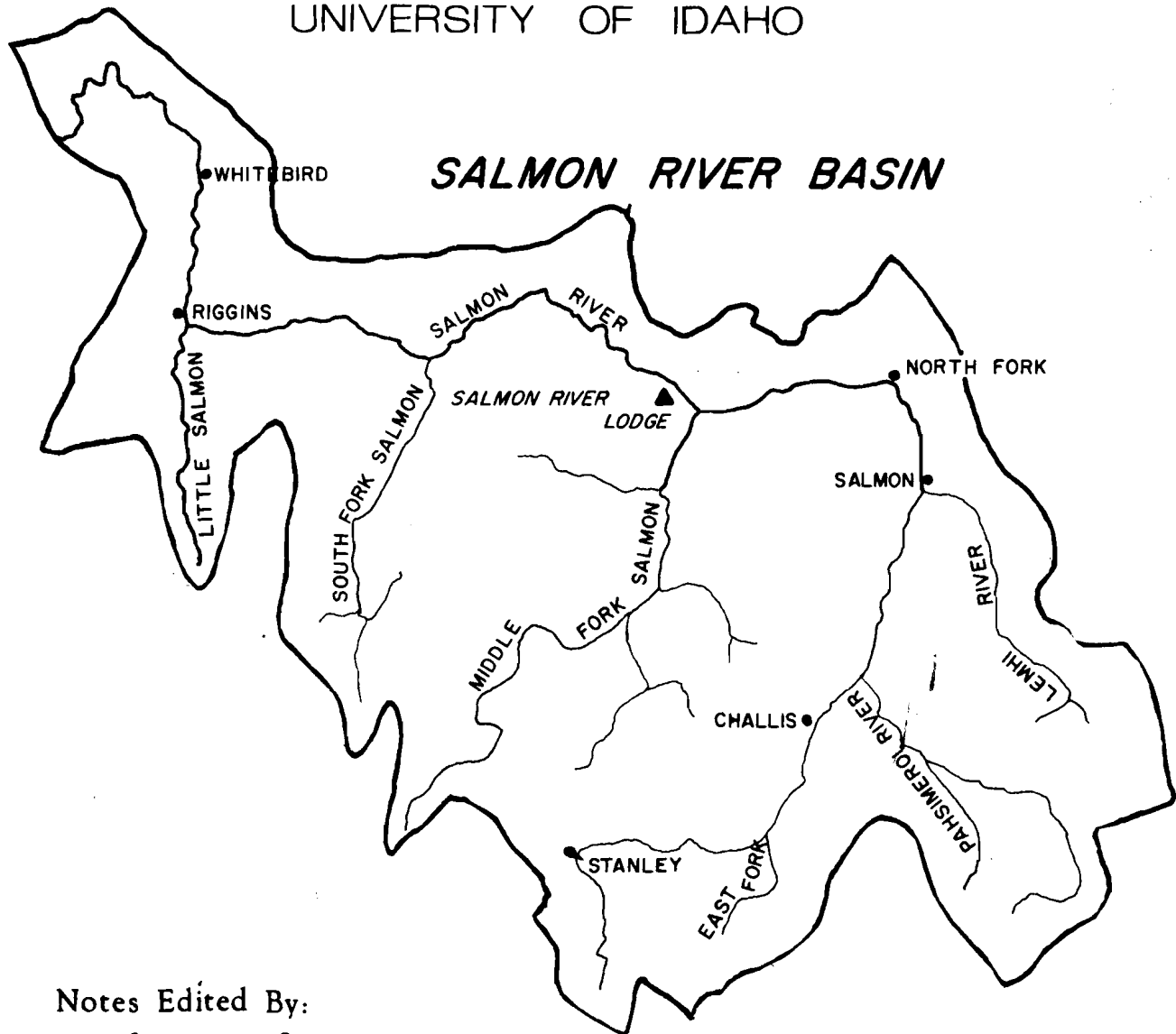


A WILD AND SCENIC RIVERS SYMPOSIUM
SPONSORED BY:

WATER RESOURCES RESEARCH INSTITUTE
OF THE
UNIVERSITY OF IDAHO



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AND SCENIC RIVERS METHODOLOGY STUDY

HELD AT
SALMON RIVER LODGE

JULY 25-27, 1969

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and
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Project Leader
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INTRODUCTION

In July, 1969, the Idaho Water Resources Research Institute brought together a group of people who had experience with natural resources and were familiar with the wild rivers concept. The objective of the symposium was to discuss the ramifications of P.L., 90-542, the Wild and Scenic Rivers Act, and to provide ideas and direction for the Wild and Scenic Rivers Methodology Study for which the Institute is responsible. This study is to be directed towards developing criteria to be used to evaluate the study rivers selected by Congress for consideration for inclusion in the National Wild and Scenic Rivers System.

The participants in the symposium represented several states and federal agencies, universities, and private interest groups. The interests of the groups represented varied, as did the opinions of the individuals. The ensuing discussions were very lively and fruitful. The group included:

Name and Title	Unit	Agency
Prof. Cal Warnick, Director	IWRRI	University of Idaho
Dr. Edgar Michalson, Project Leader	IWRRI	University of Idaho
Dr. Frank Craighead, Jr., President	Environmental Research Inst.	State University of New York at Albany
Dr. Dan Leedy, Research Staff	OWRR	Dept. of Interior
Dr. Marie Morisawa, Assoc. Prof. of Geology		Antioch College
Mr. Craig Giffen, Office of Div. of Watershed Mgt.	Forest Service	U.S. Dept. of Agriculture
Mr. Jules Tileston, Ass't. Chief Div. of Resources	B.O.R.	Dept. of Interior
Mr. Robert McNeil, Plans Coordina- tor		PNWRBC
Mr. Tom Davis	IWRB	State of Idaho
Mr. Ed Slusher, Chief, Wilderness Management	Forest Service Regional Off.	Department of Agriculture
Mr. James Simpson, Chief, Fisheries	Idaho Fish & Game Dept.	State of Idaho
Mr. Brock Evans, Legal Counselor, Northwest Representative		Sierra Club
Mr. Mel Hirschi	President's Off.	University of Idaho
Mr. Victor Ecklund, Regional Chief Div of Resource Area Studies, PNW Region	B.O.R.	Department of Interior
Dr. Herb Stoevener, Assoc. Prof.	Dept. of Ag. Economics	Oregon State University

Mr. Paul Mann, Prof.	College of Engineering	University of Idaho
Mr. Richard Stauber	Forest Service	Dept. of Agriculture
Mr. Archer Wirth, Ranger-Indianola Dist.	Forest Service	Dept. of Agriculture
Dr. Ted Bjornn, Ass't. Leader	Idaho Coop. Fish Unit	Dept. of Interior & University of Idaho
Dr. Douglas Gordon, Ass't to the Director	IWRRI	University of Idaho
Mr. Larry Kirkland, Research Tech- nologist	IWRRI	University of Idaho
Mr. John Herbst, Research Tech.	IWRRI	University of Idaho
Mr. Eugene Wehunt, Jr., Research Technologist	IWRRI	University of Idaho
Mr. Gene Eastman	IWRRI	University of Idaho

The group assembled at the Salmon River Lodge near Shoup, Idaho. The Salmon River, designated a study river by the Wild and Scenic Rivers Act, is roadless from this point for 79 miles downstream. In this setting we were able to devote our full time and energies to discussing the various ramifications of the Act, with the Salmon River flowing steadily by as a constant reminder of the business at hand. We were also able to float the river briefly, through roadless territory and awesome rapids. We returned from the float trip via jetboat, thereby rounding out our river experience.

The symposium was informal with no papers being presented. Instead, the conferees were asked to give their views in their area of expertise on wild rivers. Then the meeting was opened to discussion. The discussion followed a rather loosely knit format as designated by Mr. Cal Warnick, who acted as moderator. A very productive, relaxed atmosphere prevailed throughout the symposium. The overall results reported herein are the compilations of ideas, impressions, expressions, frustrations, and experiences of the participants.

SOME CRITERIA FOR WILD RIVERS STUDIES

Drs. Craighead, Leedy, and Morisawa were the first group of discussion leaders. They discussed the Act, ways and means to include rivers in the system, subjective and objective methods of river evaluation, and some specifics that should be included in the study of any river.

Dr. Craighead began the session by indicating that the Act had a lot of potential, but neither the Act nor its potential had received widespread recognition. He thought one of the first and most important steps to take in formation of a wild and scenic rivers system was to publicize the Act. Resource managers as well as the general public should be made aware of it. One way to do this is through action by civic and sporting groups to get some rivers considered for inclusion in the National Wild and Scenic Rivers System. He indicated that most free-flowing streams are eligible for consideration because of the three-way classification scheme available under the Act, providing wild, scenic, or recreational designations.

Dr. Craighead cautioned that unique stretches of rivers now protected under other federal regulations should be considered for early inclusion in the system. Even though presently protected, management of these rivers could be changed through administrative action. An example of this is that stretch of the Yellowstone River between the Lower Falls and Gardiner. It is a unique stretch of wild river, but even though it is in a national park, no law prevents a highway being built along the rim, or a tramway constructed to the bottom of the canyon. It is kept in its wild state merely through the present administration of the area. Therefore, it is important that these types of rivers be included in the system, even though they presently appear to be well protected.

Some of the unique characteristics of the main Salmon River making it eligible for inclusion were mentioned. They include: passage through long, unpopulated areas; the anadromous fish runs that extend farther into the interior than in any other river; its wilderness shorelines; some important wildlife winter ranges along its valley faces; and its famous whitewater stretches.

When questioned by Mr. Warnick about evaluation of the qualities of river environment, Dr. Craighead responded by saying that both subjective and objective methods of evaluation would be needed. He thought

that not much detailed information was needed for the original rivers recognized by Congress, because the evaluation preceded the naming of the rivers. This is the subjective approach, with the value of the rivers being decided by Congress through scenic, historic, recreational or cultural values. Information on factors such as water quality, regime, and productivity aren't essential to include a river in the system, and can be collected later. He stressed this point often and pressed for inclusion of all rivers possible through this subjective type of evaluation. Mr. Giffen also referred to the fact that some "instant" rivers were included in the system without benefit of detailed information or objective evaluation. However, he believes that such an approach is not proper for future proposals, including rivers to be studied as required by the Act.

