Committee on Resources

Subcommittee on Fisheries Conservation, Wildlife and Oceans

Statement

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STATEMENT OF ED WHITELAW, Ph.D.

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BEFORE THE

SUBCOMMITTEE ON FISHERIES CONSERVATION,

WILDLIFE AND OCEANS

AND THE

SUBCOMMITTEE ON WATER AND POWER

OF THE

COMMITTEE ON RESOURCES

REGARDING

HOUSE CONCURRENT RESOLUTION 63

May 27, 1999

Washington, D.C.

INTRODUCTION

Chairman Saxton, Chairman Doolittle, and members of the Committees, thank you for the opportunity to discuss House Concurrent Resolution 63, a resolution regarding the operation of federal dams on the Columbia and Snake Rivers and the future of endangered Snake River salmon and steelhead.

My name is Ed Whitelaw. I am a professor of economics at the University of Oregon and the President of ECONorthwest, which provides economic and financial analysis and expert testimony for businesses and governments. I have been an economics professor at the University of Oregon since 1981 and a member of the economics faculty there since 1967. I founded ECONorthwest in 1974. I received a Ph.D. in economics from the Massachusetts Institute of Technology in 1968.

I have testified in administrative, legislative and congressional hearings and as an expert in municipal, state and federal courts on economic matters. For the past 25 years, I have been closely involved in analyzing the economic effects of natural resource policy decisions in the Pacific Northwest. I have served on the Oregon Economic Development Commission, the Oregon Governor's Council of Economic Advisors, the Demand Forecasting Advisory Committee and the Scientific and Statistical Advisory Committee of the Northwest Power Planning Council, as well as EPA's National Advisory Council for Environmental Policy and Technology.

I am familiar with the regional and subregional economies of the Pacific Northwest states, the structure of those economies, the forces affecting them, and the changes occurring in them. Over the last several years I have devoted considerable time and attention to reviewing and understanding the economic effects of various natural resource policy proposals and options for protecting and restoring salmon populations in the Northwest. This work includes on-going studies of "Economics and Salmon Conservation Along the Pacific Coast of North America" (funded by the Ford Foundation), the "Economic Impacts of Watershed Restoration" (under a contract with EPA), and "Columbia Transitions," a study of the economic transition that would occur, and the mitigation opportunities that would arise, if we decide to bypass the four federal dams on the lower Snake River in Washington as a conservation measure to ensure both the survival and recovery of endangered Snake River salmon and steelhead, as well as compliance with water quality standards under the federal Clean Water Act. This last study is being funded by Trout Unlimited.

I am here today at the Committees' invitation to address economic issues raised by House Concurrent Resolution 63 and the Committees' concerns, as expressed in their invitation letter, about "the economic and social costs of removing dams."

SUMMARY OF STATEMENT

My evaluation of the economic and social costs of removing dams is focused specifically on a decision to bypass four federal dams on the lower Snake River. The overall or cumulative economic consequences, for both the 15 county local economy and the regional economy of the Pacific Northwest, of a decision to bypass these four federal dams would be minor.

Some Northwesterners fear that bypassing these dams would devastate the economy of the area near the lower Snake River, or even the regional economy of the entire Pacific Northwest. The facts simply don't justify such fear. Bypassing the dams would have both positive and negative effects on the economy, and the net effect may well be positive. Whether positive or negative, however, it will be quite small relative to other factors shaping the area's economy.

More specifically, construction, surface transportation, and water-borne transportation in the Tri-Cities area of Richland-Kennewick-Pasco are some of the sectors of the economy that would experience positive impacts. Other sectors – irrigated agriculture and water-borne transportation in Lewiston, for example – would be impacted negatively. Of course, not everyone would be affected the same, nor would all of the economic effects occur at once.

Some groups, including construction workers, Native American tribes, railroad workers, and recreation-related retailers, would see their incomes increase. Other groups, including irrigators and those who ship commodities by barge from Lewiston, would see their incomes decrease. Over time and in the context of economic forces unrelated a bypass decision, these negative effects will either be indistinguishable from economic changes that would occur if the dams remain in operation or they largely can be reduced through mitigation measures.

