and other messages to the clients about goals sought, obstacles to these goals, and services provided. Many of the game area user problems involve client misunderstanding of goals and services. Public involvement programs are a proven means of communication between clients and agencies. Such programs have improved the management of many public agencies by

making them more responsive to client needs. The agency can benefit in providing for feedback from clients about its goals, programs, and problems. In this way, the client's desires can be made known and he is in a better position to select and utilize the services the agency can provide. Other benefits are the squelching of rumors through timely communication and increased support for the organization through greater exposure.

A public involvement program encourages wildlife support and interest. Interviews and documents show a lack of strong grassroots support for the Wildlife Division. A public involvement program can help overcome this problem by giving clients a chance to ask questions and receive answers. The organization can receive feedback about its goals, programs, services and make adjustments if it desires. Public involvement can be instituted on both district and Division levels in the organization. The districts could represent the Wildlife Division to local and regional groups, while the Wildlife Division staff could deal with statewide and national interest groups. Public involvement is most effective when it is regularly programmed. The minutes or notes of meetings

can be reported to higher level units so that the Division staff can assess problems and support.

Two forms of public involvement fit Wildlife Division needs of achieving more local interest and awareness: public hearings and agency open houses. Public hearings should be advertised and held in advance of major projects and regulation changes, so that organizations and citizens have a chance to insure that their interests are considered. When all of the facts are made known, the district or Division can make its decision more accurately. An agency open house could be held by the districts, say semi-annually for two evening sessions, to answer questions and explain programs. The logistics can be carefully planned so that everyone enjoys himself. Such open houses may be held with other divisions in rented buildings. Attractive displays or films can help to draw interest. Literature should also be available for sale or distribution. Open houses should be advertised well in advance.

Client services can be expanded in a number of ways: a greater variety of programs, increased numbers served, more available services, and better quality services. All four are sought, actually, but some ways

have priority over others depending on the situation. Interviews of field biologists revealed emphasis only on providing better quality services to hunters.

Programs that become outdated should be updated in nature and scope or abandoned altogether. New or expanded programs are the best means of achieving more variety. There are tradeoffs to be made by investing in new programs, but it is difficult to win new clients without them. However, it is often quite costly to establish new programs. Improving services, making them more available, and increasing the numbers served in existing programs is not necessarily costly. Rescheduling activities for client convenience, for example, could significantly improve a program at no expense to the organization.

Recognizing potential clients requires sound information on use and needs, but it is only by new or revamped programs that they can be changed to genuine clients. I use potential client in a restricted sense to mean those who would not otherwise participate in the agencies' programs. The boy who is just now old enough to hunt with his father and does so, is a new but not potential client. New programs are often an indication

of changes in agency goals and direction. New programs should be adopted only after careful review to insure that they will adequately provide for the clientele to be served and that the program is consistent with agency goals.

To provide clients a variety of recreational opportunities on the same land area requires careful scheduling and regulation if use conflicts are to be avoided. Many of the present conflicts are due to poor scheduling as pointed out by field biologists in several interviews. Scheduling and regulation work well together. For example, a public wildlife area could be scheduled for hunting on Saturdays and bird-watching and hiking on Sundays. Regulations prohibiting uses other than hunting on Saturday and hunting on Sunday could be carefully devised. Regulations can enable participation rather than solely restrict it. Knowledge of use occurrence and duration is of considerable help in finding means to prevent use conflicts. Zoning of areas for different uses may be a very practical solution for some activities, like target shooting and field trials, which conflict with many other uses.

There are many organizations and individuals who could benefit from wildlife extension services of a type the Wildlife Division can supply. Schools, conservation clubs, hunting preserves, and large landowners could all benefit from the wildlife biologist's expertise. From interviews it appears the current extension effort is highly individual and not well coordinated. By seeing that good wildlife recreational opportunities exist on private lands, the biologist can relieve some of the heavy use problems on the public wildlife areas. Urban areas, such as county parks, could especially benefit from extension services.

Authorization and Funds

Authorization and funding is a bread-and-butter resource, as most experienced wildlife managers are well aware. They seek an adequate and stable source of funding and the authorization to spend funds on programs with some flexibility. Obviously an agency cannot function without funds, but funds highly restricted in use can be equally devastating. If the sources of funding are

highly unstable, program planning becomes very difficult. Past Wildlife Division records show that its budget has been highly restricted and rather unstable.

There are several methods for the Wildlife Division to achieve desired authorization and a stable budgetary situation. Some likely ways to achieve success are to:

1. Serve a diverse clientele,
2. Maintain good relations with key legislators,
3. Seek funds from several sources, and
4. Make clients aware of budget problems.

Serving a broad range of clientele is a great way to achieve budget stability and flexibility. There is a buffering effect such that if one group is decreasing, another is likely to be increasing. Funds leveraged from the Legislature by one client group can frequently support a range of other client programs. Let's say one major client program falls into disfavor with the Legislature and funds for it are cut. The agency will likely suffer less if it has ten other major client programs than three. By serving a broad range of clients, from bird-watchers to big-game hunters, the wildlife agency can maximize its opportunities for grants and private

donations. Legislators are more likely to support an agency which has a broad base of support than one which services only a small segment of the population. The Parks Division seems to have more legislative support based on its broad base of client groups.