The next contributor, Dr. Leedy, stressed the importance of research containing potential uses. He regarded the Wild Rivers Methodology Study in this category. A method whereby administrators and decision-makers could make an intelligent selection between a number of rivers proposed for the system was one of the potential benefits he foresaw coming from this study. To get the most out of this study, a decision on which values to investigate and the size of the area of concern will have to be made. He hopes the study will produce information and methodology useful to the Department of Agriculture and the Interior in making their recommendations to Congress.

Dr. Leedy urged that while consideration be given to historic, archeologic, and other associated values, we should also look for alternative uses for such things as input to the economy as the result of building a dam. For instance, could this input be put into use in some urban areas for such things as the development of a green belt and still come up with the same amount of benefits to society? He thought that suggestions from the symposium group to the principal investigators would be helpful, for although the methodology study is already well outlined, there is always the possibility of shifting the emphasis.

The general consensus was that basic quantitative information on pollution, water quality, and other physical characteristics would be essential for management of these rivers, especially as trend indicators, but that it would not be needed for the initial classification of the rivers. While Congress would be interested in the whole framework study of a particular river, it was pointed out that basic standards for water quality,

pollution, etc., had not been set as yet by the responsible state or federal agencies, so each river would have to be selected on individual merit. Preparation of the methodology report in the form of a guide for use in selection of other rivers was also stressed, along with a desire for preference evaluations of the general public. It was agreed that this type of data was definitely needed, and the sooner collected the better, but it may not be necessary for initial classification.

Dr. Morisawa stated that the overall resource of the river basin must be considered. Two rivers that she is working on, the Little Miami in Ohio, and the Green in Wyoming, have had problems in being declared a portion of the National Wild and Scenic Rivers System, mainly because both are desired by groups for purposes other than scenic rivers. It would be relatively simple to include a river in the system, as long as it does not have an alternate, competing use.

"Evaluation of National River Environments" is the title of the existing project under direction of Drs. Murray and Morisawa, using the Little Miami and Green Rivers as their study rivers. They are trying to do as complete an ecological study as possible in the years time allocated. The inventory of resources was divided into two parts: (1) inventory of natural resources; i.e., vegetation and animal life, and (2) cultural resources; i.e., history and archeology of the area. Time limits do not permit a quantitative evaluation, but an attempt to discern how many different forms of resources are present is being made. This is not a totally original effort, as much use is made of previous reports on the area.

They are attempting to evaluate the rivers through a ranking system using two profiles, the total river basin and the river within possible classification boundaries. Dr. Morisawa's preference is for a basin study. Although people's preferences is considered as being essential by these two researchers, they get around this data collection headache by ranking the rivers, and letting the decision makers evaluate the rivers themselves. Some of the criteria that could be ranked would be steepness of valley walls, width of valleys, and river descent per mile. As long as the ranking system is clearly outlined, the various characteristics of the river will show up, and those making the judgement can evaluate the river as they like.

The fact that the Green River would be an ideal methodology river was brought out by Dr. Craighead. The headwaters originate in a wilderness area. It then flows through alluvial fills, entrenches itself in bedrock,

meanders through meadow country and finally flows into a reservoir. The Salmon exhibits just one aspect of a river's life, and that is the downcutting stage. Mr. Warnick expressed the notion that Congress may want variety of the river types included in this system, rather than all Salmon Rivers, for instance.

The discussion then turned to the identity of the decision makers; the quantity and type of information they might need; and who should furnish this information. The consensus was that although agencies such as the Forest Service would make recommendations, it was actually Congress who made the decision as to the inclusion and classification of the rivers. Dr. Leedy proposed the use of systems analysis or operations research of some sort for analyzing a river, because you would get not only the information you desired, but would also be able to identify weaknesses in the reasoning process. Dr. Craighead favored a special evaluation team made up of trained and professional individuals under direct guidance of Congress to make these value judgements. Members of this team would be familiar with research, resources management, recreational experiences, etc. They would then make subjective evaluations of each river, based on its own merits. Descriptive ratings of each river would be useful for comparisons in later years. Dr. Bjornn questioned the depth needed for the study and the basis Congress would use to select rivers for the system, whether it would be emotional or objective information. Mr. Tileston responded by defining the value of a methodology study as the discernment of valid parameters to be measured, and the judgements needed for evaluating a river. He maintained that you need to know what can be done with a particular resource before making recommendations to Congress about that resource.

DIFFICULTIES OF WILD RIVER STUDIES

The next portion of the symposium consisted of views of some participants who have responsibilities through their organizations under the Water Resources Planning Act and the Wild and Scenic Rivers Act. The particular agencies represented were the Forest Service, B.O.R., P.N.W.R.B.C. and the state of Idaho. Some specific interpretations of a portion or portions of the Wild and Scenic Rivers Act were expressed, and discussion was readily generated. Also discussed were various aspects to be considered when studying such rivers, or making river basin plans. The need to know values foregone and their replacement values was also brought out.

Mr. Giffen led off by saying that the reports required by Wild and Scenic Rivers Act recommend to the President and Congress which rivers should be incorporated into the system. Regarding the problem of what Congress wants, he indicated that we might ascertain this by determining how the eight "instant" rivers were selected in the first place. In his opinion, the only rivers that ended up in the "instant" category was those that had no substantial controversy as to their inclusion in the first place. All rivers deleted from the instant river or study river category were those that had plans for some sort of development which might be precluded if the river were included in the system. It appears that Congress is using a "values foregone" concept and one basic purpose of the river studies is to determine the application or resources of alternate uses that might be made of these resources. Although it may not be possible to quantify some of the values, the Forest Service is trying to weigh dollars foregone against intrinsic values which exist in a free-flowing river. One of the challenges of this type of study is to determine what kinds of uses; watershed use, timber use, etc., can be made of the river and its environment that are harmonious with the free-flowing and scenic values of the area. For example, no waters should be reserved to the river which are in excess of the amount necessary to accomplish the purposes of the Act. Therefore, rates of flow necessary to achieve the purposes of the Act need to be resolved. The Act states that no federal department or agency of the United States shall assist by loan, grant, license or otherwise, in the construction of any water resource project that would have a direct and adverse effect on the values for

which such a river was established, as determined by the Secretary charged with its administration. If ways can be found to remove surplus waters from the river without directly and adversely affecting the free-flowing nature of the river, then this sort of activity is provided for in the Act. The challenge of maintaining quality, aesthetic, and other values connected with free-flowing rivers while at the same time making appropriate use of resources in the area is stressed.

Use of a river without degrading the quality of the river experience was next discussed. Additional access points and perhaps more roads were considered as a means of handling increased use. Vehicular access to a wild river is prohibited by law, so other means of dispersion may be needed. Management should be responsive to the desires and needs of the people.

Mr. Tileston injected the idea of the studies being done by interdisciplinary teams from various agencies. When a lot of people with different backgrounds and philosophies look at the resources at the same time, a pretty good idea of the total situation is obtained. The Wild Rivers Act has two important facets; (1) it requires a report to Congress fully exploring and explaining the uses of the resource, including what would be foregone and what would be proposed; and (2) it requires the federal agencies to submit plans for development of water to consider the free-flowing aspects of a river as being possibly beneficial.

Next he talked of ways of making additions to the system. One way is through a specific Act of Congress, such as was done with the instant rivers, another way is initiation by State action, followed by approval of the appropriate Secretary. Rivers can also be protected by individual states. These rivers would not be included in the national system, but rather would be protected in a separate state system.

As rivers come under consideration, a study team in the Federal-State interagency cooperative venture puts together its report. This report is then submitted for official review and comment to the appropriate Governor, the Secretary of the Army, the Chairman of the Federal Power Commission, and the head of any other affected Federal department or agency. The plan may be amended or modified, or it may go through as is. It is then transmitted to Congress for action. In this way everyone gets involved so you get a total package that sets forth all the various possibilities for the river.

Mr. Tileston also asserted that one way we can get a grasp on this wild, scenic, or recreational river idea is to know who the users are, why they are there, what they expect, and, in general, what their reactions are.

Dr. Craighead, Mr. Kirkland, and Mr. Tileston then discussed the portion of the population to consider when attempting to select rivers for the system. The opinion was expressed that Congress set up the Act in such a manner that the people could have a lot to say in selection of these rivers. It was debated whether you should let just the river user choose the rivers, or if all the people in Idaho, or the nation, should be deciding on the rivers. The users may be the most important people to consider today, but with the rapid development of recreation, a whole new population is going to be using these areas. It was generally conceded that to find out who was using it today, and why, and what these people really thought, would give us invaluable evaluation and management tools for these rivers.

Mr. McNeil then discussed the Water Resources Planning Act, P.L. 89-90 as related to the Wild and Scenic Rivers Act, P.L. 90-542. He mentioned that every wild and scenic river study must be coordinated with any water resources planning involved in the same river. The Pacific Northwest River Basins Planning Commission has various kinds of comprehensive river basin planning efforts underway. An example is the framework study of the Pacific Northwest which is studying the water, water needs, water resources plans and problems, and poses general solutions to these water resources needs and demands. Much of the information from these studies will have basic value in a wild rivers study.

The Commissions' comprehensive joint plan will consider the free-flowing qualities of a river, and in fact will approach this from a value foregone concept. He expressed a need to be in close touch with other studies underway under the Wild and Scenic Rivers Act, because of the differences in timetables while covering the same rivers. An example given is the Skagit River in Washington state. Portions of it will be under study for inclusion in the system, but one main stem has already been developed for hydropower and another is under consideration for development for flood control to protect downstream values. These cover the main portions of the river. Alternative flood control propositions are available but may be more expensive, and methods of financing these are hard to find.

Some combination of development of wild and scenic rivers will probably be evolved. The Commission is trying to come up with alternative solutions to be proposed. These alternatives then could be decided upon by Congress. He pointed out that if one went to development on the Skagit River, there would be structures on both main legs of the river.

Mr. Tileston then referred to section 7 of the Act which deals specifically with water resources development. When dealing with segments of a river, developments are allowed on other segments of the river as long as they do not invade or unreasonably diminish values present in the wild and scenic river portion.

REGULATION OF A WILD RIVER

The following discussion concerns three main questions: (1) can a wild river be regulated (2) if so, which types of regulations are permitted, and (3) does the term "wild river" really consider recreation to be the foremost consideration?