Some of the positive and negative economic effects of a decision to bypass the four lower Snake River dams, such as construction impacts or changing modes of transportation, would occur immediately. Others, such as increased recreational benefits and restored fisheries, would develop over the long run.

Because there is no economic reason to foreclose examination of the option of bypassing the four lower Snake River dams, and because there appears to be a sufficient scientific basis to merit further review of this option, I do not recommend approval of House Concurrent Resolution 63. To the contrary, the economic evidence available today indicates that a delay in considering the bypass option poses a risk of increased economic harm.

In the remainder of my testimony I provide additional details and discussion to explain these basic conclusions.

IDENTIFYING THE RELEVANT ISSUE

House Concurrent Resolution 63 is broad in its scope and consequently may obscure the real policy issue facing the Northwest regarding the future of federal dams on the Snake and Columbia Rivers. Because of the broad scope of the resolution, as I have said, my testimony will focus on the economic effects, and the economic transition that would occur, if we decide to bypass four federal dams on the lower Snake River in Washington State: Ice Harbor, Lower Monumental, Little Goose, and Lower Granite.

This is a policy option that appears to have a sufficient scientific basis to merit further review and there is no economic reason not to examine it carefully. Accordingly, I will not address in my testimony the economic or social effects of removing any other dams on the Columbia or Snake Rivers, such as the four federal dams on the Columbia downstream of the confluence with the Snake, or other federal dams on the Columbia upstream from the Snake.

ESTABLISHING THE ANALYTIC FRAMEWORK

In evaluating the economic effects of a decision to bypass the four federal dams on the lower Snake River, establishing an appropriate framework for analysis is critical. For that reason, I want to be very clear about the framework I will use.

Local, regional, and national economies adjust to policy choices, such as a decision to remove the four lower Snake River dams, in four stages. Figure 1 below illustrates these stages. Stage 1 represents the initial policy choice. A decision to bypass the four lower Snake dams will send economic signals to the many parties in local, regional, and national economies with an economic interest in the management of the river.

Figure 1: The General Process of Economic Adjustment to a Policy Decision

Stage 1: Policy Decision = Bypass Snake River Dams	Stage 2: Initial (Short-Run) Impacts	Stage 3: Transition	Stage 4: Long-Run Outcome

In Stage 2, individuals and groups throughout the local area, region, and nation will react to the decision to bypass the dams, and their reactions constitute the initial, or short-run impacts of the policy decision. The initial impacts are important because they represent the most visible, immediate, and direct economic linkages between the policy action and individual firms, workers, households, and communities. Looking only at the initial impacts, however, yields a distorted view of the overall economic adjustment to bypassing the four lower Snake dams. This is because, as their name implies, the initial effects are just the beginning, not the end, of the economic story.

Throughout the economy, workers, families, communities, investors, and businesses will react to the initial impacts, seeking to take advantage of the good impacts and avoid the bad ones. This is Stage 3 of the adjustment, which economists call the transition. Some have likened economic transitions to the ripples created when a stone falls into a pond—spreading over time and space until, eventually, the water's surface absorbs the ripples and they are no longer discernible. Economies are not exactly like ponds, though. The transitional adjustment to a decision to bypass the four lower Snake dams will begin even before the decision is made, as different groups anticipate the decision's effects and seek to capitalize on them. Indeed, some of the transition is already underway.

The long-run effects (Stage 4 in Figure 1) materialize over time as economies fully adjust to a decision to remove the dams and establish a new equilibrium. To get a complete picture of the long-run economic impacts one must compare what the local, regional and national economies would look like over time with and without a decision to retire the dams.

An accurate understanding of the economic effects of bypassing the dams requires this with-without perspective because it recognizes that the local, regional and national economies are all highly dynamic and will change constantly over time whether or not the dams block the river. To understand the impacts attributable to a decision about the dams, one must take into account the forces and trends underlying economic change that are separate from a decision about the future of the dams and then identify those changes attributable to a decision to bypass the dams and follow them through the stages of an economic transition.

Once the economic effects over time of a policy decision are identified and understood, it also is possible to examine opportunities to mitigate the negative economic effects and enhance the positive effects. These opportunities exist with a decision to bypass the four lower Snake River dams just as they do with any other policy decision. If we fail to assess properly the economic transition, however, these enhancement and mitigation opportunities will be missed or misunderstood and efforts to address them are likely to be misguided and ineffective.