Achieving a good relationship with legislators interested and concerned with wildlife programs can be most rewarding. These individuals should be briefed at regular intervals about how client programs are going, the problems involved, and the alternative means to solve the problems. Legislators should receive strong agency support when they go to bat for new wildlife programs, etc. The agency should make clients aware of those legislators who support the clients' interests. The political pressure on certain wildlife programs can be decreased by being responsive to both clients and legislators.

Regular briefings can be given to the key legislators and commissioners who are concerned with wildlife matters. These briefings should explain how programs are going, provide advance information on planned actions, and relay reactions back to the Division staff. In this

way, political support can be measured and considered in program decisions.

Many legislators and members of the Conservation Commission have pet programs or programs of great local concern. The Wildlife Division should recognize these concerns and attempt to provide for them if they are justifiable. Often such problems as disputes over regulations can be resolved by minor changes or a detailed explanation. The Wildlife Division can always be humble in approaching legislators.

Credit for successful programs can, when possible, be given to the legislators who are interested in and support the Wildlife Division. This would require a low profile by the Division. In this way, however, other legislators are likely to seek such status as a Wildlife Division supporter.

While the Wildlife Division must rely solely on the Conservation Commission and State Legislature for authorizations, it has some alternatives in the area of funds. Funds can and should be drawn from several sources. Federal research grants and private donations especially should not be overlooked. If one source of funds becomes tight, this will leave several other sources

to draw upon. A diverse clientele assures a greater chance of achieving public or private grants. Also, a greater number of funding sources is likely to achieve more flexibility in how funds can be spent.

Clients should be made aware of any budgetary problem that affects them. If services are curtailed, an explanation is advised. Too often clients are not presently aware of Wildlife Division budget problems and curtailments of service as evidenced by the game area questionnaire. If large numbers of clients complain to the Legislature, more funds may be made available to restore services. Too often clients are not familiar with the services that are provided and, therefore, do not miss them when they are curtailed. Well-serviced and informed clients make excellent agency representatives when the Legislature is appropriating funds.

Lands

Land, including the native flora and fauna, is a valuable resource that often can serve several wildlife-oriented uses. The resource value of land is primarily

its use value in client-oriented programs. In this regard, land has certain characteristics that make it either desirable or undesirable as an agency resource. The more significant characteristics to be reviewed are:

1. Accessibility and type of demand,
2. Quality of the land,
3. Taxes and maintenance costs,
4. Unique wildlife-wildland features,
5. Variety of uses the land can accommodate, and
6. Developments on the land.

Land need not necessarily be looked upon as a permanent resource. While most land improvements or alterations have long-term effects, ownership or control of lands is always subject to any changes in the political arena.

Game area lands in Region III represent a current value of perhaps $57,000,000.[13] An inventory and classification of game area lands are necessary for any comprehensive land use planning and evaluation. Current information available is not adequate for this task, especially the "40" plans. The organization must recognize the land

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[13] 214,000 acres x $500 per acre, a crude estimate.

options available such as trades, leases, and sales. The impact of each option must be carefully considered and its usefulness assessed.

Accessibility and the type of demand are closely interrelated factors as shown by game area visits and interviews with field biologists. Some types of users desire more accessibility than others; for example, a flooding may be largely inaccessible to those without boats or waders. A roadless and trailess area might be avoided by most hunters afraid of becoming lost. In other cases, nearby roads may hamper uses such as field trials. On any managed area the types of uses desired should determine the access policy.

Land quality, referring to both productivity and suitability for certain uses, is a relative value. This value can be used for many purposes such as land inventory, program planning, and habitat evaluation. It is desirable to have game areas mapped with some form of use capability rating that can be easily applied and valuable in management. This information is lacking at present but is desired by many field biologists as shown in the game area questionnaire results. Pertinent factors are topography, hydrology, soil types, present

vegetation, current uses, uses the area is suited for, man-made developments, access to users, distance to population centers, and wildlife present on the area. What the use capability rating must show is the management options available on each area and which areas are best for certain uses (U.S. Bureau of Sport Fisheries and Wildlife, 1972).

Payments in lieu of taxes and maintenance costs are a very significant drain on a Wildlife Division's budget. If the use value of a wildlife area in agency programs is exceeded by taxes and maintenance costs, it would do well to trade the area for one more beneficial or another resource. No use value assessments have been made for any game area. There is a tradeoff between having either more land or managing existing lands more intensively. Increasing taxes favor more intensive management of existing lands. Before purchasing new land the following should be reviewed carefully: local tax situation, needed improvements, and yearly maintenance required. For some uses, leasing private land for specified periods may be satisfactory. Leasing is a very desirable option when the actual land use is of short duration, say one month a year. The holding and

maintenance cost can be largely borne by others who use the land the other eleven months.

