Case No. 67, Original

In The

Supreme Court of the United States

October Term, 1982

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STATE OF IDAHO ex rel. CECIL D. ANDRUS, Governor, WAYNE L. KIDWELL, Attorney General, JOSEPH C. GREENLEY, Director, Department of Fish and Game,

Plaintiff,

vs.

STATES of OREGON and WASHINGTON,

Defendants.

—o—

PLAINTIFF, STATE OF IDAHO'S EXCEPTIONS TO THE MASTER'S FINAL REPORT ON MERITS

—o—

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STATEMENT

By order of October 4, 1982, this Court requested that the parties to this action file exceptions to the Final Report on Merits of the Special Master. The State of Idaho submits the following exceptions to the Special Master's recommendation that the present action be dismissed without prejudice to the right of Idaho to bring new proceedings asserting injury under then-existing conditions.

INTRODUCTION

This suit was brought by the State of Idaho in 1975 against the states of Oregon and Washington for an equitable apportionment of the harvestable surplus of the Columbia River runs of spring chinook salmon, summer chinook salmon, and summer steelhead trout which are destined to return to Idaho. Idaho contended that it is entitled to an equitable share of the harvest of these runs and that the management practices of Oregon and Washington had adversely and unfairly deprived Idaho of that equitable share. Idaho also prayed for admission to the Columbia River Compact.

This Court granted Idaho leave to file its complaint, but it left open the questions whether the complaint stated a claim upon which relief could be granted and whether the United States was an indispensable party to the action. It limited the action to the equitable apportionment issue. 429 U. S. 163 (1976). It later referred the action to a Special Master. 431 U. S. 952 (1977). On February 2, 1979, the Special Master recommended that Idaho's action be dismissed for failure to join the United States as an indispensable party, but that the dismissal be without prejudice to Idaho's right to refile its suit at some later date if it was wholly unable to obtain a remedy through negotiations.

The Special Master felt that the United States was necessary because of its role as manager of the ocean fishery for anadromous fish, as trustee for the various Indian tribes with treaty entitlements to anadromous fish, and as the operator, builder, or licenser of the eight dams facing anadromous fish on their return to

Idaho. The Master also indicated concern with the difficulty of the administration of any decree for relief.

Idaho filed exceptions to the Master's recommendation. This court sustained Idaho's exceptions and remanded the matter to the Special Master. 444 U. S. 380 (1980).

This Court accepted Idaho's representation that it had no quarrel in this lawsuit with the management of the ocean fishery, the management of the dams, or the share of the Indian harvest. It agreed with Idaho's argument that under all but the most adverse river conditions, a greater number of fish reaching each dam would result in a greater number of fish crossing the dams and ultimately returning to Idaho. The mortality rates could be taken into account in an apportionment formula. *Idaho ex rel. Evans v. Oregon and Washington, supra,* at 388, 389. It further stated that "as a mathematical proposition, the relief sought by Idaho need not involve the Indians at all." *Id.,* at 389. Finally, it emphasized that the difficulties of drafting and enforcing a decree are no justification for failure to perform a constitutional function. *Id.,* at 390, fn. 7.

After remand, discovery was conducted. Trial on the merits was held June 15-18, 1981. After briefing by the parties, oral arguments were heard on December 16, 1981. By a February 12, 1982 order, the Master required the states to present additional statements on specific points. Idaho was ordered to present statements on the size of the various fish runs and numbers of fish harvested, on the specific acts of mismanagement claimed against the defendants, and on the specific mechanism through which relief to Idaho could be granted. The

parties were also directed to state what additional evidence they would seek to introduce to support their statements. Idaho filed its Supplemental Memorandum in March, 1982. It advised the Master that if further testimony was considered necessary concerning the methodology for apportioning the harvest of the runs in question, it would request to call certain named expert witnesses. The Master never addressed the question of further testimony. After giving the parties opportunities to file exceptions on a preliminary report, the Master filed his final report on the merits on July 15, 1982. The Master recommended that the present action be dismissed without prejudice to the right of Idaho to bring new proceedings asserting injury under then-existing conditions.

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FACTS

I. THE RIVER SYSTEM

The Columbia River system is one of the world's most famous watersheds for the production of anadromous fish. The Columbia rises in British Columbia and meanders generally in a southerly direction through Washington until joined by its principal tributary, the Snake River. About thirty miles south of the confluence, the Columbia turns westward and for about 270 miles forms the boundary between Washington and Oregon.

The Snake River rises in Wyoming, flows southerly to its crossing of the Wyoming-Idaho border, then westerly and northerly across Idaho to a point where it becomes the boundary between Idaho and Oregon for about

165 miles. The Snake then forms the boundary between Idaho and Washington for about 30 miles where it turns westerly and flows through Washington for about 100 miles to its confluence with the Columbia. (Master's Report at 4-5; hereinafter "Report.") Principal tributaries of the Snake in Idaho supporting anadromous fish are the Clearwater and Salmon Rivers.

II. ANDROMOUS FISH

Anadromous fish are fish which spawn in fresh water, mature in salt water, and return to their spawning grounds to complete their life cycle and propagate the species (Ex. W-4 at R-17; Tr. 652). The anadromous fish at issue in this suit generally spend one or two years as juveniles at the spawning ground. They then migrate to the ocean and return in their fourth or fifth years. A fish which returns in its third year is called a "jack" salmon (Ex. W-4 at R-18). Anadromous fish in the Columbia River system are distinguished by species, the time of year that the fish enter the Columbia to return to their spawning grounds, and the location of the spawning grounds.

There are numerous species of anadromous fish. This lawsuit relates to chinook salmon and steelhead trout. The fish generally migrate upstream in well-defined groupings called "runs." (Ex. W-4 at R-19). The "runs" are classified by the time they enter the Columbia River i.e., summer, fall, winter, spring. They are also classified by location. A primary distinction made is whether the runs are destined to return to spawning grounds above Bonneville Dam or below Bonneville Dam. Those runs destined to return above Bonneville Dam are

called "upriver runs." Those runs destined to spawn below Bonneville Dam are "lower river runs." (Ex. W-4 at R-18-20; Tr. 652, 653).

This lawsuit involves upriver runs of spring chinook salmon, summer chinook salmon, and summer steelhead trout. For example, the upriver spring chinook salmon in question are destined to return to spawning grounds in Idaho (i.e. "upriver" from Bonneville Dam) and enter the Columbia River in the spring. They will not reach Idaho until several weeks or months after beginning their migration. At times, different runs will overlap in the river. The runs are then said to be "mixed." (Tr. 656).

A. *Habitat*

"Salmon and steelhead have several well-defined habitat requirements—access to and from the sea, an adequate supply of good-quality water, suitable gravel for spawning and egg incubation, and an ample supply of food and shelter for rearing fish. . . .

"An adequate flow of water 50 to 60 degrees Fahrenheit and well oxygenated is essential for fish spawning, egg incubation, rearing, food production, and for shelter. Stream flow volume and seasonal flow patterns dictate the production capability of the aquatic environment.

"Water quality also presents very narrow limits with respect to aquatic productivity. Water must be free of pollutants that might reduce or eliminate basic food production or cause adverse effects to fish.

"Streams must contain enough suitable gravel riffles for spawning and incubation of deposited eggs. The physical condition of riffle areas, which can limit the

capacity of spawning, include gravel size, amount of sand or silt in the gravel, degree of gravel compaction, and depth/velocity conditions of water flowing over the riffles. The riffles must remain relatively free of silt overburden and must provide adequate flow through the gravel itself.

"Aquatic food production for fish requires water with the proper combination of minerals, acidity, temperature patterns, and dissolved oxygen.

"For fish migration, spawning, and juvenile rearing to take place without excessive predation losses, protective cover in the form of good bank cover, submerged objects, and balanced riffle-pool ratio must exist." (Ex. W-4 at A-4, 5).

Before industrialization of the Columbia River system, anadromous fish generally spawned throughout almost the entire river system whose extremities reach into British Columbia. Industrialization has significantly reduced the amount of habitat available to anadromous fish (Ex. W-4 at H-1). The consensus among biologists, however, is that habitat availability in Idaho is not presently a limiting factor on the production of anadromous fish; the primary problem is that there are not enough fish to utilize the remaining high quality habitat available (Ex. I-15, p. 4; Tr. 912, 952; Depo. of B. Bohn at 33). Idaho has a significant portion of the remaining high quality habitat which is centered around the Salmon and Clearwater River systems (Ex. I-22, I-23, I-28). By "transplanting" fish spawned in hatcheries to underutilized streams, biologists can in effect reintroduce and reestablish wild runs (Ex. W-4 at B-26).

Idaho has thousands of miles of habitat that support natural production of spring chinook salmon, summer chinook salmon, and summer steelhead (Ex. I-22, I-23, and I-28). Exhibit I-28 is not a complete list of all the habitat (Tr. 658, 659).

There are an estimated 2,393 miles and 22,598 acres of spring chinook habitat in Idaho and 716 miles and 11,151 acres of summer chinook habitat. Most of it is in public ownership, and it is not anticipated there will be a major reduction in this habitat by 1990 (Ex. I-3; Tr. 797, 798). There are an estimated 3,358 miles and 27,930 acres of streams considered to be summer steelhead habitat. No reduction is anticipated at this time (Ex. I-3; Tr. 798).

The production capability of this spawning and rearing habitat has not been reduced. Nevertheless, spawning populations are at an all time low (Ex. I-29; Idaho's Answers to Oregon's Interrogatories, First Set, 6, 7). The problem is that there has not been adequate escapement of anadromous fish back to the Idaho spawning grounds (Tr. 912, 913).

B. *Habitat Enhancement*

Idaho has been actively involved in the improvement of or addition to existing habitat (Tr. 826). This program involves construction of fish passage facilities, reintroduction of chinook salmon into the Clearwater River where they had been eliminated, stream inventories of chinook and steelhead habitat and location of migration barriers. There is also an active program to remove migration barriers and to screen major irrigation diver-

sions to prevent fish losses in the upper Salmon River drainage. Two hundred and forty diversions have been screened (Tr. 827, 828, 847, 854, 855).

C. *Habitat Protection*

Idaho decided that preservation of anadromous fish habitat should be the major criterion involved in the Department of Fish and Game's recommendations and support for areas to be classified as wild and scenic rivers or as wilderness areas. Through the efforts of the department, governor's office, Idaho's congressional delegation, and civic and sportsmen's groups, major wilderness and wild and scenic river legislation was passed, which protects a significant portion of the prime anadromous fish spawning and rearing habitat in Idaho (Tr. 829-831).

For example, the Conference Report accompanying the Central Idaho Wilderness Act of 1980, Pub. L. No. 96-312, 94 Stat. 948, which designates substantial portions of the Salmon River as a wild and scenic river, recognizes the importance of the anadromous fish in this area:

> Maintenance of the free-flowing nature of the Salmon River and the preservation of its pure waters are two of the primary purposes for the enactment of this legislation. Fisheries experts from throughout the Pacific Northwest have emphatically stated that the construction of even one dam on this river would effectively nullify the massive federal-state commitment to the restoration of the Columbia River salmon and steelhead-trout populations to their historic levels. Since the Salmon River drainage is by far the most important single portion of the Columbia River Basin for the production of salmon and steelhead, one dam on this river could lead to the extinction of several species of anadromous fish. That would indeed be a national tragedy. (H. R. Rep. No. 96-1126, 96 Cong., 2d Sess. 1980)).

Further, dredge and placer mining were sacrificed to protect anadromous fish:

> In summary, the conferees believe that the permanent dredge and placer mining ban is justified in order to protect the enormous public investment in the perpetuation and enhancement of the anadromous fish runs of the Columbia River system (Conference Report, supra at 27).

And additional areas were included because of anadromous fish:

> The conferees adopted the House boundary which includes this 33,000 acre addition to the wilderness to protect critical chinook salmon spawning areas, big game habitat, and to provide diversity to the wilderness proposal. According to the Idaho Department of Fish and Game, the slow, meandering Elk Creek has an estimated 41,000 square yards of spawning gravel, capable of accommodating 2,560 female salmon (Conference Report, supra at 15, 16).

The primary sponsor of this legislation was Idaho's Senator Frank Church.

Idaho has been active in the preparation of environmental impact statements, forest service planning, and reviewing proposed stream alterations, small hydro-power developments and water quality permits (Tr. 832). The Department was a strong advocate of the minimum stream flow legislation, Idaho Code §§ 42-1503 et seq., which classifies minimum stream flow for fisheries as a beneficial use and establishes the legal procedure to obtain a minimum stream flow (Tr. 850). The majority of the flows recommended to the Water Resources Board have been adopted

(Tr. 851). The Department planned to file about 40 minimum stream flow applications in 1981 and will continue to do so in the future (Tr. 855).

III. FISHERIES

Historically, Indian tribes had already well-established cultures and industries based on Salmon fishing at the time of the entry of non-Indians into the Columbia River Basin in the early 1800's (Ex. W-4 at P-1, R-1). Fishing by non-Indians commenced immediately, and it increased dramatically in the late 1860's when improved canning techniques allowed for a wider market area (Ex. W-4 at 0-1). Intense over fishing brought about severe reductions in the upriver populations (Exs. W-4 at E-4-10, H-5, J-3, L-5, R-6; W-3 at 2).

At present, there are commercial fisheries in the ocean, non-Indian commercial fisheries in the lower (below Bonneville Dam) Columbia River, a commercial Indian fishery above Bonneville Dam, and sport fisheries in the main Columbia and in the various Oregon, Washington, and Idaho tributaries (Ex. I-27 at 1-4). Oregon and Washington have sport fisheries but no commercial fishing in their tributaries, although such fishing is technically possible (Ex. I-13; Tr. 795, 1054). Fishing on the tributaries would eliminate problems with fishing on mixed stocks, permit greater harvest of surplus returns to hatcheries, and allow more precise management of the runs. Using this principle, Idaho has been able to have "hot spot" fisheries on certain tributaries or at hatcheries where there was a surplus return even though the total run was below harvestable levels (Ex. I-11 at 101; W-4 at R-53; Tr. 679).

Idaho has no commercial fishery (Pretrial Order, Agreed Fact 13).

IV. DAMS

Construction of dams on the Columbia River began with the completion of Bonneville Dam in 1938. Currently, anadromous fish destined to return to Idaho must pass eight dams—four on the Columbia River and four on the lower Snake River. In addition to making upstream passage more difficult, dams also contribute heavily to mortality of smolts (young anadromous fish) on their downstream migration (Ex. W-4 at D-5). Early dams were constructed without much thought as to their impact on anadromous fish (Ex. W-4 at A-36; Tr. 819-820, 823). As a condition for a license to construct later dams, power companies were required to construct fish hatcheries to "mitigate" for the anticipated loss of anadromous fish. The fish hatcheries would hopefully replace the number of fish lost because of the dams; they were not designed to increase the number of fish beyond pre-dam levels.

As pointed out in the Final Report of the Special Master, the dams were constructed over a period from 1937 to 1975.

The dams on the main stem of the Columbia where it is the boundary between Oregon and Washington are:

Dam	River Miles Above Estuary	Completion Date
Bonneville	146	1938
The Dalles	192	1957
John Day	216	1968
McNary	292	1953

The Corps of Engineers has also built and continuously operated the following dams, all located in Washington on the Snake River above its confluence with the Columbia:

Dam	River Miles Above Confluence	Completion Date
Ice Harbor	10	1961
Lower Monumental	42	1969
Little Goose	70	1970
Lower Granite	108	1975

The first major impact of a dam upon returning fish occurs two to three years after a dam is constructed (Washington's Memorandum at 23). This is due to the fact that there is no accurate way to measure numbers of fish traveling downstream and because it will take the first fish migrating downstream over a new dam two to three years to return from the ocean to spawn.

All parties agree that the dams have been the most significant factor involved in the decline of the runs in question (Pretrial Order, Agreed Fact 25). They differ, however, as to the effect of fishing by the defendants on the runs.

One positive effect of the dams has been to allow for the compilation of statistical records concerning the runs (Ex. W-4 at E-12, H-2). The Corps of Engineers counts fish at each of the dams. Both adult and immature fish (jacks) are counted. The data collected are reported in Corps publications. All parties accept the accuracy of these fish counts (Report at 7).

The counts make several calculations possible. The size of a returning run of upriver fish is determined by

adding the Bonneville Dam count to the number of fish harvested in the lower river (Ex. I-27 at 9). By comparing dam counts, passage mortalities can be calculated. By comparing the number of fish at Ice Harbor Dam, the first dam above the confluence of the Snake River with the Columbia River, with the size of the run and factoring in passage losses, the percentage of the run originating in Idaho can be determined (Tr. 666-669). By comparing water flow conditions and passage mortalities in past years with present water flow conditions, passage mortalities in any year may be predicted (Ex. I-2; Tr. 668, 682-683). These calculations are made by the respective agencies in managing the river and setting fishing seasons. *See, Idaho ex rel. Evans v. Oregon and Washington,* supra, at 389; Master's Initial Report at 13. Using this methodology, Idaho demonstrated that substantial additional numbers of fish would have returned to Idaho had defendants not fished during the years in question (Ex. I-38).

In years of low run off, a much larger percentage of water must be run through dam turbines instead of spilling over the dam. Fish migrating down stream are then swept into the turbines which kill several times more fish than would be killed passing over the spillways. The turbines are the greatest cause of down stream mortality (Ex. W-3 at 6).