In addition to this basic framework, there are several important features of economic change in general, and in the Pacific Northwest in particular, that are important to bear in mind when assessing the effects of a decision to bypass the four federal dams on the lower Snake River. First, any decision about management of these dams will occur in the context of powerful, international and national economic trends that shape the competition for water resources, which in turn shape the economic consequences of a decision about the future of the dams. Four trends are especially important:

- The decline in employment in resource-intensive industries and the increase in employment in service and high-tech manufacturing sectors of the economy. >
- The growing importance of education as a determinant of wages and household income. >
- The evolving economic integration of nonmetropolitan and metropolitan areas. >
- The increasing role of amenities and other nonwage factors as determinants of the locational decisions of households and firms. >

These trends result from fundamental changes in tastes, technologies, and demographics within the US, as well as changes in the economic relation between the US and other countries. The economic forces underlying these changes are likely to persist for many years, perhaps decades.

In broad terms, what these trends mean is that some of the individuals and sectors of the economy most likely to feel the negative effects of bypassing the four lower Snake River dams face declining economic opportunities and reduced economic flexibility, regardless of the fate of these dams. This group includes producers of agricultural commodities and workers with low skills and education. At the same time, others who may initially experience the negative effects of a decision to bypass the dams are well positioned to rebound quickly and participate in economic activity that is likely to continue to expand, regardless of the fate of the four dams.

THE ECONOMIC TRANSITION THAT WOULD OCCUR

AS A CONSEQUENCE OF A DECISION TO BYPASS

THE FOUR LOWER SNAKE RIVER DAMS

I am currently engaged in a study to assess the economic transition and mitigation opportunities that would occur if the four federal dams on the lower Snake River are bypassed in the next decade. While I have not yet completed this work, I am sufficiently familiar with the information about the local and regional economies and the on-going studies under the Drawdown Regional Economic Workgroup or "DREW" umbrella, as well as other relevant studies, to reach some initial conclusions about the economic impacts of a decision to bypass the four dams. I do not think these conclusions are likely to change significantly, although some specific numbers may change here and there.

As I have said, the overall or cumulative economic consequences for local and regional economies of a decision to bypass the four dams on the Lower Snake River would be minor. Some consequences, such as increased construction, added recreation opportunities, a shift in

transportation modes, and improved tribal conditions would be positive. Other consequences, such as shifting the terminus for river barge transportation from Lewiston to the Tri-Cities (Kennewick-Pasco-Richland), reducing hydropower capacity, and removing some current acreage from irrigated agriculture, would have negative aspects.

Some of the positive and negative economic effects would occur immediately following a decision to remove the dams, such as construction impacts or changing modes of transportation, and others would develop over the long run, such as increased recreational benefits and restored fisheries.

I address below the major economic effects, both positive and negative, of a decision to bypass the four lower Snake River dams based on my current understanding and analysis of the available economic data.

A. Irrigated Agriculture >

Bypassing the four dams on the Lower Snake River will minimally impact the irrigated-agricultural sector. The related overall impacts on the local and regional economies also will be small. The direct impacts will be confined to a small sector of the economy, a sector projected to become even smaller in the future in any event. Most of the indirect impacts will occur in urban areas where economies are growing and driven by activity in sectors unrelated to agriculture. These expanding economies likely will mitigate most of the indirect and induced negative impacts to irrigated agriculture of bypassing the dams by providing alternative employment opportunities.

The agricultural sector has not been a stable source of employment in recent times. Since the mid-1970s, soon after the dams began service, the agricultural sector experienced three contractions in employment. Each of these contractions affected more workers, directly and indirectly, than the projected employment impacts of bypassing the dams. Given this experience, workers, employers and suppliers should anticipate similar contractions in the future, no matter what decision is made about the dams.

The impacts on three crops account for approximately 80 percent of the total agricultural employment impacts that could be attributed too a decision to bypass the four dams. Impacts attributed to other individual crops are negligible. The loss of these crops will not noticeably affect the overall supply of them in the local or regional economy and the direct employment impacts of this production loss can best be addressed through mitigation measures that will help those affected workers increase their employability and attractiveness to sectors of the economy that are likely to grow rather than contract.