Management should capitalize on the value of unique or rare wildlife-wildland features of its lands. Such features, as a patch of rare flowers, a bog succession, or an osprey nesting site may be of special interest to particular client groups. Unique features can be identified and developed in a manner that lends itself to preservation, education, and quality-oriented recreation. In considering a land purchase, it is desirable to give special consideration for rare or unique wildlife-wildland features.

In general, land is more valuable as an agency resource if it can accommodate several user groups. As use trends change, the organization will have more management options. Management must be very wary of developing large tracts in a manner that limits use. Large share-cropped areas, for example, are a detriment to summer time users. Land that can accommodate several uses can likely be used more intensively throughout the year than land largely suitable for only a short seasonal use.

Developments on the land such as roads, trails, buildings, and impoundments often significantly affect

the use of the land. Developments such as the present managed waterfowl areas also can be very costly. All areas require some development, however, if they are to maximize the benefits to users. For these three reasons, considerable care should go into the planning and construction of developments. Usually an entire wildlife area or group of areas should be examined and alternatives considered for planning any major developments such as impoundments. Because large developments often represent major investments, they should be built on areas where their optimum potential in benefits will be realized. This means that both the type and location of development must be weighed before a decision is reached. Field biologists pointed out in interviews that no formal location analysis is done in advance of selecting areas for waterfowl impoundments. Construction of general purpose developments such as roads and trails may produce more benefits than single purpose developments such as duck blinds. Developments that conflict with other uses, such as rifle ranges, are best located away from where most activities occur. For example, an isolated parcel would be a good range location, other factors being equal.

The future land needs of the agency should be carefully planned. A land resource inventory program is needed by the Wildlife Division to assess the use value of game area lands. Concurrent with this inventory, a research project can be used to estimate the future land requirement of the Division and evaluate the various options available in land resources (Wildlife Management Institute, 1970).

A land inventory program should be intensive in that it should collect a variety of information useful to management. Area and district biologists identified many needs when interviewed. A list of desirable information to collect for each game area follows:

1. Game species and their estimated populations present,
2. Hydrology and relief,
3. Development features (roads, trails, dikes, etc.),
4. Survey corners,

5. Use and user characteristics (where from, types of use, numbers participating in each use),

6. Suitability classification for quality wildlife-oriented uses,

7. Unique characteristics of area,

8. Current management costs, including payments in lieu of taxes,

9. Estimated market value of land, and

10. Land use trends in the nearby locality.

The current game area use survey should provide adequate use information for each game area. For management and inventory purposes, the larger game areas can be divided into two to six management units depending on the ownership pattern and natural boundaries. Maps and information can be kept by management units, with a game area summary also made. The reason for division into units is a need to tie the management opportunities to specific points on the ground.

The estimation of future land requirements for the Wildlife Division can be carried out through research.

The land requirements should take into consideration use trends and benefits, time and space relationships of use, development and maintenance costs, and the feasibility of available management options. The possibility of land purchase, exchange, and lease of private land for particular uses may be evaluated. The research project can result in specific recommendations for the present game areas.

Personnel

The personnel of the Wildlife Division can represent its greatest resource. A balance of skills is needed and they must be placed in the area of need. The task never ends. In addition, workers must be directed and motivated to accomplish the agency goals.

Game area management could benefit from a formal personnel section centered at the Division level. Many wildlife personnel problems identified by the questionnaires and interviews could be resolved by such a section. The Department of Natural Resources' Personnel Division is primarily a record-keeping unit and does not provide

certain crucial personnel functions such as performance evaluations and assessment of training needs. Administering a personnel program from the Division staff level would give assurance that personnel in all regions would be treated equally with respect to training, promotion, etc. Questionnaire returns from area and district biologists pointed to many personnel needs:

1. Selection,
2. Socialization,
3. Training,
4. Evaluation,
5. Career development, and
6. Reward system.

Effectively meeting these needs could increase the performance of all wildlife units at very little cost.

The current selection process for new personnel can profit from more centralization and a review of job requirements. At present four units do the hiring of Wildlife personnel: each of the three regions and the Division staff. Each unit may have its own specific needs in mind and not necessarily those of the larger organization. Hiring is now based on standardized job

requirements. In an age of specialists, these requirements may not reflect the skills desired.

If all hiring were left to the Division staff, it could reflect a careful analysis of the needs of all units. A greater variety of skills is desirable in the Wildlife Division, and hiring highly skilled specialists can meet that desire. The imbalance between administration and field workers can also be improved by adding greater proportion of manual workers and technicians. Desirable qualities for all personnel include agressiveness, a desire to work with clients, creativity, and leadership capability. Special skills to seek at Division staff level are public finance, natural resource administration, forest recreation, and personnel management. For new technicians and field professionals, specialties in botany, forestry, economics, biometry, management, and recreation would be desirable. Also desirable would be experience with other natural resource agencies. A better recruitment effort could provide a larger pool of skills to select from.

The socialization process should be a pleasant and inspiring experience for every new employee. Socialization should be planned so that the new employee learns

his role, its relationship to organization goals, and meets those with whom he will be closely associated. First impressions are often lasting, so it is important to the organization that every new employee get started with high morale and motivation. The employee's supervisor can be charged with detailed responsibility in the socialization process.

