

SPECIAL REPORTS

STREAM VALUES, RECREATIONAL USE AND PRESERVATION IN THE SOUTHEAST

A PRELIMINARY REPORT

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INTRODUCTION

Along with the National debt, farm surpluses, the Russians and getting to the moon, water is one of our biggest problems. Everybody uses it, everybody is concerned with what is done with it, and its manipulation by 33 different governmental agencies has a lot to do with the size of that National debt that we just mentioned.

In the heavily populated states many rivers are contaminated, beyond use, by sewage and industrial pollutants. In 1955, thirty-one million Americans lived in cities with no water treatment facilities. And 10,400 factories dumped the debris from their products into the streams and rivers.

In the west huge irrigation projects are under construction. The Colorado River Project, alone, will cost the American people an estimated 2 billion dollars, and most of them will never, even though they get the bill, see the great dams which are built; nor will they, personally, benefit from the impounded water created to produce and irrigate agricultural lands at a cost of \$2,900 per acre and more.

Other vast water Projects include the Pick-Sloan Project on the Missouri River, the Central California Project which will eventually include 260 major dams, the Gunnison-Arkansas, Central Arizona and the vast outlay of dams on the Columbia River and its tributaries, which, if completed, will stop the great northwest salmon runs forever. These and hundreds of other water projects will add a staggering sum to the National indebtedness, and will create new problems replacing those they solve. Leslie Miller of the Hoover Commission, estimated that completed and proposed water projects would cost the public over \$70,000,000,000 which adds up to a staggering tax burden for the people of this country.

Five hundred projects, to cost 9 billion dollars, were under construction in 1958. Efforts to propel rockets to ever greater heights into the stratosphere must have impressed Congress, for they kept pace with these trends by raising the appropriation for water projects to \$1,185,300,093 for the next fiscal year, passing this money appropriation over two presidential vetoes, and including 67 projects considered nonfeasible.

The multiple projects mentioned above include only a few examples. There are hundreds of others throughout the length and breadth of the land.

Added, and being added to this public water bill are the costs of the watershed program. There were applications for 954 such projects in 1958, and it has been estimated that the ultimate cost of this program may total 6 billion dollars, just a pittance in comparison with the kind of money we've been discussing.

We have other programs to drain land, build lakes, abate pollution, pump underground water, purify sea water, produce more water from the heavens, and mitigate the losses we grudgingly admit often result from our "management" of water, all of which programs add to our public debt. Occasionally somebody suggests that (maybe) some of our water problems are due to "too

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much management"; and he is, forewith, relegated to that group of outcasts which hover outside the fringe of reasonable society.

But it is not our particular business to be concerned with only the financial problems resultant from all these water manipulations. With our comments, we'll have to leave the cost problems to the economist and to Congress, who, (we hope), will somehow dig us out of the debts under which we stagger, and let us keep enough of our incomes to pay the rent, the grocer, and the dentist. But, as biologists and citizens, we are concerned with the impact of all these water programs on all our resources, including those intangible values which contribute to the scope and quality of the environment in which we live. We feel that these values are as real and necessary as our material needs.

WATER MANAGEMENT AND WILDLIFE

It is abundantly clear that water management, for the purposes toward which most governmental agency efforts are directed, has acute and often disastrous effects on fish and wildlife species and their numbers. Nowhere is this more obvious than in the relationship of drainage to waterfowl. An original 120,000,000 acres of wetlands have been reduced, by drainage, to one-sixth of that area. Where there were once millions of ducks, there are now a comparative few, and the wetlands are being steadily reduced. An additional 1,366,089 acres were drained in 1959.

Both industrial and sewage pollution effect fish and other wildlife. Pollutions introduced into water sometimes kill all living organisms, and the re-use of water by industry for cooling purposes often brings water temperatures in streams far above those that will support life.

The vast dams we are building have multiple effects. In many instances they produce large acreages of water, providing more habitat for fish, more fishing and certain types of recreation. In other instances, they block the spawning beds of migratory fishes, obliterate high quality streams, and change water temperatures and habitats so profoundly that the fishes and aquatic forms, indigenous to these waters, are eliminated. The big days on the Columbia are classic examples. Where high dams have been built, they have blocked the salmon runs. In view of these demonstrated effects, conservationists have opposed the construction of dams on the Salmon, Imnaha, Clearwater and other tributaries of the Columbia.

