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REPORT OF  
RANGE SUBPROJECT

by

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## ABSTRACT

This report discusses the importance of grazing in the Salmon River Basin, its relationship to the Salmon River and what implications a wild and scenic river status would have on this activity. The first section deals with an inventory of livestock uses, grazing permits and AUM's in the Salmon River Basin. The next section discusses the role of grazing, its relationship to potential classification of the river and competition of uses such as water quality, wildlife, forest, water resources and recreation. The discussion section concludes with possible restrictions on range use if the river was classified.

Next, a test case is given in which the method presented is used. Alternative classifications are presented, an inventory made, resource maps considered, alternative classification evaluated and conclusions drawn. It was estimated that there were about 2.7 million acres of forest land and 2.4 million acres of range land grazed in the Basin. The AUM's on national forest land were approximately 129,000 and on BLM land, 239,000 respectively. The total number of permittees reported was 583.

The remainder of the report discusses the effects of classification and the relationships between recreation and livestock grazing. There doesn't seem to be much conflict between grazing and river classification. Generally, there is little, if any, grazing in the areas which would be classified as scenic or wild and it is an established practice in the recreational portion. In the case of recreation, livestock grazing may

present some problems in terms of river access. These primarily related to disturbing cattle on ranges and opening and closing of gates. It was concluded that the conflict between range and wild river classification would be minimal.

## ACKNOWLEDGMENTS

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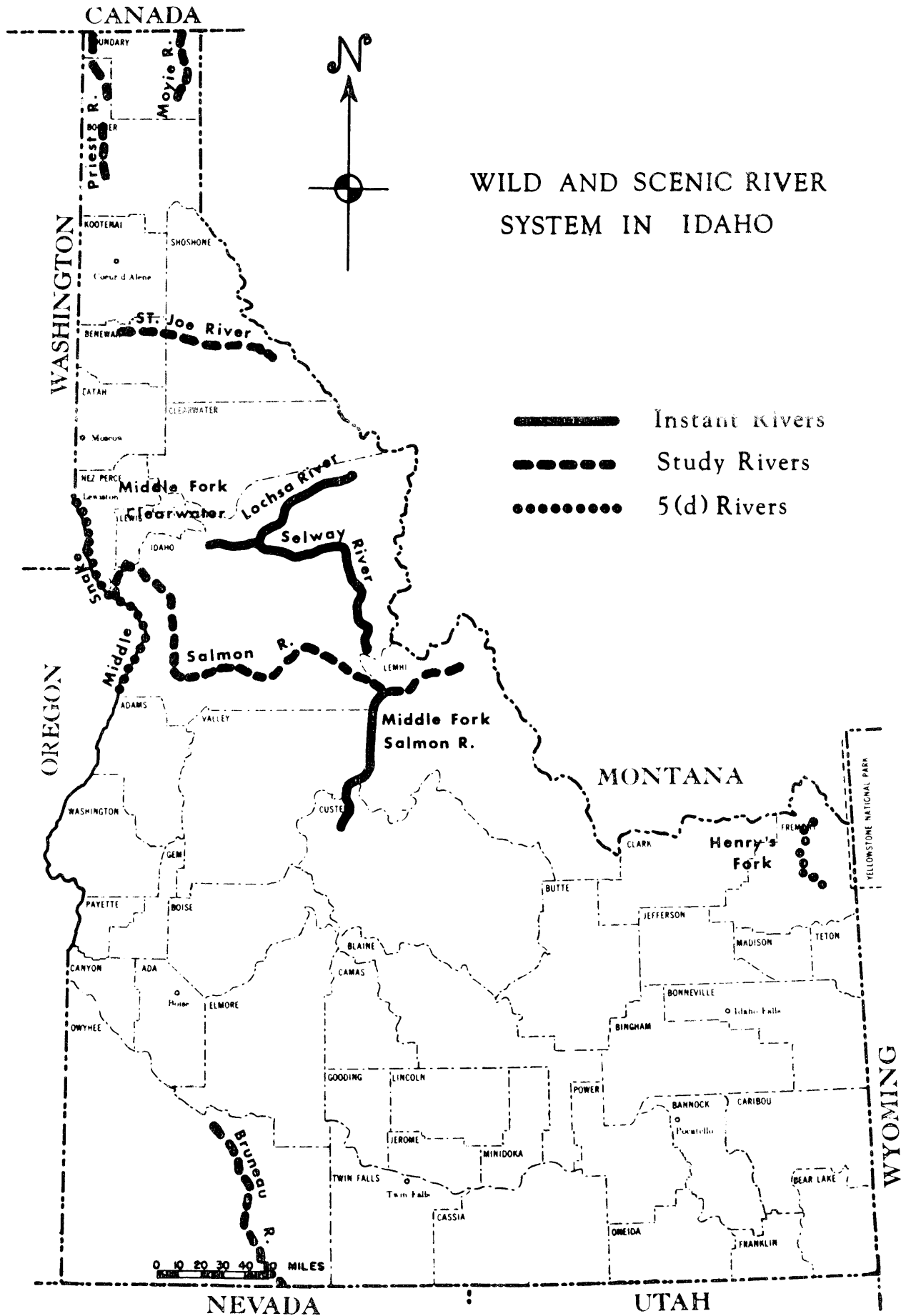
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## PREFACE

In October, 1968, the Congress of the United States passed Public Law 90-542 (Wild and Scenic Rivers Act) which provides for a National Wild and Scenic Rivers System. The Congress declared that the established national policy of dam and other construction at appropriate sections of rivers in the United States needed to be complemented by a policy to preserve and protect certain other rivers or sections of rivers in their free-flowing condition that they and their immediate environments might be enjoyed by present and future generations of Americans. The boundary of a wild and scenic river "shall include an average of not more than 320 acres per mile on both sides of the river" according to the Act. This is equivalent to approximately one-quarter mile on either side of the river and is termed the river corridor.