In addition to turbine mortalities, losses to fish are caused by nitrogen supersaturation resulting from the plunge over the high dams, susceptibility to disease because of higher water temperatures, loss of orientation in slack water, and greater susceptibility to predators (Report at 7; Ex. W-4 at A-14-15). While the master

is correct in stating at page 7 of his final report that of the adults escaping over Bonneville Dam, approximately 25% to 30% pass over Lower Granite Dam, his statement is incomplete in that it does not give a true picture of dam mortalities because many fish passing over Bonneville Dam are not destined for Lower Granite Dam but instead turn off onto various Washington and Oregon tributaries prior to reaching Lower Granite Dam (Ex. W-4 at G-5, 6).

All of the dams are equipped with fish ladders to facilitate the upstream passage of fish. Entrance to the ladders is stimulated by attraction water. Ladders have steps which the fish can jump. Water for the ladders is provided by spills from the reservoirs. Each ladder has facilities for viewing and counting the fish which is done under the supervision of the Corps of Engineers. (Report at 7). At times, fish will be swept back over the dam. This is known as "fall back." While the accuracy of the count can be affected by "fall back," this is a recognized phenomena and agencies account for it in utilizing the data obtained (Ex. W-3 at 7; Depo. B. Bohn at 18).

Solving passage problems over the dams has been a continual priority item for the various agencies. Measures taken have included construction of spillage flow deflectors to reduce nitrogen supersaturation, the screening of some turbines to direct fish around them, regulating spills over dams during periods of peak downstream migration, trucking or barging the fish around the dams (Ex. 0-3, 9-15; W-4 at B-18-20, D-5-9, 12-15; W-3 at 31-35), the construction of hatcheries to replace fish lost to the dams, *infra* at 16-20, and, most recently, the North-

west Electric Power Planning and Conservation Act, Pub. L. 96-501, 94 Stat. 2697, 16 U. S. C. 839 et seq.

This act establishes a power planning council charged with achieving the purposes of the act:

> The Council shall include in the program measures which it determines, on the basis set forth in paragraph (5), will
>
> . . . (E) in the case of anadromous fish—
>
> (i) provide for improved survival of such fish at hydroelectric facilities located on the Columbia River system; and
>
> (ii) provide flows of sufficient quality and quantity between such facilities to improve production, migration, and survival of such fish as necessary to meet sound biological objectives. 16 U. S. C. § 839b (h) (6) (E).

The Council established by the act has recently held hearings on how to achieve its purposes. It tentatively has proposed a "water budget" which the various managing agencies could use to increase flows at needed times (Draft, Fish and Wildlife Program, Northwest Power Planning Council, September 16, 1982).

V. HATCHERIES

Hatcheries are constructed for two purposes: mitigation or enhancement. Mitigation is compensation for fish losses due to activities of man, primarily dams (Tr. 812, 824). Enhancement is the increasing of fisheries beyond their natural level (Ex. W-4 at M-23). The fish hatcheries in Idaho are primarily mitigation hatcheries (Tr. 704-714, 812-816, 820-821; Ex. W-4 at M-25-26). The majority of the funding for these mitigation hatcheries

comes from the entity that decreased the runs below their natural level (Idaho's Answers to Oregon's Interrogatories, No. 2). The State of Idaho and the Department of Fish and Game have been actively involved in seeking mitigation for damages to the fish runs from dams (Tr. 813-818; 820-826; Ex. I-17, 18).

Three mitigation programs are particularly relevant to this lawsuit: the program to mitigate for losses caused by the construction of Dworshak Dam; the program to mitigate for losses caused by Idaho Power Company's complex of dams on the Middle Snake River (Hell's Canyon, Oxbow, and Brownlee dams), and the program to mitigate for losses caused by the dams on the lower Snake River (Ice Harbor, Lower Monumental, Little Goose and Lower Granite dams).

Dworshak Dam eliminated runs of anadromous fish on the upper Clearwater River. It is owned and operated by the Corps of Engineers. The Idaho Department of Fish and Game (hereafter Department) was actively involved in the mitigation program for Dworshak Dam (Tr. 813). This program resulted in the Dworshak Fish Hatchery which should annually place 20,000 adult summer steelhead into the Clearwater River (Tr. 814). The hatchery recently has produced 1.7 to 2.5 million smolt-sized fish per year (Tr. 706, 707).

The Department also pursued and obtained mitigation for losses due to the construction of Hell's Canyon, Oxbow and Brownlee Dams on the Middle Snake River. These dams effectively block anadromous fish passage to the upper Snake River. The mitigation program was required by the Federal Energy Regulatory Commission

as a licensure condition. Washington, Oregon, and Idaho all agreed to its provisions, including the location of hatcheries, the size of runs for which mitigation is required, the kinds of fish to be produced, and the release points for the fish (Ex. I-17; Tr. 815-819).

This program consists of two phases. The initial phase is to replace runs of 2,700 spring chinook, 5,000 steelhead and 17,800 fall chinook which had passed above Oxbow Dam to spawn (Tr. 815). It resulted in the construction of the Rapid River and Niagara Springs hatcheries in Idaho. The programs for the spring chinook and steelhead have been successful (Tr. 816).

The second phase of the program is to mitigate for the loss of runs of 1,400 spring chinook, 5,000 summer steelhead and 6,600 fall chinook salmon which spawned between Oxbow and Hell's Canyon Dam (Tr. 817; Ex. I-17). The parties in this suit agreed to substitute spring chinook for fall chinook and that mitigation would be based on smolt production, not returning adults. Idaho Power Company would produce four million spring chinook smolts, 3.2 million or 400,000 pounds of steelhead smolts and one million fall chinook smolts (Tr. 817, 818; Ex. I-17).

This settlement agreement further requires that 1.6 million steelhead smolts, or 50 percent of those produced, be released into the Snake River below Hells Canyon Dam. In addition, one million spring chinook smolts, or 25 percent of those produced, are to be released below Hells Canyon Dam and one million fall chinook smolts are to be released into the Snake and Columbia Rivers (Tr. 1015; Ex. I-17 at 3-10). Thus substantial numbers

of fish should be returning to their historic point of origin.

The Lower Snake River Fish and Wildlife Compensation Plan is to mitigate for anadromous fish losses from Idaho, Oregon, and Washington waters due to the four dams on the Lower Snake River (Tr. 820). The provisions of the plan were agreed upon by all parties to this suit. It is designed to replace passage losses of fish from Idaho, Oregon and Washington waters (Tr. 821). The plan calls for six hatcheries in Idaho, two in Oregon and two in Washington (Tr. 822, 823). Thus far, the McCall and Hagerman fish hatcheries have been constructed in Idaho as a result of the plan.

The Department participated in these mitigation programs over ten years and funded the research inventories and studies as well as the State's part of the negotiations (Tr. 825). The Department has also given time and money to design and operate hatcheries, and in many other management efforts (Tr. 826). These mitigation efforts have resulted in the expenditure of a large amount of money (Ex. I-39).

The Department also operates the Red River Pond, an incubation channel in the Selway River System, the Sweetwater eyeing station, Rapid River Hatchery (3,000,000 spring chinook smolts per year), Niagra Springs-Pahsimeroi River hatchery (1,000,000 spring or summer chinook smolts per year), and Hayden Creek (500,000-600,000 spring chinook smolts per year) (Tr. 708-711). Finally, there is the Oxbow Hatchery located in Oregon which serves as a spawning station for approximately 150-250 adult steelhead trapped from the Snake River (Tr. 712).

The Kooskia National Fish Hatchery is intended to assist restoration of the depressed spring chinook run in the Clearwater River and produces about one million salmon smolts per year (Tr. 707). These hatcheries operated in Idaho have a capacity to hold 17,400 spring chinook adults, 3,750 summer chinook adults and 25,400 summer steelhead adults (Ex. I-36).

During the last 20 years, there have been 61.3 million spring chinook fish and eyed eggs, 2.3 million summer chinook fish and eyed eggs, and 65.5 million steelhead and eyed eggs stocked in Idaho waters from the state and federally operated hatcheries (Ex. I-37). Eyed eggs are important because they are relatively hardy and are useful for placement in spawning gravels (Tr. 708, 709).

Oregon argued that it was the equitable owner of over 50 percent of the spring chinook salmon and summer steelhead which presently originate in hatcheries in Idaho. Idaho vigorously opposed this contention and showed that the hatcheries did not alter the historic composition of runs. The Master made no direct finding on the issue, noting only that "many of the Snake River tributaries entering above Brownlee Dam originate in Oregon and produced substantial numbers of fish before the construction of the Power Company Dams." He went on to misstate Idaho's position by saying that Idaho claimed all hatchery fish produced in the State (Report at 28). Idaho's claim in regard to hatchery fish is the same as its claim in regard to wild fish: each party is entitled to an equitable share.

VI. MANAGEMENT

A. *General*

Management of the Columbia River fisheries is controlled by the states of Washington and Oregon. Commercial fishing in the Columbia River is managed through the Oregon-Washington Columbia River Fish Compact which was approved by Congress in 1918. 40 Stat. 515. Within the Compact, Washington is represented by its Department of Fisheries and Oregon by its Fish and Wildlife Commission (Pretrial Order, Agreed Facts 9, 10). Each has one vote. The compact does not have an independent staff. The staff work is performed by the states of Oregon and Washington. The compact will set fishing seasons after obtaining recommendations from the states' biological staffs and after holding public hearings (Ex. I-27 at 4; Depo. of B. Bohn, 56-59; Washington's and Oregon's Answers to Idaho's Interrogatories, First Set, Interrogatory No. 1).

The Oregon Fish and Wildlife Commission regulates both commercial and sport fishing in the Columbia River. The Washington State Department of Fisheries regulates commercial fishing and sport fishing on chinook salmon. The Washington State Department of Game regulates game fish, including summer steelhead (Washington's and Oregon's Answers to Idaho's Interrogatories, First Set, Interrogatory No. 1. There is no commercial fishing in Idaho. Sport fishing is regulated by the Idaho Fish and Game Commission.

In general, fishing seasons are set by deciding on a spawning escapement, estimating run size and passage mortalities, and then allowing for a harvest if it appears

spawning escapement goals will be met (Depo. B. Bohn, 56-60).

"Escapement" simply refers to the number of fish surving past natural and man made obstacles to reach a certain point of measurement. For example, when biologists speak of an escapement of 120,000 fish past Bonneville Dam, they mean 120,000 fish after dam mortalities and both Indian and non-Indian fisheries (Ex. W-4 at R-17).

Of primary importance is the number of fish required for a "spawning escapement." (Ex. W-4 at E-13). A "spawning escapement" is the number of fish which survive to spawn (Ex. W-4 at R-17). In managing the fish runs biologists have set spawning escapement goals below which number they feel there should be no fishing (Depo. of B. Bohn, 48).

Biologists sometimes speak of spawning escapements in terms of minimum escapement and optimum escapement. A minimum escapement is the number of fish returning to the spawning grounds that will maintain the runs without providing for harvest opportunities. An optimum escapement is the number of fish returning to the spawning ground that will yield the maximum sustained harvest opportunities (Ex. W-4 at R-17; Tr. 694, 695).

Under the current management of the river, key escapement numbers include the escapement above Bonneville Dam, the escapement at Lower Granite Dam and Ice Harbor Dam, and the spawning escapement number itself (Report at 18). The Bonneville Dam escapement goal is defined as the number of fish past Bonneville

Dam and the Indian fisheries above Bonneville Dam (Ex. W-4 at R-17).

In managing the Columbia River, Oregon and Washington set a spawning escapement goal for the three upriver runs in question. That goal usually has remained constant for a period of years (Ex. W-1 at 6, 7; Depo. of B. Bohn at 56-59).

The current spawning escapement numbers being used by Washington and Oregon are 120,000 spring chinook above Bonneville Dam and 30,000 spring chinook above Lower Granite Dam and 150,000 summer steelhead above Bonneville Dam and 30,000 above Lower Granite Dam. Because of the precarious status of summer chinook salmon, no fishing has been permitted in recent years and the escapement goal is not defined (Ex. I-18).

After the spawning escapement for a particular run is established, the defendants make an estimate of the probable size of a returning run entering the Columbia River. Run size is initially estimated by reference to the number of three year old male fish called jacks counted in runs for the two previous years. Runs of fish consist primarily of four year old fish with some three, five, and six year olds present. The biologists have discovered that the number of four year old fish in a coming run can be determined by looking at the three year old jacks from the previous year and the number of five year olds can be estimated by looking at the jack counts two years earlier (Depo. of B. Bohn at 10-11; Initial Report at 13; Idaho's Supplemental Memorandum, attachment A).

Once the run actually begins, test fishing by the agencies, early dam counts, and early harvest can also be used to modify the prediction of the run's size (Idaho's Supplemental Memorandum, Attachment A; Tr. 10-11; Initial Report at 13).

The agencies then estimate the number of upstream passage mortalities. Passage mortalities are estimated by reference to water flows (Tr. 684; Ex. I-2). High flows at the time of upstream migration increase mortality; low flows allow for greater passage. The higher the flow the more difficult it is for the fish to make their way past the dams and upstream in general (Ex. I-2). The agencies then set fishing seasons based upon what they feel the probable amount of harvest can be. Adjustments to the season can be made during the season to reflect changed data (Depo. of B. Bohn at 12).

If based on these estimates a fishing season is appropriate, one will be established taking into consideration a share of the harvest to which the treaty tribes are entitled under the Columbia River Five Year Plan (Ex. I-18). It is possible to make some adjustments during the season itself. Obviously, however, there will be times when those users farther up river (i.e. the treaty tribes and Idaho) will have to bear the burden for early season management mistakes.

Using the same techniques, the percentage and number of Idaho origin fish in a run may be determined and management decisions implemented (Tr. 666-669; Idaho's Supplemental Memorandum at 10-30). The important variables are the Ice Harbor Dam count, the survival rate, and the size of the run (Tr. 666-669). Run

sizes, total harvests by state and by treaty tribes, and the escapement counts are set out in Appendices A-C of the Report at 46-51.

The Ice Harbor Dam count is important because Ice Harbor Dam is the first dam upstream from the confluence of the Snake and Columbia Rivers. By dividing the Ice Harbor Dam count by the survival rate, one obtains the number of fish that theoretically would have reached the Snake River had there been no passage losses between Bonneville and Ice Harbor Dam. By taking that figure and dividing it by the number of fish present in the Columbia River that have escaped all fisheries, one obtains the percentage of the run that is composed of Snake River fish (Tr. 666-669; Depo. B. Bohn 24-26; Oregon's Answers to Idaho's Interrogatories, Second Set, No. 9).

Not all fish in the Snake River return to Idaho, however. The biologists agree that historically 82 percent of Snake River runs of spring and summer chinook salmon are composed of Idaho fish and that 71 percent of the summer steelhead run is composed of Idaho fish (Tr. 667, 668; Depo. B. Bohn at 26-27; Depo. D. Austin at 27). By applying these percentages, the number of Idaho origin fish in a past run can be determined. The same percentage and estimates would be used in conjunction with the jack counting techniques and water flows to determine the estimated Idaho contribution to a future run (Idaho's Supplemental Memorandum at 10-30).

The same formula used by Idaho was agreed to by Oregon. See Oregon's Answers to Idaho's Interroga-

tories, Second Set, No. 9. Defendants declined to make their own calculations concerning Idaho origin fish. See Oregon's and Washington's Answers to Idaho's Interrogatories, First Set, Nos. 84, 85, 99. Table 1 gives the estimated percentage of the total Columbia River upriver run, contributed by species that originated in Idaho (Ex. I-30):

TABLE 1

PERCENTAGE OF RUN ORIGINATING IN IDAHO BY SPECIES AND YEAR

Year	Upriver Spring Chinook	Summer Chinook	Summer Steelhead
1962	42	44	71
1963	42	36	61
1964	31	35	53
1965	22	25	41
1966	41	25	46
1967	49	36	42
1968	69	47	98
1969	68	61	59
1970	68	43	62
1971	53	67	46
1972	60	59	47
1973	70	37	34
1974	42	45	12
1975	Not Available	24	24
1976	47	35	24
1977	52	30	39
1978	53	33	36
1979	24	10	25
1980	21	14	48

By multiplying the estimated percentage of Idaho origin fish in a given run from Table 1, by the total harvest by defendants, the numbers of Idaho origin fish harvested by defendants can be determined and compared with Idaho's harvest. This data is presented in Tables 2-4 for each run and is taken from Exhibits I-32 and 34.

