

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
WASHINGTON D. C. 20240



In reply refer to:  
W1423-ORW

December 29, 1966

Memorandum

To: Regional Directors, Northeast, Southeast, Midwest, Southwest, Western, and National Capital Regions  
Superintendents, Acadia, Isle Royale, Cape Cod, Fire Island, Delaware Water Gap, Assateague; Virgin Islands-Buck Island(2), Cumberland Gap, Everglades-Fort Jefferson(2), Fort Pulaski, Great Smoky Mountains, Mammoth Cave, Shenandoah, Blue Ridge, Cape Hatteras;  
Dinosaur, Glacier, Grand Teton, Rocky Mountain-Shadow Mountain(2), Yellowstone, Bighorn Canyon, Curecanti-Black Canyon of the Gunnison(2), Flaming Gorge, Ozarks; Bandelier, Big Bend, Canyon de Chelly, Grand Canyon, Platt, Zion, Artuckle, Guadalupe, Glen Canyon, Lake Mead, Sanford, Padre Island, Amistad;  
Crater Lake, Channel Islands, Death Valley, Devils Postpile, Yosemite, Glacier Bay, Katmai, Lassen Volcanic, Mount McKinley, Mount Rainier, Olympic, Sequoia- Kings Canyon, Point Reyes, Coulee Dam, Whiskeytown; Prince William Forest, Catoctin Mountain Park, Chesapeake and Ohio Canal  
Acting  
From: Assistant Director, Operations  
Subject: Transmittal of a sample long-range aquatic resources management plan

A copy of the approved long-range aquatic resources management plan for Rocky Mountain National Park is enclosed. It will serve as a sample plan for the guidance of Superintendents of areas from which a plan is required, as described in the "Wildlife Management Handbook," Part II: Aquatic Resources, Natural and Historical Areas, Chapter 2, pages 3-9. In addition to the natural and historical areas, identified in Appendix I, Chapter 2, a long-range plan is required from each recreation area.

Deviations from the "sample plan" will be required to cope with particular situations that prevail in individual areas. For example, plans from areas that possess marine resources; from areas that contain resources which are primarily of scientific significance, not subject to fishing; and from areas in which stocking of hatchery fishes is not undertaken will require a somewhat modified approach.

Enclosure

*Edwin Kenner*

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
National Park Service

LONG RANGE FISHERY MANAGEMENT PLAN

Rocky Mountain National Park

1965 - 1974

Prepared by:  
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Recommended: *Gene B. Linn* Date: 7-6-65  
Superintendent  
Rocky Mountain National Park

Concurred: *George F. Barber* Date: 7-8-65  
Acting Regional Director  
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Approved: *Donald W. Barber* Date: 7/20/65  
Assistant Director

## Contents

Introduction . . . . .	1
Objectives, General and Specific . . . . .	2
Designation of Fishes . . . . .	3
Classification of Park Waters . . . . .	3
Management Activities . . . . .	4
Trout Stocking. . . . .	4
Restoration of Native Species and Natural Conditions . . . . .	5
Fact Finding Activities. . . . .	5
Cooperation with Other Agencies . . . . .	5
Annual Fishery Management Program . . . . .	6
Research Needs and Opportunities. . . . .	6
Fish Fauna Studies. . . . .	7
Limnological Investigations . . . . .	7
Brook Trout Overpopulation Studies . . . . .	7

## Appendices

A. Classification of Park Waters. . . . .	9
Fishery Management Units (Map) . . . . .	10
Lake Classification Chart . . . . .	11
Index to Lake Classification Chart . . . . .	17
Biological Classifications . . . . .	20
Management Classification Criteria . . . . .	21
B. Designation of Park Fishes . . . . .	22
C. Tentative Fish Stocking Schedule, 1965-74 . . . . .	23
D. Annotated Bibliography . . . . .	24



To Be Added to Long Range Plan when Completed:

Fishery Resources Base Map

Classification Chart for Park Streams

LONG RANGE FISHERY MANAGEMENT PLAN  
Rocky Mountain National Park  
1965-1974

Introduction

Native fish fauna of Rocky Mountain National Park was originally limited in numbers of species and restricted in distribution. Lowland waters were endemically inhabited by cutthroat trout, suckers, and other species but the upland lakes and streams were without fishlife. Insurmountable barriers created by waterfalls located in the stream courses at lower elevations halted the upstream movement of fishes. Active programs of stocking and transplanting of nonnative species and strains of trouts vastly altered these pristine aquatic conditions in a majority of park waters years ago. This modification of the aquatic environment and fish populations has been so extensive that it is now difficult to determine the original composition and distribution of native fishes within the park.

Much of the early effort to stock trout in the barren waters, prior to the creation of the park in 1915, is credited to the local sportsmen's organization. It built and operated a hatchery on Fall River to facilitate the efforts to plant trout in all nearby waters which did not contain them. Subsequently, fishes, provided from the Federal and State of Colorado hatcheries, have been planted periodically. As a result, trout have been planted into many park waters.

Conditions in many park waters were suitable for the introduced trouts and wild populations are now maintained by natural reproduction. In park streams, the natural reproduction has been so successful that the fish populations of certain nonnative trouts fill or even exceed the normal biological carrying capacities of the waters. Several of the major streams have become overpopulated with brook trout and as a result the existing populations are composed of small and stunted trout.

In certain lakes, the nonnative trouts failed to permanently survive and establish self-supporting populations because the natural conditions, including necessary spawning areas, were unsatisfactory. In a few such waters, populations have been maintained artificially only by periodic stocking of hatchery fishes.

Fishery resources in Rocky Mountain National Park are significant for the recreational opportunities they provide anglers to fish for wild trout in the midst of the park's scenic surroundings.

Rocky Mountain National Park  
Fishery Management Plan

The management of the fishery resources of the park is the responsibility of the National Park Service which administers the park under exclusive jurisdiction. This program, however, is essentially a cooperative activity in which the Colorado Game, Fish and Parks Department and the Bureau of Sport Fisheries and Wildlife participate by providing services and advice, as well as hatchery fish.

This Long Range Plan is designed to provide direction to the management of the fishery resources and trout fishing within the park. It has been developed from field investigations of park waters and fish populations conducted over a span of years. Basic information about a particular lake is contained in an Individual Fishery Management Folder prepared for each specific lake. Reports resulting from these studies are annotated in the Bibliography, Appendix D.

Some of these investigations have been preliminary in nature and further studies are needed to provide additional facts necessary for the effective management of the resources and regulation of angler-use. These needs are discussed.

This plan is tentative in nature and is subject to periodic review and revision as new information is developed and as natural conditions and the patterns of angler-use change.

