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MAKING SENSE OF DOLLARS AND FISH

BY

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PRESENTED AT

FLATHEAD BASIN CLEAN WATER SYMPOSIUM

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Montana has some of the finest quality fishing opportunities in the country. In part, that quality comes from the diversity of those opportunities, and northwest Montana probably has the most diverse fishing opportunities in the state.

You can search the deep waters for trophy lake trout, cast in the wilderness streams for native cutthroat, stalk largemouth bass in pothole lakes, troll for the tasty kokanee, or pursue any number of fish in almost any natural setting you desire.

As diverse as these fisheries are, so to are the fishermen who pursue them. Some fish for relaxation, others for excitement, still others fish to test their skills, to get away from it all, to be out in nature, for meat or trophies.

Some fishermen travel hundreds of miles to fish for a certain species, during a select season on a favorite water. Others cast into a water scarcely knowing what they might pull out, and possibly not even caring.

How do you place a value on these experiences and what does it mean? These are questions our department has been wrestling with for a number of years. They are also issues

many other land and water management agencies have had to face in recent years.

There are several kinds of values for fishing and other forms of recreation, and each is valid for use in different ways.

A common way to determine value is to look at indirect measures. For example, Montana currently sells the third largest number of non-resident fishing licenses of any state in this country. We follow only Michigan and Wisconsin, states surrounded by large population centers and the Great Lakes. Montana continues to attract fishermen from across the country despite our relative remoteness because of the quality of the fishing opportunities.

Another indirect measure is the amount of money spent on mitigating and enhancing fisheries in the Flathead Basin as a result of past hydropower development. The Bonneville Power Administration has invested substantial money over the past seven years in studies and mitigation measures implemented by the Confederated Salish and Kootenai Tribes, our department and the U.S. Fish and Wildlife Service. The Bureau of Reclamation, U. S. Forest Service, Montana Power Co. and others also contributed financially to efforts which have benefited both native and non-native sport fishes.

Another measure of value is the dollars spent on fishing. These values are important to Chambers of Commerce, travel promotion groups, and local governments concerned with profit, economic diversity, jobs, and taxes.

We have just released a study of the economic value of fishing in Montana. In 1985 fishermen spent $52.4 million fishing on streams and $47.3 million fishing on lakes in Montana. This included transportation, lodging, food, guide fees and miscellaneous expenses. The average non-resident spent $536 stream fishing and $249 lake fishing per trip. Resident anglers spent $36 stream fishing and $62 lake fishing per trip. The average resident traveled 119 miles round trip to fish compared to 1,521 miles for non-residents.

We have not completed an economic impact analysis so I can not tell you specifically how these numbers relate to the Flathead Basin at this time. Using statewide averages the total expenditures would be $7.8 million for lake fishing and $3.9 million for stream fishing in the Flathead Basin in 1985.

We did not include fishing in Glacier National Park nor on the South Fork of the Flathead River, nor did we include

fishing use on the Flathead Reservation by those who did not need a state fishing license in this study. Nevertheless, these numbers are impressive; but, to the fishermen, they do not necessarily reflect the value of the fishing opportunity. After all, expenditures are costs to the fishermen, not benefits. Most people try to keep their costs as low as possible to maximize their benefits.

Economists have also developed techniques to measure the benefits fishermen receive from their time spent fishing, as well as the value of different quality fishing opportunities. The benefits are referred to as net economic value. Economists measure net economic values by estimating what a fisherman would have been willing to pay in addition to what they actually spent per trip. The study just released by the department estimated the net economic value of stream fishing was $122 million and $93 million for lake fishing in Montana. Flathead Lake had a net economic value of $6.8 million and all lake fishing in the Flathead including Flathead Lake totaled $17.5 million. Stream fishing in the Flathead totaled $8.2 million. The combined total was $25.7 million accounting for twelve percent of the total for the state in 1985. (Once again these do not include fishing in Glacier Park, the South Fork of the Flathead, nor those fishing without state licenses on the Reservation.)

Another study conducted by our department in 1983 looked at the potential impacts of proposed small hydropower development on the fishery in the Swan River Drainage. An interesting aspect of this study was the documentation that the value of a fishing trip can vary significantly depending on the species the fishermen were pursuing. Those fishermen that were seeking trophy-sized bull trout placed a value on their trip 15 times larger than those fishermen that were not targeting any specific species of trout.

The department's recent statewide survey of trout stream fishermen found similar results. Fishermen classified as specialists (anglers who tend to fish with specialized gear, for a specific species, and in select waters) had a net economic value per trip of $170 compared to only $7.56 for those classified as occasional fishermen.

It is also important to note that these studies measure the recreational value of fishing. They do not attempt to put a dollar value on a fish. There are many other values which these fish may possess such as cultural, scientific, aesthetic, ecological and spiritual which were not measured in these studies.