TABLE 2

NUMBERS AND PERCENTAGE OF HARVEST OF SPRING CHINOOK OF IDAHO ORIGIN

Year	Oregon and Washington	(%)	Idaho	(%)	Total
1962	45,654	(90)	4,800	(10)	50,454
1963	30,156	(86)	4,800	(14)	34,956
1964	23,901	(88)	3,200	(12)	27,101
1965	20,064	(100)	0	(0)	20,064
1966	25,625	(75)	8,500	(25)	34,125
1967	32,389	(83)	6,500	(17)	38,889
1968	23,667	(70)	10,000	(30)	33,667
1969	29,172	(72)	11,500	(28)	40,672
1970	40,936	(88)	5,500	(12)	46,436
1971	22,525	(87)	3,500	(13)	26,025
1972	55,980	(90)	6,500	(10)	62,480
1973	63,560	(87)	9,500	(13)	73,060
1974	9,408	(86)	1,500	(14)	10,908
1975	0	(—)	0	(—)	0
1976	0	(—)	0	(—)	0
1977	12,532	(78)	3,500	(22)	16,032
1978	53	(1)	7,000	(99)	7,053
1979	0	(—)	0	(—)	0
1980	0	(—)	0	(—)	0
	435,622	(83)	83,300	(17)	

TABLE 3

NUMBERS AND PERCENTAGE OF HARVEST
OF SUMMER CHINOOK OF IDAHO ORIGIN

Year	Oregon and Washington	(%)	Idaho	(%)	Total
1962	13,420	(65)	7,200	(35)	20,620
1963	12,960	(64)	7,200	(36)	20,160
1964	5,775	(55)	4,800	(45)	10,575
1965	1,525	(100)	0		1,525
1966	700	(100)	0		700
1967	1,800	(100)	0		1,800
1968	3,055	(100)	0		3,055
1969	2,440	(100)	0		2,440
1970	3,182	(100)	0		3,182
1971	7,772	(100)	0		7,772
1972	3,953	(100)	0		3,953
1973	1,295	(100)	0		1,295
1974	0		0		0
1975	0		0		0
1976	0		0		0
1977	60	(100)	0		60
1978	132	(100)	0		132
1979	0		0		0
1980	0		0		0
	58,069		19,200		
	58,069	(75)	19,200	(25)	

TABLE 4

NUMBERS AND PERCENTAGE OF HARVEST
OF SUMMER STEELHEAD OF IDAHO ORIGIN

Year	Oregon and Washington	(%)	Idaho	(%)	Total
1962	62,090	(77)	19,000	(23)	81,090
1963	61,244	(70)	26,000	(30)	87,244
1964	33,072	(65)	18,000	(35)	51,072
1965	25,297	(56)	20,000	(44)	45,297
1966	30,498	(60)	20,000	(40)	50,498
1967	19,866	(47)	22,500	(53)	42,366
1968	53,998	(70)	23,000	(30)	76,998
1969	19,234	(55)	15,500	(45)	34,734
1970	15,810	(44)	20,500	(56)	36,310
1971	14,444	(45)	17,500	(55)	31,944
1972	18,941	(58)	13,500	(42)	32,441
1973	10,608	(50)	10,500	(50)	21,108
1974	1,140	(28)	3,000	(72)	4,140
1975	0	(—)	0	(—)	0
1976	0	(—)	2,000	(100)	2,000
1977	1,716	(12)	13,000	(88)	14,716
1978	972	(8)	11,500	(92)	12,472
1979	450	(8)	5,500	(92)	5,950
1980	1,104	(10)	9,500	(90)	10,604
	870,484	(58)	270,500	(42)	

Finally, comparing passage conditions with the numbers of Idaho origin fish harvested by defendants, the numbers of additional fish which would have returned to Idaho had there been no fishing by Oregon and Washing-

ton may be computed. This data is presented in Table 5 and is taken from Exhibit I-38:

TABLE 5

ADDITIONAL FISH RETURNING TO IDAHO

Year	Upriver Spring Chinook	Summer Chinook	Steelhead
1962	34,104	10,025	44,829
1963	23,793	10,225	44,218
1964	18,858	4,557	23,878
1965	13,784	1,048	18,264
1966	20,321	556	22,020
1967	26,008	1,446	14,343
1968	15,076	1,946	33,155
1969	12,206	1,077	11,810
1970	22,178	1,896	9,707
1971	8,770	3,474	8,869
1972	21,857	1,683	11,630
1973	38,226	796	6,513
1974	4,552	N/A	700
1975	N/A	N/A	N/A
1976	N/A	N/A	N/A
1977	7,385	33	1,019
1978	26	78	597
1979	N/A	N/A	276
1980	N/A	N/A	550
	267,144	38,840	252,378

B. *Upriver Spring Chinook*

The upriver run of spring chinook moves through the Columbia below Bonneville Dam primarily in April and May of the year (Report at 12). The lower Columbia River is currently managed primarily for this run from March 15 to May 31 (Pretrial Order, Agreed Fact 17).

There is also a lower river run of spring chinook destined for tributaries of Oregon and Washington below Bonneville Dam (primarily the Willamette and Cowlitz rivers). Fishing on this run occurs mainly in the winter season (Ex. I-27 at 7). The tail end of that run is in the river during April. Any conflicts with fishing the upriver run could be eliminated by moving the defendants' fisheries to their tributaries.

The size of the upriver run is determined by adding the Bonneville Dam count to the lower river sport and commercial harvest (Ex. I-27 at 9). The spawning escapement goal for the upriver run is defined as the number of fish above Bonneville Dam escaping the Indian fishery. From 1963 until 1974, Oregon and Washington had as a minimum spawning escapement goal 80,000 to 90,000 spring chinook past the Indian fisheries. In 1974, that escapement goal was raised to 120,000 fish. The Columbia River five year plan currently in effect defines that goal as a minimum (Ex. I-18).

Defendants had fishing seasons on spring chinook in 1958, 1959, 1960, 1963, 1965, 1967 and 1974 when their minimum escapement goals were not met (Tr. 699; Ex. I-27 at 40).

Until 1962 with the completion of Ice Harbor Dam, a precise determination of Idaho's contribution to an up-

river run was not possible because of the lack of dam counts. From 1962 through 1980, defendants harvested about 435,622 Idaho origin spring chinook to 86,300 harvested by Idaho or 83 percent of the total versus 17 percent (Table 2, supra).

The harvest figures for Oregon and Washington are a minimum estimate of the fish actually killed or injured because there has been no attempt to include estimates of illegal harvests (Tr. 674; Ex. W-4 at 0-18) and because of mortalities and injuries inflicted by the commercial fishing gear upon fish which are hurt or killed but not caught (Tr. 674, 675). The impact has increased because fewer fish classified as injured at Bonneville Dam survive to spawn (Exs. I-1 at 17; I-4 at 45). Washington has recognized the importance of this problem. In "A Plan for Revitalizing the Salmon Fisheries of Washington State," it is stated at 4:

> However, we can say at this time that the order-of-magnitude wastage of salmon from runs originating in Washington State is ½-1 million fish per year. This relates back to the discussion about reduced salmon abundance and the inter-relationship of these problems. One reason why some runs appear more diminished than they really are is that our fishing methods needlessly kill many fish that do not appear in the catch—hooking (shaker) mortality, gill net dropout, and other incidental deaths.
>
> It is well known, for example, that trollers kill many thousands of small salmon in sorting through the mixed ages and sizes of feeding ocean salmon. Sport fishermen kill fish similarly, although at a lesser rate. Shaker mortality, as with net dropout and incidental net catch of small, commercially useless fish, is compounded by having far more fishermen than necessary

sorting through the fish to find the legal desired catch. One evil multiplies another (Exhibit I-25).

C. *Upriver Summer Chinook*

The upriver run of summer chinook moves through the Columbia below Bonneville Dam in late May through July (Ex. I-27 at 12). The lower Columbia River is currently managed primarily for this run from June 1 to July 31 (Pretrial Order, Agreed Fact 32). From 1963 until 1974, Oregon and Washington had as a minimum spawning escapement goal 80,000 to 90,000 summer chinook past the Indian fisheries. In 1974, that escapement goal was raised to 120,000 fish.

Defendants had fishing seasons in 1961, 1962, 1963, 1964, 1965, 1966, 1970, 1971, 1972, 1973 when their minimum spawning escapement goals were not met (Tr. 699; Ex. I-27 at 44).

From 1962 through 1980, Oregon and Washington harvested 58,069 summer chinook of Idaho origin (75 percent) as opposed to 19,200 harvested by Idaho (25 percent). The decline in the size of the summer chinook runs from their levels in the 1950's and 1960's has been dramatic. Since 1973, there has been no fishery other than an Indian subsistence fishery and an incidental harvest. Idaho has not had a summer chinook fishery since 1964.

The Oregon Department of Fish and Wildlife and Washington Department of Fisheries contend that dams and habitat reduction are responsible for the steady decline of this run. See Ex. I-27, pp. 12-15. This contention ignores the long, continuous period of time in which the

defendants fished when the runs were below harvestable levels.

D. *Summer Steelhead*

The run of summer steelhead moves through the Columbia below Bonneville Dam from June through September. The run is composed of two major segments, one peaking in July and the other in early September. The July peak is known as group A summer steelhead and the September peak is known as group B summer steelhead. The group B summer steelhead spawn primarily in Idaho (Ex. W-4 at H-5; R-24). In the past, Oregon and Washington had spawning escapement goals for each segment of the run. The spawning escapement goal was 120,000 fish until 1977 when the Columbia River Five Year Plan raised it (Ex. W-1 at 7; Ex. I-18). Under the Plan, the escapement goal is currently 150,000 fish at Bonneville Dam and 30,000 fish at Lower Granite Dam.

While there once was a commercial fishery on summer steelhead, it was made a game fish in the lower river in 1974. After that time, there continued to be a commercial Indian fishery. However, under the Columbia River Five Year Plan, the treaty tribes have agreed to limit their catch to ceremonial, subsistence and incidental harvest (Ex. I-18). Defendants had fishing seasons on summer steelhead in 1960, 1963, 1964, 1967, 1968, 1969 (Group B only), 1970, 1978, 1979, and 1980 when their spawning escapements were not met (Exs. I-27 at 60, I-21, Prospects for the 1971 Late Fall Season in the Columbia River at 7; Tr. 700). From 1962 through 1980, defendants harvested 370,484 steelhead (58 percent) of Idaho origin compared

to an Idaho harvest of 270,500 (42 percent) (Ex. I-32, I-34).

E. *Indian Treaty Rights*

Indian treaty fishing rights are being administered under "A Plan for Managing Fisheries on Stocks Originating from the Columbia River and Its Tributaries Above Bonneville Dam" approved by the District Court of Oregon on February 25, 1977. Under the plan, the States of Oregon and Washington have to manage the fishery for a minimum spawning escapement of 30,000 spring chinook and summer steelhead past Lower Granite Dam. They have to make advance predictions of run size and harvestable surplus and apportion the harvestable surplus between the Indian tribes and the non-treaty fisheries. Idaho is not a party to the plan, and no provision is made for a share of the harvest for Idaho (Ex. I-18).

VII. IDAHO PLAN

Based on the above, Idaho argued to the Special Master that anadromous fish runs must be managed for optimum spawning escapements. This would ultimately yield the greatest number of fish available for harvest on a sustained basis. Idaho further argued that Indian treaty shares must be ascertained and allocated to the various tribes. Finally the remaining Idaho origin fish would be divided among Idaho, Oregon, and Washington. Idaho requested that it receive that proportion of the harvestable surplus of Idaho origin fish equal to the proportion of Idaho's contribution to the total upriver run of each species. In determining the number of harvestable fish,

dam passage losses should be divided equally among the parties.

For example, assume an upriver run of fish in which Idaho origin fish made up 60 percent of the total run. After spawning escapement, Indian harvest and passage losses were estimated and provided for, Idaho would receive 60 percent of the harvest of fish destined to return to Idaho. If the Idaho contribution to the total upriver run was only 40 percent, Idaho would receive only 40 percent of the harvest of fish destined to return to Idaho.

By tieing the amount of harvest to the numbers percentage of the fish contributed, Idaho hopes to provide an incentive to the various parties to maintain habitat and to fund hatcheries. The percentage contribution formula also fits in with the historic pattern on the river which has seen variations in Idaho's contribution range from 20 percent to 70 percent.

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SUMMARY OF ARGUMENT

Throughout this litigation, Idaho has adopted the position that it is entitled to an equitable apportionment of the harvestable surplus from fish that originated and are destined to return to Idaho. Idaho acknowledges that Washington and Oregon are entitled to an equitable share of the harvest. Idaho's equitable share should be based upon its contribution to the total upriver run of all species. This Court has previously recognized Idaho's position. *Evans,* supra at 385.

The Master makes several misstatements regarding Idaho's position which make it appear Idaho is overreaching and is not willing to share the harvestable surplus of fish destined to return to Idaho. Idaho lays no claim to fish that originate in Washington or Oregon waters. Idaho does not claim all wild fish destined for Idaho or all fish produced from hatcheries located in Idaho but only an equitable share of the harvest.

The Master erred when he claimed that Idaho had not shown a substantial injury that entitled Idaho to relief. This Court has stated that Idaho must prove that defendants have adversely and unfairly affected the number of fish destined to return to Idaho. *Evans,* supra at 392. The evidence introduced at trial clearly shows that nontreaty fisheries of Washington and Oregon have taken a disproportionate share of the harvest of Idaho origin fish regardless of the number of dams and have thus adversely and unfairly affected the number of fish returning to Idaho. From 1962 to 1980, defendants harvested 83 percent of the spring chinook, 75 percent of the summer chinook, and 58 percent of the summer steelhead that were destined to return to Idaho.

The Master refused to acknowledge these harvest disparities even though they were uncontradicted by defendants. He instead limited his review to the time period from 1975-1980, on the basis that present conditions were represented by the eight dams being in operation. In doing so, he ignored defendants' actions prior to 1975, which caused Idaho to file this lawsuit.

An analysis of defendants' harvest practices shows that regardless of the number of dams in operation, de-

fendants have harvested an unfair number of fish. Due in part to their harvest practices, the runs have declined. The lack of fish has lessened the harvest disparity since 1975, not a change in defendants' management practices. The six year period is an extremely short, unrepresentative time in the history of anadromous fish runs and that coupled with the complex nature of this case compel a look at a longer time period.

The Master was also incorrect when he found that Oregon and Washington had not mismanaged the resource and contributed to a decline in run sizes. The evidence shows numerous examples of mismanagement. Defendants managed for minimum instead of optimum spawning escapements. Minimum spawning escapements allow only the minimum number of fish to escape necessary to sustain a run, with no allowance made for a harvest. Whereas, optimum spawning escapements allow the number of fish to escape that will return the maximum sustainable yield. Defendants fished when their minimum escapements were not met for spring chinook salmon (seven years), summer chinook salmon (ten years), and summer steelhead (nine years). These factors plus the dams resulted in the precarious levels of the runs.

Defendants' policy of opening the fishing season first, and only closing a season when it becomes clear that the minimum spawning escapements will not be met has made Idaho bear the brunt of any mistakes in run estimates and led to a failure to meet spawning escapements.

The Master was incorrect when he refused to consider admissions made by the defendants' representa-

tives that defendants had overfished and mismanaged the anadromous runs in the Columbia River, and that the runs had started to decline before any severe environmental degradation had occurred.

Idaho also takes exception to inferences by the Master that Idaho does not have sufficient habitat to support runs of anadromous fish. Idaho still has thousands of miles and acres of high quality anadromous fish habitat that is underultilized because defendants have not allowed enough fish upriver.

The Master is also incorrect when he says that an increase in the escapement goals would not increase the return of fish to Idaho. The record is unrebutted that the habitat in Idaho is underutilized and that any incremental increase in the escapement has resulted in an increased number of redds and an increased production of smolts to make the outward migration.

The Master was incorrect when he concluded that the record and contentions are insufficient to formulate a workable decree. In reaching this conclusion, the Master resurrected several arguments that earlier had been rejected by this Court. The Master was incorrect in visualizing a non-existent complexity in administering the decree and in saying several unknown variables prevent determination of the Idaho entitlement. The evidence clearly shows that the Idaho entitlement can be calculated. In regard to the unknown variables, defendants are either calculating them in their present management plans or they can be determined by simple calculations. Defendants are presently managing the run to provide for an Indian harvest and the apportionment of the Idaho share would only involve one more step.

The Master erred in not seeking additional testimony or evidence to clarify evidence he did not understand. The evidence the Master indicated he could not locate is readily ascertainable from the record.

The Master is incorrect in finding that the escapement goals sought by Idaho are incapable of reasonable enforcement because the escapement goals Idaho initially seeks are those escapement goals now being utilized by the defendants. Idaho would only seek to have the defendants manage for optimum spawning escapements when the runs return to higher levels.

The Master concluded that Idaho's claim to an equitable apportionment presented a justiciable controversy but felt that it could not be based on the Commerce Clause or the Privileges and Immunities Clause of the United States Constitution. Idaho takes exception to the Master's conclusion that the Commerce Clause and Privileges and Immunities Clause do not provide a basis for its claim. Defendants have promulgated regulations which resulted in mismanagement of the resource and in defendants taking a disproportionate share of the harvestable surplus of fish destined to return to Idaho. These regulations have severely reduced the runs of fish to Idaho to spawn or to be available for harvest and thus have interferred with interstate commerce and violated the Commerce Clause. The fishery regulations promulgated by defendants have discriminated against residents of Idaho by preventing the return of an adequate number of fish to Idaho and thus violate the Privileges and Immunities Clause of the United States Constitution.

The Master was incorrect in dismissing Idaho's action because Idaho had not demonstrated a present injury and Idaho could refile its lawsuit if it was harmed in the future. Defendants claim they have the right to harvest all fish destined for Idaho when these fish are in defendants' waters. Thus, there is a clear and continuing menace to Idaho that when runs return to harvestable levels, defendants will return to their practice of taking a disproportionate share of the harvest. Idaho would then be forced to relitigate this action which has taken seven years to get this far. This Court can end this menace by recognizing that defendants' past activities have harmed Idaho and by adopting the Idaho Plan. If this is done, there will be a decree in place, and Idaho will receive its equitable share of the harvestable surplus of fish destined to return to Idaho.