The Act provides for instant and study rivers; instant rivers being those establishing the original Wild and Scenic Rivers System. A system river is defined, for this report, as any wild, scenic or recreational river area that is included in the National Wild and Scenic Rivers System. In Idaho, the Middle Fork of the Clearwater River, including the Lochsa and Selway Rivers, and the Middle Fork of the Salmon River were named as instant rivers. Rivers in the study category have a moratorium on developmental activities until 1978 so that studies deciding their eligibility and desirability can be made. There are five study rivers in Idaho: The Bruneau, Moyie, Priest, St. Joe and Salmon Rivers.



MAP 1.

Three management classes of rivers are specified by the Act: Wild, Scenic and Recreational. The Act defines these as:

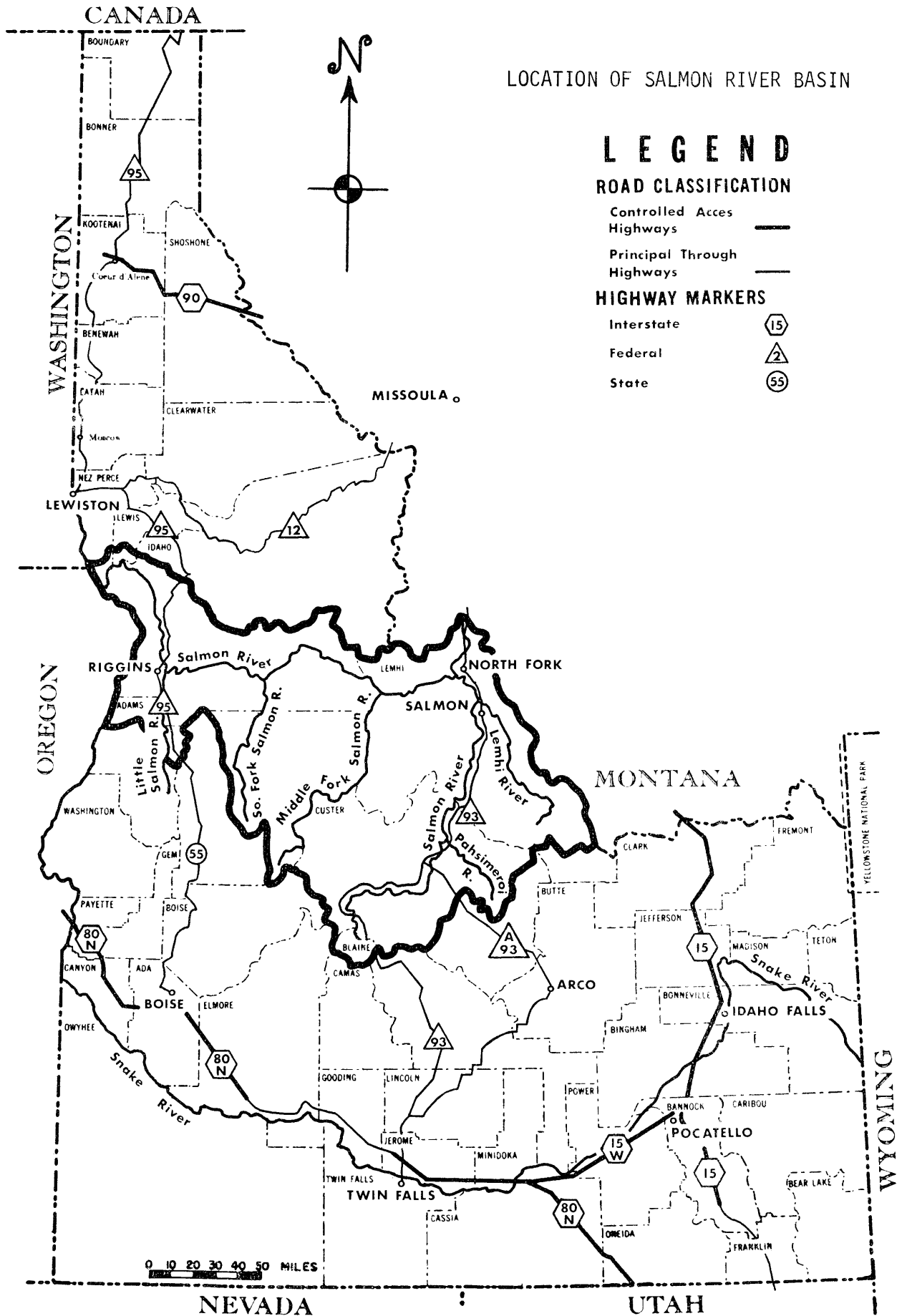
Wild river areas - Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

Scenic river areas - Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

Recreational river areas - Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

River plans have been drawn up by either the Bureau of Outdoor Recreation or the Forest Service for all of the instant rivers. Confusion and uncertain interpretations are involved in implementing any new act. One of the difficulties in instituting a management policy for a system river is that the area is long and narrow, meandering across political boundaries of states, counties, towns, across a heterogeneous ownership pattern including both private and public properties and across a multiplicity of interests including national forests, national parks, municipal watersheds, farmlands and towns.