On other rivers they have or will obliterate game range, or blot out scenic and esthetic values. If the hundreds of dams planned are all built they will alter the nature and character of most of the countries free-flowing streams.

So far, our water management has been based on a few premises. We established certain primary standards of value a long time ago; and particular Federal Agencies were given the responsibility of implementing and carrying out the water management objectives to which they were assigned. The Reclamation Bureau, for example, was assigned the job of impounding water for irrigation; and the Corps of Engineers was given the job of creating navigation channels and building flood control structures and power dams. The scope of operation of these and other agencies have been extended far beyond these initial objectives, but these major purposes still take precedence over most other water needs.

In accordance with the laws of diminishing returns, some of these objectives, by comparison, have become less and less important, but we are like a squirrel on a tread-mill—we can, because of the momentum we have created, move only in the direction in which we started. We have failed to make adjustment to rapidly changing times, revised attitudes, and new circumstances. In view of the acute changes being wrought in our water resources, time is running out for the consideration and application of new and other concepts of water management. The changes we are making are irreversible.

The Hoover Commission pointed out that "Attainment of . . . maximum benefits lies in . . . harmonizing or balancing of potential (water) uses." And noted further that, "Any Agency with control of resource development tends

to become an independent force in making policy . . . on the basis of its special knowledge."

It is apparent that Bureaus and Agencies operate within the limitations imposed by their special functions, and it is high time standardized concepts gave full consideration to the other values of water. One of these values, which we call the esthetic, has been given "short shift" in the plans drawn up for management of water.

STREAMS AND ESTHETICS

It is increasingly apparent that, if all the dams planned are built we will lose the character and nature of most of our streams. We believe many of those streams have certain "high quality" values that are worth saving. Most of the values we assign to water, or anything else, are figured in dollar terms. As Ernest Swift said, money ". . . has become the symbol for the fulfillment of all human desires."

But there are other values we call the esthetic, which are just as real and just as significant. The recognition and preservation of such values is essential to the welfare of a wholesome and worthwhile society. We pride ourselves on our attitudes which ". . . condemn an individual whose sole aim . . . is to acquire wealth for himself," but do not extend this philosophy to our political and social structure.

We also believe that the benefits of any course of action ". . . cannot be appraised upon the basis of benefits occurring at any one time, or even to any *one* generation." In no category of human endeavor is our failure to look ahead at "anticipated preferences of the people," more apparent than in the plans which will bring drastic alterations to most of our natural waters.

As a further consideration, we have, also, the varied and diverse recreational interests of the people. Some like the sensation of careening across big water propelled by a 50-horsepower motor; while others like the glint of a rapid in the sun, the exhilaration of propelling their own canoe, and solitude. Both of these attitudes are worthy of consideration, and there is room for the preservation of opportunities for these separate attitudes in the big country we call America.

Individuals, organizations, and officials have voiced concern over the extensive array of plans to dam most of our streams; but these protests have been scattered and limited to particular cases and instances. There has been no generalized effort to establish a policy or program for the preservation of high quality streams for their special or particular values.

Among the particular efforts that have been made are the many protests of plans to dam those streams on the tributaries of the Columbia, where the salmon runs are endangered. The State wildlife agencies in Idaho and Wyoming, for example, have opposed dams which would flood out game range, and destroy trout waters and esthetic values.

In Wisconsin, public and official attitudes have resulted in the setting aside of the Brule River in its natural state, to preserve "its beauty and wilderness values." And in the same state, approval for construction of dams on the Namekagon River was denied.

In Maine, the National Park Service has proposed preservation of the Allgash, to save ". . . its wilderness characteristics . . . for the use and enjoyment of future generations."

Missouri has fought an arduous and continuing battle to save certain of its beautiful Ozark "clear-water" streams, particularly the Current, Eleven Point, Piney and Gasconade. This battle has culminated in an extensive plan for preservation of the Current and Eleven Point River country in the Ozarks as a National recreation area.

But these efforts to preserve streams have been piecemeal and isolated. A social consciousness which encompasses a realization of the "esthetic" values which will be destroyed has not arisen, as it is applied to the concept of stream preservation. The acquisition of such a "social consciousness" appears to be one of our greatest needs in the field of Conservation. The nature of the battle that

faces us, to save a few streams, is exemplified by the recent inclusion of monies to plan Bruce's Eddy dam on the Clearwater. That dam has not, as yet, even been authorized.