EXCEPTIONS

I. IDAHO TAKES EXCEPTION TO THE MASTER'S MISSTATEMENTS OF IDAHO'S POSITION

A. *The Master is incorrect when he states Idaho claims a right to all fish entering the Columbia River and all Idaho fish.*

The Master has incorrectly stated Idaho's claim in regard to the anadromous fish runs (Report at 3, 20, 24 and 25). He states:

> Idaho contends that it has the right to receive from the total number of fish entering the Columbia from the ocean a percentage equal to Idaho's contribution to that total (Report at 20).

The Master later states:

> The Idaho claim of entitlement to all fish originating in that State is comparable to the claims of the upper States in the water cases that they are entitled to use and consume all of the water produced in them (Report at 24, 25).

These statements are totally incorrect. Idaho has consistently taken the position that Idaho is entitled to an equitable share of only the harvestable surplus of Idaho origin fish and that Oregon and Washington are also entitled to an equitable share. Idaho's position was earlier recognized by this Court in *Idaho ex rel. Evans v. Oregon,* 444 U. S. 380, 385 (1980) where this Court said:

> In the present suit, Idaho alleges that nontreaty fishermen in Oregon and Washington take a disproportionate share of fish destined for Idaho, thereby depleting those runs to the detriment of Idaho fishermen. It seeks equitable apportionment of anadromous fish destined for Idaho in the Columbia River.

Idaho claims it is entitled to that proportion of the harvestable surplus of Idaho origin fish equal to the proportion of Idaho's contribution to the total upriver run of each species (Tr. 619; Idaho's Legal Memorandum and Closing Argument, hereafter Legal Memorandum, at 3, 38, 50; Idaho's Reply Memorandum, hereafter Reply Memorandum, at 34, 35, 36; Idaho's Supplemental Memorandum, hereafter Supplemental Memorandum, at 10-30, which explains in detail a procedure for estimating and apportioning the harvestable surplus of anadromous fish of Idaho origin). In determining the harvestable surplus of Idaho origin fish, passage losses should be shared equally by the parties (Tr. 620). At trial, Idaho's position was clearly stated by Mr. Ortmann:

> With reference to allocation of spring chinook and of steelhead, that plan would provide the sharing of Idaho origin fish would be, for example, if the Idaho production was 60 percent of the total Columbia River run of those fish, then Idaho would be programmed with a 60 percent portion of the harvest of fish of Idaho origin and the Oregon and Washington share would be 40 percent of the fish, of Idaho origin, of the harvest of those fish. The Oregon and Washington and Idaho component of the harvest would be considered separately from whatever the share must be for the treaty fishery (Tr. 721-722).

Idaho has always been willing to share the harvestable surplus of fish originating in Idaho.[1] The Idaho Plan recognizes and deals with the practical realities of the Columbia River system over a considerable period of time so that each party has an incentive to maintain or increase its contribution. Idaho has never claimed any of the Washington or Oregon fish, a substantial portion of which are produced at federally-funded hatchery facilities, or that these hatchery-produced fish should be offset against defendants' harvest of Idaho origin fish. It is the defendants who claim a right to harvest all the Idaho origin fish (Washington's Brief at 2-13, Oregon's Brief at 32-34). Thus, the record is clear as to the actual position of the State of Idaho. All Idaho seeks is an equitable share of the harvestable surplus of fish destined to return to Idaho.

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1 In a reductio ad absurdum of Idaho's plan for apportionment, it could be argued that if Idaho produced 100 percent of the run, it would be entitled to 100 percent of the harvest. As previously stated, this extreme position does not comport with the factual realities of the river system. In the improbable event that such could occur, another method of apportionment could be devised.

B. *The Master is incorrect when he states that Idaho is claiming all fish produced from hatcheries located in Idaho.*

Idaho takes exception to the Master's statements that Idaho is claiming all of the fish produced by hatcheries located in Idaho (Report at 28, 29 and 30). Idaho's position on this matter, as expressly stated in its briefs, is that "Idaho has always been willing to share its production (hatchery and otherwise) with the defendants, and the Idaho Plan will provide ample harvest opportunities for the defendants" (Reply Memorandum at 30). "Finally, Idaho has never argued that they have a right to harvest all of the harvestable surplus of Idaho origin fish. Instead Idaho seeks only an equitable share of the surplus" (Reply Memorandum at 34). In Idaho's detailed procedure for estimating and apportioning the harvestable surplus of anadromous fish of Idaho origin, there is no distinction made between wild and hatchery fish.

Idaho agrees that anadromous fish runs are made up of wild and hatchery fish. However, it should be pointed out that hatchery programs have not changed the historic composition of the Snake River runs. All the expert witnesses are in agreement that spring and summer chinook of Idaho origin make up 82 percent of the Snake River run (Tr. 667; Depo. of B. Bohn at 26; Depo. of D. Austin at 27). Mr Bohn indicated in his deposition that the composition of the run has not changed over the last twenty years (Depo. of B. Bohn at 26, 28). Mr. Ortmann's statement that Idaho origin steelhead comprise 71 percent of the Snake River run was unrebutted (Tr. 668).

Furthermore, the Settlement Agreement of February 14, 1980 (Ex. I-17) agreed to by the parties in this litigation provides for the return of the Oregon share of the hatchery fish to Oregon-Washington waters (See Statement of Facts, supra at 18, 19).

Clearly, Idaho has never claimed that it is entitled to all the fish produced by the anadromous fish hatcheries located in Idaho.

Idaho also takes exception to the statement by the Master that the source of funds for the operation and maintenance of hatcheries is an important consideration (Report at 30). The source of the funding in this circumstance is not an important consideration. The Idaho hatcheries were necessitated by actions of Idaho Power Company and the United States Corps of Engineers who constructed the dams which eliminated anadromous fish runs. The hatcheries and their subsequent production were constructed and are operated and maintained to mitigate for the loss of these runs. It is appropriate for those who injured the runs to bear the costs of their replacement.

The same thing is true for the hatcheries that resulted from the Lower Snake River Compensation Plan. This mitigation program is designed to replace losses of fish from Idaho, Oregon and Washington waters (Tr. 821) and is based on the distribution of wild fish from each state. This Plan calls for six hatcheries in Idaho, two in Oregon, and two in Washington (Tr. 822; Tr. 823). If the source of funding were important, then Idaho should be entitled along with other states to a portion of the Washington and Oregon hatchery production

or an offset of this portion against the harvest of fish destined for Idaho.

C. *The Master is incorrect when he states Idaho recognizes only three situations which affect the return of fish.*

The Master states that Idaho recognizes only three situations affecting the passage of fish: (1) passage mortalities during downstream and upstream passage; (2) ocean harvest and (3) Indian harvest (Report at 3). It is obvious that Idaho recognizes a fourth and very significant factor, defendants' management practices which have resulted in diminished anadromous fish runs and defendants' taking a disproportionate harvest of Idaho origin fish, thus preventing the return of adequate fish to Idaho to spawn or to be available for harvest. The last factor is the reason Idaho filed this lawsuit in 1975.

D. *The Master is incorrect when he states Idaho "bases its claim on pristine conditions."*

The Master at page 26 of his report states Idaho " . . . is in no position to base its claim on pristine conditions." The Master's characterization is not correct. Idaho recognizes that those conditions have been altered. However, the purpose of the dam mitigation programs mentioned above is to return the anadromous fish runs to their previous levels and distribution. In order to do this, it is necessary to know what the previous levels were and what spawning escapements are necessary to achieve these laudable goals. The Idaho claim is based upon its right to receive an equitable share of the harvest of Idaho origin fish.

E. *Idaho has always maintained that its equitable apportionment of the harvestable surplus of Idaho origin fish should be based on its contribution to the total run.*

Idaho takes exception to the Master's misstatement regarding Idaho's claim " . . . that Idaho now relies on its contribution to the return run of each species, not to the Idaho production of each species" (Report at 40). For this statement, the Master relies on Idaho's contention that the state of origin has rights to conserve anadromous fish and to an equitable share of the harvest. "Those rights depend on equitable factors, including the numbers and percentages of fish produced" (Report at 40). This quote pertains to the factors which establish a right in the fish. Contribution is used to measure the extent of the right. Idaho has always maintained that its share of the harvestable surplus of Idaho origin fish should equal Idaho's percentage contribution to the entire run. Contribution to a run is determined by the number of returning adult fish which are available for harvest and for spawning. The pre-run estimate of a state's contribution to the run is based upon the ratio of jack salmon in the two previous years' run (Tr. 716; 717; Idaho's Supplemental Memorandum at 15, 16, 18, 19, and 21). The number of smolts produced and sent downstream is not relevant to that calculation.

Defendants' own expert witness, Mr. Bohn, admits he can think of no method of allocation other than one based upon a state's contribution to a run (Depo. of B. Bohn at 66).

II. THE MASTER ERRED WHEN HE CONCLUDED THAT IDAHO HAD NOT SHOWN A SUBSTANTIAL INJURY THAT ENTITLED IDAHO TO RELIEF

Idaho takes exception to the conclusion of the Master that Idaho had not sustained an injury of substantial magnitude to entitle it to relief (Report at 2). This Court in *Idaho ex rel. Evans v. Oregon,* 444 U. S. 380, 392 (1980) said Idaho:

> [N]ow must shoulder the burden of proving that the nontreaty fisheries in those two States have adversely and unfairly affected the number of fish arriving in Idaho.

Before the Master, Idaho presented evidence to show (1) that defendants had contributed to the reduction in run size through overharvesting fish and using inadequate spawning escapement goals and (2) that regardless of whether defendants had contributed to run size reduction, defendants had harvested a disproportionate share of the Idaho origin fish. By harvesting a disproportionate share, they left Idaho with the undesirable options of not fishing or of fishing and thereby reducing spawning numbers below acceptable levels. Under this Court's previous opinion, it should be sufficient for Idaho to meet its burden by proving either that defendants contributed to run reduction or that they harvested a disproportionate share of the fish destined to return to Idaho.

The record is clear that Oregon and Washington have taken a disproportionate share of the harvest of Idaho origin fish. From 1962-1980, defendants took 83 percent of the spring chinook, 75 percent of the summer chinook and 58 percent of the summer steelhead of

Idaho origin. Defendants have also mismanaged the resource by, inter alia, managing for minimum and not optimum spawning escapements and by fishing in many years when spawning escapements were not met.

A. *Nontreaty fisheries of Oregon and Washington have taken a disproportionate share of the harvest of Idaho origin fish and have adversely and unfairly affected the number of fish returning to Idaho.*

The evidence clearly shows that defendants have taken a disproportionate share of the Idaho origin fish and have adversely and unfairly affected the number of fish returning to Idaho. From 1962-1980, spring chinook of Idaho origin made up a weighted average of 50 percent[2] of the total Columbia River runs (Table 1, supra at 26; Ex. I-29, I-30). From 1962-1980, defendants harvested 435,622 fish (83 percent) of Idaho origin fish compared to an Idaho harvest of only 86,300 fish or 17 percent (Table 2, supra at 27; Ex. I-32, I-34). If defendants had not fished, an additional 267,144 spring chinook would have returned to Idaho (Table 5, supra at 30; Ex. I-38).

Generally, the greatest runs occur when Idaho's percentage contribution is high (B. Bohn's Depo. at 29). A cogent example of this is the 1972 (279,400 fish) and 1973 (232,900 fish) runs. In those years, which are two of the three largest runs since 1956, spring chinook of

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2 Weighted average=$\frac{\text{total Idaho fish in runs (1962-1980)}}{\text{total Columbia River runs (1962-1980)}}$ =

$$\frac{1,408,493}{2,790,700}=50.4\%$$

Idaho origin made up 60 percent (1972) and 70 percent (1973) of the total spring chinook runs (Table 1, supra; Ex. I-30). In 1972 and 1973, defendants harvested 119,540 fish of Idaho origin compared to an Idaho harvest of 16,000 fish (Table 2, supra; Ex. I-34). Thus, defendants harvested 88 percent of the Idaho origin fish. Idaho received the remaining 12 percent. Thus, it is the Idaho contribution that makes large harvestable surpluses possible. What does Idaho get in return? The answer is very little.

From 1962 to 1980, summer chinook of Idaho origin comprised a weighted average of 40 percent of the total Columbia River runs (Table 1, supra; Ex. I-29, I-30). During these years, Oregon and Washington harvested 58,069 fish (75 percent) of Idaho origin fish compared to an Idaho harvest of only 19,200 or 25 percent (Table 3, supra at 28; Ex. I-32, I-34). If defendants had not fished, an additional 38,840 summer chinook would have returned to Idaho (Table 5, supra; Ex. I-38).

When summer steelhead are considered, Idaho origin fish made up a weighted average of 48 percent of the total Columbia River runs from 1962-1980 (Table 1, supra; Ex. I-29, I-30). During this time period, Oregon and Washington harvested 370,484 steelhead (58 percent) of Idaho origin compared to Idaho harvest of 270,500 steelhead or 42 per cent (Table 4, supra at 29; Ex. I-32, I-34). If defendants had not fished, an additional 252,378 steelhead would have returned to Idaho (Table 5, supra; Ex. I-38).

Defendants have failed to introduce any evidence to rebut the harvest figures presented by Idaho. These figures justify the previous recognition by the Master

that defendants have taken a disproportionate share of the harvest:

> The contribution of Idaho to the total system fishery is substantial.
>
> . . .
>
> Idaho produces many fish and receives few.
>
> . . .
>
> To a substantial extent, Idaho is subsidizing the downstream fishery, both Indian and non-Indian. (Master's First Report at 10, 11, 12.)

The unrebutted evidence shows that if there had not been an Oregon and Washington fishery from 1962 to 1980, an additional 267,144 spring chinook, 38,840 summer chinook and 252,378 summer steelhead would have returned to Idaho (Table 5, supra; Ex. I-33). Undoubtedly, many of these fish would have produced additional offspring to strengthen the runs and provide additional fishing opportunity for Idaho as well as for Oregon and Washington.

B. *The Master was incorrect when he used the time frame from 1975-1980 to represent the period during which Idaho must demonstrate its injury.*

Idaho takes exception to the procedure whereby the Master states allegations of injuries must be assessed in terms of present conditions, the years 1975-1980 represent those present conditions and only those years are relevant (Report at 25, 26, 32-36, 42-45). The basis for this selection apparently was that all eight dams were in operation at this time. The Master is not correct for several reasons. First, he chooses to select only a portion of the relevant period. Six years is a short time period in the history of fish runs. Second, the dam

mitigation programs are not complete. Third, the impact of the various techniques to reduce passage losses has not been determined. Fourth, the effect of the Northwest Power Planning Act has not been felt. Finally, the Master ignored the fact that defendants' overfishing has been a contributing factor in the reduction of the runs. Because of the complex situation and higher burden of proof involved, it is necessary to view what has happened over a longer term.

1. The Master Should Have Considered What Happened Prior To Idaho's Filing Of This Action.

In 1975 when Idaho filed its complaint in this action, it alleged that the benefits derived by Idaho were below an equitable level in comparison to Idaho's contribution of fish from 1962-1974. Idaho contends that the Master should consider as relevant the time period prior to the filing of the lawsuit. It was defendants' actions during this time period that resulted in the suit being filed.

In the past, whenever harvestable surpluses were available, defendants took a disproportionate share of the harvest regardless of how many dams were in operation. This disproportionate harvesting is clearly indicated by showing the harvests of Idaho origin fish in four time periods. From 1962-1967 (four dams in operation), defendants harvested 86 percent of the Idaho origin spring chinook, 65 percent of the summer chinook and 65 percent of the summer steelhead (Tables 6, 7 and 8, infra).

TABLE 6

SUMMARY OF NUMBERS AND PERCENTAGES
OF IDAHO ORIGIN
SPRING CHINOOK HARVESTED

State	Fish Harvested 1962-1967	%	Fish Harvested 1968-1970	%	Fish Harvested 1971-1974	%	Fish Harvested 1975-1980	%
Oregon & Washington	178,789	86.5	93,775	77.6	155,473	87.8	12,585	54.5
Idaho	27,800	13.5	27,000	22.4	21,000	12.2	10,500	45.5
TOTAL	206,589	100.0	120,775	100.0	172,473	100.0	23,085	100.0

TABLE 7

SUMMARY OF NUMBERS AND PERCENTAGES
OF IDAHO ORIGIN
SUMMER CHINOOK HARVESTED

State	Fish Harvested 1962-1967	%	Fish Harvested 1968-1970	%	Fish Harvested 1971-1974	%	Fish Harvested 1975-1980	%
Oregon & Washington	36,180	65.3	8,675	100.0	13,020	100.0	192	100.0
Idaho	19,200	34.7	0	0	0	0	0	0
TOTAL	55,380	100.0	8,675	100.0	13,020	100.0	192	100.0

TABLE 8

SUMMARY OF NUMBERS AND PERCENTAGES
OF IDAHO ORIGIN
SUMMER STEELHEAD HARVESTED

State	Fish Harvested 1962-1967	%	Fish Harvested 1968-1970	%	Fish Harvested 1971-1974	%	Fish Harvested 1975-1980	%
Oregon & Washington	232,067	64.9	89,042	60.1	45,133	50.4	4,242	9.3
Idaho	125,500	35.1	59,100	39.9	44,500	49.6	41,500	90.7
TOTAL	357,567	100.0	148,142	100.0	89,633	100.0	45,742	100.0

From 1968-1970 (six dams in operation), defendants harvested 78 percent of the Idaho origin spring chinook, 100 percent of the summer chinook and 60 percent of the summer steelhead. During 1971-1974 (the four years prior to Idaho's filing the lawsuit when seven dams were in operation), defendants harvested 88 percent of the Idaho origin spring chinook, 100 percent of the summer chinook and 50 percent of the summer steelhead. From 1975-1980 (the five years when this lawsuit was in progress and eight dams were in operation), defendants harvested 55 percent of the Idaho origin spring chinook, 100 percent of the summer chinook and nine percent of the summer steelhead.