Regarding the first question, both Drs. Craighead and Leedy maintained that regulation of any sort precluded a river from the wild classification, but that such rivers could still be classified as scenic or recreational. Mr. Tileston maintained that this would depend on each individual case. He used the Rio Grande as an example, pointing out that in a completely natural state the flow from the upper portion of the river would never reach the lower river. The lower portion of the river is fed by springs, and depends completely on these springs for its flow. Therefore, even though the upper portion was fully regulated the lower portion could still be considered a wild river. The question arose as to whether a wild river could be regulated to enhance its wild and scenic qualities, such as a dam upstream from the wild classification to be used solely to augment the low flow period and thus extend the float season, or to improve water quality.

Mr. Giffen then referred to the Act, saying that while there are restrictions as to development with the classified river system, once outside this area things are different. The Act reads, "nothing contained in the foregoing sentence, however, shall preclude the licensing of, or assistance to, developments below or above a wild, scenic or recreational river area, 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." This would, in his interpretation, allow development outside of all classified rivers. There was some dissent about the above mentioned development concept, and the group never did come into full agreement on developments permitted under the wild classification. There is no way to automatically or mechanically decide which rivers are eligible and/or what their classification would be. While it is important to understand each criticism, the collective intent is most important. The guidelines are not absolutes, and the investigators will have to exercise their judgement.

The next topic was consideration of developments which might be considered after a river is included in the system. The key words in the Act apparently are "reasonably foreseeable". If a lot of work has been done on a project, or if need for a project is seen within the next 5 or 10 years then this should be considered. Other future developments either within or outside the system, would also be studied very carefully before being proposed. Even a project such as low flow augmentation could receive a lot of criticism.

Regarding the question of recreation as the foremost use of wild river, it was generally agreed that this should not be the case. The reason being that a wild river might need regulation to lengthen the recreational float season, but this regulation could be very adverse to scientific studies of a wild river. This argument convinced a few others that there should be no regulation on a wild river, but there was still no consensus on this definition. The guidelines for evaluation of wild, scenic, and recreational rivers, February, 1970, indicates in the general characteristics section that there should be sufficient volume of water during normal years to permit, during the recreational season, full enjoyment of water-related outdoor recreation activities generally associated with comparable rivers. If the water supply is inadequate, additional water would have to be supplied reasonably and economically without diminishing the qualities of the area.

Management of these rivers was also briefly discussed, including the proposal that we may want to decrease use of the rivers in the near future to protect their environment. An alternative proposal suggested was maximizing use on one portion of the river while managing the other portion of the river for something else. A benefit of the study rivers is the application of their policies and managerial principles to the instream rivers. The group readily agreed that regulation of wild and scenic river use would be needed, especially for the wild river classification.

Mr. Davis then spoke about the state's position and responsibilities on wild rivers. The state seems to be favorably inclined towards wild rivers. He pointed out that there may be some desire to limit the amount of river that the state contributes to this system, because various factions believe that the state needs development.

The Idaho Water Resource Board is in the process of developing a state water plan as required by the state constitution. Although they did develop

a plan independently for the Bear River Basin, the rest of the basin planning will be done in conjunction with the Pacific Northwest River Basins Commission Plan. One reason for this is the difficulty for a state such as Idaho to support a staff of planning personnel large enough to do an adequate job.

The three-objectives are (1) to develop plans for national efficiency; (2) regional development; and (3) enhancement of environmental quality. At the end of the planning period, conflicts under the three objectives would be merged to come up with the best possible plan from the state point of view.

He observed that one of the things the water planners needed to know about the wild river concept was how many of the rivers in Idaho would be needed to fulfill the purposes of the Act. How many miles of river are needed for kayaking, recreation, scientific purposes, etc? Just what is the total need for wild rivers? The state must know this so it can continue with its planning. The wild rivers proposals would be more palatable to this state's planners, and probably to other state's planners, if the state could visibly gain economically from wild rivers. The state is asked to give up a potential economic gain if other alternatives are not developed, so an economic gain from recreation must be shown. Mr. Davis also pointed out that there are rivers in Idaho that have low opportunity costs as far as the state is concerned, such as the Bruneau. This is one river that could probably be proposed for inclusion without much objection being raised at the state level.

Cooperative interagency studies were discussed, especially the state-federal aspects. There is a proposal to study the Salmon River jointly, although a joint report would not be submitted. The Forest Service would still be responsible for the final report to Congress. Dr. Michalson reiterated that the methodology study was not the joint study, and though they are related and contribute to each other, care should be taken not to confuse them. The joint study will make recommendations, whereas the methodology will not. If a joint study is carried on, a memorandum of agreement between the governor of the State concerned and the Secretary involved should be prepared. The opportunity to set precedents for state and federal action on this type of study using the Salmon River was also pointed out.

PUBLIC INVOLVEMENT

Among the important facets in any type of study that will affect management of public lands, is the manner in which the agencies and the public become involved. This concept of voluntarily bringing many diverse interest groups together to formulate plans is a relatively new approach, and often quite frustrating! A couple of people most intimately aware of the problems and frustrations of this type of involvement are Mr. Slusher of the Forest Service and Mr. Evans of the Sierra Club. Both men have worked at this in recent years, often from seemingly opposite sides of the fence!

Mr. Slusher began by saying that the hypothesis had been made by a University of Montana professor that the Forest Service is changing from an organization that doesn't listen much to people to an outfit that solicits suggestions from the people. Using a program called managerial grid, the Forest Service calls for public involvement in such things as wild and scenic river classification. There are several reasons for doing this. First, if the best possible public resource decision is found without the participation of the public in its involvement, the people are liable to resist it just because it's new. However, if they get involved in making the original decision, then they are also committed to it! Second, collective knowledge is usually greater than singular knowledge. By having different people contribute, facets of the situation that would not otherwise be heard are brought out. Third, along with the above benefits, better attitudes of working together appear, and many communications barriers begin to disappear. If this works within the Forest Service, and between the Forest Service and the public, then it should work when dealing with other agencies!

In setting up the classification study for the Middle Fork of the Clearwater, the initial step was to look at all the components of the study. In answering the questions of who should be involved and how the deadline would be met, the Forest Service used a critical path on the three different parts of the study. These parts were: general public involvement; inter-agency relationships; and technical and professional resource data gathering.

The objectives of public involvement were to try to determine what the people wanted, and to gain inputs to the study from them. An interesting

facet of this study method was that professionals thought that no general management principles would work along a certain segment of the river because it was largely in private ownership. When the subject was broached to the people along this stretch of the river, the Forest Service was pleasantly surprised to find the people receptive to the idea of maintaining the environment, and they reached several areas of agreement with the local people. For instance, it was generally agreed that a pleasant environment should be maintained, and that any subdivision should be based on a spacious concept compatible with the environment.

He reported that reaction to the public hearings was quite varied. First, the hearings were treated as informational meetings. When the people asked what the Forest Service was going to do, they were told the Forest Service had come to them to see what the people would do with the law. The law was explained to the people and they were then solicited for their opinions on management of the river. In the local hearings, the people knew their interests were involved, so they responded quite well to this challenge to meet the problems of the immediate situation. The further away from the immediate area, the more general were the arguments proposed, and the discussions were more of the traditional variety of commodity utilization versus aesthetic and recreational values. The main elements in public involvement were public hearings, press releases, individual contacts, interagency meetings and tours, review of working papers, and reviews of scenic easement guidelines. Identification of problem areas was accomplished. He was confident that there was a good representation of the population at the meetings.

Mr. Simpson was also quite enthusiastic about the public meeting approach, having participated in a few of them himself. People were not fighting Forest Service regulations but instead were expressing opinions out of which would come some regulations with which they could live. He was sure that most interests were represented, and that the public meetings were helpful in bedding down public opinion so that it would not flare up against the things the Forest Service was trying to do. When the people realized that they were not about to be unduly restricted, and that the wild rivers classification could, in the long run, benefit their interests, they seemed to appreciate what the Forest Service was doing.

One of the topics in the ensuing discussion was that of state and local interests tending toward one direction whereas national interests were going another. This substantiated Ed Slusher's earlier remarks, that the further you get from the scene of action the more generalized the arguments become. Usually the local people desire a rather limited management, they do not want things to change and will oppose any management criteria proposed. However, once you get local people involved, it might be found that national and local interests are quite alike.

The question then arose about national involvement. These public hearings obviously could not be carried out across the nation, but perhaps national organizations could be involved. In conjunction with this, the formation of a task group's activities was explained. First the interagency task force is formed at field level. Then contact is made with political leaders, county commissioners, town councils, etc., all the way to the congressional delegation. They are informed that the study is under way, who is doing it, who else is involved, and what the study is about. The task force then tries to answer some of the important questions: what happens to the individual's property, the timber resource, mining, etc.? At the beginning these questions can be answered quite generally. Then public meetings are held, the study proceeds and when the Forest Service gets ready to formulate a plan, they have a good grasp of the subject. Eventually, public hearings are held and some specific feedback is received. The timing of these steps depends on individual circumstances. In some cases members of private organizations will be members of these task forces, in other cases they won't be task force members but will be consulted. Even if a private organization isn't represented on the task force, its interests are taken into consideration when the collective group of state and federal agencies get together to formulate plans.

The next discussion leader was Mr. Evans who spoke on the concerns of these private organizations. A need for confidence in the agencies doing the evaluation was expressed. For instance, when an agency that is known for its strong construction bias is charged with evaluating a river for its scenic and aesthetic qualities, the Sierra Club is understandably disturbed, and they would like to be at the first public meetings.

Speaking for this group, he expressed a desire to classify its members as environmentalists instead of preservationists. Although their interests

do include preservation, they also are interested in pollution, zoning, freeways, and other environmental problems. While the Sierra Club is not completely happy with the Wild and Scenic Rivers Act, they sincerely wanted something similar, and were, therefore, in favor of having the Act passed. They feel it is a step in the right direction, that the issues of wild rivers are basically natural environment issues.