STREAMS IN THE SOUTHEAST

In an effort to evaluate the interest in and attitudes toward stream preservation in the southeast a questionnaire was submitted to the Conservation Departments in thirteen states in this region. A brief summary of the questions, and replies, to this questionnaire are presented in the tables appended to this report.

It is most evident that there is an acute awareness of this problem; and it is equally apparent that little has been done to preserve any of the high quality streams in the southeast. One of the expressed attitudes is that the problem is outside the scope of the authorities delegated to a Conservation Department; and another attitude which is often assumed, is that the big dams, with their vast impounded waters, will provide the "greatest good, for the greatest number of people, for the longest period of time." In reply to this often quoted attitude, I would like to raise a question. Do we know, in terms of our inadequate present knowledge, just *what* is the greatest good for the greatest number, as that concept is applied to social needs and attitudes now and into the unforeseen years ahead. Already, there is evidence that some of the established water development programs are producing chain reactions and repercussion which were not anticipated. One of these is pointed up by the diminishing fish populations in large impoundments as they age; and another is the total substitution of recreational opportunities "widely used and common place," for other types which cater to the often scoffed at "esthetic" appreciations.

There was not a State contacted, however, which did not feel that a program to provide for stream preservation was needed, and was long overdue.

It was evident, too, that attitudes varied in relation to types of streams present within the boundaries of that State.

Arkansas is a prime example of a State possessing streams which have high esthetic, and recognized special recreational values. Some of the swift mountain streams have qualities recognized throughout the world. Present plans provide for impoundment of all these high quality streams. Many people deplore their ultimate alteration. A positive program is needed to provide for preservation of the recognized values of at least a few of these streams.

Most states indicated that streams received "heavy" recreational use. Such use was defined as intensive in the mountain streams in the eastern tier of States.

All states, with one exception, stated that certain streams had *recognized* esthetic and scenic values.

A wide variety of uses along streams was indicated, from fishing and boating to swimming, camping and picnicing.

All states indicated that streams with high values had been lost through pollution, channelization or impoundment, and that many others would be lost. One state commented "There is a flood control, drainage or navigation project for practically every stream (in the State)." Tennessee listed 10 major streams as having been subjected to major changes and alterations. One State defined the term "lost" as follows: "Our loss on dammed rivers is esthetic, for lack of a better word."

In several states "channelization, deepening and widening" has drastically changed the character of streams.

In reply to the extent of public or official objections to stream alterations, Tennessee replied "there is little public objection. The fishing public does not consider what we lose." But six states indicated there had been strong opposition to specific stream alterations in certain instances.

Most states agreed that impoundments produced "more recreational opportunities," but one state replied "no, except for minor selected instances." Tennessee commented "The stream type of fishing is disappearing."

Five states replied that the need for impoundments for recreation had been achieved. One State, outside the region, commented ". . . the need is to weigh

all values in the scales. What do we lose for what we gain?" Five states commented that there was not enough impounded water for recreational needs in the future. Others qualified their answers with reference to "proper" potential use.

The value of watershed projects was qualified in relation to the "type" of management. It was conceded that *channelization* destroyed stream values.

With two exceptions, all states replied that they had high quality streams which should be preserved. Many such streams were listed by name—too many to list in this report.

With reference to commercial losses, Virginia cited potential losses of oyster and shellfish industries "worth millions of dollars." Seven states anticipated such losses.

Only *two* states replied that official actions had been taken to preserve streams; but several cited opposition registered by civic and other groups.

All states believed a *positive program* to preserve selected streams was needed. Suggested courses of action included: Positive State programs related to River Basin development. Establishment of Watershed Zoning Boards. Legislative actions. The lease of stream banks and access areas. Studies of stream values. Stream classification by appropriate state agencies. Direct opposition by Game and Fish Agencies. Setting aside streams for preservation *now*. Unified actions by interested groups with *specific* proposals. Emphasis on watershed management.

Tennessee, with years of experience with impoundments commented "I have given a great deal of thought to this problem. Our good fishing streams are rapidly giving way to impoundments."