Training is desirable to update and increase the skills of all Wildlife Division employees. Through increased skills, they can accomplish more work. The types of training needed by Wildlife Division employees varies with their job description. In general, those in administration feel the most need to update and acquire new skills, but those at the technical end of wildlife management also desire training. Ninety per cent of the field biologists desired additional training as shown by the game area questionnaire results.

A formal training program is an effective means to review needs and insure that all employees receive adequate instruction to perform their jobs satisfactorily. This program can be centered at the Division staff level. Records of training can be kept in the employee's personnel file and reviewed regularly. Employees should be

encouraged to acquire new skills through the rewards system of promotion or step increases. Testing can insure that training has been effective.

There are several methods of training Wildlife Division personnel that are likely to be effective:

1. Correspondence courses,
2. University short courses or degree programs,
3. Field training sessions,
4. Professional society participation, and
5. Circulated literature.

Each of these methods is useful for acquiring a variety of skills. Formal courses are the most expensive but necessary for acquiring some very technical advanced skills. Field training sessions by district or region can teach certain technical skills very effectively, such as deer aging or parasite identification.

Once a specific training need has been identified, the most economical method of training can be selected to fill it. For example, technicians may need training in heavy equipment maintenance. An equipment manufacturer's short course may be selected if it has the best benefit/cost ratio for teaching technicians this skill.

Personnel evaluation is necessary to measure how successfully individuals are fulfilling their roles in the Wildlife Division. The object is to identify strengths and weaknesses, correct the weaknesses, and utilize the strengths. One benefit is that individuals will become aware of their weaknesses and strengths and can, therefore, adjust to increased achievement. At present, most employees are not evaluated on a regular basis and lack detailed job descriptions upon which to base an evaluation. Some Wildlife Division staff members were unable to provide me, or themselves, with a clear description of their duties.

It is desirable that a program of personnel evaluation be established at the Division level on an annual basis. The program would require a detailed job description and individual objectives for every employee. The employee could review the job description and objectives with his supervisor. The description and objectives would be the basis for employee performance evaluation. The individual bi-weekly activity report (Fig. 16) should tie work to actual accomplishments and plans. This information is needed for an objective evaluation. The employee's direct supervisor could be made responsible

for writing and discussing his evaluation with him. The objectives and job description may be updated after every evaluation and the process repeated. Promotion and other rewards could be based on these evaluations. Evaluations are a serious business and should not be taken lightly by any administrator. Training in personnel evaluation would be desirable for all supervisors.

Many Wildlife Division employees lack a career orientation and, therefore, direction toward which to apply their efforts. Through a career development program, the Wildlife Division can help advance its employees and, thereby, advance itself. The program can be established at the Division level. A career development program is useful in that it gives employees perspective on their career and an achievement plan they can fulfill. A career development program outlines for every employee what the organization will offer for faithful and competent performance in years to come such as training, promotion advances, job experiences, and work opportunities. The program should be reviewed at each employee evaluation to assess how the employee is coming in his career and to establish new career goals.

Rewards can create motivation in the work force and help insure accomplishment of goals. A rewards system is highly dependent on employee evaluations. The evaluation system must be highly accurate if rewards are to serve the purpose of motivation. The object is to give rewards to those who meet or exceed their job requirements and withhold rewards from those who fail to meet their job requirements. The present reward system in Region III does not seem sufficient to motivate workers effectively. In some cases it tends to work in reverse. Those who work hardest and most effectively are often the most criticized, perhaps out of jealousy.

A rewards program can be established at the Division level to promote greater achievements. The types of positive rewards that can be employed are:

1. Monetary pay adjustments or bonuses,
2. Certificates of merit,
3. Promotions, and
4. Fringe benefits such as training opportunities.

The negative rewards that can be employed are:

1. Demotion or firing,
2. Formal reprimand, and
3. Restriction of activities.

Usually, positive rewards are more effective in motivating a work force. However, in cases of severe deficiency, negative rewards may be employed. Rewards can be handled on an annual basis. The annual meeting would be a good time for award presentations. By being evaluated every six months, all employees have the opportunity to correct deficiencies so that progress can be measured over a year's time. Awards can be given to each work group: manual workers, technicians, secretaries, field biologists, and the Division staff. About one award for every ten employees makes them significant, yet, seem obtainable.

Position levels are such that a biologist must become an administrator to achieve a higher level of status and pay. Many have pointed out the apparent injustice of this system. They believe rewards should be greater for being an accomplished biologist, and that a biologist should not be forced into administration to achieve a higher status. Perhaps the large number of administrators in the organization is evidence of the need to reward accomplished field biologists more highly. Further evidence is that many Wildlife administrators seem to be better at field work than administration and

prefer field work. Having several pay levels for every job classification can make the rewards system function more effectively and equitably.

Equipment

Equipment is a resource that interacts with both programs and personnel. Equipment enables workers to accomplish certain tasks they could not otherwise perform. Administrators should seek to supply personnel with the optimal equipment needed to accomplish organizational goals. Interviews revealed that the Wildlife Division staff has shown little concern with optimizing equipment. Some equipment, such as tractors, represent a large expense to the agency. Such equipment should be purchased only where the needs are well documented and where the contract cost of providing such services is more than it would cost the organization for outright purchase.