#### Objectives and Principles of Fishery Resource Management

The management of the fishery resources of Rocky Mountain National Park is governed by the general objectives and principles identified in the Wildlife Management Handbook, Part 2: Fishery Resources, and directed by this Long Range Plan.

General Objectives. Management of aquatic resources in natural and historical areas, administered by the National Park Service, is directed toward the achievement of the two General Objectives which are designed to:

1. Protect, perpetuate and restore natural aquatic environments, native fishes, and the associated fauna and flora.
2. Provide fishing by the conservative and regulated use of native and nonnative fish populations designed for sport or commercial fishing purposes by measures that will insure high quality fishing as part of the park experience while preserving the wildlife, scenic, scientific, ecologic and historic values of the park and their enjoyment by other visitors.

Specific Park Objectives. With particular reference to the management of fishery resources and recreational fishing in Rocky Mountain National Park the following specific objectives are to:

1. Restore native strains of cutthroat trout to representative streams for the primary purpose of restoring natural conditions and secondarily to provide fishing for native fishes.

Rocky Mountain National Park  
Fishery Management Plan

2. Perpetuate angling for wild trout in designated waters with minimum reliance upon the use of hatchery stock. Fishing is managed as part of the park experience rather than the primary objective for a park visit. (Wild trout are trout which have resulted from natural reproduction or hatchery trout which have been stocked sufficiently ahead of the angler to insure that they are essentially wild in color, form, and performance when caught.)

3. Eliminate or control excessive populations of nonnative brook trout in various waters where the presence of this species precludes the reestablishment of the native cutthroat trout.

#### Designation of Fishes

The cutthroat, rainbow, brook and brown trouts are designated as sport species. Of these only the cutthroat trout is native to certain park waters which are situated below barriers created by waterfalls. These trouts receive partial protection through regulated use.

Present information about other species of fishes found in park waters is insufficient to provide a listing and designation. All native nonsport species, however, shall receive full protection in park waters and all nonnative fishes, not designated as sport species, are subject to eradication. (See: Chart: Designation of Fishes, Appendix B)

#### Classification of Park Waters

Park Lakes. Park lakes have been classified into biological categories relating to fishes present and into management classes in accordance with the system outlined in the Wildlife Management Handbook, Part 2, Chapter 2. Management classifications for some lakes are tentative and may require revision from time to time based upon subsequent investigations and periodic review of existing conditions.

Of the 146 park lakes listed, 101 are grouped for management purposes as Class I Waters (Not managed for fishing); 29 as Class II Waters (Manage for fishing with reliance upon natural reproduction); and 16 as Class III Waters (Manage for fishing with populations supplemented by periodic stocking). Classification of park lakes is summarized on a tabular chart, see: Appendix A.

Park Streams. Currently, all Park Streams are classified as Class II Waters. As the major stream sections are surveyed and conditions identified, reclassification of some park streams may be warranted.

Rocky Mountain National Park  
Fishery Management Plan

Management Activities

Trout Stocking.

Stocking of trout in Rocky Mountain National Park is conducted for the purposes of restoring and perpetuating the native cutthroat trout and of furnishing reasonable quality fishing experiences by supplementing limited populations of wild trout.

Long range requirements for hatchery trout are tabulated on the Tentative Fish Stocking Schedule for Lakes, 1965-1974, found in Appendix C.

Management principles which govern the stocking program within the park are as follows:

1. Species. Native strains of cutthroat trout shall be the only forms of fishes which shall be planted in park waters.

2. Waters. Stocking will be confined to lakes in which a definite need for supplementary planting has been established. No plantings of trout shall be made in park streams until the needs for supplementary stocking have been defined by adequate investigations.

3. Size. Fingerling trout shall be used to stock park lakes. The base size for these fingerlings shall be 2-3 inches. Catchable-size trout to provide put-and-take fishing will not be stocked in park waters.

4. Numbers. Numbers of fish planted in a specific lake will be determined by existing conditions, fishing pressures, accessibility of waters, and upon the success of previous stockings. Exact numbers of fishes used in a particular planting may have to be adjusted to correspond with the size-range of fingerlings available.

5. Frequency. Frequency of stocking shall depend upon existing conditions in the lakes and upon current and anticipated fishing pressures. Stocking in back-country lakes shall be rotated from year to year in lakes located in close proximity.

6. Methods. Back-country lakes are planted by airplane or helicopter or by backpacking or by use of live stock. Lakes adjacent to roads are planted directly from the truck.

Rocky Mountain National Park  
Fishery Management Plan

Restoration of Native Species and Natural Conditions.

Natural conditions and native fishes will be restored to representative waters by various means including:

1. Discontinue stocking of trout to replenish populations of trout in waters which lack adequate conditions of survival of self-perpetuating populations.
2. Removal of nonnative fishes by applicable methods which have been tested to provide the most effective eradication of the nonnative forms with least amount of detrimental reaction to native species and natural conditions.
3. Reintroduction of native cutthroat trout either by transplanting of adult wild fish or use of selected hatchery stock.

Fact Finding Investigations.

1. Inventory Surveys. Preliminary inventory surveys have been completed on all park lakes. Similar surveys of an inventory nature are needed on the park streams. Preliminary work on streams has been initiated.
2. Angler-Use Studies. Measures of angler-use have been made during the past several years to determine the impact of fishing upon the fishery resources and upon other natural resources of the park. It is anticipated that creel census studies will continue to provide information needed to manage the specific waters of the park.
3. Follow-up Investigations. Periodic studies will be made of lakes to determine the nature of the trout populations, changes in angler-use activities, the relative success of stocking and other information needed to update facts secured during the previous inventory surveys.

Cooperation with Other Agencies.

The management of fishery resources is the responsibility of the National Park Service but is operated as a cooperative activity with the Bureau of Sport Fisheries and Wildlife and the Colorado Game, Fish and Parks Department.

Rocky Mountain National Park  
Fishery Management Plan

Objectives and methods of fishery management within the park occasionally are different from those which govern procedures employed in waters located outside park boundaries. Close harmony is sought by the development of an understanding and an appreciation of the objectives of each agency by all concerned. The cooperative program within Rocky Mountain National Park is designed to complement the activities of the other agencies.

U. S. Bureau of Sport Fisheries and Wildlife. The Bureau assists in the park's fishery management program through participation in trout investigations, advice on matters relating to fishery management, and by furnishing trout for stocking purposes. The "Memorandum of Understanding Between the National Park Service and the U. S. Fish and Wildlife Service," approved by the Secretary of the Interior on June 15, 1960, further defines this cooperation.