Another State commented, "The groups intimately effected must bear the brunt of any action, and rely as little as possible on other interests." In other words, somebody, somewhere has to take a *positive stand*.

The substance of these replies indicated that there was a wide-spread recognition of the esthetic and recreational values of streams, everywhere, and a crying need to take actions to save some of our streams *before it is too late*.

CONCLUSIONS

There is a recognition, everywhere, that certain streams have high quality recreational and esthetic values in their natural state which merit preservation; and that many of these values will be destroyed by what we call "water management."

There is an acute awareness that impoundments, channelization and other planned developments will eventually, alter most of our streams, and will destroy certain values which we esteem.

There is an awareness that a positive program to preserve high quality streams is needed, and a recognition that stream values will increase in ratio to their scarcity as more and more of them are dammed, channelized, drained or otherwise "altered," destroying their original character.

So far, only sporadic, piece-meal attempts have been made to save stream values.

Since most stream values consist of what we term esthetic values, perhaps what we need most is a revision of that social concept which places material values above everything else.

In our resource conservation concepts we need, most of all, a recognition of the worth of moral and esthetic values, and assignment to these values a precedence equivalent to those we apply to the material needs of our society. Without the application of these great human principles, to water management, the streams we value for their particular recreational and esthetic qualities will be lost to us and future generations—forever.

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State

Recorder

Title

Date.....

QUESTIONNAIRE

STREAM VALUES, RECREATIONAL USE AND PRESERVATION

1. Do certain streams or types of streams in your state receive heavy, moderate, light, recreational use?
2. List names, locations and approximate size of streams having high *present* or *potential* future recreational use and value. Is use increasing
3. Do any streams have recognized esthetic or special scenic values?
4. What are the present types of recreational use and extent of such use?
Fishing: (float, fly casting, other)
Fisherman use: (man days or other)
Boating: (canoeing, "roadways" to camping areas, wilderness trips, sightseeing, etc.)
Other: (swimming, picnicing, etc.)
5. Are there streams in your state, which have high recreational, esthetic, and scenic values which justify their preservation? Are these values recognized? Has preservation been proposed, and by whom?
6. Have streams, which had high quality recreational, esthetic and scenic values been lost through conversion to impoundments, channelization, pollution or other alteration? (List streams and type of alteration.)
7. Are alterations authorized or proposed for additional streams having values of types above indicated? List streams and special values which may be altered or destroyed.
8. Has there been official or public objection to alteration of particular streams through impoundments or other conversion?
9. Have stream alterations provided more recreational opportunities? Higher quality opportunities?
10. Has the need for recreation facilities provided by large impoundments been achieved? In terms of future plans for impoundments will there be *sufficient* or *overly abundant* waters of this type to meet recreational needs?
11. Have (or will) "watershed projects" *destroyed* or *enhanced* stream values in specific instances?
12. Do any streams have high commercial fisheries (or other) values which may be lost through developments? (Type, kind, and extent of such values.)
13. Has *official action* been taken to preserve or set aside streams in their natural state, to conserve or save inherent values?
14. In view of the many programs and proposals, which will result in drastic alterations in the character of *most* major streams in the U. S., do you believe a positive program is needed to save selected streams in your state to preserve their inherent scenic, recreational or esthetic values?
15. Please make comments or suggestions on streams preservation needs, and suggest courses of action which might be taken to save streams having high values in their natural conditions, if you believe such action is needed?

STREAM VALUES, RECREATIONAL USE AND PRESERVATION IN THE SOUTHEASTERN STATES
(Briefed Replies by State)

Questions	Alabama	Arkansas	Florida	Georgia	Kentucky	Louisiana	Maryland
Stream use for recreation	H. M. L.	H. M. L.	H.	H.	H.	L.	H. to L.
No. streams listed with high values	Numerous streams	15 listed	Many	3 listed	8 listed	6 listed	13 listed
Do streams have recognized special values?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Type recreational uses of streams	F. B. O.	F. B. O.	F. B.	F.	F. B. O.	F. B. O.	F. B. O.
Streams lost to alterations or pollution	Many	Many (Potential loss)	Few	One	5 listed	Most (Potential loss)	None
Added alterations proposed	None	Yes (Many)	Yes (Many)	No	Yes	Yes	Yes
Public or official objections to stream alterations	Yes public	Yes public	Yes both	No	Very few	Yes both	Yes
Alterations give more—higher quality—opportunities	More	More Quality lost in many	More	More	More (Exceptions)	No (Minor exceptions)	More Quality?
Have recreation needs for impoundments been met?	No	Yes Certain areas	No	.....	Yes	Yes	Yes
Will there be sufficient—over-abundant—impoundments?	No	Over-abundant	Sufficient	.....	Sufficient?	Over-abundant	Yes