The Wildlife Division has a considerable amount of heavy equipment such as trucks, cranes and tractors in Region III. In general, the equipment is outdated, in bad repair, and idle much of the year. Some equipment,

no longer needed or worn out, should be replaced. The management responsibility of heavy equipment can be centralized to insure that each district receives the proper equipment whenever needed, and that the equipment is effectively utilized and maintained. This does not mean that all heavy equipment should be hauled to one location but rather that one man should have the responsibility for coordinating equipment use and maintenance.

A regular program can be established to evaluate needs, provide inspections, and schedule the use, maintenance, and retirement of heavy equipment. Such a program may be established at the Division or regional level. An administrator familiar with heavy equipment could head the program.

Systems and Structure

The way that the wildlife organization is structured has a significant effect on how it can function. The present organization is three-layered; it has the Division staff, regions, and the districts. Because the region and Division staff must bargain with each other,

programs and projects are often delayed. Interviews showed some problems unresolved for years, like the Dansville game area maintenance, due to hazy responsibility. One method of overcoming the problems inherent in the present structure is to give the Division Chief direct line authority over all units including the regional wildlife organization. Another method would be to dissolve all regional wildlife organizations and let the districts deal directly with the Division Chief and his staff. This latter method could save significant administration costs, speed communications, and make planning and control much easier. Such a change in structure would also make it desirable, for ease of control, to reduce the number of districts to, say, eight. The enlarged districts would require fewer administrators and could have more field personnel. More time could then be devoted to client services and to on-the-ground activities. Instead of handling around five employees, the district biologist could handle eight or ten.

A two-level wildlife organization structure would allow formal administrative systems to function much easier. The communications problem would be largely

eliminated, for example, if there was one less level to plan and control.

The details of restructuring the Wildlife Division could be planned in advance so that the change proceeds smoothly. Each employee could be given training in advance, describing how the new administrative system would function, his role in the system, and the procedures to be used. The shock associated with a new system could, therefore, be largely overcome.

Combining the Main Resources

The five main resources (clients, funds, lands, equipment and personnel) are acquired and utilized by the organization's administrators. It is the task of the wildlife agency administrators to plan the work and see that it is carried out satisfactorily. Many field biologists are critical of higher level administrators for not using available resources effectively as evidenced by their comments in the game area questionnaires. Resources are best used in combinations that represent the least expense required to accomplish the organization's goals.

The resources must be manipulated in a continuous series of tradeoffs to accomplish these goals. The Wildlife Division may have the basic resources to reach certain goals but not be able to plan and control work toward this end. Effective administration is a must if the organization is to maintain itself and accomplish significant goals. A systems approach to administration is desirable in that it shows how important components of administration should function and interact. The Wildlife Division can use three basic subsystems in utilizing available resources to accomplish organizations' goals. These subsystems are planning, control, and information.

Planning System

An administrative planning system is used to decide what goals the organization seeks to accomplish and to devise programs to carry out these goals. Planning is a continued process that requires sound information and decision making. While planning is forward looking, always coping with the future, the success of

current programs is strongly influenced by the planning that went into them.

Wildlife Division planning sets the pace and future direction the organization will take. The process is crucial to all Wildlife Division units. There are many techniques that can be adopted as a part of a formal planning system. These techniques can be used to overcome the present planning problems, increase the pace of adaptation and change in the organization, and provide direction for all units.

Establishing objectives for all units and positions is a formidable task, but one which can effectively provide direction. The questionnaire showed few field biologists desire some direction in the planning process. Objective setting may be thought of as the first stage of the planning process. Objectives are never permanent. They must be updated on a regular basis, say yearly, and modified with changes in the organization's environment. Setting Wildlife Division objectives can be delegated to a Division staff committee. Information and contributions from field units could be sought in the formulation of these objectives. Once the Division level objectives are established, for say five years, those of its subunits

can be formulated, for say two years, so that they mesh with those of the Division. In other words, all units should work toward the same goals. Division objectives, once established, should answer the following types of broad questions:

1. What is the purpose of the Wildlife Division?
2. What is it attempting to provide for the public?
3. For whom does it seek to use its land and other resources? and
4. What kind of internal improvements is it seeking within the organization?

District objectives should answer these more specific types of questions?

1. Which user groups are to be provided for?
2. What kinds of activities and facilities are sought on each game area? and
3. Which species are to be favored in managing each game area?

If the Division objectives are not sufficiently broad, the flexibility of its subunits is restricted. The importance of objectives cannot be overemphasized. All remaining planning hinges upon them. The most accurate and comprehensive information available should be used in the process of establishing objectives. Objectives should be arrived at by negotiation between the division, its clientele, the Legislature, and other interest groups.