Colorado Game, Fish and Park Department. An active interest in the welfare of the fishery resources within the park is taken by the Colorado Game, Fish and Parks Department for many reasons. Early stocking of many of the park waters was undertaken by this agency. A Colorado State angling license is required in the park and the majority of park regulations coincide with state regulations.

The State cooperates further by providing trout for stocking, to supplement or to add to fishes provided by the U. S. Bureau of Sport Fisheries and Wildlife; by furnishing holding space in troughs at the Estes Park State Hatchery for Federal fish prior to stocking; and by assisting frequently in the actual planting operations.

Annual Fishery Management Program.

An Annual Fishery Management Program will be drawn up each year which will outline the specific activities which are proposed to implement the Long Range Plan. The annual program will include activities such as: investigations, angler-use activities, restoration projects, and fish stocking.

Research Needs and Opportunities

Opportunities for research on the fishes, other forms of aquatic life, fresh-water ecology, and the limnology of park streams and lakes remain nearly untapped and research on these aspects of aquatic resources need recognition for more complete understanding and appreciation of these park resources. Research, combined with management investigations, will provide information necessary for the adequate management, perpetuation and interpretation of the fishery resources.



Rocky Mountain National Park  
Fishery Management Plan

Needs for research are identified in the following fields:

1. Fish Fauna Research. Identification of native and introduced fishes, the original and existing distribution of each, and their zoogeographic and ecological relationships need to be determined. Lack of this basic information has resulted in the inadvertent alteration and destruction of native forms and natural conditions.

Special attention should be directed toward delineating the endemic fish fauna and toward the discovery of remnant populations of native fishes in park waters. Research on native fish fauna is required to furnish information which is fundamental to the proper management, protection and interpretation of native fishes and is necessary to any program designed to perpetuate and restore native forms or to use these resources for recreational angling purposes.

2. Limnological Investigations. Detailed limnological studies of major park waters and the populations of fishes they contain will provide data required to meet the dual objectives of resource protection and regulated use. Although desirable for all park waters, to a greater or lesser degree, initial attention shall be directed toward lakes and streams which are being actively managed for sport fishing purposes. In these waters the permissible degree of population and habitat manipulation and of angler-use must be identified.

3. Overpopulations of Brook Trout. In many streams and several lakes, the nonnative brook trout has become so established through natural reproduction that the entire carrying capacity of the water is occupied by existing populations of stunted trout. Chances to reestablish the native cutthroat trout and other native fishes is slight under such conditions. Furthermore, such populations of stunted trout provide less desirable fishing in waters designed for sport fishing. The full extent of this condition in park waters is not fully recognized.

Research should define the ecology of the brook trout in these waters and provide the facts upon which eradication or control of brook trout populations in representative waters may be realized. This situation is not unique to Rocky Mountain National Park. It exists in many western waters. The park could serve as a natural laboratory for such research which would be beneficial to all agencies concerned with this common problem.



Rocky Mountain National Park  
Fishery Management Plan  
Appendices

Appendices

A.	Classification of Park Waters . . . . .	9
	Fishery Management Units (Map) . . . . .	10
	Lake Classification Chart . . . . .	11
	Index to Lake Classification Chart . . . . .	17
	Biological Classifications . . . . .	20
	Management Classification Criteria . . . . .	21
B.	Designation of Park Fishes . . . . .	22
C.	Tentative Fish Stocking Schedule, 1965-74 . .	23
D.	Annotated Bibliography . . . . .	24

CLASSIFICATION OF PARK WATERS  
FOR FISHERY MANAGEMENT PURPOSES

Park lakes have been classified for fishery management purposes into biological groups according to the presence of fishes and into management classes according to the types of designated management practices. None of the park lakes contain native fishes, defined as endemic species; therefore, the biological groupings are limited to: A-1; Barren waters; B-1 Waters with populations of nonnative fishes sustained by natural reproduction; B-3 Waters with populations of nonnative fishes maintained by periodic stocking; and C-1: Waters which have been restored or reverted to a barren state.

The park has been divided into 13 Fishery Management Units, each of which correspond to a drainage system within the park. The Fishery Management Units are designated as follows and are indicated on the map on the following page:

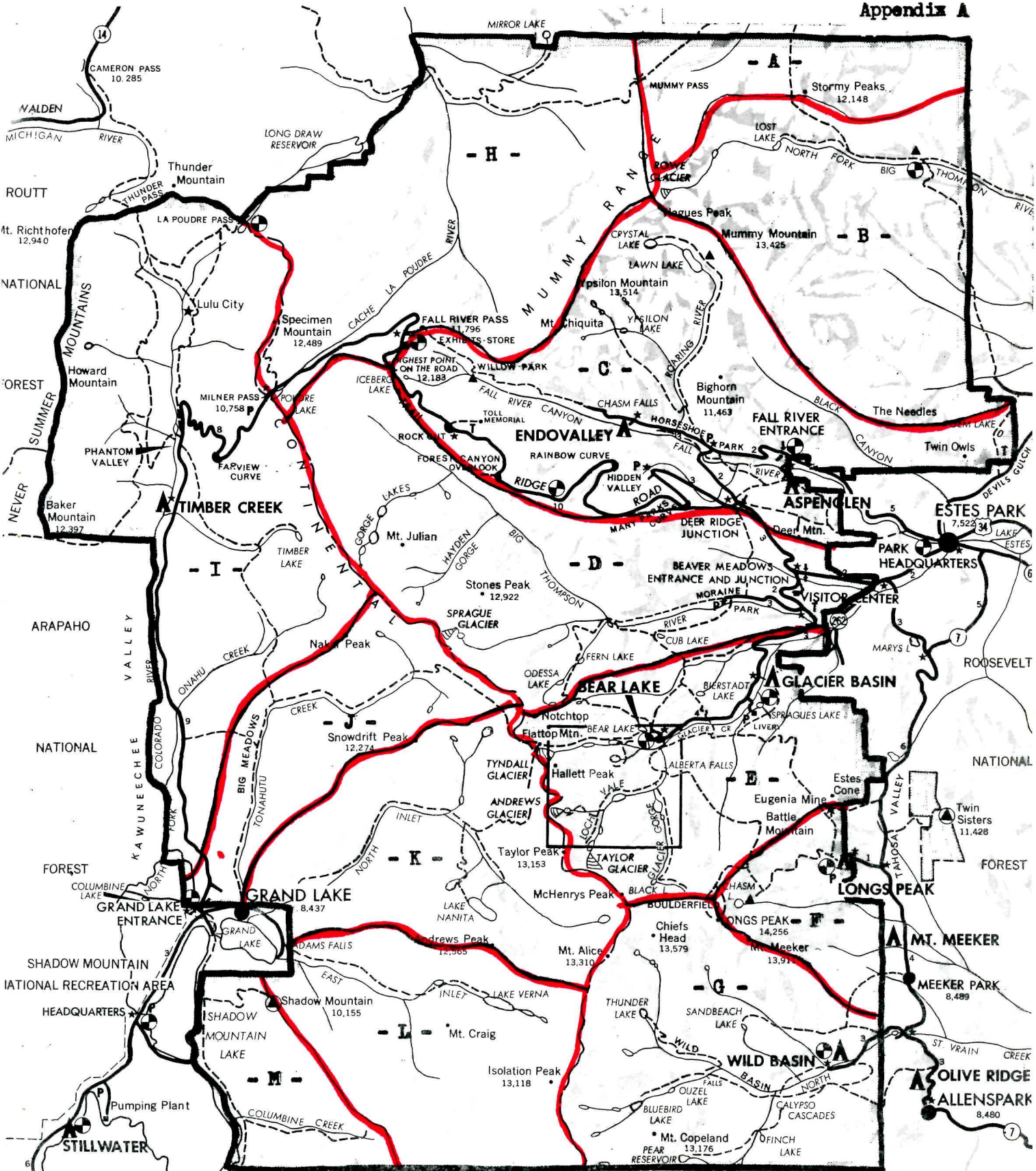
- A. South Fork, Cache la Poudre River
- B. North Fork Big Thompson River
- C. Fall River
- D. Big Thompson River
- E. Glacier Creek
- F. Roaring Fork Cabin Creek
- G. North St. Vrain Creek
- H. Cache la Poudre River
- I. North Fork Colorado River
- J. Tonahutu Creek
- K. North Inlet
- L. East Inlet
- M. Colorado River (Below Shadow Mountain Dam)