1. Summary of Potential Impacts of Dam Bypass

- 37,000 acres of irrigated agriculture may be taken out of production in Franklin and Walla Walla counties. (Water Supply Report (Nov. 1998), p. 6) (unless specifically noted, all citations are to studies performed as a part of the DREW process). >

- DREW estimates 1,306 direct, indirect and induced jobs lost in counties adjacent to the four dams. This number includes jobs lost in agricultural production (direct job losses) as well as jobs lost in businesses that supply the agricultural sector (indirect job losses), and jobs lost throughout the economy through the subsequent decline in consumer spending (induced job

losses). >

- By expanding their area of analysis upriver into Idaho and downriver to include counties on the Columbia River, DREW calculates an additional 950 lost indirect and induced jobs. Most of these lost jobs are in the tri-cities area of Richland-Kennewick-Pasco, Washington. DREW calculates total lost jobs attributed to impacts on irrigated agriculture at 2,256 (AEI (Feb. 1999), p. 219). DREW makes the reasonable assumption that the food-processing industry will find replacement inputs and will be unaffected by the bypass (AEI, p. 222). >

- A direct loss of $71 million in agricultural production plus an additional loss of $104 million in indirect and induced sales of supplies to agricultural producers (AEI, p. 216-18). >

2. The Relevant Economic Context

- The employment impacts to irrigated agriculture are unevenly distributed among the crops. Three crops, fruits (apples and cherries), potatoes, and onions, account for approximately 80 percent of total employment impacts in counties adjacent to the four dams. Apples and cherries, with less than 14 percent of affected acres, account for almost half of all employment impacts in this sector. >

- The lost indirect and induced jobs are most likely located in urban economies, such as the Tri-Cities area. These economies are growing and expanding in spite of agriculture's on-going declining share of total employment. This growth likely will mitigate much of the negative indirect and induced employment impacts attributed to irrigated agriculture through alternative employment opportunities. >

- In the 15 counties that make up the local economy, the combined employment for farm and agricultural services experienced a number of contractions in recent years. A few of these contractions were greater than the projected impacts of bypassing the dams. For example, between 1976 and 1977, not long after the dams began operation, employment in this combined sector contracted by approximately 3,050 jobs. Between 1983 and 1985, this sector lost approximately 2,700 jobs. Between 1983 and 1987, the combined job loss in this sector was approximately 4,300 jobs. More recently, between 1991 and 1992, this sector lost 4,050 jobs. Even so, the 15 county local economy has continued to grow and will do so even if the four dams are bypassed. >

- In 1996, the last year of available data, the farm and agricultural services sectors in the three relevant Bureau of Economic Analysis ("BEA") Regions (Spokane, Tri-Cities, and Pendleton) had over 93,500 proprietors and workers. There were 30,300 employed in these sectors in the 15 county local economy in that year. The loss of 2,256 direct, indirect and induced jobs projected by DREW represents approximately 2.4% of the total workforce in the 3 BEA Regions and 7.4% of the workforce in the local economy. Many, if not most, of the indirect and induced job losses (which represent the bulk of lost jobs) from bypassing the dams will be mitigated by continuing local economic expansion that a decision to bypass the dams will not affect. >

- Workers employed directly in resource-intensive industries, such as agriculture, face declining employment prospects in the future regardless of the fate of these dams. For

example, between 1996 and 2006, according to the Washington Department of Employment Security, farm workers on food and fiber crops will be the fastest declining occupation in the state (measured by the decline in number of jobs) losing 1,753 jobs. These losses represent direct jobs in agriculture and significantly exceed the direct job losses attributable to bypass of the four dams. >

- The 37,000 lost acres of irrigated agriculture affect 13 farm operations. According to the most recent agricultural census there were over 1,500 farms of all sizes in Franklin and Walla Walla counties. The number of acres lost to production is small in relation both to total irrigated acres in Washington and in the local region. >

- U.S. taxpayers, through the Federal government, subsidize agricultural producers in the form of conservation programs and other payments. A decline in agricultural production may offset a small portion of these support payments. >

B. Transportation

Bypassing the four lower Snake River dams will increase demand for rail and truck services, which have higher prices compared to barge services. As a result, transportation costs for grain producers will increase by $6 to $47 million per year. Estimated costs of modifying transportation infrastructure to accommodate this shift in modes of transport are $125.5-$224.5 million.