These numbers clearly indicate that it was the regulations established by defendants from 1962-1980 and not the eight dams that precluded Idaho from getting an equitable share of the harvest and reduced the runs to a nonharvestable status as far as Idaho was concerned.

Unfortunately, it is not possible to go back beyond 1962 because accurate counts of fish going up the Snake River could not be obtained prior to the construction of Ice Harbor Dam.

Another indication of the intensity of defendants' fishing can be seen in the number of boats licensed for use in Columbia River fisheries. The number increased from 597 in 1969 to 1,361 in 1974 (Ex. W-4 at O-6).

Since 1975, four factors have influenced the harvest shift. First, defendants de-commercialized steelhead in 1974; second, Idaho filed this lawsuit in 1975; third, due to low runs partially due to defendants' overfishing, defendants have not been able to have a commercial fishery on spring and summer chinook; fourth, Idaho has been able to have "target fisheries" on hatchery runs at or near the hatcheries which contain fish surplus to the hatcheries' needs. These target fisheries may be the sole advantage Idaho has as an upstream state. Oregon and Washington have similar opportunities for target fisheries in their tributaries to the Columbia River. This opportunity is demonstrated by the alleged 7,000 surplus of spring chinook available at Priest Rapids in 1977 and surplusses as high as 14,700 at the Cowlitz Hatchery (Washington's Memorandum at 26; Tr. 1048). Mr. Bohn testified that there was no technical reason that would preclude a commercial fishery in a tributary of the Columbia River (Tr. 1054). Defendants already have sports fisheries in their tributaries (B. Bohn's Depo. at 40). Simply put, the 1975-80 figures show only that in years when there are no fish to harvest, harvest shares will be more nearly equal.

Defendants still claim the right to harvest all the Idaho origin fish when the fish are in defendants' waters (Washington Brief at 2-13; Oregon Brief at 32-34). Thus, defendants pose a continuing menace to Idaho's rights to obtain an equitable share of the harvestable surplus of Idaho origin fish.

Goshen Mfg. Co. v. Myers Mfg. Co., 242 U.S. 202 (1916) had a similar situation. Plaintiffs filed a suit on October 3, 1910 for infringement of a patent. Defendants testified that their company neither manufactured nor sold the items patented after notice of the infringement suit except in a limited circumstance. The defendant's president and general manager notified plaintiffs that the Company was practically dead. In March, 1910, the Company sold its entire plant and all its property except the letter patent and had gone out of business. The circuit Court of Appeals found that no infringement had taken place as to defendant Myers after December, 1909 (when he sold all his stock) or by the Company after March, 1910.

In reversing the Circuit Court of Appeals, the Supreme Court at 207 and 208 said:

> We are unable to concur in the conclusion as to the company. It sold its plant in March, 1910, but it retained the patent under which prior alleged infringements had been practiced and justified, and the right to proceed under it is neither given up nor the intention to do so denied. Besides, in September, 1910, the company sued Boyer in the state court for the injury to its business by the advertisement of infringement published a year before. . . . It had infringed (we assume this for the sake of argument only), it retained the patent under which it asserted

> the right to infringe; there was injury inflicted, therefore, and the means retained of further infringement; a denial of complainant's right, and the assertion of a countervailing right submitted for legal judgment in the case under review and besides in an independent action. We must regard this conduct as a continuing menace, and we think complainant had a right to arrest its execution and recover as well the profits of which it had been deprived, if any.

And in *Commodity Futures Trading Commission v. Hunt,* 591 F. 2d 1211 (7th Cir. 1979), (cert. denied 442 U. S. 921), the Court discussed the effect of numerous prior violations on whether injunctive relief should be granted:

> While past misconduct does not lead necessarily to the conclusion that there is a likelihood of future misconduct, it is "highly suggestive of the likelihood of future violations."
>
> . . .
>
> In drawing the inference from past violations that future violations may occur, the court should look at the "totality of circumstances, and factors suggesting that the infraction might not have been an isolated occurrence are always relevant."
>
> . . .
>
> Other circuit decisions analyzing the problem whether or not to grant statutory injunctive relief after a violation has been proven have looked to a variety of factors to determine whether there is a reasonable likelihood of future misconduct. The fact that a violator has continued to maintain that his conduct was blameless has prompted several courts to look favorably on injunctive relief.
>
> . . .
>
> Similarly, when a defendant persists in its illegal activities "right up to the day of the hearing in the

> district court . . . the likelihood of futures violations, if not restrained, is clear."
>
> . . .
>
> More importantly, courts have analyzed the nature of the past misconduct and the violator's occupation or customary business activities to determine whether an injunction should be granted. When the, violation has been founded on systematic wrongdoing, rather than an isolated occurrence, a court should be more willing to enjoin future misconduct. (citations omitted.) *Id.* at 1220.

As the comparative harvest tables demonstrate, defendants have systematically harvested the vast majority of available Idaho origin fish when runs have been of harvestable size (See Statement of Facts, supra at 27-29).

Finally, the Bonneville Dam escapement figures used by the Master in his report at 18, 19, 33, 34, 43, 46-49 are incorrect and not the Bonneville escapements. The Bonneville escapement is defined as the number of fish which pass the Indian fishery above Bonneville Dam (Tr. 1055, 1056, 1057; Ex. W-1 at 6-7). For example, in 1977, the Indians harvested 17,200 spring chinook. Therefore, the correct escapement figure was 102,300 fish and not the 119,500 reported by the Master. Thus, the Bonneville escapement was 17,700 fish short of the goal instead of only 500 fish. Spawning escapements for summer steelhead were not met in several years when the Indians harvested substantial numbers of fish. The Indian harvests were 8,500 in 1963; 6,700 in 1964; 15,800 in 1967; 9,400 in 1968; 13,200 in 1970; 15,800 in 1978; 5,900 in 1979 and 7,100 in 1980 (Report, Appendix C at 50, 51).

2. Master Erred When He Lumped The Harvests Of The Anadromous Fish Runs For 1975-1980 (Report at 34).

The Master was incorrect in lumping the harvests for several reasons. First, the period of time selected by the Master only encompasses the years after Idaho filed the lawsuit and when the runs were at precariously low levels. Second, combining the harvests does not present an accurate picture since the Idaho harvest is largely composed of steelhead. The steelhead harvest is due to "hot spot" fisheries, which occur near the terminus of hatchery fish runs when there are fish in excess of hatchery requirements (Tr. 679). Third, steelhead were decommercialized by defendants in 1974. Fourth, management is and should be on a run-by-run basis.

3. Past Conditions Are Important Considerations.

The purpose of the Lower Snake and other mitigation plans is to return runs to their pre-dam levels and distributions. The purpose of Dr. Theodore Bjornn's testimony was to establish what spawning escapements were needed to attain pre-dam populations and produce maximum sustainable harvests under present conditions, and to show the numbers of fish that could fully utilize the Idaho habitat. Defendants' expert witnesses agreed that the problem was returning enough fish to the spawning grounds and not a shortage of habitat in Idaho.

Optimum spawning escapement allows for the escapement of the number of adult fish necessary to produce the maximum sustainable yield or fisheries harvest. It provides other social benefits, e.g., allowing excess fish to be stocked in new waters (Tr. 694, 695, 876). Maxi-

mum sustainable yield is the largest number of individuals that can be harvested or used for other purposes for an indefinite period of time with no resultant harm to the population (Tr. 877).

The stock recruitment relationship technique used by Dr. Bjornn in his study has been described and used in fishery studies in a number of areas and is the most rereliable method for determining required escapement levels (Tr. 867, 879). Mr. Bohn, Oregon and Washington's expert witness on fisheries management, agreed that the spawning recruitment curves used by Dr. Bjornn are generally used by anadromous fish biologists (Tr. 1059).

(a) *Spring Chinook Salmon.*

Dr. Bjornn in calculating a stock recruitment curve for spring chinook in the Columbia River used data from the 15-year period from 1940 to 1954 because later data points were influenced by the construction of additional dams and did not reflect the production potential for Idaho (Tr. 891).

He testified that an escapement of 80-90,000 wild spring chinook past the Columbia River fisheries would result in a maximum sustained yield and would produce runs of about 240,000 fish (Tr. 892; Ex. 19 at 3). The goal of Washington and Oregon is to manage the fishery "to provide and maintain a minimum average harvestable run size of 250,000 upriver spring chinook to the Columbia River." (Ex. I-18 at 19).

Dr. Bjornn testified that an optimum spawning escapement for wild spring chinook into the Snake River of 30-40,000 would provide for a maximum sustained

yield (Tr. 898; Ex. I-19 at 7). In 1972, the three states agreed that 40,000 fish is the desired number of spring chinook needed above the uppermost dam for natural, artificial propagation and for a viable sport fishery (Ex. W-1 at 16).

Increased escapements of fish into the Snake River result in an increased number of spawning nests (redds) in Idaho trend areas (Tr. 899, 901; Ex. I-19 at 7). The correlation coefficient of 0.71 between the escapement and number of redds indicates a reasonably close correlation. A perfect fit would have a correlation coefficient of 1.0 (Tr. 901, 902). The present decline in redds is probably not due to decline in habitat because fish would still spawn and the redds would be observed (Tr. 953, 954).

Dr. Bjornn testified further that an escapement of 30-40,000 spring chinook into the Snake River is not an overescapement because each incremental amount of additional escapement up to that level produces a comparable increment in smolt production in Idaho tributaries (Tr. 906, 907; Ex. I-19, Figures 4, 5, 6 and 7).

He said since there has been a reduced survival rate of adults between the time they enter the Snake River and actually spawn, it may mean that the optimum spawning escapement level should be increased (Tr. 910).

Since about 30 percent of the spring chinook over Lower Granite Dam are of hatchery origin, it would take about 50,000 fish to meet a wild spawning escapement goal of 30,000 fish (Tr. 697, 698).

(b) *Summer Chinook*

Using basically the same methodology, Dr. Bjornn calculated the optimum spawning escapement for summer chinook (Tr. 915). He testified that an optimum spawning escapement of between 20-35,000 wild fish into the Snake River would provide the maximum production of recruits and harvestable fish (Tr. 917; Ex. I-19, Table 4, Figure 11; Tr. 923). He said the summer chinook run is in dire straits but the potential for producing smolts is still present (Tr. 917, 918) and the only way to rebuild this run would be to forego all fishing in order to utilize all available fish for spawning (Tr. 715).

(c) *Summer Steelhead*

The same basic methodology was used to calculate the optimum spawning escapement for summer steelhead. The main difference was using information from the Clearwater River in Idaho and then expanding the stock recruitment curve to the Snake River Basin (Tr. 918), knowing that the run of fish into the Clearwater River made up 32-36 percent of the Snake River run (Tr. 918, 919). Dr. Bjornn felt the expansion was proper since productivity of the other runs was probably similar to the Clearwater run (Tr. 919).

Dr. Bjornn testified the optimum spawning escapement into the Snake River would have been 31,300 wild steelhead in the 1950's but due to a 19 percent reduction in available habitat, the number now is 25,400 wild steelhead over Ice Harbor Dam. This number does not include hatchery fish or fish available for harvest (Tr. 921, 922, 923; Ex. I-19, Table 6, Figure 18).

In recent years, about 50 percent of the steelhead passing Lower Granite Dam have been of hatchery origin, so it would be necessary to at least double the figure (Tr. 698) to 50,800 steelhead passing Lower Granite Dam. Washington and Oregon are presently managing for meeting a minimum spawning escapement of only 30,000 fish over Lower Granite Dam under the Columbia River Five-Year Management Plan (Tr. 698, 699; Ex. I-18 at 21).

C. *The Master was incorrect when he found that Oregon and Washington had not mismanaged the resource.*

In determining whether the defendants' management decisions led to a failure to meet spawning escapements or diminished the runs, several important facts must be considered. First, it is the defendants who have authority to regulate fisheries in the Columbia River. Second, it is the defendants who establish and manage for minimum instead of optimum spawning escapements. Third, it is the defendants who predict the run size. Fourth, it is the defendants who establish regulations for the Columbia River fishery (Statement of Facts, supra at 21, et seq.). Fifth, it is the defendants who should be aware of the history of the anadromous fish populations, their dynamics, passage conditions, scope of Indian harvest, etc., when they establish harvest regulations. Sixth, it is the defendants who decide to fish on a run first and only close the run to fishing when it is determined that the minimum spawning escapement will not be met. Seventh, it was the defendants who decided to allow a commercial fishery on other species and a sport fishery on summer chinook which led to the harvest of thousands

of summer chinook when the run was in a depressed state (Ex. I-27 at 44). Eighth, it was the defendants who chose to ignore the increasingly active Indian fishery when defendants established Columbia River harvest regulations. Ninth, it was the defendants who chose to ignore underescapements in the hopes that a set of fortuitous conditions would occur in the spawning and rearing areas as well as during the out and return migrations (Oregon's Memorandum at 5, 12). Thus, defendants' miscalculations and resultant overfishing contributed to a decline in the anadromous fish runs.

1. Idaho Takes Exception To The Finding That Except For 1974, Idaho's Claim Of Mismanagement By Defendants Are Indistinct And Vague (Report at 30, 35).

Idaho has taken great pains to point out the specific acts of mismanagement by the defendants: (1) defendants managed for minimum and not optimum spawning escapements; (2) defendants opened a season and only closed it when it was obvious minimum escapement would not be met; (3) defendants fished in several years when spawning escapements were not met; (4) defendants ignored the increasingly active Indian fishery; and (5) defendants did not establish any spawning escapements until 1963.

Minimum spawning escapement is allowing escapement of the minimum number of adult fish necessary to maintain a run (Tr. 694). A major problem with managing for a minimum spawning escapement is that there is no safety valve in case passage losses are unusually high, spawning success is low, smolt mortality is high or any

other unusual amount of mortality is experienced by the population. If this unusual mortality occurs for several years or if the minimum spawning escapements are not met, then an anadromous fish population finds itself in dire straits. Another problem with this type of management is that an upstream state like Idaho must bear the burden for any overharvests taken by Oregon and Washington. Thus, Idaho management decisions are based on what Oregon and Washington decide to do (Tr. 648, 649).

At the present time, Washington sets an open season for steelhead and closes it only when it is determined the escapement goals will not be met (Pre-Trial Order, admitted fact 30 at 7). Oregon has established their past seasons the same way (Tr. 1059). In fact, their practice of opening a fishery first and only closing if it spawning escapements will not be met ensures that when run predictions are low or overfishing occurs, it will be Idaho which suffers (Tr. 1059). Mr. Bohn testified that when runs are depressed, fishing should be closed until runs are proven to be harvestable (B. Bohn Depo. at 54).

In several years, the regulatory bodies in Oregon and Washington have established commercial or sport fishing seasons which resulted in their minimum spawning escapement goals not being met.

(a) *Spring Chinook*

For spring chinook, defendants fished when their minimum spawning escapement goals above Bonneville Dam were not met in 1958, 1959, 1960, 1963, 1965, 1967 and 1974 (Tr. 699; Ex. I-27 at 40). If defendants had not fished or if they had more tightly regulated their fisheries,

escapement goals could have been met in 1958, 1959, 1960, 1963, 1965, and 1967 and could have nearly been met in 1974. A glaring example of mismanagement occurred in 1974 when the Oregon and Washington staffs recommended that there should be no commercial fishing because of an estimated below-average run size, poor dam counts, extremely poor passage conditions and because of the need for an escapement of 120,000 spring chinook above all fisheries in order to achieve an escapement of 40,000 into the Snake River. Nevertheless, the Columbia River Compact had a fishery (Tr. 700, 1058; Ex. I-21, Washington Department of Fisheries and Oregon Fish Commission Hearing, April 30, 1974 at 2, 3). Defendants have, in fact, admitted that the political process has interfered with their management of the resource (Exhibit W-4 at S-3 through S-5; Depo. of D. Austin at 42, 43).

During the seven years that upriver spring chinook minimum spawning escapements were not met, Oregon and Washington harvested 515,500 fish of which approximately 224,017 fish were of Idaho origin.[3] (Table 2, supra; Ex. I-31, and I-32). If there had been no harvest by Oregon and Washington in the mainstem Columbia River, in the four years since 1962 when spawning escapements were not met, there would have been an additional 68,100 fish returned to Idaho to spawn (Table 5, supra; Ex. I-38).

As early as 1963, Oregon and Washington were aware of the fact that an increasingly active Indian fishery above

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3 This figure assumes that the weighted Idaho contribution to this spring chinook run of 50 percent, applies to the years 1958, 1959, 1960 when precise counts of fish returning to Idaho were not possible because the dams on the Lower Snake River had not yet been constructed.