On the accompanying chart the lake classifications are summarized and the lakes are listed according to the Fishery Management Units in which each is located.

Information about park streams is insufficient to present on a classification chart at this time. All park streams are designated as Class II -- and are managed for sport fishing based upon wild self-sustaining trout populations. Subsequent investigations may require a reevaluation of the classification of specific streams.



# Rocky Mountain National Park Fishery Management Plan Appendix A



## FISHERY MANAGEMENT UNITS

East District - Units A - G  
West District - Units H - M

# CLASSIFICATION CHART

## Classification of Park Lakes for Fishery Management Purposes

### Fishery Management Units (Drainages)

<u>Immediate Trib.</u> <u>Name of Lake</u>	<u>Size</u> <u>(Acres)</u>	<u>Species</u> <u>Present</u>	<u>Biol.</u> <u>Group</u>	<u>Mgt.</u> <u>Class</u>	<u>Management</u> <u>Principles</u>	<u>Last</u> <u>Survey</u>
<u>A. SOUTH FORK CACHE LA POUFRE RIVER (No Lakes)</u>						
<u>B. NORTH FORK BIG THOMPSON RIVER</u>						
North Fork						
1. Rowe Glacier	7.4	-	A-1	I	1	1963
2-4. Unnamed (3) e.						
Rowe Mtn.	(7.4)	-	A-1	I	1	1958
5. Lake Dunraven	11.2	-	A-1	I	1	1958
6. L. Louise	6.4	-	C-1	I	2	1958
7. Lost	9.2	BT,ct	B-3	III	8	1958
Unnamed						
8. L. Husted	10.1	BT,CT,rb	B-1	II	7	1958
<u>C. FALL RIVER</u>						
Willow Park						
1. Iceberg	0.2	-	A-1	I	1	1964
Black Canyon Ck.						
2. Potts Puddle	3.7	-	C-1	I	2	1958
Unnamed						
3. Gem	0.2	-	A-1	I	1	1964
Horseshoe Park						
4-5. Sheep	2 (9.6)	BT	B-1	II	7	1964
Roaring River						
6. Faylene	4.6	CT	(C-1)	I	2	1961
7. Fay	4.6	CT	(C-1)	I	2	1961
8. Caddis	0.7	CT	B-1	II	7	1961
9. Upper Spectacle	11.2	-	C-1	I	2	1961
10. Lower Spectacle	7.4	-	C-1	I	2	1961
11. Chiquita	3.7	-	C-1	I	2	1961
12. Ypsilon	7.4	BT,ct	B-1/3	III	7/8	1961
Unnamed						
13. Chipmunk	0.1	-	A-1	I	1	1961
Roaring River						
14. Crystal	24.8	CT	B-3	III	8	1964
15. Little Crystal	3.7	RB,ct	B-3	III	8	1964
16. Lawn	48.0	BT,rb,ct	B-1	II	7	1964

1.2.3.4.5: See explanations on Page 11, Appendix A.

CLASSIFICATION CHART (Lakes) Cont.)

Fishery Management Units (Drainages)

Immediate Trib. Name of Lake	Size (Acres)	Species Present	Biol. Group	Mgt. Class	Management Principles	Last Survey
<u>D. BIG THOMPSON RIVER</u>						
Unnamed						
1. Unnamed (2) n.Mt.Ida	(5.7)	-	A-1	I	1	1964
Gorge Lakes						
2. Highest	7.4	-	A-1	I	1	1960
3. Azure	13.8	-	A-1	I	1	1960
4. Inkwell	30.3	-	A-1	I	1	1960
5. Arrowhead	34.9	-	(C-1)	I	2	1960
6. Doughnut	7.4	-	(C-1)	I	2	1960
7. Rock	5.5	CT	B-1	II	7	1964
8. Little Rock	0.7	CT	B-1	II	7	1964
9. Forest	7.4	-	A-1	I	1	1964
10. Love	1.8	-	A-1	I	1	1964
Hayden Creek						
11. Unnamed nw. Hayden Spire	5.6	-	A-1	I	1	1964
12. Hayden	7.4	-	A-1	I	1	1964
13. Lonesome	7.4	-	A-1	I	1	1964
Spruce Creek						
14. Irene Lake	1.8	-	A-1	I	1	1964
15. Sprague Glac.	5.5	-	A-1	I	1	1964
16. Rainbow	12.9	-	A-1	I	1	1964
17. Hourglass	9.2	-	A-1	I	1	1964
18. Loomis	2.8	-BT	B-1	II	7	1962
19. Primrose	0.9	-	C-1	I	2	1962
20. Spruce	3.7	BT,rb	B-1	II	7	1962
Fern Creek						
21. L. Helene	2.8	-	A-1	I	1	1962
22. Odessa	11.2	CT,rb	B-3/1	III	7/8	1962
23. Tourmaline	1.8	-	C-1	I	2	1958
24. Fern	9.2	BT,ct,rb	B-1	II	7	1962
25. Marigold	0.2	-	A-1	I	1	1964
Moraine Park						
26. Cub	10.1	-	C-1	I	2	1964



CLASSIFICATION CHART (Lakes) (cont.)