The change in transportation modes and the shift in the river transport terminus from Lewiston to the Tri-cities likely will yield positive employment impacts. New employment generated by the switch to rail and truck will likely exceed, perhaps by a large amount, the number of jobs associated with lost barge activity.

1. Summary of Potential Impacts of Dam Bypass

- The DREW Navigation report concludes that transportation costs for grain producers in eastern Washington and Idaho will increase approximately $47 million per year. There is no mention of employment impacts in this report. (Navigation Report (Feb. 1999), p. 78-79). >

- In contrast to the Navigation report, AEI reports $5.84 million/year in increased cost of surface transportation. This increased spending will generate 23 to 97 jobs in truck and rail services (AEI, p. 132). >

- According to AEI, this cost increase will have no impact on acres of grain produced in Washington, but will reduce acres of grain planted in Idaho by 30,000. This lost acreage represents approximately $9 million in winter wheat production and a loss of 261 jobs in central Idaho. (AEI, p. 129-30). >

- The Navigation report lists the following additional cost increases: >

Additional rail cars: $31 to $74 million.

Rail infrastructure: $74.5 to $93.5 million.

Terminal expansion: $0 to $17 million.

Elevator capacity: $20 to $40 million.

Total Additional Costs: $125.5 to $224.5 million

(Navigation report, page 81-85).

2. The Relevant Economic Context

- U.S. taxpayers heavily subsidize barge operations on the Lower Snake River. Barge operators pay a fuel tax at a rate designed to cover only 50 percent of the cost of new construction and major rehabilitation projects. U.S. taxpayers pay the rest. U.S. taxpayers also cover all annual maintenance and operation costs for transportation-related facilities such as locks (Bertels, P., *Cost Recovery on the U.S. Inland Waterway System,* US Dept. of Ag. (July 1998)). Some of the cost savings in avoided subsidies could be used to offset the additional costs of a change in transport mode. >

- According to the DREW Avoided Cost report, the annual subsidy to maintenance and operation costs for navigation at the four dams is approximately $2.6 million per year (Avoided Cost, p. 9). >

- Given the increased costs and transportation uncertainties, grain producers may choose to participate or increase their acreage in conservation reserve programs. To the extent that farmers take marginal land out of production, grain production, and demands for transportation, will decline. >

- When the Snake River dams entered service in the 1960s and 1970s, the availability of barge transport did not produce a large increase in acres planted. Similarly, removal of the dams is not likely to cause a significant decrease in acres planted. >

- The net employment impacts attributed to changes in transportation modes likely will be positive. Expenditures for increased operations and maintenance for rail and road would generate employment opportunities that more than offset jobs lost by excluding barges from the Lower Snake River. For example, the Tri-cities area likely will see a substantial increase in employment as transportation operations relocate to the new barge terminus. >

- 36% of grain is currently shipped by rail. (EWITS 24, p. 102-103) >

- Transportation costs represent approximately 15% of the market value of wheat grown in Washington in 1997. Bypassing the four lower Snake River dams could cause these costs to increase to between 16% and 18%. It is not clear how these growers would respond to this cost change. (EWITS 24, p.23 & 1997 Census of Agriculture for Washington State) >

C. Electric Power

A decision to bypass the four lower Snake dams will have only minimal impact on electricity rates in the Pacific Northwest. Currently, consumers in the region enjoy some of the least expensive electricity in the country. Even with dam bypass, electricity rates in this region will continue to be among the lowest in the country.