Once objectives have been agreed upon, detailed program planning may begin. Since programs are the means by which objectives are met, an up-down flow of information is needed just as it was in objective setting. The Division must know what kinds of programs are needed in the districts, and the districts must know what kinds of programs are acceptable to the Division. Presently the districts have very little opportunity to participate in program planning as evidenced by interviews with district biologists. The district biologist's participation could be of value because they possess special knowledge of their areas and clients. All programs should be designed to carry out specific objectives. Some programs may apply to the entire Division while others only to a single, or several, districts.

The contents of every Division or district program should provide the following information:

1. Objective(s) to be fulfilled,
2. General methods to be used,
3. Units to which the program will apply,
4. Tentative work plan and schedule,
5. Estimate of resources needed (men, money, land, etc.),
6. Records to be kept, and
7. Time and method of program evaluation.

The program plan should emphasize the accomplishment of the selected objectives. The program may specify individual roles and responsibilities, especially if the program involves significant unit interaction. Once programs are planned for the coming year, they can be reviewed and priorities assigned by the Division with district participation. Therefore, when the budget is returned, the programs and program levels can be immediately selected on the priority basis. Once program

selection is finalized, a yearly work plan schedule can be made for each of the districts and the Division staff. At this point the programs are now considered operational and the process of control takes over. Planning for the coming year can then proceed.

Control System

Control may be thought of as the monitoring of work or seeing that plans are carried out. Control is also necessary to insure that costs are minimized in the accomplishment of goals. The control system should be incorporated into the organization's structure and job requirements. The organization should be structured in the manner which most easily facilitates goal accomplishments. Factors that should be taken into account are the ease of communication between units, the work role each unit performs, and the corrdination of work effort needed. Because the work units in the Wildlife Division are often widely scattered over large areas, communications between them are usually difficult. The same difficulty may apply between those whose work does not require

frequent communication. Interviews and personal observation show even Wildlife Division staff members have trouble communicating with each other. In some units, face-to-face communication is a daily possibility but may not occur. Control of work units is best carried out by unit inspections with face-to-face contact between the unit supervisor and his superior. According to Gross (1964) evaluation is the basis for control. In brief meetings the parties can talk over specific problems and arrive at solutions in short order. Because of relative isolation, some units must have the authority, power, and responsibility of making many decisions of an immediate nature. Such decentralization may serve the interests of the organization best but requires highly competent administration of lower units (Kaufman, 1967).

The purpose of a Wildlife Division control system is to oversee the carrying out of program plans, make necessary adjustments and evaluate the programs. The emphasis in control is on getting work accomplished and the intended job completed. There are five techniques that the Wildlife Division can use to advantage:

1. Unit inspection,
2. Accomplishment reports,
3. Cost accounting,
4. Program evaluation, and
5. Personnel evaluation.

Unit inspection can be profitable for all parties involved. It brings the Division staff out to the districts where both can learn on the ground what problems the organization is faced with. Few Division staff members actually have a good understanding of field problems according to field biologists interviewed. The staff member and district biologist can spend the day together discussing problems and assessing the current situation. Both should record in writing findings so that improvements can be made and the information used in both program and personnel evaluations. The staff member should go over these findings with the district biologist so that the district biologist is made aware of his own shortcomings and strengths, as well as the strengths and weaknesses of his district, and can work to improve the situation. If staff members rotate the task of unit inspection, the districts can be evaluated more impartially and from different viewpoints. It would be likely that more

expertise would be provided to the field, and more staff members would gain experience if a rotation system was used. Quarterly, day-long inspections would seem sufficient. A date could be agreed to by both parties in advance. The staff may find it advantageous to invite inspection of itself from such organizations as the Wildlife Management Institute or the Bureau of Sport Fisheries and Wildlife. Such an inspection could be a useful learning experience.

Monthly accomplishment reports of greater detail than those now used can be very useful, especially when they are directly compared with the units planned work schedule. The accomplishment reports should relate to existing plans. The accomplishment reports serve as an early warning device to the district, Division staff, or Chief. If a program is not going according to plan, like the put and take pheasant program, the reason can be sought. Both the Division staff and districts can write monthly accomplishment reports based on the work schedule for programs. Explanations would be useful if a program or project was ahead or behind schedule.

Cost accounting is a valuable control method and can yield useful information for planning and evaluation.

Like accomplishment reports, monthly summaries of expenditures by program or project account can serve as an early warning system for any problems that were unforeseen. Adjustments, if needed, may be made before the budget gets too far out of line and drastic action becomes needed to correct it. If expenditures are kept by project and programs, the total costs can be calculated at a later date and the resulting information can be used for both planning and evaluation.

Program evaluation serves to judge how successful a program is, or was, in fulfilling its intended objective, and it explains deviations from the original plan. Program evaluation methods and dates may be built into the program plan. This makes final evaluation easier.

Programs can be evaluated at various stages, yearly, or upon completion, depending on the nature of the program. Evaluation can point out program strengths and weaknesses. Therefore, administrators can eliminate or revise programs that are no longer fulfilling the objectives intended.