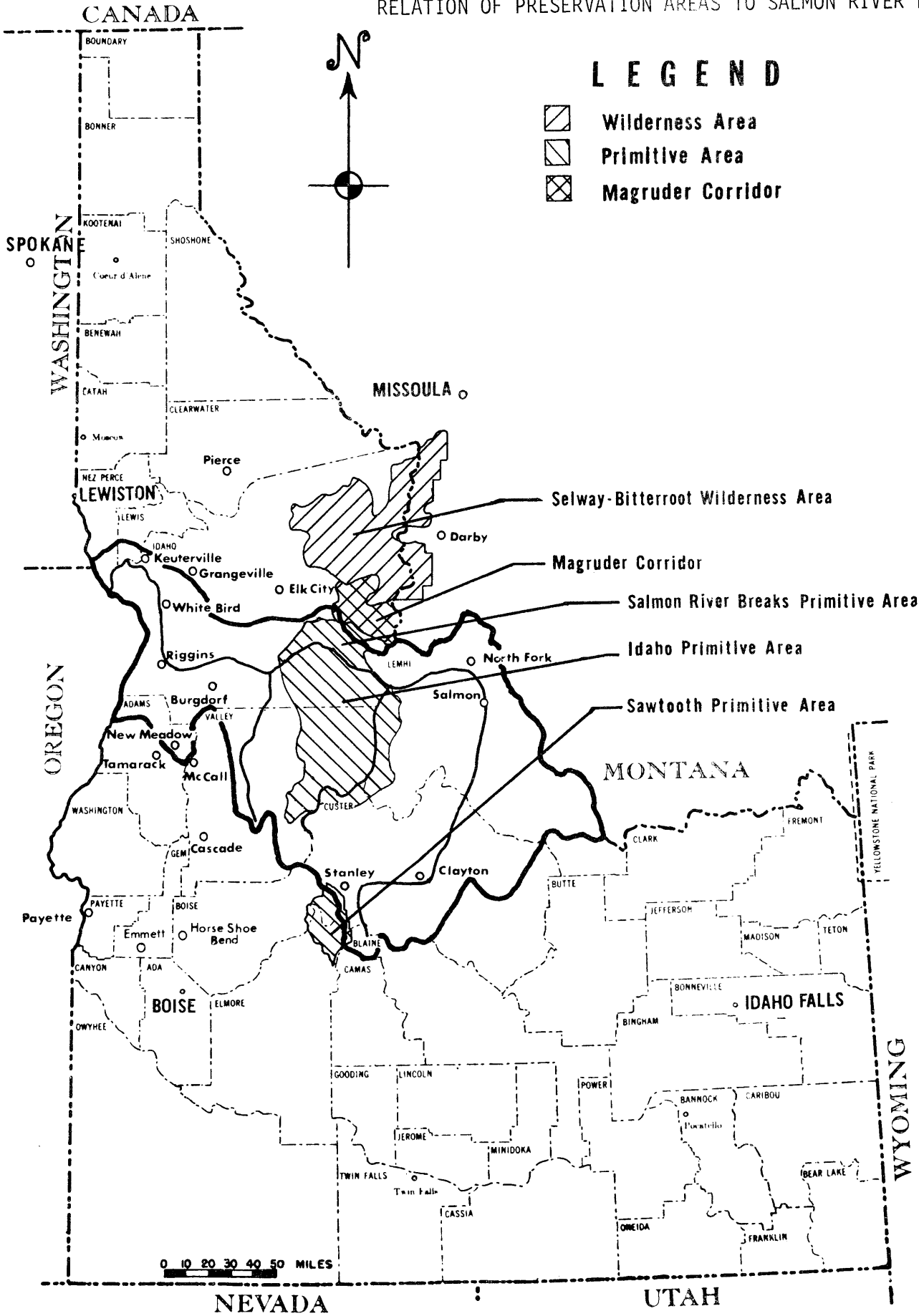
The criteria for evaluating rivers for possible inclusion in the System is in the formative stage. Some studies have begun on the study rivers by the agencies responsible for them, i.e., the Forest Service and the Bureau of Outdoor Recreation. Each river is different in nature and has its own problems. Because Idaho has so many rivers already included or being studied for possible inclusion in the System, the Water






MAP 2.



RELATION OF PRESERVATION AREAS TO SALMON RIVER BASIN



**LEGEND**

-  Wilderness Area
-  Primitive Area
-  Magruder Corridor

MAP 3.

Resources Research Institute at the University of Idaho has organized a Scenic Rivers Study Unit to develop methodology relevant to decision making and planning in the selection, use, and management of a wild and scenic river system. The methodology study has four broad objectives.