Mr. Evans then gave a brief insight into what motivates a person to join the Sierra Club or similar organizations. First, there is the opinion that natural environments are important, . . . important enough to fight for and protect. Many people are coming to realize that what use to be endless space, endless rivers, endless wilderness, clean air, clean water, . . . has now disappeared. There are some of these things left, but they are no longer in endless supply. People in general are beginning to get alarmed about this and are willing and determined to do something about it. In many cases these people feel a deep emotional need for such a place as the Salmon River, or even Yellowstone Park, whether they are actual, physical users of this commodity, or just vicarious users. Natural areas often arouse deep, emotional responses within people, and therefore, they desire to preserve such places. The exploitive extraction of timber and minerals from these areas without regard to the environment are the sorts of practices these groups are working against. The fear of recurrence of past deeds and practices, and for that matter, some current ones, is one of the motivating influences of these people. He believes the Forest Services' public involvement policy is a step in the right direction. Hopefully this will encourage government agencies and private organizations to work together toward some of these goals instead of being the traditional antagonists they are.

Most Sierra Club members come from urban areas, or are at least working in urban areas. They watch suburbia sprawl across the landscape, hear increasing levels of noise, see increased pollution, and come in contact with increased population pressures in their daily lives, and as they drive along crowded expressways to work. This all leads them to look for places where there is peace and quiet, with clean, natural surroundings. When they use these places they do it in a non-extractive sense, the only consumption is seeing, smelling, or perhaps taking pictures. They tend to appreciate natural beauty more because of the type of environment in which they live.

These environmental organizations do not see themselves as "just another special interest group" for several reasons. One is because their interests are non-economic, another because they are talking about a philosophy or land ethic. The conservation movement is a volunteer group, interested in both vicarious and physical use of an area. For instance, the Grand Canyon was not saved by the people in Arizona, but rather by people all over the country.

In a philosophical consideration of the wild and scenic rivers bill, Mr. Evans stressed that the Act is a Rivers Bill, not a Dam Bill, or a Hydropower Bill, or a Flood-control Bill. Congress passed it because the people wanted to protect some of the rivers. They selected some rivers, and opened up consideration for others. He suggested that the studies take a positive approach to the values of the rivers. "Don't stress the benefits foregone if the river is included in the system, stress the values foregone if it isn't included. Don't stress the values of developing the river, stress the values of keeping it free-flowing, keeping in mind the principal of the Act and the reasons we have it."

ENJOYMENT OF A WILD RIVER

Following Mr. Evans' appeal and the ensuing discussion, the entire group was treated to an afternoon of floating the Salmon River. Rubber rafts of various sizes were the main means of transportation and the return trip was made via jet boat. In this manner everyone had a fresh, vivid impression of the experience of floating a truly wild river. That evening the discussion turned to personal gratification and aesthetic appeal of wild rivers, as well as some discussion and suggestions on the questionnaire being used by the methodology group to determine aesthetic and recreational values of the Salmon River area.

Mr. Hirschi indicated that he had some experience in floating both the Salmon and Colorado Rivers, and yet he had difficulty in determining exactly why he was attracted to these rivers. It was actually a combination of many factors. In the case of the Salmon River, scenic beauty was probably the foremost attraction, with the adventure involved playing a close second. In his opinion, each river has beauty predicated on its own environment and it would be difficult to choose between rivers.

The difficulty of determining a standard scheme for evaluating aesthetics was discussed. One of the most important factors in aesthetics is individual bias. The need for someone to ultimately make a value judgment was recognized. It is important that this decision-maker have all the factual information available when it is needed.

He mentioned that Idaho was fortunate in having these rivers, that they were a natural resource of importance. Whereas other states have oil or other natural resources which provide significant amounts of money for them, Idaho will be able to capitalize on these rivers.

Next, Mr. Simpson described the use of the term "aesthetics". It has been popularized to a point of overuse and is used with many meanings. He prefers the term personal enjoyment, and contends that sightseeing on the Salmon River is one of life's true personal experiences; one that most people would enjoy.

From a professional standpoint, Mr. Simpson looks at the Salmon River as a terrific transportation system, a system in which fish move up and down an unobstructed river, going downriver to the ocean and returning to seek out their historical spawning grounds. His type of work

requires evaluation of the various ramifications of the Act from the standpoint of what the management problems will be.

The need for public education was recognized. Because the average person in the United States has not spent much time outdoors, he does not understand how to enjoy it. A major objective of this public education program would be to teach the people how to enjoy the landscape, the water, and their surroundings without degrading them. People must be taught to respect the landscape, and the environment in which they live.

Resource managers are faced with the challenging job of developing regulations for management of a wild rivers program and of educating users of these rivers. People making river trips should come out feeling that their time was well spent and that the trip cost them comparatively little.

Then, Mr. Eklund spoke about the gradation of enjoyment along the Salmon River. There is a freeway along the river between Riggins and Whitebird providing an opportunity to enjoy the river at high speeds. Between North Fork and Corn Creek the low speed, gravel road which parallels the river provides different classes of enjoyment. However, it is not until one gets in a rubber raft, floats through some of the rapids and becomes surrounded by peace and quiet that you really begin to get a good feel for the river.

Mr. Eklund considers teaching people to appreciate scenic beauty an almost impossible task. Many people, ostensibly out to enjoy nature, bring civilization along with them in the form of campers, electric generators, etc., so that they do not have to put up with the rigors of nature! Those people would probably find it difficult to enjoy nature in the manner prescribed by the members of this symposium.

Further discussion principally concerned education in environmental appreciation, articulation of environmental appreciation, the development of a system in which there would be a gradation of opportunities to enjoy outdoor experiences from scenic viewpoints to whitewater running, and the physiological and emotional responses to these types of experiences.

Some thought that the public should be educated in personal environmental enjoyment, or appreciation. If this were done there would at least be a common base from which to evaluate aesthetic experiences,

and the public would find it easier to express their desires. A contrary opinion is that this means a molding of the public in a given image, a task probably as impossible as it is distasteful.

It was generally agreed that the more you bring into such an experience, the more you will get out of it. Essentially, the more you study nature, the more familiar you are with the environment and its intricacies, . . . the more you will appreciate your experiences with nature. Mr. Tileston pointed out that while on an outing, a person does a lot of little things that he does not realize or appreciate until at a later time, things such as looking at Indian petroglyphs and pictographs. At the time the action is taking place you do not put any weight or importance on these things except in the spirit of the total package. However, while reminiscing these experiences can take on a great deal of importance.

The types of experience one obtains from nature depends a lot on personal upbringing and education. The former is illustrated by the spiritual emotion that many people feel when surrounded by giant redwoods, the latter by the experiences related by a trained biologist, geomorphologist, etc., after a trip into a wilderness area. Truly, "Beauty is in the eyes of the beholder!"

Several of the people present mentioned instances in which they probably would not have recognized or appreciated much of the detail on a wilderness outing had it not been for their education. In other words, a person trained to spot wildlife might see ten times as many animals as an untrained observer .

Some methods of environmental education were brought out. Mr. Slusher spoke of a philanthropic ecologist who set up a special foundation in which he hopes to teach the fundamentals of ecology to small groups of young people from all walks of life. This ecologist would aspire to show his students man's relationship to his environment, both good and bad. He would do this through exposure of the young people to wilderness areas, where man's influence has been slight, then going to the altered areas in the mining districts of Kellogg and Wallace, on through to the effects of a city such as Spokane. The young people sharing this exposure would preferably be quite a diverse group, representing a cross section of both the ethnical and economic populous.

The other method of education advocated was instruction through example. By watching people such as those in the symposium group, other people could come to enjoy many of the experiences and activities of natural areas. An example, of this would be teaching groups such as boy or girl scouts, through our activities how to enjoy the environment without degrading it. Several people spoke of the satisfaction they received through taking people in a float trip down a wild river, or through pointing out the best fishing holes and watching others catch the fish. This is another very satisfactory way of sharing our experiences as well as teaching other people to enjoy nature. Still another example would be through the use of films and/or television, giving the general population the vicarious enjoyment of a float trip on a wild river.

A concern was expressed for a need to develop a gradation of opportunities so that more people could enjoy a wild river. This would mean that there should be some highly developed campgrounds along with some primitive ones. It should be pointed out that the Act provides for this through the three-way classification of rivers: wild, scenic, and recreational.

THE WILD AND SCENIC RIVERS QUESTIONNAIRE

The next subject considered was the evaluation of people's preferences concerning wild rivers through the use of questionnaires and economic evaluations. One of the problems that recurs here is the problem of people articulating their response to an interviewer. People may not be able to put their experiences, or what they are feeling, into words. If an interviewer were to ask a fisherman what he enjoyed about wild rivers, his response would quite likely be "fishing". This undoubtedly would be partially true, but it could well be that this individual was there 70% for the surroundings--the environment, and 30% for the fishing, and not be consciously aware of it! Without being consciously aware of these facts, his reply to the questionnaire might well be different than if he could adequately express himself.

After the float trip, each member of the symposium was asked to fill out one of the questionnaires that is being used for the evaluation of recreational benefits for the methodology study. This provided the experience of being interviewed, knowledge of the type of information being obtained, and an insight into the manner in which each question is structured. Dr. Michalson began by explaining the questionnaire.

The first part of the questionnaire asks origin and destination questions, mode of travel, time spent on the river, and related information. Questions 9 through 14 deal with opinions on potential uses of the river, fees, available facilities, and fishing.

Dr. Craighead indicated that question 13 has two responses that are essentially identical, float control and finding a campground. Dr. Michalson concurred, and suggested that we should get opinions on how river use should be regulated, or if it should be regulated at all. Then, Dr. Craighead asked whether a question on regulation of types of craft should be used.

The only questions that there was much controversy about were questions 15 and 16. Number 15 allows for expression of various experiences which stand out as being very important to the person interviewed. Question 16 allows the most significant experience to be selected. This would be a key to the most important quality of the river. A problem may be that people might indicate that all features are most important, or that none are specifi-

cally outstanding. Also, there may be a conflict in choices, for instance if adventure was the most important experience, but you could not have adventure without floating, what would be the best answer to select?

Other questions raised were whether the particular activity a person was engaged in would affect his answer, i.e., if a person had his family out camping but was interviewed while fishing, would he tend to say that fishing was his most important activity? Mrs. Ecklund pointed out that the answers may be quite different whether you asked the man or the woman of the family. Also, the answers probably would be different depending on personalities, experience, and whether they were asked before or after a trip.

Mr. Stauber suggested adding another column to question 15 and then have the three most important experiences ranked. This would give a chance for expressing combinations of choices. Then, you could separate the most enjoyable experiences while coding.