Personnel evaluation is highly useful in that it can serve several purposes. Individuals like to know how their performance stacks up against others. As mentioned

earlier, if the individual can be made aware of his strengths and weaknesses, he can improve his performance and that of the organization as well. The strength of the various units is made known on the basis of personnel records. Selection for promotion can be arrived at more objectively. Solutions to common personnel problems can be made known and worked upon by the organization. All of these benefits of personnel evaluation can serve to help the Division's personnel section determine its hiring and training needs. If all personnel are evaluated, the unit can be more assured of its status. The details of evaluating individuals were covered in the resource section. Standardized performance rating sheets for each position level can help to make personnel evaluation more uniform and ease the task of comparing individuals. A grievance procedure and board of review can be established for those who claim unfair treatment.

Information System

Decisions are more likely to be satisfactory if they are based on reliable information. In the game area

questionnaire, field biologists were very critical of the Wildlife Division staff for its lack of reliable information. A formal information system can be used to gather, process, and distribute information to all decision makers. Timely information in an easily readable form aids in the task of decision making and improves the quality of decisions.

A formal information system can greatly assist the planning and control systems. Its purpose in the Wildlife Division organization is to keep decision makers informed with facts relative to their working environment. More and higher quality information can improve the decision making process and result in better decisions being made in planning and control (Gross, 1964). A Wildlife Division organization's information system can focus on five information areas:

1. Assessing needs,
2. Collection,
3. Distribution,
4. Use, and
5. Storage.

Of these areas, assessing information needs, distribution, and use are the most important. They must consider the

decisions that will have to be made, those who will make them, and how they will be arrived at.

Assessing information needs is difficult. The cost of obtaining information, and its benefits, are often hard to estimate. The Division can review its information needs on a regular, say yearly, basis and make desirable changes in the information that it collects. When information routinely collected is no longer judged useful in decision making, it should be eliminated. A review of Wildlife Division records shows retention of considerable outdated forms and data. Priorities need to be established in the assessment of information needs. This can be based on the importance of the decisions to be made and what types of information they require.

Most of the important decisions that the Division staff and district biologists are faced with are ultimately concerned with outputs and impacts. For example, "What proportion of deer hunters are satisfied with their present deer hunting experience?" (an impact) and "How many more deer, and what increase in hunter success, will a certain timber cutting program produce?" (an output). These types of information are very useful but difficult

to collect. Perhaps, the Wildlife Division should give these types of information a high priority.

The collection of information may be planned so that it is timely and in a form most useful to decision making. Information is most useful if it is available when needed and in a form that makes the facts clear and concise. Some uniformity of collection may be desirable if programs or activities are to be directly compared, for example. Some types of information are needed on a regular basis, like road maintenance needs, and may therefore be routinely collected at intervals. Other types of information are needed only ad hoc, and, therefore, are collected only once or as required. A decision to collect information routinely or on an ad hoc basis can be made by the decision makers to whom the information most applies. Routinely collecting information that is needed only ad hoc can be very expensive to the Wildlife Division.

Information can be collected by all units of the Wildlife Division. Those closest to clients and the ground may serve best as the data or information collectors. The staff's research unit can provide technical expertise, especially in collecting impact and output

information. Considerable use can be made of the literature and knowledge from other wildlife agencies and universities.

The upward or downward distribution of information is crucial to decision making throughout the Wildlife Division. Only those who can use particular information need receive it. Considerable "junk" is circulated by the Wildlife Division staff. Some may need information in detailed form while others require only a summary to base their decisions on. To insure that all decision makers receive appropriate information, the Wildlife Division staff can make standing distribution lists for all routine information. Information collected ad hoc can be distributed as needed. The information may be distributed in a form judged most appropriate, verbal or written. The information may be condensed if desired. Verbal communication may be left open and unstructured in the Wildlife Division to encourage feedback and information exchange.

The speed with which information is distributed can affect the pace of Wildlife Division activities. The Division staff may insure that routine information is not held up when required for use. Checks at different unit

levels can reveal any flaws in the passage of information upward or downward. Such checks are badly needed according to interview results of field biologists.

Information is of little value if it is never used. Wildlife Division administrators can emphasize to others the need of using sound information to make decisions. Information from several sources may be sought in making important decisions so that comparison can be made, and errors or bias exposed. Haphazard decisions can be prevented by organizing information well in advance of the time the decision will have to be made. For example, one or two members of a committee may be appointed as fact finders and present their finding to others in an organized form.

Storage of Wildlife Division information may be necessary if the information is likely to be required for future use. Information is easily retrieved if it is indexed and systematically filed. Information to be kept for all units can be decided and a listing issued to every administrative unit. The listing could list the period for which the information is to be kept. After this date, it could be disposed of. Files can be inspected regularly for accuracy. For data and large volumes of

information that may take up considerable space, like thirty years of Rose Lake rabbit records, the use of electronic storage may be useful.

System Interaction

The wildlife organization should provide for considerable interaction between the component systems of administration. Planning and control depend on the available information. Plans rely on control to be carried out. Control depends on plan specifications. Information is requested on the basis of its usefulness in planning control. Thus the systems are interdependent and must interact. For example, a district biologist seeks to overcome a problem of dike repair. He then uses the planning system to lay out a project that will overcome the dike problem and its cost and time estimation. Finally he uses the control system to insure that the dikes are properly repaired according to plan. To solve the dike repair problem, the resources of the organization are brought together by the administrative systems.