Fishery Management Units (Drainages)						
Immediate Trib. Name of Lake	Size (Acres)	Species Present	Biol. Group	Mgt. Class	Management Principles	Last Survey
<u>E. GLACIER CREEK</u>						
Mill Creek						
1. Two Rivers	4.6	-	A-1	I	1	1962
2. Marigold Pond	0.1	-	A-1	I	1	1962
3. Bierstadt	7.4	-	C-1	I	2	1960
Unnamed						
4. Round Pond	0.2	-	A-1	I	1	1964
Tyndall Creek						
5. Emerald	6.4	CT	B-3	III	8	1960
6. Dream	5.5	RB,ct	B-1/3	III	8	1960
7. Bear	11.2	BT,rb	B-1	I	9	1960
8. Nymph	0.9	-	A-1	I	1	1960
Choas Creek						
9. L. Haiyaha	15.6	CT	B-3	III	8	1960
Andrews Creek-Icy Brook						
10. Andrew Glacier	2.4	-	A-1	I	1	1964
11. Sky Pond	11.2	BT	B-1	II	7	1960
12. Glass	4.6	CT	B-3	III	8	1960
13. The Loch	14.7	CT,bt,rb	B-1	II	7	1960
14. Embryo	0.1	-	A-1	I	1	1964
Shelf Creek-Glacier Gorge						
15. Solitude	7.4	-	A-1	I	1	1963
16. Shelf	3.7	-	A-1	I	1	1963
17. Frozen	7.4	-	A-1	I	1	1963
18. Black	9.2	BT,ct	B-1	II	7	1963
19. Green	3.7	-	A-1	I	1	1963
20. Blue	2.8	-	A-1	I	1	1963
21. Jewel	4.6	RB,ct	B-1	II	7	1960
22. Mills	15.6	RB,ct	B-3	III	8	1960
Boulder Creek						
23. Sprague	12.9	EB,rb,ct	B-1	II	7	1961
24. Cabin	2.8	RB	C-1	I	2	1961
<u>F. ROARING FORK, CABIN CREEK</u>						
Roaring Fork						
1. Chasm	19.3	CT	B-3	III	8	1961
2. Peacock Pool	4.6	BT	B-1	II	7	1961

CLASSIFICATION CHART (Lakes) (cont.)

Fishery Management Units (Drainages)						
Immediate Trib. Name of Lake	Size (Acres)	Species Present	Biol. Group	Mgt. Class	Management Principles	Last Survey
<u>G. NORTH ST. VRAIN CREEK</u>						
Hunters Creek						
1. Keplinger	9.2	-	A-1	I	1	1963
2-3. Unnamed (2) s. Pagoda Pk.	(7.4)	-	A-1	I	1	1963
Sandbeach Creek						
4. Sandbeach	16.5	RB, ct	B-1	II	7	1964
Unnamed						
5. Snowbank	7.4	-	A-1	I	1	1960
6. Lion Lake No. 2	3.7	-	C-1	I	1	1960
7. Lion Lake No. 1	7.4	-	C-1	I	2	1960
8. Castle	1.8	-	A-1	I	1	1964
9. Falcon	4.6	-	A-1	I	1	1964
10. Lake of Many Winds	0.9	-	A-1	I	1	1964
11. Thunder	16.5	BT, ct, rb	B-3	III	8	1960
12. Indigo Pond	0.7	-	A-1	I	1	1964
13. Frigid	11.9	-	A-1	I	1	1964
14. Eagle	11.9	BT, ct	(C-1)	I	2	1960
15. Box	6.4	BT	B-1	II	7	1960
Ouzel Creek						
16. Pipit	12.9	-	C-1	I	2	1961
17. Lark Pond	4.6	-	A-1	I	1	1963
18. Bluebird	22.0	-	C-1	I	2	1964
19. Junco	9.2	-	A-1	I	1	1964
20. Ouzel	6.4	BT	B-1	II	7	1961
21. Chickadee Pond	.9	-	A-1	I	1	1964
Cony Creek						
22. Cony	16.5	-	A-1	I	1	1963
23. Hutcheson	7.4	CT	(C-1)	I	2	1963
24. Pear Reservoir	16.5	CT	B-1	II	7	1963
25. Finch Lake	7.4	-	C-1	I	2	1963
Unnamed						
26. Upper Twin	1.8	-	A-1	I	1	1961
27. Lower Twin	4.6	CT	(C-1)	I	2	1961

Rocky Mountain National Park  
Fishery Management Plan  
Appendix A  
Page 7

CLASSIFICATION CHART (lakes) (Cont.)

Fishery Management Units (Drainages)						
Immediate Trib. Name of Lake	Size (Acres)	Species Present	Biol. Group	Mgt. Class	Management Principles	Last Survey
<u>H. CACHE LA POUFRE RIVER</u>						
Cache la Poudre River						
1. Poudre	13.8	BR,rb	B-3	II	7	1960
Cascade Creek						
(2. Mirror	23.0	BT	-	-	-	1964)*
Hague Creek						
3-7.Unnamed 5						
n.Desolation Peaks	(10.4)	-	C-1	I	2	1964
8-11.Unnamed 4						
e.FlatironM.	(4.2)	-	A-1	I	1	1964
12. Hazeline	7.4	-	A-1	I	1	1964
<u>I NORTH FORK COLORADO RIVER</u>						
Big Dutch Creek						
1. Lake of the Clouds	11.2	CT	B-3	III	8	1964
Unnamed						
2. Pinnacle Pool	3.6	-	A-1	I	1	1964
Squeak Creek, Phantom Creek						
3. Bighorn	0.9	-	A-1	I	1	1962
4. Lake Irene	0.7	CT	B-3	III	8	1964
Timber Creek						
5. Timber	10.1	CT	B-3	III	8	1963
Onahu Creek						
6. Julian	5.5	CT	B-1	II	7	1963
Unnamed						
7 Chickadee	4.6	-	A-1	I	1	1964
<u>J. TONAHUTU CREEK</u>						
Tonahutu Creek						
1. Haynack	6.4	CT	C-1	I	2	1963
2. Murphy	7.4	-	C-1	I	2	1964

\* Located outside Park boundary but outlet stream flows into Park.