The interviewers said that people responded differently to the most enjoyable experience question, but that fishing was the most frequent response. They also indicated that no one would let them get away with this single answer, but that they would always qualify their answer by using several of the other choices. They also said that the guides were quite agreeable, in general, and that the most common complaint of vacationers was getting stopped too often for questioning on their trips! They are experimenting with two methods of handling the questionnaires; handing them out and letting the individual go through it himself or guiding the individual through the questionnaire.

The last question on break down of family expenditures was the question most disliked and troublesome. The interviewers had to lead most of the people through this question because people had difficulty in deciding how much of their total expenditure was spent in Idaho. They evidently do not pay particular attention to this type of financial break down while traveling.

Dr. Craighead suggested a slightly different tact to this measurement of values achieved from a wild river. This was to measure the physiological response of people as they experienced the rivers charms. Through some pilot studies he found that the heartbeat of an experienced river floater going through a set of rapids increased in anticipation of the

rapids, peaked during the ride through the rapids, and reduced to normal shortly after going through the rapids. It's interesting to note that the heartbeat reached the equivalent of that of an astronaut during liftoff. This physiological response approach is quite different from any of the previously proposed evaluation procedures.

ECONOMIC CONCEPTS

Mr. Warnick started the next discussion by stating that there was an important economic consideration when talking about wild rivers, and that compromises with other interests would have to be made. He proposed that economists would have an important role to play in making these compromises, and asked Dr. Stoevener for comments.

Dr. Stoevener began by asking for consistent use of certain terms and indicated that we are still in a developmental aspect of terminology as far as wild and scenic rivers are concerned. While listening to the previous days of discussion, he discerned a controversy among various people as to the amount of development consistent with the objective of wilderness. His contention is that the term "wilderness" is inconsistent with any level of use: Preservation of wilderness can be accomplished only through exclusion of use. He questions whether this is the definition we really mean to apply to wilderness areas. When we speak of setting aside portions of our natural environment for purposes of scientific study, then this definition of wilderness is valid, and there would probably be little difficulty encountered in setting aside tracts for this use. However, when you speak of teaching people to enjoy wilderness, or making it possible for them to participate in experiencing vestiges of primitive America, then you are speaking about development, and your problem becomes the extent of development wanted.

Dr. Stoevener's comment on economic evaluation was to the extent that our economic technology is nowhere near being fully developed, and may never be developed to the point where we can address ourselves to the first kind of wilderness use, the evaluation of benefits from a very high degree of preservation. The best we can do is get as good a reading on these things as possible and make our decisions accordingly.

The instant wild and scenic rivers are those where the opportunity costs are relatively low. They are the rivers whose classification no one contested, for which other plans for development were not prevalent. This is consistent with what most people feel would be a minimum worthwhile sacrifice to preserve some environments for these purposes. When you get to rivers wanted for other purposes, you get into an area of more conflict, but it is also an area in which economic evaluation becomes more possible.

He hopes no one has the illusion that we can value some particular aspect of the scenery, or someone's emotional response to something like a wild river. A classic example of economic evaluation of natural aesthetics mentioned was that of putting a price tag on a beautiful sunset. Fortunately, we do not have to do that because there is no need to ration sunsets.

Getting back to wild rivers, it is not just one single thing, but the total combination of experiences that attracts people to certain areas of Idaho. People evaluate this and make their decisions as to a location for their outdoor experiences. A major problem with this type of evaluation is option demand. Some people would be willing to make personal sacrifices if asked to do so to preserve some environment, even if they never went to that part of the environment. Some work is now being done with the option demand issue. Option demand means that the people have an option to exercise, but they have not chosen to exercise it yet. Collecting data from recreationists at the recreation site obviously does not get to the option demand evaluation. It is another problem in evaluation we have not solved yet. Option demand may be behind the tremendous increase in membership in conservation groups. Many people were willing to support the campaign against the Central Arizona Project, even though they were not involved as participants in the Grand Canyon controversy.

Some economists take exception to the idea of option demand, saying it is irrelevant because it exists with everything. For instance, if you happen to not own a Cadillac you might think it is worth something to you to have Cadillacs produced even though you may never purchase one. His position is that we should be careful to remember there may be such things as option demand, and not to forget about it until economists can get that issue resolved.

The next topic Dr. Stoevener discussed was that of supply, mentioning first that, the physical supply of the wild river type of resource is fixed. No matter what type of planning horizon we might be concerned with, we cannot expect an increase in the physical supply. Now, how about economic supply? When we talk about supply we talk about days of use, accessibility to certain kinds of sights in terms of use, or some other measure of economic use. Previously there has been discussion about teaching people to enjoy the use of a wild environment. Where might this get us into difficulty? Many of these kinds of environments are delicate, and cannot

stand much use. Should we emphasize the education of people in the ways of the wilderness, when we know we are going to run out of this environment and will not be able to satisfy these desires? If we can spend billions of dollars to change peoples preferences to buy a certain product, couldn't we do the same to change people's preferences in uses of the natural areas, or even change their demand to a new type of activity? We would have many choices. Skiing may provide an example. If we had the many people who are on the ski slopes, not utilizing very much of a natural environment, out hiking over trails and getting lost in the deep snow, the ski patrol job alone would be extremely expensive. Instead, we have adapted to what people physically can do. We have concentrated them in small areas that are easily accessible and they seem to derive a great deal of satisfaction out of using the natural resource for outdoor recreation in this manner. Similarly, through education we might expose people to the fine arts. Living in a city with a good symphony orchestra, one could learn to appreciate a good symphonic performance. For people properly tuned to such an experience, the emotional response is probably quite similar to the response others have for the outdoors. The nice thing about appreciation for symphonic performances is that we can increase their supply tremendously, through records, tapes, or even more orchestras. These needs we can fulfill at relatively low costs, so perhaps we should influence people's preferences in this manner. It may be physically impossible to meet their increasing needs in the area for wilderness experience. Hence, we may want to consider carefully the advisability of allocating individual educational resources toward changing peoples preferences for wilderness use.

On the subject of education, he points out that people may educate themselves in the enjoyment of wild areas. Dr. Krutilla argues that as people go with pickups and campers, taking many of their home conveniences into the natural environment, they learn that there is something enjoyable there. Maybe they try fishing and find it enjoyable to try another type of fishing, one requiring more skill and finesse. Pretty soon they start to go to places they can't take their trailer, but can take only a pickup, and soon after that they may start backpacking. They develop their skills and as a consequence they are getting to demand natural resources which become more and more expensive and difficult to supply. Some work is underway to test this hypothesis.

He also mentioned that as Americans move from rural to urban centers, they are making sacrifices to get into a more nearly non-natural environment. He also pointed out that Europeans look at the natural environment quite differently than many Americans do. When asked what this difference was, he said, "Europeans also like wilderness, but to them the wilderness starts not where the paved road ends, but where the curbs end along the paved road." He elaborated on the principle, explaining that to get away from it all, "May mean to escape from the daily routine of home." The European attitude is that once you leave the city and go to a smaller town with some well cultivated forests around it, you are really in the wilderness. Dr. Stoevener mentions that he heard the same types of comments from Europeans viewing the cultivated forests as he heard from this group as they floated the Salmon River. In both cases the feeling of response to the environment was very intense.

When asked whether a large number of Americans felt the same way as Europeans do, he alluded that while this may be true, the people of the Northwest seem to have a unique feeling towards wilderness. He pointed out a study by Lucas in which he questioned people coming to a wilderness area in Minnesota. In answer to "where does the wilderness begin?", he got replies ranging from as soon as they go out of Chicago to never, there were always too many people, too many beer cans.

Another point Dr. Stoevener expressed was that with Europe's long history of urbanization, we may be able to learn a few lessons from them on outdoor recreational preferences in urbanized society. In our society the challenge seems to be the maintenance of a wide range of outdoor recreational opportunities; including the possibility of enjoying relatively "wild" natural areas. It is important to discover what kind of satisfactions are derived from outdoor recreational experiences. Means need to be derived to encourage recreationists to seek satisfaction of needs not dependent on a delicate natural environment, in other areas than those for which the term "wilderness" is to remain meaningful.

Discussion next centered on ways in which people could earn the right to participate in certain experiences. While it was quickly agreed that a rationing device for regulating use of wilderness areas consistent with the ecology and environment defined was essential, the vehicle to achieve this regulated use was never agreed upon. Some of the methods

discussed were education or study, physical tests, rewards for service to society, placement of the wilderness commodity on the marketplace, and various lottery systems. As mentioned above, none of these methods was considered definitely superior to all the rest.

Concern was expressed that a user fee would price wilderness and wild river use out of the market except to the rich. Dr. Stoevener thinks this already has happened to a large extent and that moderate user fees would not change things. So far use has not been regulated in this manner, but he thinks that the questionnaire being distributed by the wild and scenic rivers methodology study will show that the average user of the river will be in a substantially higher than average income group.

Government by majority tends to exclude the desires of many minority groups. Whether or not this is correct is a moot question. An example of this type of thinking is the priorities given to the use of a city tennis court. Even though it may be an excellent place for children to play on their tricycles, we quickly exclude them when someone wishes to play tennis. These tennis players, in turn may be required to give up the court during certain hours of the day when the city tennis team wishes to practice for tournaments. If we are given just one tennis court, then the tennis team has priority rights to the court. This somewhat parallels the use of a wild river, but quickly diverges when demand increases. The city fathers can easily build another tennis court, but the supply of wild rivers is fixed. Another example is the use of existing wilderness. It is already limited to people of high income, usually with a high educational status. The people from the ghetto are not the ones taking the \$500 pack trips.

Dr. Craighead favored emphasis on preservation of unique areas, with use only when this was consistent with preservation of the areas. He does not want to emphasize increasing use and developments in these areas. Mr. Slusher then expressed the view that if these areas did not get used, they would lose public support and therefore political favor. This attitude indicates that heavy use of these areas, including wild rivers, would be needed in order to justify them. A dissenting view was presented by Dr. Craighead. He thought that because some rivers had already been set aside without receiving heavy use is an indication that they do not have to be justified on the basis of use. Mr. Slusher then mentioned that a lot depended on the range of options for particular area. For instance, alpine

country has few uses, it is not worthwhile to graze it, the timber is not too attractive for logging, in general there are few other uses for this area other than recreation. One use might be for a microwave tower, or perhaps a ski area, but commonly there just aren't too many options to be exercised. If a river wasn't needed for something else then there would be little opposition to including it in the system. This same idea has been expressed earlier by Drs. Morisawa and Stoevener.