Stream Use Symbols: H—heavy, M—moderate, L—light.
 Type Use: F—fishing, B—boating, O—swimming, picnicking, camping, hunting.
 Stream Alterations: I—impoundments, C—channelization, P—pollution.

STREAM VALUES, RECREATIONAL USE AND PRESERVATION IN THE SOUTHEASTERN STATES
(Briefed Replies by State)

Questions	Mississippi	North Carolina	South Carolina	Tennessee	Virginia	West Virginia
Stream use for recreation	M. 1 listed	H. 9 listed	H. M. L. 4 listed	H. L. 11 listed	H. 4 listed	H. 7 listed
No. streams listed with high values	1 listed	9 listed	4 listed	11 listed	4 listed	7 listed
Do streams have recognized special values?	None	Yes	Yes	Yes	Yes	Yes
Type recreational uses of streams	F. B. O.	F. B. O.	F. B. O.	F. B. O.	F. B. O.	F. B. O.
Streams lost to alterations or pollution	Some	Many	Some	Many (gone)	Many	6 listed
Added alterations proposed	Yes	Few	Yes	Yes	Yes (several)	Yes (Potomac River)
Public or official objections to stream alterations	No	Yes some	None known	Little public objection	Yes	Yes (Potomac River)
Alterations give more—higher quality—opportunities	More (less in some)	More generally	More generally	More Streams going	More Yes	Little Effect
Have recreation needs for impoundments been met?	Yes (largely)	Yes	Answer not clear	Exceeded	No (Exceptions)	Rec. use increased
Will there be sufficient—over-abundant—impoundments?	Yes?	Yes	No	Yes Over-abundant	No	Yes No

STREAM VALUES, RECREATIONAL USE AND PRESERVATION IN THE SOUTHEASTERN STATES
(Briefed Replies by State)

Questions	Alabama	Arkansas	Florida	Georgia	Kentucky	Louisiana	Maryland
Watershed (Projects) enhance—destroy—stream values	No effect yet	Both	Adverse effects. Some improved	Some enhance	Not sufficient data	Enhance and destroy	Enhance some
Do you have streams which merit preservation?	Possibly	Yes	Yes	Yes	Yes	Yes	Yes
Are values recognized—Preservation proposed—	Unknown No	By some Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Will commercial values be lost?	Yes	No major loss	No	No	Possibly	Yes (Substantial)	Yes
Has official action been taken for preservation?	No	No	No	No	No	No	Yes
Do you believe a stream preservation Program is needed?	Possibly	Yes	Yes	Yes	Yes	Definitely	Yes
Suggested courses of action to preserve high quality streams	Need doubtful	Official action needed	State action needed	No statement	Gather accurate data	Super. Zoning Board	State action needed

STREAM VALUES, RECREATIONAL USE AND PRESERVATION IN THE SOUTHEASTERN STATES
(Briefed Replies by State)

Questions	Mississippi	North Carolina	South Carolina	Tennessee	Virginia	West Virginia
Watershed (Projects) enhance—destroy—stream values	Enhance most	Enhance most	Both	Enhanced thus far	Little public benefit	Only one project so far
Do you have streams which merit preservation?	None high values	Yes	Yes	Yes	Yes	Yes
Are values recognized—	.....	Yes	Yes	Yes	Yes	Yes
Preservation proposed—	.....	Yes	Yes?	No	Yes	Yes
Will commercial values be lost?	No	Yes \$2,000,000 ann. est.	Yes	Some	Yes Large losses	No
Has official action been taken for preservation?	No	Yes	No?	No	No	Yes
Do you believe a stream preservation Program is needed?	Yes	Yes	Yes	Yes	Yes	Yes
Suggested courses of action to preserve high quality streams	Study stream values	State classification and selection	State and public action	Gather data set aside preserved streams	Unified approach State, and Cons. groups	Coord. Federal and State interests