Bonneville Dam was harvesting thousands of salmon (Tr. 1030, 1031; Ex. I-27 at 4, 40). In 1974, this catch was estimated to exceed 15,000 as of April 30, 1974 (Ex. I-21, Joint hearing on April 30, 1974; Ex. 1 and 2 and Review of 1974 Spring Run, June 21, 1974 at 1 and 2). Nevertheless, Oregon and Washington consistently ignored the impact of this fishery in establishing their seasons. For the seven years in question when minimum spawning escapements were not met, Indian fishermen harvested about 62,800 spring chinook (Ex. I-27 at 40). Instead of meeting the escapement goals of 80-90,000 fish past the Indian fisheries in Zone 6[4], escapements were only 71,700 in 1958, 60,500 in 1959, 69,100 in 1960, 66,300 in 1963, 64,600 in 1964, 73,100 in 1967 and 68,600 in 1974 (Tr. 1056; Ex. I-27 at 40). The escapement goal was changed in 1974 to 120,000 fish past the Indian fishery in Zone 6.

For the five-year period from 1972 to 1976, Snake River spring chinook were barely maintaining themselves (Tr. 889, 890). During this five-year period, Oregon and Washington harvested approximately 131,000 spring chinook of Idaho origin (Table 2, supra; Ex. I-32). During this same period, Idaho fishermen harvested only 17,500 spring chinook (Table 2, supra; Ex. I-34). There would have been about 64,700 additional spring chinook returning to Idaho if Oregon and Washington had not fished (Table 5, supra; Ex. I-38).

(b) *Summer Chinook*

Defendants had fishing seasons in 10 years when the spawning escapement goals for summer chinook above

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4 The only commercial fishery permitted in Zone 6 is by the Indians (Tr. 672, 673).

Bonneville Dam were not met. These years were 1961, 1962, 1963, 1964, 1965, 1966, 1970, 1971, 1972 and 1973 (Tr. 699; Ex. I-27 at 44). If there had been no fishing or if the harvest had been reduced, escapement goals could have been met from 1961-1965 and almost met in 1966 and 1970. This intensive overfishing over several years prevented the population from recovering even with successful reproduction in a high escapement year.

During the ten years when the minimum escapement goals of 80-90,000 summer chinook past the Columbia River fisheries were not met, Oregon and Washington harvested 183,800 fish (Ex. I-31). Of these, 75,500 (41 percent) were fish of Idaho origin. If there had been no mainstem harvest by Oregon and Washington during the nine years since 1962, when spawning escapements were not met, approximately 34,200 more fish would have returned to Idaho (Table 5, supra; Ex. I-32 and I-38).

Again, defendants were aware of the significance of the Indian fishery in Zone 6 but failed to take this into consideration in establishing their seasons. During the ten years when summer chinook spawning escapements were not met, the Indian fisheries harvested 36,600 summer chinook (Ex. I-27 at 44).

Oregon and Washington, by fishing on declining runs, have increased mortalities and impacted the runs (Tr. 700, 701). Instead of meeting the defendants' minimum spawning escapement goal of 80-90,000 during these ten years, realized escapements were only 66,300 (1961), 76,300 (1962), 59,900 (1963), 73,600 (1964), 69,000 (1965), 70,900 (1966), 61,500 (1970), 72,100 (1971), 66,400 (1972) and 43,400 (1973) (Ex. I-27 at 44).

The average under-escapement during these ten years was 14,000 fish/year. Defendants' harvesting of approximately 54,000 summer chinook after 1964 when the numbers were depressed constitutes mismanagement of the resource. Fishing on depressed stocks is recognized by defendants' expert witnesses as a bad management practice (Depo. of B. Bohn at 43). Mr. Bohn said in regard to the Lower Columbia River:

> It's a mixed stock fishery, and with a little bit of work, you can segregate, to some degree, the runs, so you can actually have a target fishery and target group or minimal or incidental catch on other stock. But there are some times you simply can't have a fishery if one stock is very depressed, like this certain—the current condition with the summer chinook is an example. That's so depressed that even if you wanted to catch something else out there, say, summer chinook destined for the upper Columbia, it's very difficult, because you are trying to protect the other group (Bohn's Deposition at 43).

(c) *Summer Steelhead*

The minimum spawning escapement goals[5] above Bonneville Dam for summer steelhead were not met in 1960, 1963, 1964, 1967, 1968, 1969 (Group B only), 1970, 1978, 1979 and 1980 when defendants fished (Tr. 700; Ex. I-27 at 60; Report at 51). Oregon has admitted that minimum spawning escapements were not met for Group B summer steelhead from 1967-1970 (Ex. I-21; Prospects for the 1971 Late Fall Season in the Columbia River at 7). During the eight years after 1962 (excluding 1969) when spawning escapements were not met, defendants

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5 This was 120,000 steelhead from 1963-1977. This was raised to 150,000 steelhead past the Zone 6 fishery in 1977.

harvested 186,516 steelhead of Idaho origin (Table 4, supra; Ex. I-32). If defendants had not fished, a minimum of 126,724 more steelhead would have returned to Idaho (Table 5, supra; Ex. I-38).

The fact that defendants did not establish any spawning escapements for the three species until 1963 is mismanagement (Oregon's Memorandum at 10).

2. Idaho Also Takes Exception To The Finding The Record Shows No Repetition Or Threatened Repetition Of The Management Mistake Made By Defendants In 1974. (Report at 32).

The year 1974 was only one out of many in which the defendants fished when they should not have. The Master appears to feel that only evidence of intentionally ignoring escapement goals is relevant. The large number of years in which fishing occurred and spawning escapements were not met certainly shows negligent management. Furthermore, the defendants admitted they overfished. Infra at 71-75. The Master also ignored those admissions. Spawning escapements were *not* met for: spring chinook in seven years, summer chinook in ten years including six successive years, 1961-1966, and in summer steelhead for ten years. The average shortfalls in these escapements were 18,000 for spring chinook, 14,000 for summer chinook, and 26,325 for summer steelhead. The worst example of mismanagement is where defendants fished for six consecutive years (1961-1966) on summer chinook when escapements were not met. Because of this fact, the run was in such jeopardy that Idaho has not been able to have a fishery since 1964.

Nevertheless, defendants harvested summer chinook in 11 of the next 16 years.

Idaho also does not agree with the statement that in spite of the low 1974 escapements a modest increase occurred in the 1977 and 1978 runs (Report at 45). The effect of the overfishing on the 1974 run would be noted in the number of fish returning in 1978 and 1979. The 1979 run of spring chinook was the lowest run recorded up to 1980.

Moreover, Idaho again emphasizes that even if defendants had properly managed the runs, Idaho has not received a fair proportion of the fish harvested. The record is uncontradicted that whenever there have been harvestable surpluses of Idaho origin fish, defendants have taken a disproportionate share.

3. Idaho Takes Exception To The Master's Failure To Consider Admissions Made By Defendants' Representatives.

The Master is incorrect in failing to give any weight to the admissions made by defendants' representatives. The Master felt that the admissions by defendants' representatives were random statements for public consumption (Report at 30-31). He also states the circumstances were not defined, authority to make the statements was not developed nor was there any reference to where or by whom the overfishing occurred. In order to reply to these statements, it is necessary to look at each admission.

Mr. Dorien Lavier was an employee of the Washington Department of Game and was responsible for an

investigative report presented to the Pacific Northwest Regional Commission on the production of wild fish. In his report "CONTRIBUTION TO ESCAPEMENT," he stated:

> The population density of wild salmonids which frequented the Columbia Basin streams years ago was an indication of the river's potential for salmon and steelhead production. An examination of the run sizes will show that the *runs began to decline before much severe environmental impact* was felt in the fresh water environments. *The number of spawners was reduced by overfishing* below what was necessary to maintain the runs at decent levels (Emphasis added, Ex. W-4 at H-5).
>
> * * *
>
> It is well known that under the most favorable natural conditions wild fish production in Columbia River tributaries was at one time very great. Many changes, environmental and other, have been partially responsible for the decline in the runs. However, another important factor has been responsible for much of the decline. Simply stated, there is every reason to believe that *over-fishing* has played an *important part* in the decline. (Emphasis added, *Id.* at H-6).

Since Washington introduced this document into evidence, Idaho feels it is irrefutable that Washington intended to be bound by it.

In 1975 (the year Idaho filed this action), the Washington Department of Fisheries published "A PLAN FOR REVITALIZING THE SALMON FISHERIES OF WASHINGTON STATE." The specific goal of this plan is to optimize the value of the salmon resource while generating a healthy and orderly industry (Ex. I-25 at 1). The plan states:

> A *secondary primary cause* of diminished numbers of salmon is *mismanagement.* Typically, this will be *thought of in terms of overfishing,* and this is no doubt an important problem stimulated both by fishing on mixtures of naturally—and artificially—produced fish which should be properly harvested at different fishing rates, plus the continual pressure exerted by fishermen demanding catches beyond calculated spawning requirements, simply because they are financially distressed. (Emphasis added, Ex. I-25 at 2).

This document is obviously a publication of the defendant State of Washington and was intended to be used by professional fish management personnel in the management of the species.

The next admission cited by Idaho was made in 1965 by Mr. Arthur Oakley of the Research Division of the Oregon Fish Commission. He stated:

> The average escapements over the 27 year period 1938-1964) in Table 1 are all below the desired escapement levels by the following amounts: spring chinook, 12,600 fish; summer chinook, 26,400 fish; and summer steelhead, 9,000 fish. (Ex. I-21 at 1).

Copies of this memorandum were provided to the Oregon Fish and Wildlife Commissioners who base their management decisions on such data.

In another instance, Oregon's Governor wrote the Washington Governor in 1974 and pointed out that the Oregon Fish Commission and Washington Department of Fisheries had authorized recent spring chinook seasons that had a *"crippling impact on the run."* (Ex. I-21, Governor McCall letter at 1 and 2). Later, the Washington Governor recognized that *upriver salmon and steelhead* had been subjected to *overfishing for many years.* (Ex.

I-11 at 15). This admission was made in the keynote address to a symposium on Columbia River salmon and steelhead sponsored by the American Fisheries Society. At the same symposium, the Director of the Washington Department of Fisheries said:

> . . . I believe a large part of the mismanagement in the past can be placed on our own shoulders.
>
> Like that famous ecologist, Pogo of the comic strips, we have met the enemy, and in many cases, he is us. We have had a history of issuing far more commercial licenses out of our Department . . . to harvest a resource that is limited. (*Id.* at 109).

He went on further to state:

> I would hope sometime in my lifetime that we might treat a spring chinook with the same respect that we give a steelhead. Perhaps that way, by getting completely off the species commercially, we can finally get those fish passed upriver—spring chinook and steelhead—through to the upper river, and its headwaters in Idaho, back up into the Salmon River, and the Clearwater system. (*Id.* at 110).

Thus, the authority of the people who made the admissions is clear cut. The references to overfishing refer to anadromous fish runs in the Columbia River and Snake River and refer to actions taken by defendants. These admissions were made in published reports or in-house memoranda or letters. The fact an admission was not made in a legal proceeding to bind a state or organization does not mean that it cannot have that effect.

Idaho would like to point out that these admissions do not stand alone to prove that Idaho was injured but are offered in conjunction with the statistical evidence of defendants' mismanagement, which shows they con-

tinued to fish when spawning escapements were not being met.

4. Idaho Takes Exception To The Master's Findings That Defendants' Fishing Below Bonneville Dam Has Had A De Minimis Effect (Report at 34, 35).

Idaho contends defendants' consistent overfishing and failure to meet spawning escapements along with dam construction had the synergistic effect of drastically reducing the runs. The Master's conclusion is incredible in view of the large number of years in which defendants fished when spawning escapements were not met.

From 1961 to 1966, defendants established fishing seasons that resulted in the spawning escapements for summer chinook not being met. By 1965, the run was in severe difficulty, and since then Idaho has not been able to have a fishery on that run. However, defendants harvested summer chinook in 11 of the 16 years since 1964.

For spring chinook, two of the three largest runs since 1956, occurred in 1972 and 1973 respectively when seven dams were in operation on the Columbia and Snake Rivers. During those years defendants took 88 percent of the harvest of Idaho origin fish. The runs nose-dived in 1974 and have continued to be low since that time. Defendants admit they fished in 1974 when they should not have. Thus, it is clear defendants' fishing activities had more than a de minimis effect.

5. Idaho Takes Exception To The Inference That Idaho Lacks Sufficient Habitat Contained In The Master's Statement That Activities By Man Other Than Dam Construction And Operation Have Influenced The Propogation And Survival Of Anadromous Fish.

In his report, the Master at 35 said:

> Second, in addition to the dams, man's activities have caused environmental changes adverse to the propagation and survival of anadromous fish. These changes include pollution, watershed management pracices of forestry and agriculture, urbanization, industrialization, and highway construction.

Idaho takes exception to the inference that Idaho lacks sufficient natural habitat. Idaho has thousands of miles of habitat that support natural production of spring chinook salmon, summer chinook salmon and summer steelhead.

The production capability of this spawning and rearing habitat has not been reduced. Nevertheless, spawning populations are at an all time low. The problem is that there has not been adequate escapement of anadromous fish back to the Idaho spawning grounds (See, Statement of Facts, supra at 7-11; Ex. I-22, I-23 and I-28).

Mr. Ralph Larson, former Director of the Washington Department of Game, recognizes the importance of the natural spawning areas in Idaho. In 1977, he said:

> Should our people decide that it is not worthwhile to bring fish back to the upper Columbia or the headwaters of the Snake because it is cheaper to grow them someplace else, I will argue that we have given up the battle and will never see the solution

> of the fish passage problem in the Columbia and Snake Rivers.
>
> Without fish in their headwaters, there is little reason to improve the fish resource, and no reason to preserve the water quality. Perhaps I've come back to the point that we cannot give up the spawning and rearing grounds that still exist, and the surviving populations of wild fish that persist in the upper Columbia and Snake River headwaters, because *if we lose these stocks, we can never solve the problems that are facing us on fish passage and maintaining our populations of steelhead and salmon.* (emphasis added, Ex. I-11 at 114).

A Washington publication recognizes "that the runs began to decline before much severe environmental impact was felt in fresh-water environments. The number of spawners was reduced by overfishing below what was necessary to maintain the runs at decent levels . . . simply stated, there is every reason to believe overfishing has played an important part in the decline." (Ex. W-4 at H-5, H-6). In order to maintain the habitat, Idaho has participated in several programs to mitigate for runs eliminated or diminished by dams and to enhance and protect anadromous fish habitat (Statement of Facts at 8-11, 16-20).

6. Idaho Takes Exception To The Master's Finding That An Increase In Escapements Would Not Increase The Return Of Fish To Idaho (Report at 31, 35).

The Master stated: "The record shows that some years of low escapements produce increased return runs. The claim that increased escapements will produce increased Idaho opportunities for harvest is speculative and impossible of direct proof." (Report at 35). The

Master relies on a quote from Ex. W-1 at 6-7 that "Studies have shown that the largest escapements do not necessarily produce the greatest return."

While Idaho agrees that it is possible for good runs to be produced by escapements that are less than the goals, this is a poor way to manage a resource, especially when done on a long term basis. It is simply not good management to overharvest a resource and then rely on fortuitous breeding conditions or water flows during migration to compensate for the overharvest. Past records illustrate good runs have been produced by escapements that were less than the goals, but production should generally be greater if the escapement goal is attained." (*Id.* at 7).

It should be pointed out that at present Idaho does not seek a large increase in the escapements but only that the present ones be met. Infra at 88-89. The evidence is unrebutted that the Idaho habitat is tremendously under-utilized and that it could produce many more anadromous fish. The experts on both sides agree that the problem is not returning enough fish. There is also the unrebutted testimony that the spawning escapements generated by Dr. Bjornn are not over-escapements. There is still an increase in the number of redds with an increment in spawning escapements. Obviously, given a greater number of redds for the same environmental conditions, a greater production will result. Thus, this issue is capable of direct proof. There is nothing in the record that suggests that direct proof is impossible. It is a matter of common sense that the more fish you get back, the more fish will be produced. This is true until the carrying capacity of the habitat is exceeded, which is certainly not the situation in Idaho.

III. THE MASTER WAS INCORRECT WHEN HE CONCLUDED THAT THE RECORD AND CONTENTIONS ARE INSUFFICIENT TO FORMULATE A WORKABLE DECREE (REPORT AT 36).

A. *Idaho takes exception to the Master using arguments which have already been rejected by this Court.*

In his original report to the Court, the Master recommended dismissal partly on the basis of the complexity of administering or fashioning a decree. In remanding this case to the Master, this Court discussed several aspects of administering the river system and indicated that they would not prevent relief. The Master has attempted to resurrect these rejected arguments in his final report.

In regard to the complexity of apportioning anadromous fish runs, the Master concludes the Idaho approach requires the use of unknown variables. These include, (1) the number of fish produced annually in each State, (2) the mortalities in both downstream and upstream runs which are variably affected by stream flows and dam operations, (3) the annual number of fish entering the Columbia from the ocean, (4) the mixed runs below Bonneville of fish destined for various areas, and (5) the annual uncertainty of the Indian harvest particularly since the end of the Five-Year Plan (Report at 36). The Master is not correct.

The Idaho Plan does not require knowing the number of fish produced annually. It requires instead ascertaining the Idaho contribution to a returning run. Idaho's contribution to the run is measured using the number of jack salmon in the runs for the two previous years.

All experts agree this technique provides the best estimates of the adult fish available for harvest and spawning.