1. Inventory present quantities and qualities of natural resources in the river basin area, and estimate future quantities and qualities of these resources, establishing their values in both situations.
2. Identify, describe, and quantify, where possible, benefits from scenic beauty, personal enrichment and other aesthetic experiences derived from the river.
3. Develop a series of models to evaluate or determine the resource use pattern consistent with a wild rivers system, and the resource use pattern which would exist under various levels of development in the river basin area.
4. Present recommendations for alternative uses of resources for the entire basin area, recommend restrictions if classification is applicable and describe the economic and social ramifications of each of the alternatives considered.

The Salmon was chosen as the river to test the methodology study. Reasons for this decision are many. It is mentioned as a study river in the Act and contains attributes for all three river classifications: Wild, scenic, and recreational. Many of the attributes desirable for a system river are present as well as potential for many of the developmental activities.

The scope of the study considers the entire hydrologic basin and all of the activities, economic and otherwise, that take place within it. The reasons the whole basin was studied were: To find out the effect of any economic development - impoundments, diversions, logging, mining, etc. - on a system river and if, how, or where such activities can take

place without adversely affecting a system river. At the same time, the effects of a system river on these economic developments will be identified. The study of the basin area is consistent with the hydrologic units used in the Idaho Economic Base Study for Water Requirements (14).

The analysis of the Salmon River Basin included fifteen subproject studies:

- |   |                               |
|---|-------------------------------|
| 1. Forest and range resources             | 8. Hydroelectric power        |
| 2. Minerals                               | 9. Flood control              |
| 3. Outdoor recreation                     | 10. Navigation                |
| 4. Commercial fisheries                   | 11. Archaeology               |
| 5. Irrigation                             | 12. History                   |
| 6. Water for municipal and industrial use | 13. Transportation and access |
| 7. Water quality control                  | 14. Agriculture               |
|   | 15. Hunting                   |

Each subproject is designed to independently study present levels of development and project uses to the years 2000 and 2020. This is consistent with time projections of the Columbia-North Pacific Region Comprehensive Framework Study (PNWRBC) (5). After all studies have been completed, an economic model, or models, will be constructed to provide 1) estimates of costs and benefits of alternate management plans for the river area, and 2) a comparison of various resources uses. Particular emphasis is made throughout the study to identify, and if possible, quantify the aesthetic and personal enhancement values that Congress expressed a desire to protect and preserve.

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## INTRODUCTION

Over the past decade there has been an increasing interest in environmental quality and in preserving portions of our National in an undeveloped state. It is argued that this at least leaves us the option to develop the area in the future if it becomes necessary. The manifestation of this interest in natural resources is passage of the Environmental Quality Act of 1969, the Multiple Use Acts of 1960 and 1964, the Wilderness Act of 1964, the bills before Congress to create a Sawtooth National Recreation Area, the moratorium placed on mining near the White Cloud Peaks in central Idaho, the recruiting of guidelines to evaluate water resource project to include environmental quality, the Wild and Scenic Rivers Act of 1968 and many other actions by political leaders and concerned citizens. This report deals with Public Law 90-542, the Wild and Scenic Rivers Act, which will hereafter be referred to simply as the Act.

According to this Act and the guidelines published jointly by the Secretaries of Agriculture and the Interior (19), restrictions on resource use by inclusion of a river in the National Wild and Scenic Rivers system (hereafter referred to simply as the "System") depend on whether the river is classified as wild, scenic or recreational. Wild classification permits "limited range of agriculture and other resource uses", scenic classification permits "wide range of agriculture and other resource uses" and recreational classification permits "full range of agriculture and other resource uses". These restric-



be allowed because the Wilderness Act does not allow them. If activities outside of the river Corridor do not adversely affect the river environment, notably water quality and quantity, they should be of little concern to river management. ("Activities" in the above statement could include the aesthetics of all the senses - hearing, seeing and smelling.) The intent of the Act appears to be the preservation of only that area needed to maintain the values of the river.

The objectives of the range subproject are to: (1) Assess the impact on the livestock industry of the selection of a river for the System; (2) to discuss the implications and ramifications of system river management on range management practices and vice versa; and (3) to develop a methodology to study the range resource in connection with system river selection. The Salmon River was chosen as the river of study to develop this methodology.

The Salmon River basin is located in central Idaho and lies entirely within the State. With a drainage area of over 14,000 square miles, it is one of the largest drainage basins that lies entirely within one state. The river is approximately 425 miles long originating in the Sawtooth Valley and emptying into the Snake River about 49 miles south of Lewiston, Idaho. The elevation at its origin is about 8,000 feet diminishing to 905 feet at its mouth. In the stretch of river designated as the "River of No Return", it falls an average of eight feet per mile and includes many large rapids. It is sought out and traveled as a "whitewater" river. Average discharge measured at White Bird, Idaho, is 11,000 cfs with a range from 1,000 cfs - 100,000 cfs. Average annual runoff is

## METHODOLOGY

This section deals with recommended procedures to use to study the range resource for a system river study. These recommendations are the result of experience gained through study of the Salmon River.

### Qualification

A decision must be made as to whether the study river qualifies for inclusion under the Wild and Scenic Rivers Act. If the river has the necessary characteristics for inclusion, the next step is to determine the type of classification under which it could be managed - wild, scenic or recreational. Thorough knowledge of the Act, as well as the guidelines (10) published by the Secretaries of Agriculture and the Interior, is essential before these decisions can be made.

### Segmenting the River for Study

Some rivers are sufficiently long and/or diversified that it may be desirable to study selected portions of the river or "critical areas" before an overall study of the river is made. The river might then be segmented in a manner as to make all subproject reports as compatible as possible. The Salmon River was segmented, for the subproject, according to season of use by livestock and by possible classification status. This probably is not the most convenient or useful segmentation to study the effects of hydropower or irrigation on system rivers. A segmentation common to all subprojects would be most desirable as this would be equi-

Once areas of conflict are identified, the next step would be to determine whether singly or in total they may cause the river to be disqualified as a system river. It should also be determined whether corrective actions could cause the river to qualify as scenic rather than recreational, or wild instead of scenic. If a river does not qualify for the System, a decision would have to be made regarding corrective measures that would be necessary to enable it to qualify. It is worthwhile to identify areas in which a change in range practice would be desirable to improve aesthetics along the river. Having done this, an hierarchy of decisions as to qualification of the river and a priority of actions to be taken if the river is to be included in the System has to be set up.

Corrective actions may range from measures such as moving feedlots away from the river or using dispersed feeding methods to fencing recreation areas to keep livestock out. Livestock use may be excluded from an area to allow wildlife full use of winter range. The inventory simply consists of a list of areas of conflict with the system river philosophy and areas in which improvements would be desirable and/or necessary to allow the river to qualify either for the System or for another classification.

### Evaluation

When the inventory is complete, several management actions could be identified. Measures such as moving feedlots or excluding livestock from recreation areas are management measures related to system river and as such should be considered as costs to system rivers.

A study by House in 1971 (4) on the coastal Douglas-fir area showed that intensive use recreation areas such as campgrounds and visitor centers have a negligible impact on the overall production of timber in that area. The same is probably true of the conflict between recreation sites and grazing as it also is a case of intensive versus extensive use.

Section 6 subsection (c) of the Act reads:

Neither the Secretary of the Interior nor the Secretary of Agriculture may acquire lands by condemnation, for the purpose of including such lands in any national wild, scenic or recreational river area, if such lands are located within any incorporated city, village, or borough which has in force and applicable to such lands duly adopted valid zoning ordinance that conforms with the purposes of this Act. In order to carry out the provisions of this subsection the appropriate Secretary shall issue guidelines specifying standards for local zoning ordinances which are consistent with the purposes of this Act. The standards specified in such guidelines shall have the object of (A) prohibiting new commercial or industrial uses other than commercial or industrial uses which are consistent with the purposes of this Act, and (B) the protection of the bank lands by means of moreage, frontage and setback requirements on development.

The purpose of this information is to give a base upon which to discuss the eligibility of a river for inclusion in the System under the Act. The amount of development allowed along a river before the river is ineligible for inclusion is the first topic of discussion. According to Section 6 subsection (c) subsections (A) and (B), some commercial and industrial uses may be consistent with the purposes of the Act. Also, lands included within the System may lie within an incorporated city as long as zoning ordinances consistent with the purposes of the Act are in force. This indicates that if a river has attributes as mentioned in Section 1 subsection (6), it may flow through, or at least alongside, a city zoned for residential, commercial and industrial uses. Thus, a river flowing through relatively dense populated areas may be eligible for the System.

If the above is a correct assumption, then the eligibility of a river for inclusion in the System may hinge mainly on the fact that it

It is possible that a river might not qualify for inclusion in the System because of practices related to range use. Livestock concentrated near the river's edge using the river for its source of water can cause muddied waters and trampled, muddy riverbanks. Fences entering a river to block out a watering area for stock usually are not aesthetically pleasing. Floating a river and coming upon wildlife along the shore is generally pleasing, whereas coming upon a feedlot may not be pleasing. These areas may be a source of pollution depending on numbers of livestock and the size of the river.

If areas such as those discussed above possess negative aesthetic appeal or are definite pollution hazards, a decision may be made not to include the river in the System. This decision could be based principally on use of the range. If the area were on private land, the agency in charge of studying the river for inclusion could not, in theory, do anything to change the situation other than suggest different management practices.

This does not mean that a particular area of a river will never be eligible for inclusion in the System. The landowner may voluntarily move the feeding area to facilitate the inclusion of the river in the System. After all, it is possible that his land values may more than quadruple through this action which may allow the river to be included in the System. Alternatively, he may change his operation for reasons, such as an improved economic situation due to better management practices. Also, if the situation is so bad that the river is not eligible for the System, it is likely in violation of existing state or federal laws that

operation have been tried and abandoned. As one of the pioneering uses of land in the West, grazing presently is a relatively stable enterprise having tried and given up unsuitable areas long ago. More intensive management practices may cause the actual area presently used for grazing to shrink while increasing the overall production of livestock. However, other parts of the United States may be contemplating increased use of their rangeland. Therefore, rangeland use should be considered when studying rivers in these other areas.

If it is assumed that a wild classification is the highest quality classification or that the uniqueness of this classification is of greater benefit to society than either scenic or recreational classifications, then this should be specifically stated in the guidelines. If this is the case, then different accounting procedures may be used than if all classifications are considered as having an equal benefit to society. For instance, in the study of a river which may qualify for wild classification, a four account system may be used. Each classification - wild, scenic, recreation and no classification - could have its own account. Then benefits and costs could be computed for each way that the river might be classified. A comparison of these accounts would be beneficial to the decision-maker.

The evaluation related to range uses would fit into the above accounts as follows. The account for wild river areas would carry an estimation of the net worth of options closed (if any) by a wild classification. Another economic measure that might be used is opportunity cost. Similarly, an estimate of the economic worth of options closed by each

It appears that in the near future more forage will be produced on less land, and those areas that are marginally desirable for livestock production today will probably become less desirable in the future. In the past the livestock industry utilized about as much land as was feasible. It extended its use into the back country many years ago; whereas, the trend today is toward the intensive management of relatively productive lands. Generally speaking, there are no new frontiers for grazing of livestock, but rather there is a trend to discontinue grazing on those lands which were at best marginal fifty years ago. Instead of expanding, the land base for grazing is in the process of contracting. This is true for the West, but not necessarily in other areas of the country.

All of this discussion about projections boils down to one major conclusion. If any rangeland is given up for system rivers, it is likely to be a very small amount of the total because rangeland grazing is an extensive use of land and most water based recreation that would compete with livestock is an intensive use of the land. By intensively managing the range, it is likely that the amount of forage that would be "given up" for system rivers can be replaced on adjacent lands through better management practices.

The type of use to be expected along a river varies with the landform and the area of the country under consideration. For instance, both rangetype livestock and dairy cattle would be expected along a river in a flat landform, but each would be expected in different parts of the country. One might expect to see range cattle in Texas or the Georgia



Under these varying vegetation and elevation conditions, various types of use take place. Different landforms are often utilized by different types of animals. The most notable difference is that sheep commonly utilize high mountain meadow areas in which their preferred forage is abundant. Because grass, which is cattle's preferred forage, does not grow in abundance in high meadows, large numbers of cattle are not usually found in these areas. Cattle are usually found at somewhat lower areas with far rougher terrain than cattle. Furthermore, sheep may better utilize areas because they are herded, whereas cattle go where the going is easiest.

Season of use also changes with elevation. At high elevations only a short summer use is generally feasible. Low elevation areas are often used as wintering grounds as there is less snowfall and grazing potential is good both early in the spring and late in the fall on the bunchgrass and sagebrush vegetation types. Fall and spring use areas are generally between these extremes, but there is some overlap. Low elevation areas are commonly used for spring use until the higher ground sheds its snowcover and grows its spring vegetation. Often high elevation areas are utilized for fall use until snow drives the livestock to lower elevations and vegetation types.

Season of use has some interesting implications for system river management. Livestock tend to use the range at the same time that the recreational demand for the area is the highest except during winter. Yet the competition for land by the two uses is not very great. In general, grazing is quite extensive as a land use; and extensive forms of recreation such as hiking or fishing compete lightly, if at all,

### Relation of Management Practices to System River Classification

In general, more intensive management practices result in more useable forage production per acre. Larger numbers of livestock can often be raised on the same amount of ground. As far as system river selection is concerned, intensive management has both positive and negative aspects.

Condition of the range does not refer only to denuded or eroded land, it also refers to the vegetative covers, condition and composition. Rangeland in a seral stage is not considered as being in good condition and composition. Rangeland in a seral stage is not considered as being in good condition by range managers. However, to the casual recreationist the range/weeds producing pretty flowers or a hillside covered with cheatgrass may be just as desirable or even more desirable from an aesthetic viewpoint than is a climax bunchgrass stand. The recreationists may have no preference between the two. Similarly, a good stand of sand dropseed may give a good vegetative cover to a hillside and stop erosion, but it is not as desirable for forage as is a good stand of native bunchgrass. Under these circumstances the range manager would be interested in improving the range for forage production whereas the recreation manager may be indifferent to any changes.

Fencing is another form of intensified management. The movement of livestock, especially cattle, can be controlled through the use of fences. Fencing combined with strategic placement of salt and the development of water in different areas of the range can disperse the livestock so that the entire range is evenly utilized. Not only will the presently preferred

tem river, possibly from a well. Yet the existence of irrigated hayfields or pasture may be desirable from an aesthetic point of view. Warnick (12) touches on the theme about relative amounts of water being diverted above a system river for irrigation and the effects this might have on classification. He indicates that it may be possible to divert water for irrigation use in the system river area above the classified area. The Act in section 7 subsection (a) states that:

Nothing contained in the foregoing sentence, however, shall preclude licensing of, or assistance to, developments below or above wild, scenic, or recreational river areas or on any stream tributary thereto which will not invade the area or unreasonably diminish the scenic, recreational and fish and wildlife values present in the area on the date of approval of this Act.

Any irrigation done along a system river will have to draw its water supply either from tributaries to the river, from wells or from the river above or below the classified area.

Some types of intensive management, including brush control and seeding of desirable species, represent management actions to which recreationists are probably indifferent. Aesthetically, brushfields may be as attractive as grasslands or even more so in the fall when the leaves are turning color. In addition, the brush may be more beneficial than grasslands to wildlife.

A popular form of range management which increases production of rangeland and commonly rehabilitates the land is rest rotation grazing. This system requires more fencing than is generally present on ranges today. Therefore, it will be many years before it could be initiated in many areas. An excellent description of this method is given in a pamph-

### Water Quality

Water quality problems may be associated with livestock in the management of system rivers; but as mentioned earlier, the problem exists whether or not the river is included in the System. Common range useage is not likely to cause any problems unless an area is usually relatively small in relation to the total river basin. Usually sedimentation cannot even be traced to its source under these conditions. Feedlot type of situations where many animals are concentrated in one place for a long period of time are likely to cause most problems. Waters polluted through increased nutrients and organisms that cause disease in other animals or humans may be introduced.

Another way that water quality may be affected is through fertilization. Introduction of phosphates and nitrates into a river in sufficient quantities could cause algal blooms and generally downgrade the quality of the water.

### Wildlife

In generally, wildlife and cattle can coexist on the same rangeland because of different food preferences. However, whenever the preferred forage of either wildlife or livestock is in short supply, they will compete for forage. Morgan (8) indicated that there was competition between cattle and bighorn sheep for winter range. This occurred not only because of a shortage of forage, but because of season of use. Studies have shown competition between elk and cattle, and in Utah Jullander (6) report competition between livestock and deer.

While livestock may be fearsome creatures close up, if seen in the distance they can present a very pleasant scene. Some people expect to see cattle in the western rangelands; and if they see a "cowboy", it is considered a bonus. A band of sheep accompanied by a shepherd's horse-drawn wagon and several sheepdogs presents an old-time romantic scene to some. Many people's conception of the West is derived from western movies and television shows; and therefore, they identify with livestock on the range. Livestock can be an important part of a recreational experience; but by the same token, livestock can detract from the recreational experience if found under other circumstances.

#### Possible Restrictions on Range Use by River Classification

Wild River Area: Range use, if the livestock is not too concentrated, might be condoned along a wild river area. The main restriction on use is economic resulting from inaccessibility and suitability for domestic livestock grazing. Livestock would have to be trailed to the grazing grounds; checking on the animals, moving them about on the range, putting out salt and other administrative duties would have to be carried on by foot or horseback. The lack of roads would also curtail many intensive management activities so that rangelands would not be used to their full potential. Concentrated livestock use is not acceptable to the philosophy of "wild" rivers.

The Act specifies that a wild river area should have shores that are essentially primitive. This likely would preclude some intensive management related buildings. Intensive management practices that are

## THE TEST CASE

### Methods

#### Qualification

In this study it is assumed that the Salmon River qualifies for system river classification. This assumption was based on the definitions as given in the Act and the guidelines (10) that have been approved by the Secretaries of Agriculture and the Interior.

#### Alternative Classifications

The river can be segmented into logical management areas not necessarily coinciding with their qualifications as wild, scenic or recreational areas. For this study the river was segmented into fairly large sections coinciding with rangeland seasons of use and types of use and by qualification for classifications. This gave fairly uniform resource use areas to use for discussing the implications of river classification on range use. For instance, there is a segment which has summer range use along a stretch of river which might qualify for recreational status; and another segment having winter range use along a stretch of river which also might qualify for recreational status.

#### Inventory

To inventory the range resource of the basin, public land management agencies for the area were contacted and all available data for the study area was collected. This data concerns types of lands in the basin and an estimate of the productivity of the lands. Data was collected from the U.S. Forest Service, U.S. Bureau of Land Management (BLM) and the U.S. Soil Conservation Service (SCS).

(4) Wildlife - winter range for Bighorn sheep and mountain goats, chukar habitat; (5) History - Sheepeater Indian War, termed impassable by Lewis and Clark, historic mining activities, especially on some of the tributaries; (6) Archaeologic - traces of Indian culture dating back as far as 8,000 years. There is no doubt that the river does have many attributes which might be used to qualify it as a system river.

#### Alternate Classifications

In the Forest Subproject Report (2) the river separates according to qualification for wild, scenic or recreational classification which is based on the transportation system and economic activities. The following table indicates the segmentation and classification used for this subproject:

Table 1

RIVER SEGMENTATION USED IN RANGE SUBPROJECT

Segment	Classification	Season of Use by Livestock in the Corridor
Headwaters to Stanley	Recreational	Summer
Stanley to Clayton	Recreational	Spring - Fall
Clayton to Corn Creek	Recreational	Winter
Corn Creek to Chittum Rapids	Wild	Non-Use
Chittum Rapids to White Bird	Recreational	Winter
White Bird to Mouth	Scenic	Winter

\*Note: This segmentation is illustrated by Map 4 in the Forest Subproject, Water Resources Research Institute, January, 1972.

Both season of use and qualification for classification used is criterion in choosing this segmentation. A finer segmentation of the river could be made for management purposes; but for this report, additional segmentation would generally be superfluous.

#### Salmon Basin Inventory

Table 2 presents an estimation of the various types of land within the Salmon River drainage as estimated by the SCS in 1966 as part of the Columbia North Pacific River Basin study.

Table 2

#### ACREAGE OF VARIOUS LAND TYPES IN THE SALMON RIVER DRAINAGE

	Forest Land		Cropland	Rangeland	Other	Total
	Grazed	Not Grazed				
Acres	2,682,631	3,183,449	166,165	2,440,064	502,777	8,975,086

Public land management agencies lease specific land areas to individual livestock operators. These leased areas are called allotments and are leased with limitations on number of animals, length of use and time of use. The agencies manage the lands, but the permittees buy grazing privileges on the land. A definition of an allotment is an area designated for the use of a prescribed number of cattle or sheep or by common use of both under a plan of management (11).