So what does this all mean? As I said earlier, there are

several ways to measure value and each way is important for specific uses. The dollars spent by fishermen are substantial and contribute to the diversity of the local economy. The expenditures by non-residents are important from a statewide perspective. However, the expenditures by residents are also important in that they bring important revenue to many smaller communities at least seasonally.

The net economic values, or benefits, to fisherman are also substantial, not just for Flathead Lake but for the many other waters in the Flathead. They reflect the quality of fishing opportunities and can be viewed as a measure of the attractiveness of these opportunities. These numbers are the same type of values used by agencies like the U.S. Forest Service in their planning. The values calculated in this study are more accurate than any numbers previously used by federal agencies in Montana.

These values can be used in forest plans and other models in assessing the benefits and costs of decisions that will affect the allocation of competing resources. A good example is the project funded by the Bonneville Power Administration to evaluate the impacts drawdown of Hungry Horse Reservoir will have on the fishery. The recommendation our department will make to the Northwest Power Planning Council in 1989 will now have a component on recreational values. This may affect the frequency and extent of future drawdowns, and better justify mitigation measures.

Economic values of fishing can also justify increased expenditures in program areas which enhance fishing opportunities. For example, the U. S. Forest Service has recently initiated the 'Rise to the Future' program to enhance fisheries on national forest lands across the country. They should be able to use these values to gain support for expanding this program in Montana.

These values can be used by our department in preparing management plans for the waters of the Flathead. Decisions on developing access, stocking fish, enhancing habitat, and biological surveys will begin to include the added dimension of economic values.

The most visible of these management plans will be the one we are preparing jointly with the Confederated Salish and Kootenai Tribes on Flathead Lake. Several alternatives will be assessed, each with their own strengths and weaknesses, their own costs and benefits.

For example, if supplemental stocking of kokanee was determined to be both viable and a preferred option for

anglers, we would then need to weigh the costs of a hatchery program against the fishery benefits. An indicator of potential benefits would be a comparison with the net economic value of the fishery on Lake Koocanusa which had a net economic value 60% higher than Flathead Lake in 1985.

We are still limited in using this information to differentiate between the value fishermen might place on seeking trophy lake or bull trout compared to cutthroat or kokanee. Our present information is not refined enough to differentiate these values.

The Flathead Lake experience also illustrates the dynamic nature of the recreational values of fishing. The numbers calculated in 1985 are undoubtedly lower than they would have been a few years earlier and today they would likely be lower than in 1985. They are, after all, a reflection of the value fishermen place on the quality of the opportunity.

Some of the changes in the fishery may be related to water quality, others are not. In the case of the Flathead Lake fishery, the decline in the kokanee is probably unrelated to water quality. Nor will the solutions likely be directly related to water quality.

The reality of managing fisheries in relatively low productivity waters like Flathead Lake is that, the ecological balance can be much more easily upset than in those waters which are more productive. We must be very conservative in our future approaches to management to insure we do not further imbalance the ecology of Flathead Lake.

This symposium has generated discussion on many factors which can affect, and be affected by, the quality of the water and life in the Flathead. Your native fisheries may be the best symbol of how many actions and decisions which occur each year in the basin are bound together. Not only do these fish move downstream with the flow of water, they must also move back up and spread out through the basin to successfully complete their cycle of life. These native species depend on the quality and quantity of water throughout the basin.

There are also parallels between our economies and ecological communities. Those which are productive and diverse tend to be more stable. Traditionally, fish and wildlife have not been viewed as significantly contributing to Montana's economies, but increasingly communities recognize that they can contribute to the diversity and thus stability of the local economy. Communities are also recognizing that having quality fisheries is not always an

either/or decision with respect to other activities as it has often been characterized.

In closing, I believe that despite the present problems with the Flathead Lake fishery, the future can be bright. The Flathead basin is the last major stronghold of migratory bulltrout and westslope cutthroat trout in Montana. The Flathead also provides the best lake trout fishing in Montana and the little utilized lake whitefish. The many lakes and streams also contribute to a fishing diversity unparalleled in the state. And those who depend on the Flathead for recreational opportunities and those who benefit financially must learn to adapt to this diversity and recognize that it tends to be more dynamic than stable.

Remember too, that when trying to make sense of dollars and fish, dollars and cents do not tell the whole story. What we measured in our studies was the value people placed on a fishing opportunity in the Flathead. The total values are the accumulation of many peoples perceptions and experiences. As I mentioned earlier some come to fish for a certain species in a specific water while others put more value on the solitude, scenic beauty or the opportunity to be with family and friends.

It is important that the quality of these opportunities be maintained or people will recreate elsewhere. Since quality can take many forms, the people of the Flathead must focus on the qualities that are unique and important to the fishing opportunities in the basin and act to sustain them. For example, clean water, while not necessarily contributing to the quality of the fishery in Flathead Lake, may be a significant contributor to the quality of the fishing experience.

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