1. Summary of Potential Impacts of Dam Bypass

- Rate increases of approximately $200 million per year throughout the Pacific Northwest (Hydropower Report (Jan.. 1999), p. 91). >
- AEI concludes, "Because the power generated on the four hydroelectric plants in the Project is a very small share of the region's power consumption it is assumed that rate impacts for replacement electricity would be widespread but small and would not restrict production or employment by industries in the region" (Hydropower Report, p. 222). >

2. The Relevant Economic Context

- The $200 million increase in annual electricity expenditures in the Pacific Northwest as a result of dam bypass is a small fraction of regional electricity expenditures. >
- Electricity rates in the PNW are currently some of the least expensive in the U.S. >

D. Municipal, Industrial, and Private Water Users

With dam bypass, a portion of the municipal, industrial, and private wells adjacent to the Lower Snake River will require modification. These modifications will involve a one time cost of approximately $67 million.

1. Summary of Potential Impacts of Dam Bypass

- Eliminating the reservoirs behind the dams will require pump modifications for municipal and industrial operators near the Lower Snake River. DREW states the total modification cost at approximately $11.5 million, with approximately $10.7 million for the Potlatch Corporation (Water Supply Report, p. 31). >
- The bypass will negatively affect a portion of the private wells within one mile of the Lower Snake River. DREW estimates the total modification costs to maintain water supply at these wells at approximately $56.4 million (Water Supply Report, p. 33). >

2. The Relevant Economic Context

- The federally-funded dams subsidize these water users by increasing the water table and reducing pumping costs. >

E. Recreation

In the short run, bypassing the dams will have a small negative impact on the local and regional recreation economies. In the long run, bypassing the dams will generate economic benefits from recreation that will be many times the value of the benefits that would otherwise exist with the dams in place.

1. Summary of Impacts of Dam Bypass

- Bypassing the dams will generate recreational-fishing benefits for anglers that fish the Lower Snake River in the hundreds of millions of dollars each year. Non-angling benefits in this same area also are projected to be in the range of hundreds of millions of dollars (Recreation Report (Feb. 1999), p. 6). >

- $6.1 million in lost recreation spending per year attributed to reservoir fishing, with 76 lost jobs. These represent direct, indirect, and induced jobs lost in the vicinity of the four reservoirs (AEI, p. 152). >

- $61.3 million in lost recreation spending per year attributed to non-fishing recreation at reservoirs, with 708 total (direct + indirect + induced) jobs lost. These impacts are also located in the vicinity of the four reservoirs (AEI, p. 166-67). >

2. The Relevant Economic Context

- The total job loss attributed to recreation impacts is 784. Recreation expenditures are distributed primarily between the retail trade and services sectors of an economy. In the 3 BEA regions, these sectors employ 115,990 and 385,737 people respectively. The loss of 784 jobs is less than 1 percent of the former sector and less than .5 percent of the latter sector. Bypassing the four dams on the Lower Snake River will have negligible impacts on these sectors. >

- The impacts AEI identifies represent the maximum possible negative impacts because AEI's analysis assumes that the recreation expenditures are completely lost to the local and regional economies. This is highly unlikely. To the extent that anglers and other recreationists engage in different activities, or the same activities but at different locations, within the local and regional economies, their expenditures are not lost. Such a transfer of expenditures benefits businesses unrelated to the reservoirs. Businesses located at the reservoirs are still worse off, however, the net effect could be much smaller than AEI's estimate. >

- Retail trade and services are among the fastest growing sectors of the local and regional economies. In the short run, expanding employment opportunities in these sectors will mitigate the negative employment impacts caused by the reduced recreation expenditures. >

- Once the dams are bypassed, there will be a lag time before new recreational activities reach their full potential. For example, it will take 10-20 years for new fishing and rafting activities to reach a relatively high utilization rate. Thus, most recreation benefits will accrue over the long run. >

- Current economic benefits associated with reservoir fishing are estimated at approximately $2 million/year. This is a small percentage of the angler benefits that could accrue under the dam bypass option. >

- Current economic benefits associated with non-angler recreation at reservoirs is approximately $31.6 million/year. This too is a small percentage of the non-angler benefits under the bypass option. >

E. Tribal Concerns

In the short run, bypassing the four dams will allow tribal peoples to renew their spiritual and religious connection to sacred sites and other places of special interest along the now flooded river sides. In the long run this action will increase tribal ceremonial, subsistence and commercial harvest of anadromous fish.