The Idaho Plan does not require the use of downstream mortalities. The Plan does take into consideration the upstream passage mortalities as affected by flow conditions. The procedure used has been developed and applied by defendants. In regard to passage mortalities, this Court in *Evans,* supra at 388, 389, said:

> It (Idaho) argues, quite persuasively we believe, that greater numbers of fish reaching each dam will, under all but the most adverse river conditions, result in greater numbers of fish crossing each dam. The mortality rate at each dam for any given set of river conditions can be, and has been estimated and taken into account in apportionment formulas. . . . If Oregon and Washington fishermen are taking more than their fair share of Idaho-bound anadromous fish, this Court could set aside a portion of those fish for Idaho, taking into account the estimable mortality rate at each dam.

The Idaho Plan requires an estimate of the number of fish entering the Columbia River. However, defendants have been estimating the run size for years and Idaho only seeks to make use of this procedure. The presence of mixed runs in the river does not prevent management of the run (Supra at 11; infra at 89-90).

The Master states that the "annual uncertainty of the Indian harvest since the end of the Five-Year Plan has ended creates a problem in formulating a decree (Report at 36). This is discussed later. (Infra at 86-87). In regard to the Indian harvest, this Court in *Evans* supra at 389, said:

> As a mathematical proposition, the relief sought by Idaho need not involve the Indians at all. Any particular run of anadromous fish entering the Columbia River destined to pass the Bonneville Dam must be allocated to one of three categories: nontreaty catch, treaty catch, and spawning escapement.

In regard to the complexity of fashioning a decree, this Court in *Evans,* supra at 390 citing *Nebraska v. Wyoming,* 325 U. S. 589, 616 (1945), a case involving apportionment of water, said:

> There is some suggestion that if we undertake an apportionment of the waters of this interstate river, we embark upon an enterprise involving administrative functions beyond our province. . . . But the efforts at settlement in this case have failed. A genuine controversy exists. . . . The difficulties of drafting and enforcing a decree are no justification for us to refuse to perform the important function entrusted to us by the Constitution.

The same situation exists in this case. This Court can fashion a workable decree simply by ordering defendants to apportion an equitable share of the harvestable surplus of Idaho origin fish to Idaho consistent with the Idaho Plan.

B. *The Master visualizes a non-existent complexity in administering a decree.*

The Idaho Plan presents a simple, fair and practicable way to apportion the harvestable surplus of Idaho origin fish. In summary, the Plan requires defendants to give each species the same primary management emphasis they already use (See, Pre-Trial Order, Agreed Facts, 7, 32, and 33). Second, they must make an advance estimate of the run and dam passage mortality using techniques

already developed and applied by them. Third, defendants must manage to meet the same spawning escapements they have been managing for over the last five years. Fourth, defendants must determine the Idaho contribution and number of Idaho origin fish in the run. This latter value is determined simply by multiplying the total number of fish in the run by the percentage Idaho contributes to the run. Fifth, defendants must determine the harvestable surplus of Idaho origin fish. This is accomplished by subtracting the fish required to meet the spawning escapement and fish lost in dam passage from the number of Idaho origin fish in the run. Sixth, the harvestable surplus is then apportioned into treaty and nontreaty shares. The Idaho share of the nontreaty share shall be a percentage equal to Idaho's contribution to the total Columbia River run. Oregon and Washington would then divide the remainder of the nontreaty share. Finally, defendants would be responsible for making up any shortfalls in a party's allocated harvest from the next year's harvestable surplus.

Thus, the Idaho Plan relies for its implementation on procedures that are either being currently employed by defendants or which involve simple mathematical computations. Clearly, this Court can fashion a workable decree.

C. *The Master was incorrect when he held the Idaho entitlement could not be determined.*

1. Idaho Takes Exception To The Master's Finding That The Calculations By Mr. Ortmann Are Inexact (Report at 29).

Mr. Ortmann, Anadromous Fish Manager for the Idaho Department of Fish and Game, testified generally

about the three upriver runs of anadromous fish and made certain specific calculations concerning the numbers of fish and percentages of fish runs originating in Idaho. Mr. Ortmann testified how Idaho's contribution to the total upriver run is calculated and what it has been since 1962 when it became possible to calculate the contribution (Tr. 666-670; Ex. I-30). This was done using the same formula which Oregon indicated in their interrogatory answers is used by their biologists. He went on to describe the fisheries of the various states as well as the harvests (Tr. 671-679; Ex. I-31). Mr. Ortmann then explained how he calculated defendants' harvest of Idaho origin fish; the number of fish that would have returned to Idaho if they had not been harvested downstream by defendants; and relative percentages of Idaho origin fish harvested by defendants and Idaho (Tr. 680-693; Tables 2, 3, 4 and 5, supra; Ex. I-32, I-33 and I-34).

The Master said these calculations were inexact because Mr. Ortmann made adjustments of historical figures for mortality losses of later constructed dams and for variable river flow conditions (Report at 29). Defendants were asked for their calculations through interrogatories; they declined to answer. Nor did they ever introduce any contrary evidence at trial. Defendants called two expert witnesses and neither witness contradicted the procedure used or numbers calculated by Mr. Ortmann. Defendants had their entire biological staff to call as witnesses and decided to call none of them to contradict Mr. Ortmann. Mr. Ortmann's testimony was also not impeached. There is nothing in the record that indicates the calculations of Mr. Ortmann are not valid

or that they are inherently improbable. Therefore, the Court cannot arbitrarily reject them.

As this Court said in discussing the disputed testimony of Wyoming's hydrographer in *Wyoming v. Colorado,* 259 U. S. 419 (1922):

> The evidence does not permit us to doubt the accuracy of the data. They were obtained by work which is shown to have been painstakingly and conscientiously done by one fully competent to do it. Id. at 481.

In *Internationa' Shoe Co. v. Federal Trade Comm.,* 280 U. S. 291, 299 (1930), this Court held statements of witnesses should be accepted where there is no testimony to the contrary, and no reason appears for doubting their accuracy of observation or credibility.

In another case, *Kansas City S. R. Co. v. C. H. Albers Com. Co.,* 223 U. S. 573, 596 (1912), this Court held uncontradicted testimony cannot be disregarded, though not the best evidence, when offered an admitted without objection.

Uncontradicted and unimpeached opinion testimony by an expert may not be arbitrarily rejected. Where the issue is one which requires evidence from an expert and that evidence is received, not contradicted and no reason appears to doubt the credibility of the witness or the accuracy or the inherent probability of the opinion, the testimony must be accepted. *Franklin Supply Co. v. Tolman,* 454 F. 2d 1059 (C. A. 10 1972); *Stafos v. Missouri Pacific Railroad Co.,* 367 F. 2d 314 (C. A. 10 1966).

The procedure used by Mr. Ortmann in making his calculations was predicated upon a valid scientific basis and relied upon the conversion ratios in an Oregon Fish

and Wildlife publication entitled "Passage Problems of Salmon and Steelhead on the Columbia River." (Ex. I-2). The procedure is simply to take the Idaho origin fish harvested in any year by defendants and subtract dam passage losses under the existing flow conditions to obtain the number of fish that would have returned to Idaho (Tr. 682-692). Since passage losses vary in relation to water flows in the Columbia and Snake Rivers, the mean flow for any year must be used in determining the passage loss. This Court has previously recognized that the mortality rate of fish passing up the river is increased by the presence of each dam and with increased water flows and that passage losses can be determined and used in apportionment (*Evans,* supra at 388-389).

The error characterized as "gross" by the Master was due to Mr. Ortmann inadvertently multiplying the spring and summer chinook numbers at Ice Harbor twice by .817 (to determine Idaho origin fish) instead of once. He made the same mistake when he multiplied the number of summer steelhead over Ice Harbor Dam twice by .71 (Tr. 802-803). This error in his testimony was corrected at trial and the record reflects the correction (Table 5, supra; Ex. I-38).

2. The Master Is Incorrect In Saying Several Unknown Variables Preclude The Determination Of The Idaho Entitlement (Report at 30).

While Idaho agrees that measuring several variables is necessary in order to determine the Idaho entitlement, Idaho contends that these variables can be and have been measured with sufficient precision to determine the Idaho entitlement. Defendants' fishery staffs possess the ex-

pertise to determine and manage harvests so as to insure that Idaho obtains its equitable share of the harvest of Idaho origin fish. All they need is the appropriate order from this Court. In fact, defendants have been managing the runs for years and have had to plan for and meet the Indians' share of the harvest under the Five-Year Plan (Exhibit I-18). Defendants would only need to apportion out an equitable share for Idaho.

At the request of the Master, Idaho presented a detailed procedure for equitably apportioning the harvestable surplus of Idaho origin fish (Supplemental Memorandum at 10-30). Examples of the apportionment of runs in five years are presented to show how this entitlement can be calculated.

The variables listed by the Master at 30 do not preclude determination of the entitlement just because they are not known for certain until the runs are complete. These variables are: (1) the number of new fish entering the system, (2) the time the fish spend in the ocean, and (3) prediction of the Indian harvest.

It is not necessary to determine the numbers of new fish entering the system since the share is based on Idaho's contribution. A state's contribution is its percentage of adult fish in a returning run and not the smolts released to make the outmigration. Second, the number of years fish spend in the ocean is not significant since there is no data presented that shows that the percentage of any age class varies greatly in the run from year to year. In fact, four-year old fish make up the bulk (approximately 65 percent) of every run. Third, prediction of the Indian harvest is based upon a percentage of the harvest-

able surplus and the percentage should remain stable. Fourth, while the accuracy of management estimates may not be known with absolute certainty until the run is completed, Idaho submits that the necessary estimates have been made by defendants for several years or can be made with sufficient precision to allow a harvest to proceed. If the Court feels that these advance estimates cannot be made with accuracy, then there is no justification for defendants to fish until spawning escapements have been met. Finally, if a shortfall in the allocation should occur to any party for a given year, the Idaho Plan provides that the shortfall shall be made up from the next harvestable surplus (Supplemental Memorandum at 12, 13, 14, 17, 19, 21).

3. In Determining Idaho's Entitlement, Passage Losses Due To The Dams Should Be Shared Equally By The Parties.

The parties agree that the most important factor influencing the numbers of fish in the river are the losses caused by the dams.

Idaho's claim that the parties should share equally passage losses of Idaho origin fish is justified. Of primary importance, the harvest of these fish is to be shared. If the benefits are to be shared, so should the burdens. Defendants also have the opportunity to harvest these fish in the ocean, the Columbia River and the Snake River before Idaho fishermen have any opportunity for a harvest. Defendants share passage losses with the Indians as part of the Columbia River Five-Year Plan (Tr. 1052-1053; Ex. I-18). Idaho has unfairly had to bear

all of the passage losses in the past. Since the dams were constructed to provide substantial benefits to Oregon and Washington citizens, it is equitable that they also suffer their harmful effects. In addition to power, the dams provide substantial navigation and flood control benefits to defendants (Ex. W-4 at A-15-18). In another context, the Master recognized benefits and detriments must each be shared (Report at 35).

D. *Idaho takes exception to the Master's finding that the escapement goals sought by Idaho are incapable of reasonable enforcement.*

The Master said at 35:

> "Fourth, the escapement goals sought by Idaho are incapable of reasonable enforcement. The below Bonneville runs are mixed stocks. Some fish are destined for Oregon and Washington tributaries entering the Columbia below Bonneville. Other fish are destined for Columbia tributaries entering from both Oregon and Washington above Bonneville. The timing of the various runs overlaps. The Bonneville count is not completed until after the runs. The Indian count is not known until after the runs.

Again the Master is not correct. Idaho initially asks this Court to order defendants to manage for exactly the same escapement goals for spring chinook and summer steelhead that defendants agreed to in the Columbia River Five-Year Plan (Ex. I-18). The only change sought by Idaho is the establishment of a spawning escapement goal of 20,000 summer chinook at Lower Granite Dam (Supplemental Memorandum at 9). This is certainly not out of line since defendants earlier had established a spawning escapement of 80,000-90,000 summer chinook over Bonne-

ville Dam in 1963. Idaho would only seek optimum spawning escapements if the runs should improve. Thus, if defendants could enforce these escapements from 1963 through 1980, they should be able to do it now.

Idaho agrees that the runs are mixed and that they overlap to a degree. However, this overlap does not pose a major problem since, as the Master points out at 12, the lower river harvest occurs mainly during the winter season with some fish caught in April and May. The upper river fish run peaks about a month after the lower river run (Ex. I-21 at 8). Further, as Idaho points out, Washington and Oregon could have "hot spot fisheries" on runs with surplus fish in their tributaries (Tr. 1054, 1055). The Director of the Oregon Fish and Wildlife Commission recommended this and defendants' expert witness saw no reason why it could not be done (Ex. I-11 at 101). Defendants presently have sports fisheries in their tributaries (Depo. of B. Bohn at 40).

The fact that the Bonneville Dam count is not complete until after the run does not prevent enforcement of escapement goals. Defendants have been managing the run for years by establishing seasons before the Bonneville Dam count is complete. Idaho merely asks this Court to order defendants to make their advance run estimate using the procedure developed and presently used by defendants and with the same management emphasis agreed to in the Pre-Trial Order (See Supplemental Memorandum at 10, 16, 21, App. 1-9).

For spring and summer chinook, Idaho asks they be given the same management emphasis agreed to in the Pre-Trial Order and that the advance run estimates be

made in the same manner that defendants are presently using for spring chinook.

Summer steelhead do not pose an overlap problem since there is no commercial fishery and winter steelhead are not in the river at the same time.

E. *Idaho takes exception to numerous comments made by the Master.*

1. Idaho Takes Exception To The Master's Statement That He Has Been Unable To Find In The Record Jack Harvests In Zone 6 Or The Jack Counts At Either Bonneville Or Ice Harbor Dams.

In his report, the Master states he "has been unable to find in the record the jack counts at either Ice Harbor or Bonneville Dams or the jack harvest in Zone 6." (Report at 41). Spring chinook jack counts in Zone 6 can be determined by subtracting the numbers of adults in the harvest and in the escapement (Exhibit I-27, Table 11 at 41) from the numbers in the total harvest and escapement past the fisheries above Bonneville Dam (Exhibit I-27, Table 10 at 40). Using 1977 as an example, there were 17,100 fish harvested in Zone 6, 17,000 of which were adults giving a harvest of 100 jacks. There was an escapement of 102,400 fish of which 98,600 were adults giving a total of 3,800 jacks. This is verified by subtracting the Bonneville adult count of 115,600 from the Bonneville count 119,500 leaving a total of 3,900 jacks of which 100 were harvested. The jack counts at Ice Harbor Dam are recorded on the daily count sheets kept by the U. S. Army Corps of Engineers and are reported in the Annual Fish Passage Reports starting in 1980; See Idaho Ex-

ceptions to the Preliminary Report Dismissing This Action, Attachments 1 and 2). The relevant jack counts are presented in the Washington Department of Fisheries Memorandum entitled Preliminary Outlook for the 1982 Columbia River Upriver Spring Chinook Run (Supplemental Memorandum, Attachment A at App. 5-7).

2. The Master Erred By Not Requiring An Explanation If He Did Not Understand The Methodology For Estimating Dam Passage Mortalities.

The Master stated he examined Exhibit I-2, a 1979 publication of the Oregon Department of Fish and Wildlife, which explains how defendants calculate dam passage mortalities, but he did not understand it and no witness had explained it to him satisfactorily (Report at 41). Mr. Ortmann testified and used the exhibit in his calculations. The exhibit was referred to in the Supplemental Memorandum submitted to the Master in response to his order of February 12, 1982 requiring the parties to submit additional material. In its Supplemental Memorandum at 31, 32, Idaho said:

> If this Court decides that further testimony is necessary concerning the methodology used to make the calculations described in this memorandum, Idaho would request to call David Ortmann, who is now Fisheries Research Supervisor for the Idaho Department of Fish and Game or John Coon, who is presently Anadromous Fisheries Biologist for the Idaho Department of Fish and Game. Their testimony would be limited to the methodology and calculations described in parts III E through III J of this memorandum.

The master never requested further testimony on this matter.

3. The Master Erred When He Did Not Ask For An Explanation Of A Procedure Explained In A Washington Publication.

In referring to a Washington memorandum describing the procedure used to obtain the preliminary estimate of the upriver spring chinook run (Supplemental Merorandum Attachment A), the Master at 41 said:

> With regard to "Run Prediction" Attachment A says: "Several relationships between age components of the upriver spring chinook run have been developed to predict run size using the linear least square regression method." No testimony has been presented to explain the mentioned method. In an effort to understand it, the Master has examined text books on statistics and mathematics explaining the regression and least squares methods. The Master believes that those methods may be of practical use in presenting past conditions but of little value in making predictions. The many unknown variables make any prophecy uncertain.

It is interesting that the linear least square regression technique which is agreed to by the parties as the best method to make a preliminary run estimate is considered by the Master to be "of little use in making predictions."

The whole purpose of this statistical procedure is to make predictions. The measure of the predictive value of one variable used to estimate a second variable is the correlation coefficient. A perfect correlation between two variables gives a value of 1.0. As the Washington publication points out, four-year old fish historically make up 65 percent of the spring chinook run (Supplemental Memorandum at App. 1). The correlation coefficients

between jacks (3 year-old fish) and four-year olds was 0.97 and between jacks and five-year old fish was 0.91. (Supplemental Memorandum at App. 2).