An argument for natural areas was presented in another light. He mentioned that while everything is going up in price, the price for public outdoor recreation has remained pretty constant. This recreation is provided at close to zero cost, while the cost of providing it, in terms of management requirements and opportunity costs, has been rising. Perhaps we need to subsidize our parks in much the same way we subsidize the farmer for irrigating or the power companies to produce power.

On the subject of congressional or other political support, he cautions about attaching economic values only according to numbers of users. This, he says, is true only if every user day is worth exactly the same as another. In the case of the wild river, one user day might justifiably be worth 100 or even 1,000 user days in an urban picnic area. Economics is concerned with identifying such differences in evaluating.

Recreation areas for the American public can be evaluated from another vantage point too. There is a whole spectrum of use, from highly developed campsites next to a four lane highway all the way to primitive trails and wilderness use. Suppose one were to spend funds for public benefit, which kind of area would one develop? In trying to get evaluations from the consumer, the recreationist, on how he feels about the various types of development, one might want to experiment in a certain area with a system of prices. Consumers could make their selections just as they do elsewhere in the market place. If the experiment were properly designed, one could quickly tell how consumers felt about the various experiences and information would be generated which would also be useful in other areas where use pricing was done.

The high cost of managing a wilderness was mentioned. It was pointed out that a wilderness is not only developed, but also managed. There are trail crews, fire suppression activities, patrolmen, and in some cases, garbage collecting crews, besides the administration costs of the

area to be paid. If a comparison of these costs to the number of people that physically used these areas was made, the costs per man-day use would be found to be exorbitant. It is one of the costliest forms of recreation that we have.

The idea of using experts to suggest areas for inclusion in the system was brought up again by Dr. Craighead. An example of this type of management being used today in government decision making is the expenditure for anti-balistic missile systems. These expenditures are not necessarily made on the basis of what the public wants. They are made on suggestion by experts who think this is best for the general public, and they manage to convince Congress somehow, that their advice should be followed. He stresses justification of these areas for purposes of benchmark studies for use in comparison of water quality, air pollution, quantitative and qualitative measurements of plant and animal communities, and many other similar studies, with these qualities within the United States today, and in the future. Perhaps a panel of experts in these fields could convince Congress that this is the "best" use for these areas. Mr. Slusher said, "Congress apparently speaks for the people, and if you have any faith at all in a democratic government in which Congress makes the final decision, then this is the will of the people." In this vein of thought, it is up to the "experts" in the fields of biological sciences, recreation, hydrology, etc., to convince the Congress that wild and scenic rivers are in the best interests of the American Public.

Welfare economics was alluded to briefly. Mr. Warnick stated that in attempting to evaluate wild rivers, we are trying to fulfill the desires of the people. If we give the experience of a wild river to some lesser income people, will we elevate the standard of living or the hopes of some of the people with lesser privileges and opportunities? This question was posed while conceding that we will always have poor people, and some of these people will not have the opportunities to work and advance themselves that the majority of our populous has. Would this gesture then improve the lot of the people as a whole? These questions on welfare are quite controversial. Dr. Stoevener questions the use of natural resource policy as a way to redistribute incomes. Subsidizing the use of natural resource such as a wild river system means we would essentially be using general tax funds to subsidize those with above average incomes who are using the river! User fees

for recreation may be much more appropriate for areas such as the Salmon River. He does not advocate charging admission to a city park, in fact he may approve of bussing people out of the cities into recreation areas free. This is made on the assumption that there really are positive side effects to outdoor recreation that is more beneficial to society than to the individual. However, most evidence points out that the primary beneficiary from outdoor recreation in the more remote areas is the person who participates in these activities. This recreation can lead to a better, more contributing, citizen.

The value judgements that Americans have always made about resources was mentioned by Dr. Michalson. Americans have always experienced the tremendous outdoors, and many people still visualize the virgin outdoors that was here when the pilgrims landed. "There is no need to charge for natural resources because there is plenty to go around." But, every competing use is of some economic benefit to the population as a whole, and can be measured in dollars. This attitude has prevailed in the past. If a user fee is put on resources, thereby making them valuable to Congress on a competing basis with other uses, this puts it in a little different light. Large user fees would be needed to permit recreation and aesthetic uses to compete with water power, irrigation, water transfer, or water quality. A more practical way of looking at this might be as a schedule of payments that people would be willing to pay for the experience. Dr. Stoevener was in favor of using differential fees for residents and non-residents for use of these areas to the extent that local residents share in the burden of providing the recreational services to a greater extent than non-residents do.

Agreement was reached on the principle that a perfect system will not be found; it does not exist in management. The best that can be done is to decrease the inequalities that will have to be accepted.

HYDROPOWER CONCEPTS

The last speaker of the session was Professor Mann, an Electrical Engineer who sagaciously presented some of the developmental possibilities of the Salmon River Basin. His presentation started with the thought that if it weren't for the Salmon run, there would be no need to worry about opportunity costs except above Freedom Pool, a proposed damsite on the lower Salmon River. The fishery has been the deterrent that has kept the lower Salmon River from being developed along with the Snake River. The power market will give dollars for development, and the Salmon River contains about 30% of Idaho's total hydroelectric resource. (It also supports approximately 30% of the Columbia River's anadromous fish run.) If you put a large dam anywhere in the system, revenues from power and lake recreation as opposed to river recreation would begin to appear. Congress has been led to look for favor upon these things because benefits could be shown, current dollars, for such things as flood control, irrigation, recreation, and so forth. He also pointed out that the first estimates for recreation on these projects was pretty low. Since then, recreation benefits have proven to be substantial.

He explained that the total difference between developing some hydro-power in the lower Salmon or developing the same power in thermal plants somewhere else is not too great in the first economic grouping. However, after the dam is paid off, the additional costs of producing power by thermal means is very high. This is because you only have a relatively small maintenance cost on the dam, whereas the thermal generating costs remain the same.

Other problems are inherent with thermal systems. If you use nuclear power there is bound to be an impact on the water temperatures downstream. This is undesirable, but the addition of a cooling tower costs 5% of the total plant cost. This tower will deplete someone's water resources by 20 to 30 thousand acre feet per year, for each million kilowatts, and this limits the number of places you can put the plant. If you put the plant in southeast Idaho that would mean five thousand acres of potential irrigation foregone per million kilowatts. Now, if you build the plant on the lower Columbia,

this amount of water is no problem, but the high humidity in the area will cause the cooling tower to give off a fog plume causing problems with local communities. The next concept is to move back into the interior, and then there is objection to transmission lines. Put the lines underground and costs get prohibitive. In residential areas this is done, but the increment cost per family is pretty low. In a high voltage area the incremental cost per mile would probably build a six-room elementary school, so this is not merely an added cost, it is a multiplied one.

The power industry is beginning to feel very frustrated, because there is a responsibility to supply energy for air conditioning, lighting, industry, etc., and yet all at once there is not only a reaction against hydropower, but also against all the alternatives!

As a point of interest, an alternative usually not mentioned is that of pumped storage. This would utilize small natural areas for special purpose plants, say for peaking power. Up in some ridge or small valley you could have a small reservoir, and use small generation plants for special uses. Seasonal plants of this nature might be a possibility, and an example of this would be in the Warren Creek area. There is a possibility of a large seasonal plant there, with space to store about 10% of the annual flow of the Salmon River, the majority of which could be taken off during surplus flows. This involves some intrusion on the river, but a minimum. The contribution would be 800,000 to 1,000,000 acre feet of fall and winter water to the lower Salmon, Snake and Columbia for temperature regulation, power generation, etc.

In the future the energy systems will probably be thermal, and there are just a few places that hydropower could be developed anyhow. These hydro sites could be utilized anytime in the future when there is either desperate demand for water regulation, or energy. In the meantime, the differences in cost are going to depend on where and how some of the alternatives get accepted, and how expensive they will be.

To compare hydropower with thermal, go to the dam, find out what it's benefits are, cost of construction, operation, and amortization for a reasonable length of time. Then the costs, net benefits, and differences in annual cost of the most economical alternate thermal plant are compared. Some of the side effects to consider when making these comparisons are: with hydropower at the end of the computation period you have the existing

dam, power plant, and reservoir, whereas with a thermal system it is likely that the plant will be worn out and obsolete. There is some salvage value in thermal plants that is seldom considered and should be considered in the future. Other considerations would be that with a thermal plant you use fuel over the computation period, either coal or uranium, and your total supply is ultimately that amount smaller. When looking at the total resource picture, with a hydroplant you would still have in the ground the equivalent coal or uranium, plus the use of the water because it is a flow resource.

Professor Mann also predicts that we will have to increase the efficiency of the breeder reactors for thermal production, or soon this type of energy will have to be rationed just as the Salmon River is being rationed today!

When it was pointed out that an irreplaceable resource would be drowned out by a dam, Professor Mann said that he was merely a devil's advocate, and then argued that although flatwater may not be as attractive as flowing water, it is surely worth a portion of that value, maybe only a tenth, but it still has a value. He also questioned the premise that a reservoir averaging 300 feet in depth could drown out a 5,000 feet deep canyon.

Mr. Giffen said that if surplus flows could be diverted from the Salmon during the high water and still be in keeping with the objective of a free flowing and scenic environment, you might enhance the use of the river. He urged that we keep in mind that development may not be only for other uses, but might serve to enhance the environment we wish to preserve. Although conservationists have been at odds with the power companies for years, don't preclude the possibility that there are some good men in these companies who will listen, and satisfactory compromises quite likely can result.

Professor Mann next mentioned the efficiencies of the resource system. Coal is more efficient, at 40%, while nuclear energy is still dumping 70% of its energy into the environment. Whether air or water is the environment makes little difference except in plant cost. It has to go somewhere. Plant efficiency then, is one of the areas that needs work but is technically very difficult. The power companies are also changing their thinking about their areas. The old idea of operating a private power lake no longer holds.

The prevailing idea is that they are guests on a public river, and therefore they are making the public feel welcome at those areas.