1. Summary of Potential Impacts of Dam Bypass

- After 25 years, dam bypass would increase tribal ceremonial, subsistence and commercial harvests of wild and hatchery salmon and steelhead by 29 percent, compared to present-day total tribal harvest on the Columbia and Snake rivers (Tribal Circumstances Report, p. xxi). >
- Allow tribal peoples to renew their close religious/spiritual connection with approximately 34,000 acres of lands where their ancestors lived and are buried. Tribal members could then care for their ancestors' grave sites (p. xxiv). >
- Tribal people could return to more than 600-700 locations where they were accustomed to live, fish, hunt, harvest plants, conduct cultural and religious ceremonies, and pursue other aspects of their normal traditional lives (p. xxiv). >

2. The Relevant Context

- Management alternatives that exclude dam bypass will perpetuate adverse impacts on tribal culture, economy and health (Tribal Circumstances Report, page xxii). >
- A coincident strategy which commits to 'further study' and delay in enacting more substantial recovery measures also commits to continued suffering, ill health and death for tribal members (page xxii). >
- Present tribal suffering stems, in large part, from the cumulative stripping away of tribal, Treaty-protected resources to create wealth for non-Indians of the region (page xxii). >

F. Other Significant Potential Economic Impacts

In addition to the specific sectors of the local and regional economies discussed above, bypass of the four dams on the lower Snake River would have a number of other significant and largely positive economic effects. These include:

- Bypassing the four dams and other modifications will generate construction expenditures in the local, regional, and Pacific Northwest economies of approximately $1.1 billion dollars (Avoided Cost Report, p. 7). >
- Using a lower construction cost estimate of only $610 million, AEI projects employment impacts by year, using two models. These models predict the creation of between 800 and 1200 jobs in the first year of dam bypass construction with additional jobs of between 1300 and 1900 the following year, from 2600 to 3800 the next year, 3600 to 5300 the next year, falling to between 1100 and 1700, and then between 140 and 200 in the final year of

construction. While these are noteworthy positive economic benefits for the local and regional economy, and while this activity will have some spill over effects on the regional economy, if construction spending is higher, the impacts will increase. >

- Bypassing the dams will make unnecessary certain construction, operations, and maintenance costs the loss of which will offset to some extent the positive economic activity generated by construction impacts. Avoided constructions costs at existing dams range from $190 million to $441 million (Avoided Cost Report, p. 7). Avoided operations and maintenance costs range from approximately $28.5 million to $30.5 million per year (Avoided Cost Report, p. 10). >

- A doubling of anadromous-fish runs would increase total personal income annually on the West Cost of the U.S. by $230.5 million over harvests based on run sizes of the early 1990s (Anadromous Fish Report, page VII-7). >

CURRENT EFFORTS TO ASSESS THE ECONOMIC EFFECTS

OF REMOVING THE FOUR LOWER SNAKE RIVER DAMS

ARE INADEQUATE IN SOME IMPORTANT WAYS

In preparing my testimony today, I have used and relied on information from a number of studies and reports, including several that are part of the DREW process. Through these on-going efforts, government agencies and consultants are engaged in assessing various aspects of the economic effects of different policies for restoring Snake River salmon, including bypassing the four Snake River dams. While these studies are not yet complete, they are producing some important information that will improve public understanding of the economics of salmon restoration.

At the same time, some of the analyses under the DREW umbrella have focused too narrowly on identifying initial costs rather than following the economic transition. They also have failed to focus, in some cases, on identifying and assessing economic benefits. These kinds of limitations may lead the public and policymakers to miss many aspects – both positive and negative -- of the overall economic transition that will occur following a decision to bypass the four lower Snake dams. Acknowledging and correcting these shortcomings sooner rather than later will benefit everyone concerned with this issue.

CONCLUSION

To summarize, the effects of a decision to bypass the four federal dams on the lower Snake River will have both positive and negative economic effects. Some of the positive effects will be large enough to have a significant effect on the local and regional economies. Many of the negative effects either will be mitigated by economic changes that are proceeding regardless of dam bypass or they can be reduced through targeted mitigation efforts. Overall, Northwesterners should not fear a decision to bypass the four lower Snake River dams. Certainly, there is no economic justification for refusing to study this option.