The Master mentioned no testimony was presented to explain the method (Report at 41). Idaho informed the Master:

> Idaho would seek to introduce the memorandum dated June 16, 1981 from Wolf Dammers of the Washington Department of Fisheries to Dennis Austin for the purpose of describing the methodology used to estimate the upriver spring chinook run. A copy of that document is attached to Idaho's memorandum (Supplemental Memorandum at 31).

Again Idaho indicated that if the Master needed any further explanation of the methodology, it would have witnesses available. The Master made no request for additional testimony.

The Master was incorrect when he said "The many unknown variables make any prophecy uncertain" (Report at 41) because there is only one unknown variable in this use of the linear least square regression method, the number of fish in the upriver run for that year.

4. The Total Upriver Runs For All Three Species And Idaho's Contribution For Any Year Are Readily Ascertainable From The Record.

The Master was incorrect when he said: "On the record presented, the Master cannot determine either 'the total upriver run of the species or the Idaho contribution to that run. He cannot quantify the Idaho contribution for the past, present, or future.'" (Report at 41). The total upriver run of a species is determined by add-

ing the Bonneville Dam count to the harvest below Bonneville Dam (Tr. 661; Ex. W-1 at 12, I-27 at 9). The total upriver run for the three species for any year is listed in various tables under the heading "upriver run." (Ex. W-1 at 50 and 53; W-2 at 43 and 46; I-27 at 40, 44, and 60). The Idaho contribution for all three species for every year since 1962 is presented in Table 1, supra; and in Exhibit I-30. Both of these terms were explained by Mr. Ortmann in his testimony (Tr. 661, 666-670). As discussed previously, the Idaho contribution to a future run is determined using the jack counts in the runs for the two previous years.

IV. IDAHO TAKES EXCEPTION TO THE MASTER'S CONCLUSION THAT OREGON AND WASHINGTON DID NOT UNCONSTITUTIONALLY DEPRIVE IDAHO OF ITS EQUITABLE SHARE OF IDAHO ORIGIN FISH.

A. *The Master was incorrect when he found that the Commerce Clause of the United States Constitution did not apply to this litigation.*

The Master was incorrect when he said the Commerce Clause did not have any part in this litigation (Report at 23). The rationale behind this Court's decisions discussing a state's hoarding of its natural resources is present in this case.

Article I, Sec. 8 of the United States Constitution says: "The Congress shall have power . . . to regulate commerce . . . among the several states . . ."

This Court has held on numerous occasions that as long as the constitutional requirements are met, "Protection of the wildlife of the state is peculiarly within the

police power, and the state has great latitude in determining what means are appropriate for its protection." *Lacoste v. Department of Conservation,* 263 U. S. 545, 552 (1924).

However, this Court in *Baldwin v. Montana Fish and Game Commission,* 436 U. S. 371, 385, 386 (1979) said:

> the States' interest in regulating and controlling those things they claim to "own," including wildlife, is by no means absolute. States may not compel the confinement of the benefits of their resources, even their wildlife, to their own people whenever such hoarding and confinement impedes interstate commerce. (Citations omitted.)

This Court has also held that the Commerce Clause precludes a state from mandating that its residents be given a preferred right of access over out-of-state consumers to natural resources located within its borders or to the products derived therefrom. *New England Power Co. v. New Hamshire,* — U. S. —, 102 S. Ct. 1096 (1982); *Hughes v. Oklahoma,* 441 U. S. 322 (1979); *Pennsylvania v. West Virginia,* 262 U. S. 553 (1953), and *West v. Kansas Natural Gas Co.,* 221 U. S. 229 (1911). These cases all involved resources located within the state and which had been reduced to private possession and ownership. See, *Sporhase v. Nebraska,* 50 L. W. 5115 (1982). The anadromous fish which are the subject of this litigation, like all wildlife, are not the property of the State, *Hughes v. Oklahoma,* 441 U. S. 322 (1979) and only spend a short period of their existence in defendants' waters.

Whether the fishing regulations of Oregon and Washington place an unreasonable burden on interstate commerce is determined by the general rule expressed in *Pike*

v. Bruce Church, Inc., 397 U. S. 137, 142 (1970). *Hughes, supra* at 331. In *Bruce, supra* at 142, this Court said:

> Where the statute regulates evenhandedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits . . . If a legitimate local purpose is found then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.

This Court in *Hughes, supra* at 336, stated the three-pronged test used in determining whether a statute violates the Commerce Clause as:

> (1) whether the challenged statute regulates evenhandedly with only "incidental" effects on interstate commerce, or discriminates against interstate commerce either on its face or in practical effect; (2) whether the statute serves a legitimate local purpose; and, if so, (3) whether alternative means could promote this local purpose as well without discriminating against interstate commerce.

The Oregon and Washington regulations clearly fail to satisfy the first requirement of the test. They do not regulate evenhandedly because Oregon and Washington have consistently taken a disproportionate share of the harvestable surplus of fish destined to return to Idaho.

The evidence is unrebutted that from 1962-1980, Oregon and Washington harvested 83 percent of the Idaho origin spring chinook compared to an Idaho harvest of only 17 percent. During this same period, Oregon and Washington harvested 75 percent of the Idaho origin summer

chinook compared to an Idaho harvest of only 25 percent. Finally during the 19-year period, Oregon and Washington harvested 58 percent of the Idaho origin summer steelhead (Ex. I-32, I-34).

If only the years from 1971-1980 are considered, Oregon and Washington harvested 84 percent of the Idaho origin spring chinook compared to Idaho's harvest of 16 percent. Oregon and Washington harvested 100 percent of the Idaho origin summer chinook and 36 percent of the Idaho origin summer steelhead. By taking a disproportionate share of the harvestable surplus, Washington and Oregon have interfered with interstate commerce and discriminated against Idaho citizens by unfairly reducing the number of returning fish and preventing or restricting Idaho's sport fishery.

A State's interest in conservation and protection of wild animals is a legitimate local purpose. However, states no longer may keep natural resources within their boundaries and State ownership may no longer be used to force those outside the State to bear the full costs of conserving the wild animals within a State's borders when equally effective nondiscriminatory conservation measures are available. *Hughes, supra* at 337. The fish in question are not the property of Oregon and Washington.

This Court in *Hughes* held:

> Today's decision makes clear, however, that States may promote this legitimate purpose only in ways consistent with the basic principle that "our economic unit is the Nation," and that when a wild animal "becomes an article of commerce . . . its use cannot be limited to the citizens of one State to the

the exclusion of citizens of another State." (citations omitted) at 338, 339.

The Oregon and Washington regulations may appear on their face to meet a legitimate local purpose, that is, preserving runs of anadromous fish. In fact, they fail to meet this prong of the test.

Oregon and Washington's practice of establishing annual seasons and closing them only when it is determined that minimum spawning escapement goals will not be met has resulted in nonsurplus fish being taken and minimum spawning escapements not being met in several years.

The regulations in question also fail the third prong of the test. Idaho has demonstrated that there are alternative means by which preservation of the runs and an equitable apportionment of the harvestable surplus can be accomplished. Regulations can be developed which will provide for fishing after optimum spawning escapements have been met. Idaho's contribution to the run and the actual run size can be determined in advance of a fishery. Shares of the harvestable surplus for all parties can be determined prior to the runs. Passage losses can be shared equally by the States. Oregon and Washington can fish in their tributaries, thus taking advantage of surplus fish and also protecting runs that are at low levels by closing that tributary to fishing.

As has been shown above, the regulations adopted by Oregon and Washington have created an impermissible burden on interstate commerce and have discriminated against the citizens of Idaho, thus violating the Commerce Clause of the United States Constitution.

Therefore, these regulations should be struck down by this Court, and the Idaho Plan adopted.

B. *The Master was incorrect when he found that the Privileges and Immunities Clause of the United States Constitution did not apply to this litigation.*

The Masters is incorrect when he states that Idaho citizens are not discriminated against by Oregon and Washington and that the Privileges and Immunities Clause of the United States Constitution has no place in this litigation (Report at 23).

Article IV, Sec. 2 of the United States Constitution, commonly known as the Privileges and Immunities Clause, states: "The citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several states." As pointed out earlier in the Idaho Plan, Idaho is willing to share the harvestable surplus from runs originating in Idaho, but Oregon and Washington have taken a contrary position. Defendants' position is not defensible. In *Baldwin v. Montana Fish and Game Commission,* 436 U.S. 371, 385, 386 (1979), a case dealing with the Privileges and Immunities Clause, this Court said:

> [T]he State's interest in regulating and controlling those things they claim to "own" including wildlife, is by no means absolute. States may not compel the confinement of the benefits of their resources, even their wildlife, to their own people whenever such hoarding and confinement impedes interstate commerce. . . . And a State's interest in its wildlife and other resources must yield when, without reason, it interferes with a nonresident's right to pursue a livelihood in a State other than his own, a right that is protected by the Privileges and Immunities Clause. . . . (citations omitted.)

This is precisely what Oregon and Washington have done, and it is their acts that resulted in this lawsuit. A state cannot use its powers to preserve and regulate a resource to discriminate without reason against the citizens of another state. *Toomer v. Witsell,* 334 U. S. 385, 402 (1948).

In this case, Idaho has a greater interest than either Oregon or Washington in protecting and preserving the runs of anadromous fish that spawn in Idaho's waters and remain there during their crucial early life stages. In addition, Idaho has invested great amounts of time and money to produce salmon and steelhead. These fish also play important cultural, esthetic and economic roles in the lives of Idaho citizens (Ex. I-5, I-10). The right to preserve and enjoy these fish is a "natural" or "fundamental right" of Idaho citizens and is protected by the Privileges and Immunities Clause. *Toomer v. Witsell, supra; Baldwin, supra* at 387. The interests of Oregon and Washington are less than the interests of Idaho since these fish merely pass through those states on their way to and from the ocean.

States have the power to impose upon citizens of other states reasonable, nondiscriminatory conservation and environmental protection measures which are within the State's police power. *Douglas v. Seacoast Products, Inc.,* 431 U. S. 265, 277 (1977). Preservation of anadrom-fish runs depends on conservation. See *Montana Outfitters Action Group v. Fish and Game Commission,* 417 F. Supp. 1005, 1007 (Mont. 1976). Idaho has shown that the fishing regulations promulgated by Oregon and Washington have resulted in overfishing and a disproportionate share of the harvest being taken by their residents

to the detriment of the fish and Idaho's citizens. Therefore, these regulations are not reasonable and are not valid conservation measures. While this fact situation may not present a classical Privileges and Immunities case, the principles developed under that Clause do apply.

V. MISCELLANEOUS EXCEPTIONS

Idaho takes exception to the Master's acceptance of testimony of Mr. Gufler in 1978 that by 1980 all the water flow will pass through turbines (Report at 7). Previously, the Master indicated he would not take testimony as to what would happen in the future. Yet, that is what he did in this instance. Idaho was thus not aware until it received his report that the Master was going to give any credence to the above testimony. In any case, the above characterization of Mr. Gufler's testimony is not correct. At the time of the trial on this matter, the Corps of Engineers Annual Fish Passage Report for 1980 had not been published. The Corps' Annual Fish Passage Report for 1981 had not been published by the time Idaho lodged its final brief with the Master. Idaho therefore asked the Master to take judicial notice pursuant to Rule 201, Federal Rules of Evidence of the 1980 Corps' Report and of the Corps' monthly flow reports for April, May and June of 1981 (See Idaho's Exceptions to the Preliminary Report of the Special Master Dismissing This Action, Attachments 1 and 2).

For the Court's convenience, the spill percentages at each dam during April, May and June for 1980 and 1981 are presented below. The time periods selected coincide with the smolt outmigration.

TABLE 9.

SUMMARY OF THE PERCENT OF WATER SPILLED AT VARIOUS DAMS BY MONTHS DURING 1980 AND 1981

	1980			1981		
Dam	April	May	June	April	May	June
Bonneville[1]	21.7	42.9	48.1	17.2	37.8	53.0
Dalles[2]	0.0	2.7	15.2	0.0	6.1	38.8
John Day[3]	0.2	4.8	18.4	0.1	10.7	36.4
McNary[4]	0.0	0.6	15.8	0.0	11.4	50.4
Ice Harbor[5]	3.2	21.5	42.5	0.0	19.8	79.2
Lower Monumental[6]	0.5	6.7	26.7	0.6	21.5	82.6
Little Goose[7]	0.0	0.0	0.0	0.0	0.1	14.8
Lower Granite[8]	0.0	0.0	6.0	2.2	9.6	26.8

[1]Tables 6, 7, 8
[2]Tables 24, 25, 26
[3]Tables 40, 41, 42
[4]Tables 56, 57, 58
[5]Tables 75, 76, 77
[6]Tables 90, 91, 92
[7]Tables 104, 105, 106
[8]Tables 119, 120, 121

It is obvious, there were significant spills of water at every dam during at least one month every year. At Bonneville Dam, there was a significant spill every month.

Idaho also takes exception to the Master's statement that in the absence of spills resulting from high stream flow the fish migrating downstream will have to pass through the turbines (Report at 7). At final argument, Mr. Edward Mackie, counsel for Washington, suggested a possible modification regarding Mr. Gufler's testimony. He pointed out the statement meant that during low flow years, fishery managers would have to seek flows from the dam operators so that the fish could bypass the turbines but this would be difficult due to a reluctance on the part of the operators (Tr. 1194-1196). Exhibit O-3 at 9 and 15 provides a summary of

a successful research program which collected and transported smolts around dams through the use of screens and in dam channels which divert smolt out of the turbine entrances. The program is now fully operational at three mainstem dams. The Federal publication, NOAA Technical Memorandum NMFS F/NWR-2, published in 1982 (See Idaho's Exceptions to the Preliminary Report of the Special Master Dismissing This Action, Attachment 3 at 18) shows that from 1978-1981 more than 24 million smolt were diverted from turbine entrances at Lower Granit, Little Goose and McNary Dams to bypass facilities and then transported by truck or barge from these dams to release sites below Bonneville Dam. These measures reduce dam-caused smolt mortalities, particularly in low flow years when there is little or no spill. Thus, Idaho takes exception to the Master's conclusion that the success of the project has not been established (Report at 45).

Another indication that dam passage mortalities may be reduced in future years is the enactment by Congress on December 5, 1980, of the Pacific Northwest Electric Power Planning and Conservation Act, Pub. L. 96-501, 94 Stat. 2697, 16 U. S. C. 839 et seq. A purpose of this Act is to increase anadromous fish survival at the hydroelectric facilities and to provide flows to improve production, migration and survival of the fish. The Power Planning Council established by the Act is presently working towards meeting this goal.

VI. THE MASTER WAS INCORRECT WHEN HE DISMISSED IDAHO'S ACTION (REPORT AT 37).

Idaho brought this action seeking an equitable share of the harvestable surplus of fish destined to return to

Idaho. For years, Idaho had sought to have defendants reduce their harvest of Idaho origin fish without success. Idaho also sought to become a party to the Columbia River Compact or to otherwise negotiate some sort of accommodation only to be rebuffed by defendants (*Evans,* supra at 386). Idaho has shown that defendants harvested a disproportionate share of Idaho origin fish whenever a harvestable surplus was present and in many instances when it was not and that defendants have mismanaged the resource, thus adversely and unfairly affecting the number of fish destined to return to Idaho. Defendants did not change their management practices or show adequate concern for the resource until Idaho brought this suit and the runs were at precariously low levels.

It has taken Idaho seven years to get its lawsuit this far. Even after seven years, Washington contends Idaho does not have a right to bring an action and both defendants still assert they have the right to harvest all Idaho origin fish whenever they are in defendants' waters. The Master recognizes that based on the record, the chance for a settlement is remote (Report at 36). Thus, there is a clear and continuing menace that defendants will again promulgate regulations that will adversely and unfairly affect the number of fish returning to Idaho soon after this lawsuit is dismissed. What will be the result? Idaho will be back in this Court seeking relief. The parties and the Court will again find themselves faced with a long, drawn out suit. Again, defendants may change their actions or the runs may again plummet during the suit. See *Goshen,* supra. Nothing will have changed, except Idaho will once again have been harmed.

> The goal of equitable relief is not to punish the wrongdoer; it is to restore the plaintiff to the enjoyment of the right which has been interfered with to the fullest extent possible or to prevent violation of a right before the threatened injury is done or further violation after the injury has been partially effected. *Graves v. Rommey,* 502 F. 2d 1062, 1065 (8th Cir. 1974).

Many courts have held: "A maxim of equity is that equity will not suffer a wrong without a remedy. *Walters v. Marathon Oil Co.,* 642 F. 2d 1098, 1100 (7th Cir. 1981); *International Harvester Co. Corp. v. East Coast Truck,* 387 F. Supp. 820, 827 (So. D. Fla. 1974); mod. on different grounds 547 F. 2d 888 (5th Cir. 1977).

CONCLUSION

Idaho has been and is willing to share the harvest of fish destined to return to Idaho. The defendants are not willing to share. What Idaho seeks is for this Court to grant Idaho equity and to adopt the Idaho Plan. The Plan is fair to all parties and workable. If that is done, Idaho is protected and there is a plan already in effect whenever there is a harvestable surplus. If there is not a harvestable surplus, then defendants are not placed under any burden.

Once Idaho has attained a measure of protection, it is more likely that the parties can work together to preserve and enhance the runs of anadromous fish for all people.

Respectfully submitted,

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