When questioned about the average life of a reservoir from a siltation standpoint, he said that a lot depended on size, design, and character of the countryside. However, with a large reservoir, comparable in size to Lake Coeur d'Alene, the life of the reservoir should be similar to the life of Lake Coeur d'Alene. There may be some siltation, but this usually causes a delta formation at the inlet, and the silt load gets slowed and begins to drop earlier and the siltation would move up the stream as well as further out into the reservoir. For small agricultural reservoirs in rapidly eroding country, the useful life may be as short as a year. The life of major reservoirs may be several times the previous estimates. Some of these statements have been based on a siltation study done on Hoover Dam, which is certainly considered a major reservoir.

The session wound up with a few thoughts being expressed that family planning and population increase should be taken into consideration. A future session considering these things, the biological rate of growth, density in relation to resources, and other problems could be discussed particularly in regards to setting aside wild rivers and wild areas.

Dr. Leedy expressed the hope that with our large, wealth country, we could well afford a few wild rivers without compromising their management. Although it is not realistic to think everyone will get a chance to, or even want to, visit one of these wild rivers, we should not forget the need to set them aside so that they are available.

SUMMARY

This paper has discussed the viewpoints of people of varied backgrounds and interests on the subject of wild and scenic rivers. The discussion has covered most of the main points of wild rivers, from the plea to save some rivers for posterity to the developmental opportunities that rivers such as the Salmon afford. An attempt will be made to summarize the main themes of the symposium, and bring out salient points for re-evaluation.

One of the difficulties in working with wild and scenic rivers is the interpretation of the Act, P.L. 90-542, so that work will progress in the right direction and the proper information is placed at the disposal of the decision-maker. During the discussions disagreement on such basic questions as the definition of a wild river as opposed to scenic river was brought out.

Methods of studying a river and of collecting the information needed by the decision-maker, were also discussed. One of the first considerations is who should conduct these studies? Thus far, the responsibility for the study has been given to the agency which will be charged with administering the river should it be included in the national system. The individual states have vested interests in these studies, and provisions has been made for the states to join the agencies in these studies. Idaho, for one, has taken advantage of this opportunity. University groups would seem ideally suited to this type of study, having a residual of research ability available to do the job, or the study could be entrusted to competent professionals in the various fields such as natural resources, hydropower, etc. to evaluate the rivers.

Most of the participants agreed that the evaluation of the river should include a basin wide study. There are many physical measurements that should be made; water quality, regime, etc. If no previous measurements have been made, this alone could take many years to complete. The main problem is that of measuring subjective qualities such as aesthetics. There are many inherent difficulties here, and one of the foremost solutions offered was that of a ranking system on which competent evaluators merely ranked qualities such as valley width, turbulence, descent per mile, etc.,

on a scale of 1 to 5, or something similar, and presented this to the decision-makers as a descriptive entity to rely on for their decision. Variations of this scheme were also proposed.

The depth of study needed to propose a river for inclusion was also discussed. Here there seemed to be two different schools of thought, one called for a very thorough study of a river basin, including an in-depth study of the ecology, archeology, physical parameters, etc., requiring a rather extensive time period. The decision-makers should be presented with all alternatives, including development alternatives for management of the river and its basin area. The other school of thought was that a subjective evaluation of proposed rivers could be made, presented to the decision makers, and the in-depth study for management purposes would be made after the river is included in the national system. This method was advocated for the time period in which the public was amenable toward the wild river philosophy, to include as many of the important rivers as possible. A reminder was offered that P.L. 90-542 is a Wild Rivers Bill, and not a Development Bill. Therefore, emphasis should be placed on the former and not the latter.

The position of the State of Idaho on wild rivers was discussed as well as the parts of the involved agencies. We were reminded that inclusion of any river in the national system should be considered in light of the various river basin plans being made throughout the country.

The manner in which the public can get involved in these studies varies greatly. A few of the ways are: public meetings, encouragement to the study groups from private organizations ranging from garden clubs to national conservation organizations, letters to the editor, and prompt and truthful replies to questionnaires presented by professional investigators for the study of wild and scenic rivers. Also discussed was the problem of who to approach when seeking public reaction, or information, about wild rivers. The use of nationwide polls, regional or local randomized questionnaires, or questionnaires applying to actual river users were discussed, with most favor being shown the latter.

Economic considerations of recreation, and the various trade-offs usually considered were mentioned, as well as the principal of option demand. The fact that economics could not measure all of the factors here discussed, and that an attempt to do so would be fallacious was also

pointed out. The alternatives to development and the demands that the nation is putting on its natural resource base was also explained. These demands are not only for lumber, mineral, beef, and power, but also for outdoor experiences of varying degrees for revitalization so that man can continue his creative endeavors. There are very definite conflicts here, and decisions as to where the trade-offs begin will be needed in the near future. The realization that the attraction of numbers of individuals to some of the proposed wild and scenic river areas may tend to destroy the very values that the bill intended to preserve causes some reflections on management decisions that will have to be made.

The ultimate decisions related to wild rivers will have to be made by politicians, and their political processes will have to evaluate what the public wants done with their natural resources in light of all possible alternatives.

CONCLUSIONS

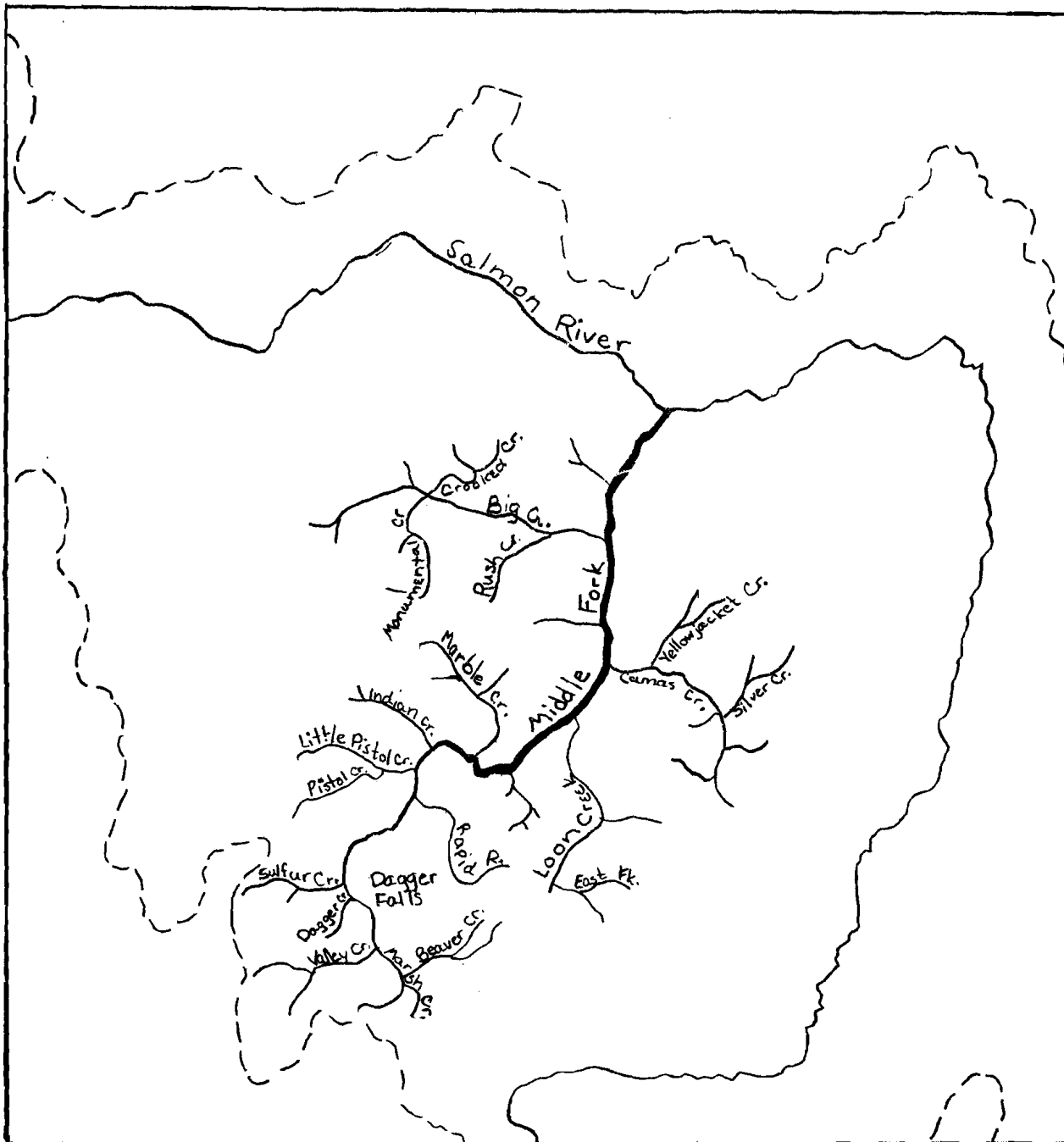
Several conclusions can be drawn from the foregoing report. First, the "Wild and Scenic Rivers Act" was enacted by Congress in order to preserve some rivers in their natural state for future generations. The Act is not a water project development act, but because there is some question as to development opportunities it was suggested that benefits foregone should be measured. A method to indicate the importance of aesthetic values should also be developed. First, the problem of identifying aesthetics needs to be resolved. The next problem would be of describing or measuring their contribution to a wild or scenic river. Emphasis should be placed on alternative methods of wild and scenic river evaluation. This is a broader problem than just economics or engineering. Education of the public in terms of wild and scenic rivers is needed, as well as providing means for the public to express their preferences. Interagency efforts and public participation in the wild and scenic rivers selection process should be enjoined. Problems related to the management of these rivers should be discussed and policies to regulate useage and maintain original values of the rivers need to be developed. The criteria to objectively select these rivers should also be outlined. The methodology study is an attempt to develop a rationale and to establish values for wild and scenic rivers. Hopefully, the criteria and methods will add considerable insight into future river selection studies.

APPENDIX

QUESTIONNAIRE ON USER OPINIONS OF RECREATION OF
IDAHO'S SALMON RIVER AND ITS TRIBUTARIES

Part of the Middle Fork of the Salmon River has been designated by Congress for inclusion into the nation's Wild and Scenic River System. Other sections of the Salmon River have yet to be classified. For these reasons, a study of the value and use of Idaho's Salmon River is being conducted by the Idaho Water Resources Research Institute.