CLASSIFICATION CHART (Lakes) (cont.)

Fishery Management Units (Drainages)						
Immediate Trib. Name of Lake	Size (Acres)	Species Present	Biol. Group	Mgt. Class	Management Principles	Last Survey
<u>K. NORTH INLET</u>						
Ptarmigan Creek						
1. Snowdrift	9.2	-	C-1	I	2	1964
2. Unnamed (1) e. Snowdrift Pk.	4.6	-	C-1	I	2	1964
3. Bench	6.4	CT	B-1	II	7	1964
4. Ptarmigan	21.1	-	A-1	I	1	1964
North Inlet						
5. L. Powell	12.9	-	C-1	I	2	1964
6. Unnamed e. Andrews Pk	7.4	-	A-1	I	1	1964
7. Lake Nanita	34.0	CT	B-1	III	7	1961
8. Lake Nokoni	24.9	CT	B-3	III	8	1961
9. L. Solitude	2.8	CT	B-1	II	7	1964
10. Pettingell	10.1	CT	(C-1)	I	2	1961
<u>L. EAST INLET</u>						
East Inlet						
1. Fifth	7.4	CT	(C-1)	I	2	1961
2. Fourth	7.4	BT	B-1	II	7	1961
3. Spirit	18.4	BT	B-1	II	7	1961
4. Lake Verna	33.1	BT	B-1	II	7	1961
5. Lone Pine	12.9	BT	B-1	II	7	1961
Paradise Creek						
6. Boundary	1.8	-	-	-	-	1964)*
7. Unnamed e. Mr. Adams	2.5	-	A-1	I	1	1963
8. Adams	4.6	CT	B-1	II	7	1963
9.-13. Ten Lakes						
Park (5)	(12.4)	CT	(C-1)	I	2	1963
14-15. Unnamed (2)						
w/ Ouzel Pk.	(3.2)	-	A-1	I	1	1963
<u>M. COLORADO RIVER (Below Shadow Mountain Dam) No Lakes</u>						

\* Located outside Park boundary but outlet stream flows into Park.

INDEX TO CLASSIFICATION CHART (Lakes)

<u>Name</u>	<u>Lake Number</u>	<u>Name</u>	<u>Lake Number</u>
Adams	L - 8	Forest	D - 9
Andrews Glacier	E - 10	Fourth	L - 2
Arrowhead	D - 5	Frigid	G - 13
Azure	D - 3	Frozen	E - 17
Bear	E - 7	Gem	C - 3
Bench	K - 3	Glass	E - 12
Bierstadt	E - 3	Green	E - 19
Bighorn	I - 3		
Black	E - 18	Haiyaha, Lake	E - 9
Blue	E - 20	Hayden	D - 12
Bluebird	G - 18	Haynack	J - 1
Boundary	L - 6	Hazeline	H - 12
Box	G - 15	Helene, Lake	D - 21
		Highest	D - 2
Cabin	E - 24	Hourglass	D - 17
Caddis	C - 8	Husted, Lake	B - 8
Castle	G - 8	Hutcheson	G - 23
Chasm	F - 1		
Chickadee Pond	G - 21	Iceberg	C - 1
Chickaree	I - 7	Indigo Pond	G - 12
Chipmunk	C - 13	Inkwell	D - 4
Chiquita	C - 11	Irene Lake	D - 14
Cony	G - 22	Irene, Lake	I - 4
Crystal	C - 14		
Crystal, Little	C - 15	Jewell	E - 21
Cub	D - 26	Julian	I - 6
		Junco	G - 19
Doughnut	D - 6		
Dream	E - 6	Keplinger	G - 1
Dunraven, Lake	B - 5		
		Lake Dunraven	B - 5
Eagle	G - 14	Lake Haiyaha	E - 9
Embryo	E - 14	Lake Helene	D - 21
Emerald	E - 5	Lake Husted	B - 8
		Lake Irene	I - 4
Falcon	G - 9	Lake Louise	B - 6
Fay	C - 7	Lake of Many Winds	G - 10
Faylene	C - 6	Lake of the Clouds	I - 1
Fern	D - 24	Lake Nanita	K - 7
Fifth	L - 1		
Finch	G - 25		

INDEX TO CLASSIFICATION CHART \* LAKES (cont.)

<u>Name</u>	<u>Lake Number</u>	<u>Name</u>	<u>Lake Number</u>
Lake Nokoni	K - 8	Rainbow	D - 16
Lake Powell	K - 5	Rock	D - 7
Lake Solitude	K - 9	Rock, Little	D - 8
Lake Verna	L - 4	Round Pond	E - 4
Lark Pond	G - 17	Rowe Glacier Lake	B - 1
Lawn	C - 16		
Lion No. 1	G - 7	Sandbeach	G - 4
Lion No. 2	G - 6	Shelf	E - 16
Little Crystal	C - 15	Sheep (2)	C - 4/5
Little Rock	D - 8	Sky Pond	E - 11
Loch, The	E - 13	Snowbank	G - 5
Lone Pine	L - 5	Snowdrift	K - 1
Lonesome	D - 13	Solitude Lake	E - 15
Loomis	D - 18	Solitude, Lake	K - 9
Lost	B - 7	Spectacle, Lower	C - 10
Louise, Lake	B - 6	Spectacle, Upper	C - 9
Love	D - 10	Spirit	L - 3
Lower Spectacle	C - 10	Sprague	E - 23
Lower Twin	G - 27	Sprague Glacier Lake	D - 15
		Spruce	D - 20
Marigold Pond	E - 2		
Marigold Lake	D - 25	Ten Lakes Park (5)	L - 9-13
Mills	E - 22	The Loch	E - 13
Mirror	H - 2	Thunder	G - 11
Murphy	J - 2	Timber	I - 5
		Tourmaline	D - 23
Nanita, Lake	K - 7	Twin, Lower	G - 27
Nokoni, Lake	K - 8	Twin, Upper	G - 26
		Two Rivers	E - 1
Nymph	E - 8		
		Unnamed Lakes	
Odessa	D - 22	Andrew Peak, e. (1)	K - 6
Ouzel	G - 20	Desolation Pk., e. (5)	H - 3-7
		Flatiron Mtn., e. (4)	H - 8-11
Peacock Pool	F - 2	Hayden Spire, nw. (1)	D - 11
Pear Reservoir	G - 24	Mt. Adams, e. (1)	L - 7
Pettingell	K - 10	Mr. Ida, n. (2)	D - 1
Pipit	G - 16	Ouzel Peak, w. (2)	L - 14/15
Pinnacle Pool	I - 2	Pagoda Peak, s. (2)	G - 2/3
Potts Puddle	C - 2	Rowe Mtn., e. (3)	B - 2-4
Poudre	H - 1	Snowdrift Pk., e. (1)	K - 2
Powell, Lake	K - 5	Upper Spectacle	C - 9
Primrose	D - 19	Upper Twin	G - 26
Ptarmigan	K - 4	Verna, Lake	L - 4
		Ypsilon	C - 12

Explanations to Columns on the Classification Chart

1. Species Present: CT - cutthroat trout; BT - brook trout;  
RB - rainbow trout. Capital letters designate  
the species most abundant and small letters  
indicate species less numerous.
2. Biol. Group: The Biological Group to which each lake is assigned  
according to status of fishes present is shown in the  
chart on page 12, Appendix A.
3. Mgt. Class: Criteria for the management classification of each  
lake is presented on page 13, Appendix A.
4. Management Principles: Classification and management of park lakes is  
based upon the management principles stated in  
the Wildlife Management Handbook, Part 2, Chapter 1. The statement of  
management principles indicated for park lakes are as follows:
  - "1. Waters that originally were without fish life and are now barren  
of fishes shall be perpetuated in their natural fishless state.
  - "2. Representative waters now containing nonnative fishes shall be  
returned to the original fishless condition when feasible.
  - "7. Fishing shall be maintained in waters designated for fishing  
primarily by reliance upon wild self-supporting populations of fishes  
and regulated so that the total catch does not exceed the natural  
replenishment capabilities of individual fish populations.
  - "8. Fishing may be maintained and managed in waters designated for sport  
fishing, secondarily, by judicial use of hatchery or transplanted  
fishes in waters in which natural spawning is absent or inadequate  
to support the desired level of fishing.
  - "9. Fishing shall be excluded from specific waters when adequate  
investigations determine that fishing and associated activities  
impair wildlife, scenic, scientific, ecological and historical  
values of primary significance."
5. Last Survey: Indicates date last field survey of the lake was made.  
Detailed information and records are contained in  
individual folders for each specific lake.



Biological Classification of Waters According to Status of Fishes

Group	Waters Barren	Populations Maintained by:				Populations
		Natural Reproduction		Periodic Stocking		Influenced
		Native	Nonnative	Native	Nonnative	Outside Management

A -- Waters & Populations Unchanged by Introduction of Nonnative Fishes

A-1     X  
 A-2                 X

B -- Waters & Populations Altered by Introduction of Fishes

B-1                                 X  
 B-2                                         X  
 B-3     X  
 B-4                 X                 X  
 B-5                                 X                 X  
 B-6                 X                                 X  
 B-7                                 X                 X  
 B-8     X

C -- Waters & Populations Restored or Reverted to Natural Conditions

C-1     X  
 C-2                 X

NOTE: None of the park lakes contain native fishes, defined as endemic species. Consequently, biological classification of park lakes in Rocky Mountain National Park is limited to groups: A-1, B-1, B-3, and C-1.

Management Classification Criteria

CLASS I - - WATERS NOT MANAGED FOR SPORT FISHING

1. Now barren.
2. Environmental factors not satisfactory for survival of fish life.
3. Stocking of fishes and fishing activities would be detrimental to preservation of native fishes or other aquatic life or to other primary park values and uses.
4. So isolated and remote from trails that angler-use would not justify fish stocking.

CLASS II - - WATERS MANAGED FOR FISHING BASED UPON SELF-SUPPORTING POPULATIONS OF FISHES

1. Self-supporting populations of fishes maintained at desired level for quality fishing experiences by regulated use.
2. Fishing activity would not endanger native fishes or be detrimental to other park resources or uses.

CLASS III - WATERS MANAGED FOR FISHING BASED UPON POPULATIONS OF FISHES SUPPLEMENTED BY PERIODIC STOCKING

1. Biological conditions suitable for year-around survival of planted fish.
2. Natural reproduction limited or totally lacking.
3. Fishing activities and introduction of fishes will not be detrimental to basic park values and other visitor uses.
4. Accessible to degree that angler-use of planted fishes will be sufficient to justify stocking.

CHART: DESIGNATION OF FISHES

Designation of Fishes of Rocky Mountain National Park By:								
Name	- Origin -		- Uses -			Protection Afforded		
	Native	Nonnative	Sport	Commercial	Other Values	Full	Partial	None
Cutthroat	X	X	X				X	
Rainbow		X	X				X	
Brook		X	X				X	
Brown		X	X				X	
Others*	X					X		
Others*		X						X

\* Status, identification and distribution of other native and nonnative fishes of the park have not been fully defined.

Definitions:

Native: Species which occurred endemically to a particular water.

Nonnative: Species which were introduced into park waters.

Sport: Fishes designated for recreational use.

Commercial: Fishes designated for commercial use.

Other Values: Fishes not designated as sport or commercial species.

Full Protection: Native species, not designated for sport or commercial use, shall not be taken or killed.

Partial Protection: Species designated as sport fishes receive partial protection and the catch is regulated to insure the perpetuation of the species.

No Protection: Nonnative fishes, not designated as sport or commercial species, are subject to eradication from park waters.

# APPENDIX C

## TENTATIVE FISH STOCKING SCHEDULE FOR LAKES

Rocky Mountain National Park 1965-1974

Prepared by Neil Guse

May 1965

Species: Cutthroat Trout (Native Strains)  
Size and Numbers: Numbers are based upon  
 2-3 inch fingerlings. Numbers will be  
 adjusted according to size of fingerlings  
 available  
Methods of Stocking: A-aerial; T-Truck;  
 P-backpack or live stock.

Name of Lake	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Chasm		3000 P		3000 P		3000 P		3000 P		3000 P
Crystal	5000 P			5000 P			5000 P			5000 P
Dream		1500 P		1500 P		1500 P		1500 P		1500 P
Emerald	2000 P		2000 P		2000 P		2000 P		2000 P	
Glass	1000 P			1000 P			1000 P			1000 P
Haiyaha		2000 A		2000 A		2000 A		2000 A		2000 A
Lake Irene		500 T		500 T		500 T		500 T		500 T
Lake of the Clouds	2500 A			2500 A			2500 A			2500 A
Little Crystal		1000 P			1000 P			1000 P		
Lost Lake	2000 A		2000 A		2000 A		2000 A		2000 A	
Mills Lake		2000 A		2000 A		2000 A		2000 A		2000 A
Nokoni	5000 A		5000 A		5000 A		5000 A		5000 A	
Odessa	2000 A		2000 A		2000 A		2000 A		2000 A	
Timber			3000 A			3000 A			3000 A	
Thunder			2500 A			2500 A			2500 A	
Ypsilon		2500 A		2500 A		2500 A		2500 A		2500 A
TOTALS	19,500	12,500	16,500	20,000	12,000	17,000	19,000	12,500	16,500	19,000
(A) Aerial	4	3	3	4	3	5	4	3	5	4
(T) Truck	-	1	-	1	-	1	-	1	-	1
(P) Pack	3	3	1	4	2	2	3	3	1	4

ANNOTATED BIBLIOGRAPHY OF REPORTS CONCERNED WITH FISHERY RESOURCES  
OF ROCKY MOUNTAIN NATIONAL PARK LISTED IN CHRONOLOGICAL ORDER

A number of reports have been prepared which relate to the fishery resources and the lakes and streams of Rocky Mountain National Park. Each are of historical significance in understanding the present conditions. The development of the Long Range Fishery Management Plan has been based upon the facts contained in these reports. Annual fish stocking reports and annual fishery resources reports which also contain much useful information are not listed separately in this bibliography.

Azevedo, Robert A. and O. L. Wallis

1962. Inter-agency Lake Surveys and Trout Investigations, Rocky Mountain National Park, 1961, Including Proposed Ten Year Lake Stocking Schedule. 59 pages. mimeographed.

Observational notes and management recommendations resulting from field investigations made in 30 lakes and portions of two streams in 1961 are included in this report. A proposed ten year stocking schedule, a review of the green-back trout project, and a review of the progress and needs in the development of a fishery management program are incorporated in this report.

Wallis, O. L. and Robert A. Azevedo

1961. Inter-agency Lake Surveys and Trout Investigations, Rocky Mountain National Park, 1960. 17 pages, mimeographed.

Brief observational notes and recommendations for 23 lakes investigated during the summer of 1960 are summarized in this report.

Wallis, O. L.

1961. An Evaluation of the Fishery Resources of Rocky Mountain National Park and Needs for Interpretation, Research and Management. 31 pages plus Appendix, mimeographed.

Essentially this is a "handbook" for the development of an operational program in the park. In addition, it contains guidelines for the management, interpretation and research of aquatic resources and a tentative classification of park lakes.

Cope, Oliver B.

1959. Report on 1959 Fishery Studies by the Bureau of Sport Fisheries and Wildlife in Rocky Mountain National Park. 6 pages, mimeographed.

Creel census studies, green-back trout investigations, recommendations and proposed future studies are discussed in this report.

Bulkley, Ross V.

1959. Report on 1958 Fishery Studies by the Bureau of Sport Fisheries and Wildlife in Rocky Mountain National Park. 51 pages, mimeographed.

Discussions of the findings from creel census and fish population studies, stream and lake surveys and green-back trout research are incorporated in this report. Methods used in conducting creel census activities are outlined. Observations from the survey of 17 lakes and six streams are presented in narrated and tabular form. A detailed account of the green-back trout investigations constitutes an important segment of this report.

Bulkley, Ross V.

1957. Report on 1957 Studies of the Green-back Trout in Rocky Mountain National Park. Bureau of Sport Fisheries and Wildlife. 20 pages, mimeographed.

This is basically a preliminary report on lake and stream surveys and other investigations concerned with a proposal to study the green-back trout. Survey reports on the following lakes are included: Chiquita, Upper Spectacle, Lower Spectacle, Ypsilon, Faylene, Fay, and Lower Fay (Caddis) and on the following streams: Hague, Tonahutu, Albion, and Big Thompson (Forest Canyon).

Grater, Russell K.

1945. Fish Planting Data on the Lakes and Streams of Rocky Mountain National Park. 42 pages, typewritten.

A complete summary of planting activities and current conditions in park waters, as known up to 1945, are compiled in Mr. Grater's report. Fish planting charts, tables characterizing the lakes and streams, a tabulation of the fish distribution by drainages, and a map designating the fish distribution are incorporated in the report.

Wright, Stillman

1944. A Report on Some Fishery Problems in Rocky Mountain National Park. 5 pages, typewritten.

Dr. Wright of the Fish and Wildlife Service reports on his study of fishery problems in the park between August 1 - 17, 1944. Brief observational notes on surveys of Fall and Thompson Rivers and on Bear, Bierstadt, Dream, Poudre, Irene, Lawn and Haiyaha Lakes are included.

Madsen, David H.

1941. Report of David H. Madsen, Supervisor of Fish Resources. 3 pages, typewritten. February 10, 1941.

Brief trip report on a visit to the park between August 13 and September 4, 1940, to study fish conditions.

Potts, Merlin K.

1936. A Preliminary Survey of Conditions in Streams and Lakes of Rocky Mountain National Park with Recommendations for the Future Propagation of Trout, 1936. 80 pages.

The native fishes of Rocky Mountain and recommendations for stocking are discussed. The bulk of the report consists of individual accounts of surveys of the following lakes: Mills, Bierstadt, Haiyaha, Ypsilon, Spectacle, Arrowhead, Doughnut, Chasm and the Pond above Chasm Falls and the following rivers: Big Thompson, Fall, Roaring, Mill, Boulder, Glacier, Hidden Valley, Baker, Colorado, Tonahutu, and Columbine.



Potts, Merlin K.

1936. The Game Fishes of Rocky Mountain National Park.  
Nature Notes from Rocky Mountain National Park.  
IX 10-12. pages 46-47.

This account consists of a discussion of the sport fishes of the park, the rainbow, brook, cutthroat and brown trouts and salmon. Park policies regarding native fishes and stocking of barren lakes are discussed.

Feast, C. N.

1931. Tentative Report on the Formulation of a Stocking Policy of Rocky Mountain National Park, Colorado. U. S. Bureau of Fisheries. 22 pages, typewritten report.

A proposed 5-year stocking plan for park lakes and streams and descriptive tables of park waters is presented in this report.

McLaughlin, John S.

1931. Report on the Lakes and Streams in Rocky Mountain National Park and Relative Fishing Conditions. 3 pages, typewritten.

On three charts, submitted by John S. McLaughlin is tabulated the following information: name of waters, length and width of streams, acres of lakes, the degree each water is fished, and the species present. Twenty streams and tributaries and 66 lakes are included on the charts.

Unsigned.

1923. Report of Estes Park Fish and Game Association on Condition and Classification of Stocking of Lakes and Streams in their District. 3 pages, typewritten.

The year of initial stocking, the species and numbers of trout planted and the existing fishing conditions are tabulated for 13 streams and 13 lakes. Fourteen additional lakes are listed as "unstocked."