Few of the allotments have had thorough management or surveys to help classify the lands as having excellent, good, fair or poor range conditions. The trend is towards an intensive inventory of rangeland



Legend: AUM - Animal unit month, the amount of forage required by one cow or five sheep over six months of age for one month.

\* - Figures are in Animal Months, or a month's tenure upon range by one animal. This is not synonymous with an AUM and is, therefore, not included in the totals.

S - Sheep

C - Cattle

The Salmon River flows through lands suitable for every season of livestock use. The segment from its headwaters to Stanley, Idaho, is summer and fall range for cattle and sheep. This is the most productive range land adjacent to the river. The segment from Stanley to Clayton is through rugged canyonlands, mostly in public ownership, and is used for spring and fall grazing. The Corn Creek to Chittum Rapids segment is in public ownership because of the rough, rugged inaccessible canyon that is not well suited to grazing or production of forage. Lands adjacent to the river from Chittum Rapids to the mouth are suitable for fall, winter and spring grazing and represents an important area for maintaining animals overwinter.

#### Land Ownership

Most of the Salmon River Basin exemplifies the typical ownership pattern of the West. The most productive and easily accessible lands are privately owned and the less desirable lands have been publically retained. Private lands are usually those next to the river and are flat enough for agricultural or grazing purposes. The land that is rough, inaccessible or good only for average timber growth is generally in public ownership. In the case of the Salmon, wherever the river runs east and west the lands are generally in public ownership; but where the river runs north and south and the valley opens up and the land adjacent to the river is in private ownership.

In the areas most important for grazing a definite pattern of land ownership is formed (Map 5). Lands located next to the river and its tributaries that are best suited to ranching usually are in private owner-

ship. Often this land is intermingled with BLM lands. Some of these BLM lands are the result of unsuccessful or poorly located ranches being returned to government ownership. The higher ground including the majority of the Salmon River Basin is USFS land. A common grazing pattern is to have the rancher use private lands in the winter, lease BLM land for spring and fall grazing use, and lease USFS land for the summer grazing season.

The lower part of the river from White Bird downstream has an unusual ownership pattern. The lands adjacent to the river probably would have been claimed by ranchers had the government not made claim on them as power site withdrawal lands.

#### Management Practices

Historically, there was strong competition for public rangeland. This often resulted in overgrazing the range and use of areas not well suited to grazing by domestic stock. Over the years the trend has been to reduce the number of animals and length of time spent on public ranges and to phase out use of lands not suited for domestic grazing. In the Salmon Basin some ranches have been bought by the State Fish and Game Department to eliminate competition between domestic stock and wildlife.

Over time many allotments have been phased out due to their unsuitability for domestic stock. Most of these are located on the Idaho Batholith which is characterized by steep landforms and severe erosion potential. Some allotments not located on the Idaho Batholith but characterized by steep topography, erosion hazard and poor range production have also been phased out. The early 1960's was a period in which many allotments were discontinued and more are being phased out gradually.

### Effects of Classification

Along the portions of river being considered for recreational classification (Map 5) there is little conflict with present grazing practices. The Act allows transportation systems, limited development (ranches, fences, etc.) and full range of resource uses. There may be conflicts over diversions for irrigating pasture and haylands, but Section 13(b) of the Act allows for compensation for water rights. A temporary hardship may be incurred by not allowing diversion because feed would have to be obtained elsewhere; but with just compensation, the operator should be able to continue his operation without undue hardship. Grazing may add more to a recreational experience than it detracts by being a part of the expected western scene, however. Recreational classification would have little impact on grazing along the Salmon River, although it may require changing some feeding practices in the areas where livestock is concentrated for a period of time.

Scenic classification would not appreciably affect ranchers below White Bird. There is essentially no opportunity for expanding ranching operations as the land is not very productive and most suitable sites are already in public ownership as powersite withdrawal lands; and the extensive grazing allowed on these lands should not conflict with scenic river classification. Additional buildings and roads needed for more intensive management of these rangelands could be constructed unobtrusively up side draws or on top of benches. In most of the canyon it would be prohibitively expensive to build roads near the river, and there would be no conflict with roads built above the steep canyon rim outside of

the Corridor. There would be little conflict between present range uses and scenic river classification on the lower segment of the river.

In the area eligible for wild classification, there is no grazing taking place other than by wildlife. Besides being inaccessible, the area is unsuitable for rangeland because it is very rough country and relatively unproductive. Therefore, there would be no conflict between grazing and these portions of the Salmon being considered for wild river classification.

There are some problem areas along the Salmon which may not be compatible with system river classification. Some feedlots in the overwintering areas are not very aesthetic and probably contribute pollution to the river. These feedlots are generally located within one quarter mile of the river, use the river as a watering source and are badly trampled. The conflict here could be eliminated by moving the feedgrounds to benches adjacent to the river and using dispersed feeding methods. In some cases service roads would need to be built or water developed. This might increase the cost to the rancher so that he would have to be compensated. Dispersed feeding could result in healthier calves as there would be less chance of them contacting disease from one another. Dispersed feeding would be better for the land base as it would result in less trampling.

One or two river bars between Riggins and French Creek are used for lambing grounds in the spring. These areas may contribute to pollution of the river and some people are offended by the aftermath of a concentration of sheep. This use may conflict with some river users but could be moved elsewhere.

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