Available Assistance and Implications

The Wildlife Division has the opportunity to utilize the services of many experts in the field of administration and wildlife management. Two nearby universities have broad natural resource programs that incorporate a variety of expertise. Invitations can be given to these universities and, perhaps, State and Federal wildlife agencies, to participate in Wildlife Division programs. The resulting exchange of viewpoints and knowledge may result in significant improvements in client services and the Wildlife Division itself. The results of this study imply that other public natural resource agencies could profit from reviews by expertise outside of the agency. A high degree of objectivity is needed for an effective administrative review of traditional public natural resource agency goals, programs, and techniques.

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APPENDIX

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

Rose Lake Wildlife Research Center
8562 E. Stoll Road, East Lansing, Michigan 48823

December 18, 1973

TO: Region III District Wildlife and Habitat Biologists

FROM: Keith L. Heezen and Robert V. Kesling, Rose Lake Wildlife Research Center

SUBJECT: Game Area and Personal History Questionnaires

In reference to the letter from Larry Dayton, November 30, 1973, we are sending out the questionnaire:covered under the field order of November 1st, 1973. These two questionnaires are designed to gather crucial information for a study designed to improve planning procedures for managing Region III State Game Areas. The questions are designed to provide data on the strong points and trouble spots of the Region III Wildlife organization, its management ability, and its program objectives. These questions, when analyzed, will be used to design a planning procedure as a part of our main game area use study.

The questions are time consuming and will take upwards of two and one half hours or so for each individual to complete. They are a valuable learning experience to the area or district biologist who is asked to fill them out. This is definitely an important side benefit. The writer must organize his thoughts and answer questions of relevance to his every day work. The questionnaire can be used to identify problems in the following areas: program objectives, program accomplishments, information and decision making networks, personnel capabilities and training needs, non-optimum uses of natural resources and budgetary problems.

The personal history questionnaire answers will be separated from the game area questionnaire answers by Robert Kesling. He will then compile the answers to the game area questionnaire in a form where individual comments, etc., are not identifiable. The game area questionnaires are to be kept strictly confidential. It is clearly important to get all district and area biologists to send back this form individually and conscientiously completed. I think the summaries, which will be made available, will be both interesting and valuable to all concerned. They will show how associates think and feel. This questionnaire has been carefully prepared and represents the minimal cost in terms of time and money to gather the needed data for our study. The likely resulting information is well worth the time and effort needed to fill out and process this questionnaire.

Please read and answer questions in order. If you do not feel you understand the question, answer it to the best of your ability. Some of the questions are intentionally general. We are interested in what you have to say. Check your answers for clarity and send in answers typed no later than January 4th, 1974 to Rose Lake Wildlife Research Center.

KLH:RVK:mvr

Keith L. Heezen
Robert V. Kesling

Game Area

Questionnaire

Instructions: You may keep these questions if you desire. We only want your typewritten answers on separate sheets returned, together with the personal history form.

1. The state game areas have many possible wildlife-recreational uses. What uses do you feel, asan administrator should be provided for the public from these areas? Make a list of these activities.

2. What current uses of state game areas do you feel are significantly physically or biologically detrimental to the area? Describe each activity and the damage that occurs.

3. As the person responsible for the administration of your game areas, what do you believe should be the objectives of your game area's management? List game areas under your jurisdiction and describe specifically the major objectives for each.

4. What are the best methods for achieving these objectives? Be specific; name major objectives and describe general methods to be used.

5. In planning your yearly activities, what types of information do you use to manage the game areas under your jurisdiction? Where do you get your information? List type of information with source.

6. What kinds of information do you desire most that you do not have now? List in order of importance.

7. Which current Wildlife activities in Region III do you feel are successful? List from best on down, giving a reason for each.

8. Do you feel any activities are wasteful? List them, if any, giving a reason for each.

9. Where do you believe most of the directives that you receive originate? Give positions and names.

10. If you would desire to change a Wildlife Division policy, how would you go about it? List steps you would take.

11. Who do you go to most often for help in management problems that come up in your work? Name only one person and give reason for choice.

12. Of the many activities you are involved with, which three take up the most of your time? List, in descending order.

13. Do you feel there is a general need for additional training of men in your position? If yes, state type of training desired.

14. What parts of your job (activities) do you prefer? Describe the three you like most and give reasons for preference.

15. What parts of your job do you dislike most? Describe the three most distasteful tasks you have to perform and give reasons.

Personal History
Questionnaire

Name:_____

Age:_____ Job Title: _____

District Number: _____

Years with Wildlife Division: _____

Years at Current Location: _____

Instructions: Type answers to questions 1-6 on separate sheet.

1. What degrees do you hold? Give name, university, and date of each.
2. Have you had professional experience outside the Wildlife Division? Please list together with dates.
3. What outdoor activities and hobbies do you participate in? A short paragraph, please.
4. What other areas have you worked at while with the Wildlife Division? Name regions and locations in those regions.
5. As a wildlife biologist, what do you consider as your specialty(ies) or special skills? List, giving a brief explanation for each one.