Your personal opinion will be important in determining the type and extent of future development and use of the Salmon River area. Please assist us by answering this questionnaire as carefully as you can. Individual replies remain confidential, and any information you give us will not be used for any other purpose.



WILD AND SCENIC RIVER QUESTIONNAIRE

21517

1. Was the Wild River visit the MAIN reason for your trip? Yes _____ No _____

If Yes, did you also: Conduct any business _____
 Do any hunting _____
 Do any fishing _____
 Visit friends or relatives _____
 Others (please list) _____

If the Wild River visit was NOT the main reason for your trip, was it:

Business _____
Combination hunting and fishing _____
Visiting friends or relatives _____
Part of an extended vacation _____
Other (please list) _____

What influenced you to take your Wild River trip? (Check as many answers as apply)

Advertising of the Wild Rivers _____
A previous Wild River trip _____
Recommendations of others _____
Travel agency advice _____
Reading (other than advertising) _____
Other (please list) _____

2. Did you travel directly from home to the River? Yes _____ No _____

If you answered NO, where was the point of origin for this trip? _____

Name the last Idaho town you stopped at or drove through or the "jump off point" (airstrip, outfitter's camp, etc.) prior to reaching the river. _____

3. Method of travel from the town or location listed above to the river (Check one or more).

Car _____
Camper _____
Plane _____
Horse _____
Foot _____
Other _____

4. What type and capacity of boat did you use on the river? _____

Did the guide service (commercial outfitter) provide the boat? Yes _____ No _____;
the equipment? Yes _____ No _____

If your answer is No, what was your source of boat and equipment? _____

5. Number in trip. Adult males _____, Females _____, 18 or under _____, Boys _____, Girls _____

6. Which category best describes the group you made the river trip with?

- Individual _____
- Husband and wife _____
- Family _____
- Family and Friends _____
- Friends _____
- Member of an Organization _____
- Other (please describe) _____

7. How many days did you spend (have you spent) on the river? _____

How many more days do you plan to spend on the river? _____

What date did you start your trip? Month _____ Year _____

8. Is this your first trip on the Salmon River? Yes _____ No _____

If No, how many trips have you made on the Salmon? _____ On other Wild Rivers? List. _____

Do you plan on making other Wild River trips? Yes _____ No _____ No Opinion _____

9. One of the goals of this study is to ascertain users feeling toward possible development on those areas of the Middle Fork and Main Stream of the Salmon River that have not been designated as "Wild River". Would you MOST prefer that these areas:

- _____ A. Be left essentially as is with little or no recreational development.
- _____ B. Be more fully developed for recreation. This might include large scale resort development and expanded camping and recreation facilities.
- _____ C. Be developed for both recreational and industrial-agricultural use. This might include some construction for both irrigation and power.
- _____ D. Be developed to its full industrial and agricultural potential. This would include the building of dams to provide for irrigation, power, and reservoir associated recreation.
- _____ E. No opinion.

10. Now that you have traveled the river, would you be willing to pay a user permit fee for the experience. Yes _____ No _____ No Opinion _____

If a fee were charged per individual, would you list your order of preference 1 through 4 for method of paying fee. Then indicate how much you would be willing to pay for EACH type of fee.

	Prefer- ence	None	\$1	\$5	\$10	\$25	More
An annual fee for use of <u>ALL</u> the Wild Rivers	_____	_____	_____	_____	_____	_____	_____
An annual fee for <u>EACH</u> Wild River	_____	_____	_____	_____	_____	_____	_____
A fee for each <u>TRIP</u> on the Wild River	_____	_____	_____	_____	_____	_____	_____
A fee based on Number of Days on the Wild River	_____	_____	_____	_____	_____	_____	_____
Other	_____	_____	_____	_____	_____	_____	_____

11. With regards to the numbers of people you saw on your trip, did you:

- | | |
|--|---|
| <p>A. <u>Expect to Find:</u></p> <ul style="list-style-type: none"> Nobody else _____ Fewer People _____ Numbers encountered _____ More people _____ | <p>B. <u>Feel the River was:</u></p> <ul style="list-style-type: none"> Too crowded _____ Just right _____ Not used enough _____ No opinion _____ |
|--|---|

12. Based on your experience on the river, would you like to see:

	<u>More</u>	<u>Less</u>	<u>No Change</u>	<u>No Opinion</u>	<u>Brief Optional Comments</u>
Campsites	_____	_____	_____	_____	_____
Toilets	_____	_____	_____	_____	_____
Fireplaces	_____	_____	_____	_____	_____
Tables	_____	_____	_____	_____	_____
Directional & information signs	_____	_____	_____	_____	_____
Lodges and/or cabins	_____	_____	_____	_____	_____
Firewood supplied	_____	_____	_____	_____	_____
An interpretive brochure to take with you	_____	_____	_____	_____	_____
Better litter disposal	_____	_____	_____	_____	_____
Concessions	_____	_____	_____	_____	_____
Others (please specify)	_____	_____	_____	_____	_____

13. Do you think that travel on the river should be regulated now? Yes _____ No _____

Do you feel that travel on the river may have to be regulated in the future?
Yes _____ No _____

If you answered YES, to either of the above, would you approve:

	<u>Present</u>		<u>In the Future</u>	
	<u>Yes</u>	<u>No</u>	<u>Yes</u>	<u>No</u>
Application for travel on a lottery basis	_____	_____	_____	_____
Regulated launch times	_____	_____	_____	_____
"Flow Control" on the river (Required number of miles per day)	_____	_____	_____	_____
Assigned campgrounds prior to launch	_____	_____	_____	_____
Stops permitted only at designated areas	_____	_____	_____	_____
Fires at only designated areas	_____	_____	_____	_____

14. Did you (or will you) fish on your Salmon River Trip? Yes _____ No _____

If you fished, please give the approximate number of the species listed below that you caught, then rank your satisfaction with the fisheries.

	<u>No. of Species</u>	<u>Excellent</u>	<u>Satisfactory</u>	<u>Unsat.</u>	<u>No Opinion</u>
Trout	_____	_____	_____	_____	_____
Salmon	_____	_____	_____	_____	_____
Steelhead	_____	_____	_____	_____	_____
Dolly Varden (Bull Trout)	_____	_____	_____	_____	_____
Other species	_____	_____	_____	_____	_____

Please indicate the approximate number of trout or Dolly Varden you caught in each size category.

10" or less - _____, 11" to 14" - _____, 15" or over - _____

15. With regards to your personal experience on your Wild River trip, do you feel that each item listed below was:

<u>Unique River Experience</u>	<u>Very Important</u>	<u>Moderately Important</u>	<u>Unimportant</u>	<u>No Opinion</u>
A. Scenic Beauty	_____	_____	_____	_____
B. Adventure	_____	_____	_____	_____
C. Isolation	_____	_____	_____	_____
D. Excitement of river	_____	_____	_____	_____
E. Personal Enrichment	_____	_____	_____	_____
F. Communing with nature	_____	_____	_____	_____
G. Other (Please list)	_____	_____	_____	_____

<u>Participation Activities</u>	<u>Very Important</u>	<u>Moderately Important</u>	<u>Unimportant</u>	<u>No Opinion</u>
A. Hunting	_____	_____	_____	_____
B. Hiking	_____	_____	_____	_____
C. Swimming	_____	_____	_____	_____
D. Sight seeing	_____	_____	_____	_____
E. Camping	_____	_____	_____	_____
F. Photography	_____	_____	_____	_____
G. Fishing	_____	_____	_____	_____
H. Floating	_____	_____	_____	_____
I. Other (Please list)	_____	_____	_____	_____

<u>Other Features</u>	<u>Very Important</u>	<u>Moderately Important</u>	<u>Unimportant</u>	<u>No Opinion</u>
A. History of area	_____	_____	_____	_____
B. Family unity	_____	_____	_____	_____
C. Escape from society	_____	_____	_____	_____
D. Scientific interest	_____	_____	_____	_____
E. Free flowing pure water	_____	_____	_____	_____
F. Other (Please list)	_____	_____	_____	_____

16. Of the above, what was the most enjoyable experience of your trip? _____

17. Are you a resident of Idaho? Yes _____ No _____

If yes, what town? _____ County _____

If no, what is your state (or Nation) of residence? _____

Age _____ Sex _____ Relation to head of family? _____

Occupation _____ Title or Position _____

18. What was the approximate total yearly income of your family in 1968?

Under \$2,999	_____	\$10,000-14,999	_____
3,000-4,999	_____	15,000-19,999	_____
5,000-6,999	_____	20,000-24,999	_____
7,000-9,999	_____	25,000 & over	_____

19. What is the highest level of education you completed?

- Grade 0-8 _____
- Grade 9-12 _____
- Some College _____
- College Graduate _____
- Post-Graduate Degree _____

20. How many weeks vacation do you have each year? _____

21. Please indicate the category that best describes the location where you presently live, and the population of your metropolitan area.

<u>Location</u>	<u>Population</u>
City center _____	Under 5,000 _____
Suburb of city _____	5,000-10,000 _____
Rural - not on a farm _____	10,000-25,000 _____
Rural - on a farm _____	25,000-100,000 _____
Other (please describe) _____	100,000-1,000,000 _____
	Over 1,000,000 _____

How many years have you resided in that location? _____

22. On your Wild River trip, how much did you pay for:

	<u>From point of origin to jump off point</u>	<u>Jump off point to river</u>
Airline Fares _____	_____	_____
Bus Fares _____	_____	_____
Train Fares _____	_____	_____
Personal Car _____	_____	_____
Other _____	_____	_____

How many miles was your family car driven? _____

23. If you traveled as a group in your family car to get to the river, how much of the transportation costs were paid to you by non-family members of the group? _____

24. How much did your family spend for:

	<u>Total</u>	<u>In Idaho</u>
Transportation (gas, repairs, etc.)	\$ _____	\$ _____
Lodging (motels, campground fees, etc.)	_____	_____
Food and Beverages	_____	_____
Guide Service	_____	_____
Recreational supplies (fishing gear, licenses, etc.)	_____	_____
Rental of:		
Boat and motors	_____	_____
Tackle and Gear	_____	_____
Other _____	_____	_____

Interviewer _____ Date _____ Time _____

Location _____

Weather _____ Temperature _____

River Condition _____

Important Comments: