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Legal Aspects of Columbia-Snake River Salmon Recovery*

by

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I. Introduction

The U.S. National Marine Fisheries Service (NMFS) has listed the Snake River sockeye salmon as an endangered species (56 Fed. Reg. 58619), and Snake River spring/summer and fall chinook salmon as threatened species under the Endangered Species Act (ESA) (57 Fed. Reg. 14653). NMFS may reclassify these threatened species as endangered. A wide array of resource uses throughout the Columbia River Basin and North Pacific Ocean is implicated by their listing and the designation of the Columbia, Snake, and Salmon Rivers, adjacent riparian zones, and many Snake and Salmon River tributaries as critical habitat (58 Fed. Reg. 68543).

In October 1993 a NMFS-appointed recovery team released its draft Snake River Salmon Recovery Plan Recommendations for a 45-day comment period. Its recommendations are discussed throughout this memo and compared to the Northwest Power Planning Council's (NPPC's) 1993 Strategy for Salmon recovery. A final NMFS recovery plan for the listed species is expected by the end of 1994.

The Columbia and Snake River systems were, at their peak, among the greatest anadromous fish producers in the world. Unfortunately, Columbia River fish runs have declined 80 percent since the 1880s. Today, conflicts between natural resource use and salmon survival lead to an annual loss of 85 to 95 percent of all downstream migrating juvenile salmon. Historically, up to 16 million adult salmon entered the Columbia River annually; less than 2 million adults swim upstream today. Only 10 to 15 percent are naturally produced wild fish. The rest come from hatcheries. Some chinook salmon runs have been reduced to as few as 15 fish, while other runs have been wiped out completely. Throughout the Northwest the American Fisheries Society estimates that 106 salmon populations are extinct and over 210 additional populations are at risk (Oregon Water Resources 1994).

This memo examines legal aspects of the survival and recovery of Columbia and Snake River salmon, including the above listed species. Those involved in their recovery have identified four major action areas: hydropower, harvest, hatcheries, and habitat (including ocean ecology), known as the four Hs. This memo focuses on harvest and hydropower and related river operations aspects. The role of hatcheries in recovery is addressed elsewhere (Bragg 1993).

Many of the court decisions discussed are very recent lower court opinions and thus subject to amendment, rehearing, or appeal, but they are indicative of current judicial thinking on legal issues related to salmon recovery. Comments on this memo's analysis and conclusions are welcomed at the address above.

II. Northwest Power Act

A. Background

Hydropower dams are the most visible obstacles to salmon recovery. The Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Northwest Power Act or NPA) was designed to protect the salmon resource and to mitigate the damage done by both federal and private hydropower projects in the Northwest through the Columbia River Basin Fish and Wildlife Program. The act created the Northwest Power Planning Council, an eight-member body composed of two representatives each from Idaho, Montana, Oregon, and Washington. The Council was mandated by Congress to "promptly develop and adopt . . . a program to protect, mitigate, and enhance fish and

wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries" (16 U.S.C. § 839b(a)(2)(B)). In developing this program, the Council is required to consult with, among others, state and federal fish and wildlife managers, Indian tribes, and federal program managers. These federal managers include the Bonneville Power Administration (BPA), the Bureau of Reclamation, the U.S. Army Corps of Engineers (Corps), and the Federal Energy Regulatory Commission (FERC).

B. Northwest Power Planning Council's Strategy for Salmon

1. Balancing Approach

Balancing is central to the protection of fish and wildlife in the Columbia River Basin under the Northwest Power Act. While Congress intended that the program implemented by the Northwest Power Planning Council would "protect, mitigate and enhance fish and wildlife" affected by the maintenance of Columbia and Snake River hydropower facilities, section 4(h) also requires that any such program insure the Pacific Northwest an "adequate, efficient, economical and reliable power supply" (16 U.S.C. § 839b(h)(5)). Additionally, where equally effective means of achieving the same sound biological objective exist, the alternative with the minimum economic cost is to be chosen. NPPC staff have developed fairly detailed estimates of the hydropower costs of Columbia Basin salmon recovery, including both lost power revenues and outlays for physical measures such as improved dam bypass systems (Ruff and Fazio 1993).

The NPPC has developed a series of Columbia River Basin Fish and Wildlife Programs. The latest program, released in 1993, includes a Strategy for Salmon and takes into account the Snake River salmon listings under the Endangered Species Act.

2. Specific Recovery Strategies

Early goals of the Northwest Power Planning Council were to double the population of Columbia and Snake River salmon and steelhead trout runs by adding to already extensive hatchery programs, while expending less effort on mitigation and habitat restoration. The 1993 Fish and Wildlife Program maintains the goal of doubling current runs—from 2.5 million to 5 million fish—while focusing on protecting the biological diversity of wild (nonhatchery) populations and taking a holistic approach toward watershed and habitat restoration.

Specifically, the NPPC's Strategy for Salmon establishes midterm rebuilding targets of up to 50,000 for the listed Snake River chinook salmon populations. To reach these goals, the strategy calls for the lowering ("drawdown") of Snake River reservoir levels to increase river flow and reduce the travel time downstream of juvenile fish. Additionally, the downstream flow of the Columbia would be augmented to ensure an annual average flow of at least 200,000 cubic feet per second (cfs). Steeper drawdowns would be implemented beginning in 1995.

The Strategy for Salmon also calls for installation or improvement of screens to divert juvenile fish from power-generation turbines at the major Columbia and Snake River dams. Until adequate screens are in place, impounded water will be spilled over dams to aid the migration of juvenile salmon. Improvements in barging techniques to transport juvenile salmon past Columbia and Snake River dams will also be implemented. Bypass systems are suggested for nonfederal dams in the region as well. Finally, the strategy calls for studies to evaluate the threats to salmon recovery from predators such as upstream squawfish and downstream marine mammals.

C. NPA Harvest Impacts

1. Treaty Harvest

The salmon fishing rights of many Northwest Indian tribes were preserved by treaties negotiated with the Cayuse, Nez Perce, Umatilla, Walla Walla, and Yakama tribes in 1855. These rights include the rights to fish in their "usual and accustomed places" (United States v. Winans; Seuffert Bros. v. United States); the right to fish without state fishing licenses (Tulee v. Washington); the right of treaty tribes to fish on- and off-reservation (Puyallup Tribe v. Department of Game); the right to fish without state-imposed, discriminatory regulation of traditional tribal fishing practices (Department of Game v. Puyallup Tribe); the right to a reasonable total share of the annual catch (Puyallup Tribe, Inc. v. Department of Game); and the right to sufficient harvest for a moderate living standard, which can be up to one-half the returning fish (Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n). Presently the treaty harvest is only 1400 fish annually (Oregon Water Resources 1994).

While treaty making with tribes was halted by Congress in 1871, the 1855 treaties, ratified under the Constitution by the United States Senate, still have the force and effect of law. The rights conferred and affirmed by these agreements can be unilaterally abrogated by Congress; however, courts require that "Congress' intention to abrogate treaty rights must be clear and plain" if a challenge to treaty rights is to prevail (Lone Wolf v. Hitchcock; Fong Yue Ting v. United States).

The Northwest Power Act provided for no such abrogation of treaty fishing rights and explicitly provided that no

provision of this Act or any plan or program adopted pursuant to the Act [shall] . . . affect the rights or jurisdictions of the . . . Indian tribes . . . over water of any river or stream or over any groundwater resource [or] . . . otherwise be construed to alter or establish the respective rights of Indian tribes . . . with respect to any water or water-related rights. (16 U.S.C. § 839g(h))

At least one author has suggested that this recognition of treaty rights in the Northwest Power Act is not enough to protect the rights of treaty tribes and that the balancing inherent in that act and related legislation undercuts the rights secured for tribes by the Supreme Court (Sanders 1983).

Indicative of this concern is an Idaho federal district court decision which recently held that the "treaty tribes do not own the fish, but only have a treaty right which provides an opportunity to catch fish if they are present at the accustomed fishing grounds," either on- or off-reservation (Nez Perce Tribe v. Idaho Power Co.). According to the opinion, the law does require the federal government, the states, and even private parties in some circumstances "to take remedial actions should their development of the rivers or the surrounding land injure the fish runs" (emphasis added). Furthermore, the treaties "require that any development authorized by the states which injures the fish runs be non-discriminatory in nature . . . but does not, however, guarantee that subsequent development will not diminish or eventually, and unfortunately, destroy the fish runs." Congressional termination or specific injuries to the exercise of treaty rights authorized by Congress might require federal compensation according to the opinion. But the tribe had no cause of action for damages against Idaho Power Company for the undisputed adverse impacts on treaty fishing of the company's federally licensed dams on the Snake River, the court ruled.

2. Nontreaty Harvest

Nontreaty commercial and sport fishermen currently have no property-like rights in the salmon of the Columbia and Snake Rivers. When asked, most courts have ruled against claims by fishermen that they have any property rights in the fish they target or have a right to continue fishing as a livelihood which cannot be terminated without compensation (*Organized Fishermen of Florida v. Watt*). If individual transferable quotas or similar allocation devices were introduced into relevant commercial salmon fisheries, the courts might be persuaded to treat them as property rights. Under similar circumstances in Australia, several federal and state courts have found compensable property rights to exist (O'Connor and O'Connor 1994; Australia 1993). Such a finding raises the possibility that regulatory actions which adversely affect the rights significantly must be accompanied by compensation. Under current salmon management approaches, such compensation does not appear to be required.

Ocean catch regulations outside state waters are established by the Pacific Fishery Management Council under the federal Magnuson Fishery Conservation and Management Act (MFCMA), with the approval of the Secretary of Commerce. Generally the federal courts will overturn the regulations only if they are arbitrary or capricious. For state ocean waters extending three nautical miles from shore, state salmon fishing regulations generally are based on the federal regulations. Inconsistent state regulations can be superseded under MFCMA section 306(b). For coastal estuaries that are beyond the reach of federal regulation under the MFCMA (but not the Endangered Species Act as discussed below), state regulations increasingly are consistent with relevant federal regulations.

The Northwest Power Planning Council has no power under the Northwest Power Act to regulate fishing. However, in its Strategy for Salmon the NPPC calls on the Pacific Fishery Management Council to limit further the ocean harvest of salmon in order to increase the number of adult fish returning to the Columbia and Snake Rivers and their tributaries to spawn; to allow for no commercial harvest of Snake River sockeye below the confluence of the Columbia and Snake Rivers; to reduce the take of Snake River fall chinook to 55 percent of the annual run; to reduce all nontreaty harvest of Snake River spring chinook to just 4 percent of the upriver run; and to eliminate altogether the commercial fishery for summer chinook salmon. In addition to these reductions in the domestic fishery, the NPPC also called for the abolition of high seas driftnet fishing; for a voluntary lease-back and buy-back program for commercial fishing licenses; for adoption of catch-and-release rules for sports fishing; and for a thorough accounting of Columbia and Snake River salmon caught in other fisheries, including Canadian and Alaskan fisheries.

D. NPA River Operations Impacts

Under the NPA, the NPPC has no authority to directly enforce the changes in river operations and related recommendations included in its salmon strategy. Instead, NPA section 4(h)(11) obligates the federal agencies involved with Columbia River Basin hydroelectric facilities, namely, BPA, the Corps, the Bureau of Reclamation, and FERC, to take the salmon strategy "into account at each relevant stage of decisionmaking processes to the fullest extent practicable." The federal courts will review federal agency compliance with that mandate, but in a quite deferential way (*Confederated Tribes of the Yakama Indian Nation v. FERC*; *National Wildlife Fed'n v. FERC*). Thus, under the NPA, fish and habitat continue to be traded off against power and other water uses (Blumm 1987).

On the other hand, judicial review of federal agency compliance with the Endangered Species Act is much less deferential (*Tennessee Valley Auth. v. Hill*). For example, the federal agencies' 1993 Columbia Basin river operations plan was disapproved and their 1994-99 plan called into question under the ESA in the Idaho Department of Fish and Game case discussed below. As a mechanism for forcing change in decision-making processes which balance fish and habitat losses against other benefits gained, the ESA is without parallel in federal environmental law. Of the current legal tools available, only the ESA appears to have the potential of achieving salmon recovery.

III. The Endangered Species Act

A. Goals and Operation of the Endangered Species Act

The Endangered Species Act reflects a national policy favoring biodiversity. It seeks to prevent the extinction of species that are endangered or threatened by severely restricting the circumstances under which such species can be intentionally or unintentionally "taken" (Jarman, Hildreth, and Marsailer Forthcoming) and to promote their recovery.

Under ESA section 4, the Secretary of the Interior, acting through the U.S. Fish and Wildlife Service (USFWS), is charged with listing species determined to be threatened or endangered. Endangered species are those which the agency has determined to be "in danger of extinction throughout all or a significant portion of their range," while threatened species are those determined "likely to become an endangered species within the foreseeable future" (16 U.S.C. §§ 1532(6), (20)). "Interested persons" can petition to have species listed.

Section 9 of the ESA makes it unlawful for any person subject to the jurisdiction of the United States to take, import, export, possess, sell, deliver, carry, transport, or ship any species listed as endangered (16 U.S.C. § 1538). "Take" includes harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting, or attempting to collect (16 U.S.C. § 1532(19)). However, under section 10, takings that are "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity" not targeted on a listed species may be authorized by permit. Thus fishing practices which target the listed Snake River species are prohibited by ESA section 9. Whether takings of listed species can be permitted as "incidental" in the context of mixed stock salmon fisheries has not been definitely determined.

B. Jeopardy and Critical Habitat

ESA section 7 prohibits federal agencies from carrying out actions that would be likely to "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species . . . determined . . . to be critical" (16 U.S.C. § 1536(a)(2)). Either NMFS or the USFWS must study a proposed federal action's effects on listed species, issue a biological opinion on whether the action would violate section 7 by jeopardizing the species' continued existence or adversely modifying its critical habitat, and, if a violation is found, suggest reasonable and prudent alternatives to the proposed action (Rohlf 1989). If no section 7 violation is found, but the proposed federal action nevertheless would result in the incidental taking of a listed species, NMFS or the USFWS will issue an "incidental take statement" specifying the conditions under which the incidental take will be allowed (Environmental Law Institute n.d.). Biological opinions may also include nonbinding advisory conservation recommendations.

"Critical habitat" is defined under the ESA as

specific areas . . . occupied by the species . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and . . . specific areas outside the . . . area occupied by the species . . . upon a determination by the Secretary [of Interior or Commerce] that such areas are essential for the conservation of the species. (16 U.S.C. §§ 1532(5)(A)(i),(ii))

On December 28, 1993, NMFS designated critical habitat for the Snake River sockeye, spring/summer chinook, and fall chinook salmon (58 Fed. Reg. 68543). This designation consisted of four components: spawning and juvenile rearing areas; juvenile migration corridors; areas for growth and development to adulthood; and adult migration corridors (58 Fed. Reg. 68544). Specific areas were designated for each of these components; NMFS also identified the essential elements of each component that qualified these areas as critical habitat for the listed species. The designated habitat includes the Columbia, Snake, and Salmon Rivers, many Snake and Salmon River tributaries, and adjacent riparian zones 300 feet wide on each bank. Ocean areas used by the listed species were not included; nevertheless, ocean resource uses relevant to their recovery are affected by the other ESA requirements discussed in this memo.

In addition to its designation of critical habitat, NMFS determined that some activities taking place in or around the critical habitat areas may require "special management considerations" in order to protect the integrity of the critical habitat (58 Fed. Reg. 68545). These activities include timber harvesting, livestock grazing, mining, road construction, hydropower plant operations, water storage, and barge transportation. NMFS specifically cited BPA, FERC, the Corps, the Bureau of Reclamation, the Bureau of Land Management, the USFWS, the Forest Service, and the Environmental Protection Agency as federal agencies that would be affected by the critical habitat designations.

C. Economic Considerations in Critical Habitat Designation

ESA section 4(b)'s mandate that the benefits and costs of designating particular areas as critical habitat be identified can be misleading as to the overall role economic considerations play in the administration of the ESA. In critical habitat designations, the focus is on the incremental net costs specifically resulting from critical habitat designation; over and above the economic effects attributable to listing the species. Economic analyses submitted by commenters as part of the critical habitat designation process must clearly distinguish the incremental costs directly attributable to designation of specified areas as critical habitat.

Agency analysis begins with identification of those activities that are likely to affect the area being considered and evaluation of how those activities may diminish the value of the habitat for the recovery of the species. Then the probable economic impacts of additional management measures likely to result from designating the areas as critical habitat are analyzed. Finally, for particular areas the benefits of exclusion are weighed against the benefits of designation to identify areas eligible for exclusion under the statute (56 Fed. Reg. 51684). Much of the agency analysis may be carried out after critical habitat initially is proposed for designation (49 Fed. Reg. 38906; 50 C.F.R. § 424.19).

For critical habitat designation and recovery planning for listed Snake River salmon, NMFS commissioned a report on the economic effects within the range of potential critical habitat

designations by a University of Washington consultation team (Huppert, Fluharty, and Kenney 1992) and requested public comments on both the scientific and economic aspects prior to its initial critical habitat proposal (56 Fed. Reg. 51684). As detailed in the draft Snake River salmon recovery plan, upon the species' listing, activities ranging from commercial, sports, and tribal fisheries harvests to forestry, agriculture, and urban development become reviewable under sections 7 and 9 of the ESA, with only limited consideration of economic factors as the region heads into the recovery plan implementation phase.

D. ESA Recovery Plans

1. Introduction

Section 4 of the Endangered Species Act establishes guidelines for recovery plans for endangered species (16 U.S.C. § 1533(f)). Development and implementation of such a plan is mandatory, like the designation of critical habitat, "unless the [Secretary] finds that such a plan will not promote the conservation of the species." Although the statutory language describing the content and implementation of recovery plans is minimal, if developed and implemented, recovery plans have the potential to provide a strong tool for the protection and possible recovery of endangered or threatened species (Houck 1993).

Recovery plans are "for the conservation and survival" of listed species. Importantly, the ESA defines "conservation" as "the use of all methods . . . necessary to bring any endangered . . . or threatened species to the point at which the[se] measures are no longer necessary" (16 U.S.C. § 1532(3)). The definition states that "such methods . . . include . . . all activities associated with scientific resource management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation . . ." (Id.). This definition of conservation is important because it states "scientific resource management" is to be used over other, more politically or economically oriented management tools.

Section 4(f) sets out three guidelines for recovery plans, requiring: (1) a description of the management actions needed for conservation and survival of the species; (2) "objective, measurable criteria which, when met" would allow delisting of the species; and (3) estimates of the time and cost necessary to reach the recovery plan's goal, together with specific interim steps. While the ESA specifies that designation of critical habitat shall include consideration of the economic impacts of such a designation, recovery plans give priority to those areas specifically impacted by economic activity; it is therefore foreseeable that an area excluded from critical habitat for economic considerations could still be included in a recovery plan.

2. NMFS Recovery Planning Guidelines

NMFS guidelines provide a "framework for developing and implementing coordinated recovery programs for endangered, threatened, and depleted marine species under the jurisdiction of NMFS" (57 Fed. Reg. 53097). The guidelines state:

The recovery plan is intended to provide the basis to assist other Federal agencies in utilizing their authorities to further the purposes of the ESA and MMPA. As soon as practicable after a plan is approved, a meeting of all responsible parties should be held to begin the implementation of recovery tasks. (NMFS Office of Protected Resources 1992)

In addition to the content requirements outlined in the statute,

recovery plan[s] identify and assign priorities required for the recovery of a species. The goal of recovery is to restore a listed species to the point where it is no longer endangered or threatened. . . . Recovery under the ESA does not necessarily mean historic or current carrying capacity. (Id.)

Recovery plans must include, "to the maximum extent practicable," (1) "objective, measurable criteria that would indicate recovery" and (2) "[t]he specific tasks necessary for recovery . . . identified and described in sufficient detail to indicate the nature and rationale for the tasks" (Id.).

The section of the recovery plans focusing on "needed recovery actions" is the heart of the recovery plan. "Each task must be described as specifically as possible, including the responsible parties, feasibility or problems that may be encountered in completing the task" (Id.). Recovery success depends on the implementation of those measures.

The recovery plan also must include an implementation schedule that indicates the priority, cost, and time required for each task. The priority system identified in the Planning Guidelines ranks recovery tasks from 1 to 3:

Priority 1: An action that must be taken to prevent extinction or to identify those actions necessary to prevent extinction.

Priority 2: An action that must be taken to prevent a significant decline in population numbers, habitat quality, or other significant negative impacts short of extinction.

Priority 3: All other actions necessary to provide for full recovery of the species. (Id.)

The priority system is intended to allow NMFS to set priorities for allocation of available resources among different recovery plans.

3. Recovery Plan Litigation

Unlike other elements of the ESA, recovery plans have not been the subject of much litigation. A 1987 federal district court opinion found broad discretion both in the Secretary's adoption and the Agency's implementation of the plan (*National Wildlife Fed'n v. National Park Serv.*). The court reviewed a National Park Service decision to keep open a campground in the habitat of the threatened grizzly bear contrary to a recovery plan, pending the findings of an environmental impact statement (EIS). The court interpreted the language of ESA section 4(f) to mean that the Secretary "is required to develop a recovery plan only insofar as he reasonably believes that it would promote conservation." Thus, the court found not only that the Secretary's duty to develop a plan was discretionary, but that here, where the recovery plan was already developed and called for the closing of the campground, the National Park Service had discretion in plan implementation.

However, a recent federal district court case held that, in certain circumstances, the Secretary's "duty to develop and implement a plan is mandatory, not discretionary" (*Sierra Club v. Lujan*). *Sierra Club v. Lujan* concerned several species dependent on the Comal Springs and San Marcos Springs habitat associated with the Edwards Aquifer near San Antonio, Texas, and an endangered species whose habitat is entirely underground in the aquifer itself. Plaintiffs sued the

government for its failure to establish springflow requirements for the protection of the species. In response to the federal defendants' claims that the Secretary's duty to implement recovery plans is discretionary, the court found that the language of the ESA is clearly mandatory. Only where the Secretary demonstrated that "such a plan will not promote the conservation of the species" can the Secretary choose not to develop and implement a plan.

Finding that recovery plans are increasingly the "fundamental tool the USFWS uses to protect endangered species," and that the "[t]imely development and implementation of recovery plans is critical to many specific recovery actions," the court found that specific mandatory elements of the San Marcos recovery plan were not implemented. While the court specifically did not rule that the defendants were required to "implement every step in the recovery plan," it found that federal agencies "may not arbitrarily, for no reason or for inadequate or improper reasons, choose to remain idle."

Other recovery plan litigation has involved the discretionary nature of plan contents, recovery plans and enforcement of the ESA, and recovery plans and meaningful consultation. An opinion from the federal district court of the Southern District of Alabama stated: "Assuming . . . that the adoption of a recovery plan is mandatory, the contents of those plans are discretionary" (*Morrill v. Lujan*). The court quoted the language from the ESA in which the only guide for the content of recovery plans is prefaced by the language "to the maximum extent possible," which implies discretion.

Another recent opinion held the "ESA does not expressly condition the enforcement of the [section 9] prohibition on taking a protected species to takings occurring after the agency adopts a recovery plan, identifies critical habitat or issues protective regulations" (*United States v. Glenn-Colusa Irrigation Dist.*). The court enjoined an irrigation district's water diversions pending the installation of screens that would prevent the taking of threatened salmon in violation of section 9. Thus the *Glenn-Colusa* case is particularly significant for salmon recovery. Under its reasoning, water uses that physically take listed salmon species can be enjoined pending action to eliminate the taking independently of recovery planning for the species.

E. Northwest ESA Litigation

Three recent court decisions involving ESA administration in the Northwest are particularly relevant to salmon recovery.

1. Sweet Home Chapter of Communities for a Greater Oregon v. Babbitt

Plaintiffs in this case successfully challenged USFWS regulations interpreting ESA section 9's prohibition of "harm" to listed species as covering adverse modifications to their habitat, not necessarily designated as critical, whether on public or private land.

The district court found that the habitat protection mechanisms explicitly provided by Congress in the ESA such as land acquisition were not exclusive, and that the USFWS regulations were not void for vagueness. However, the District of Columbia Court of Appeals overturned this ruling, finding that "[h]arm in the definition of 'take' in the Act means an act which actually kills or injures wildlife."

Nine verbs accompany the word "harm" in the definition of "take" under ESA section 9: "harass," "pursue," "hunt," "shoot," "wound," "kill," "trap," "capture," and "collect." According to Judge Williams' majority opinion, because all of the words "involve a substantially direct application of force,

which the [FWS'] concept of forbidden habitat modification . . . lacks," extending the term "harm" to include habitat modification goes beyond congressional intent. Judge Mikva's dissenting opinion in the case reflected the view (also held by the Ninth Circuit Court of Appeals) that the term "harm" read within the context of the act can easily encompass adverse habitat modifications (*Palila v. Hawaii Dep't of Land and Natural Resources*). These conflicting interpretations eventually could be resolved by the U.S. Supreme Court or by Congress in reauthorizing the ESA.

In any case, habitat impacts will continue to play a key role in salmon recovery under ESA section 7 discussed above. Under section 7 the focus is on adverse impacts on officially designated critical habitat (for the listed Snake River salmon species, the Columbia and Snake Rivers, many of their tributaries, and adjacent riparian areas) by federal agencies or persons whose actions require federal agency approval under any of the broad array of federal environmental and regulatory laws. Section 9's takings prohibition will continue to apply to physical takings of the listed species anywhere (including ocean areas outside their designated critical habitat) that are not approved in an ESA section 10 incidental take permits.

2. Pacific Northwest Generating Coop. v. Brown

In this case, three high-volume users of Columbia River Basin hydropower filed suit challenging decisions taken by NMFS with respect to the listed Snake River species. Plaintiffs argued, *inter alia*, that the flow augmentation provided to assist salmon migration in the 1992 federal agencies' Columbia Basin river operations plan approved by NMFS under ESA section 7 had an insignificant impact upon the listed species recovery while contributing to increased power rates. Plaintiffs claimed that a reduction in salmon harvest would have a more positive impact on salmon recovery, and thus NMFS' approval of augmented flows was arbitrary and capricious.

Federal district Judge Malcolm Marsh did not reach the merits of the challenge, but instead denied plaintiffs standing under the citizen suit provisions of the ESA. The plaintiffs claimed standing because they suffered economic injury; and, while the court did not find that economic injuries were outside the scope of injuries contemplated by the ESA's citizen suit provision, it did hold that "the causal link between the [economic] injury and the asserted ESA violations" was too attenuated in this case. Additionally, the court held that plaintiffs failed to "satisfy the 'redressible' element [of the ESA] since there is nothing to ensure that [their] rates will go down or that the power supply will become any more stable if defendants fully comply with the ESA and commercial harvesting is shut down completely"

Judge Marsh's opinion appears to approve NMFS' use of incidental take permits issued under ESA section 10 to authorize mixed stock salmon fisheries in which listed Snake River salmon are caught incidentally along with the targeted catch of unlisted salmon of the same species. This ruling came in the context of fisheries in which the listed Snake River species were small percentages of the mixed stock catch; however, the harvest rates for the threatened fall chinook were almost as great as for unlisted fall chinook, and the threatened fall chinook numbers projected to be taken were a significant proportion of the listed population. Pending appeals in this case could shed important light on the application of the ESA's takings, similarity of appearance (16 U.S.C. § 1533(e)), and transport and trade (16 U.S.C. § 1538(a)(1)) provisions to mixed stock fisheries.

3. Idaho Dep't of Fish and Game v. National Marine Fisheries Serv.

This suit, filed by the Idaho Department of Fish and Game with the support of the State of Oregon and several treaty tribes, successfully challenged NMFS' finding that the survival of the listed salmon species would not be jeopardized by the 1993 operation of Columbia River Basin hydropower facilities. According to federal district Judge Marsh's March 28, 1994, opinion, NMFS' ESA section 7 biological opinion was "too heavily geared towards a status quo that has allowed all forms of river activity to proceed." Rather than determining the best course of action for rebuilding the threatened and endangered salmon stocks as mandated by the ESA, federal agencies have taken "relatively small steps" to minimize impacts on the river's heaviest users. Judge Marsh ordered the federal agencies involved, including the Bureau of Reclamation, the Corps, and BPA, to prepare a new river operations plan within 60 days. As an experimental interim response, in May 1994 NMFS developed and the agencies implemented a spill plan to divert water over and around eight Columbia and Snake River dams in aid of downstream salmon smolt migrations at a cost of about \$25 million per month in lost power generation.

The decision's reasoning calls into question the validity of the agencies' five-year river operations plan for 1994 through January 31, 1999; which NMFS approved through a section 7 biological opinion issued March 16, 1994. Several of the plaintiffs in the Pacific Northwest Generating Coop. v. Brown case have asked the Ninth Circuit to stay Judge Marsh's decision pending appeals in this and related cases.

F. ESA Harvest Impacts

1. *Treaty Harvest*

Of the ESA-listed Snake River species, treaty tribes take only Snake River fall chinook and Snake River sockeye; while these species are taken for ceremonial and subsistence uses only, even those harvest levels may be more than those species currently can sustain. As discussed above, Indian treaty fishing is not immune from congressional termination or nondiscriminatory federal or state regulation necessary to protect the resource, but the federal courts scrutinize harvest reductions and changes in the treaty tribes' usual and accustomed fishing locations of treaty fishing activities quite closely. Nevertheless, the Snake River salmon recovery plan recommends both those types of changes in some current treaty fishing activities.

The legal effect of the Endangered Species Act on treaty fishing rights is unclear. The ESA contains no language preserving treaty rights like that quoted above from the Northwest Power Act.

The current test for measuring Indian treaty rights against federal conservation legislation was articulated by the Supreme Court in United States v. Dion. In Dion, the Court recognized that the treaty rights of the Yankton Tribe of Minnesota included, as of the date of the treaty signing, the right to take bald eagles for religious and cultural purposes. Bald eagles were protected at the time of the alleged "taking" under both the ESA and the Eagle Protection Act. The Court stated that, in determining whether Congress intended to abrogate treaty rights, "what is essential is clear evidence that Congress actually considered the conflict between its intended action on the one hand and Indian treaty rights on the other, and chose to resolve that conflict by abrogating the treaty." Because the Court found such "clear evidence" on the face of the Eagle Protection Act (16 U.S.C. §§ 668-668d), it did not reach the question of whether Congress chose to abrogate Indian treaty rights when it enacted the Endangered Species Act.

The Court did not require an explicit or "express declaration" that Congress intended to abrogate Indian treaty rights; legislative history and surrounding circumstances were considered in addition to the plain meaning of the act. However, stating that "Indian treaty rights are too fundamental to be easily cast aside," the Court required that the evidence of a congressional intent to abrogate must be "sufficiently compelling" to "ensur[e] legislative accountability."

The first federal decision to apply the test constructed in Dion to a conflict between Indian treaty rights and the ESA was United States v. Billie. However, on its way to finding that Congress intended to abrogate tribal hunting and fishing rights to the extent necessary to fulfill the purposes of the ESA, the federal district court in Billie ignored the "hard look" requirements of the Dion test in its oversimplified exploration of legislative intent.

Specifically, the court in Billie understood the inclusion of an ESA enforcement exception for certain Alaskans as an indication that Congress meant to abolish all other Native American use rights in species listed under the ESA. This finding is erroneous, because the indigenous practices of native Alaskans are not protected by treaty; therefore, it was necessary for Congress to expressly preserve their hunting and fishing rights in the ESA. Because treaty tribes do have rights that are the equivalent of congressional legislation, there was no need for the express protection which the Billie court required.

The Billie decision was distinguished by another federal district court in United States v. Bresette which held that the Migratory Bird Treaty Act did not abrogate the right of Chippewa Indians to take and sell the feathers of migratory birds covered by that act. Interpreting the opinion in Billie, the court opined that "Billie should not stand for the proposition that the inclusion of Alaskan natives' concerns in a statute as evidence that Congress has considered Indian treaty rights in the rest of the country."

However, without citing Billie, an Idaho federal district court opinion involving treaty fishing rights but not the ESA stated in passing that "when a species is endangered, the states and the United States can regulate treaty fishing rights for the purpose of protecting the species" so long as the regulation does not discriminate against treaty fishermen (Nez Perce Tribe v. Idaho Power Co.). The opinion also suggests that the United States might owe affected tribes compensation for the significant impacts of ESA regulation on the exercise of treaty fishing rights.

2. Nontreaty Harvest

Both the NPPC's salmon strategy and NMFS' recovery plan recommend changes in commercial and recreational harvest. The salmon strategy recommends voluntary license buy-back programs while the recovery plan recommends mandatory license buy-back programs. Due to salmon migration patterns, current harvest management is fragmented badly. Among those involved are the U.S.-Canada Pacific Salmon Commission, two U.S. regional fishery management councils, and several state fisheries agencies.

Part of the statutory power of the Endangered Species Act includes the issuance of protective regulations for threatened species pursuant to section 4(d). The failure of other recovery efforts could lead to the use of section 4(d) regulations throughout the migratory range of the listed Snake River species (except for the Canadian 12-nautical-mile territorial sea; cf. United States v. Mitchell) to impose harvest and gear limits and marking and release requirements. The experience with using section 4(d) regulations to achieve protection of endangered and threatened sea turtles from the

impacts of shrimp trawling suggests not only the possibility of strong initial resistance to this approach but also its ultimate legal and political feasibility (Louisiana v. Verity).

G. *River Operations Impacts: A Comparison of the Salmon Recovery Plan with the NPPC's Strategy for Salmon*

Compliance with the Endangered Species Act in the context of salmon recovery has major economic implications for a broad array of public and private ocean, coastal, river, and riparian resource users in the Pacific Northwest (Buck et al. 1991). Implementing the Snake River salmon recovery plan or the Northwest Power Planning Council's salmon strategy imposes burdens on and provides benefits to various users. As previously mentioned, the NPPC's goal remains one of doubling salmon runs in the Columbia River Basin. The benefits of salmon recovery are not required to be quantified by the Endangered Species Act, but a Wilderness Society study capitalized the value of full recovery of weak coho and chinook populations under various assumptions of recovery or continued decline (Alkire 1993). In a recent study Berry and Rettig (1994) were unable to identify any constitutionally mandated compensation rights for changes in river operations due to ESA implementation; they quite usefully explore policies that could guide any compensation which is made available.

The potential impacts on Columbia and Snake River users of ESA implementation are quite significant. There are many differences between the NMFS recovery plan for the listed salmon species and the NPPC's Strategy for Salmon, but particularly noteworthy are the different approaches to reservoir drawdowns. The NPPC's salmon strategy calls for increased flows in the Snake River reservoirs to near minimum operating levels and providing additional waters from Dworshak Dam and the Upper Snake River.

In the recovery plan, the NMFS-appointed salmon recovery team acknowledged a lack of information with which it could predict with any degree of accuracy the biological gains from alternative recovery actions, which, coupled with the interdependence of its many recommended actions, severely limited its ability to make cost-effective comparisons of the biological alternatives that it considered.

Thus the recovery plan recommends proceeding first with a test drawdown once a good experimental design that will measure the results of drawdown is identified. Before drawing down to natural riverbed flow, the recovery team would like to see demonstrated benefits from a drawdown to spillway crest. Pending the results of drawdown experiments, improved transportation methods such as barging are recommended as the principal device for increasing downstream migrant survival. With respect to flow augmentation, the recovery team feels that decisions to use water from storage should not be set more than a few days ahead of the release date to avoid the biological impacts and economic costs incurred if the reservoirs do not refill the next year.

Thus for particular watersheds and river basins, ranging in size and significance from the Columbia-Snake to the Klamath and smaller, pending applications of the Endangered Species Act have had and will have significant impacts on basin management.

The United States Supreme Court and the lower federal courts have consistently interpreted the act as favoring species survival over other considerations. Judicial decisions and administrative actions involving river basins outside the Pacific Northwest illustrate the act's support for immediate

drastic actions with species survival benefits. In none of the cases did the courts award compensation to affected river users.

In Tennessee Valley Auth. v. Hill, the U.S. Supreme Court applied the act to stop further construction on a nearly completed dam that would have flooded the only then known habitat of the endangered snail darter fish. According to Carson-Truckee Water Conservancy Dist. v. Clark, the Secretary of Interior, in administering a federal reservoir, may devote all water not otherwise contracted for to endangered species protection and need not sell the water to irrigators or other users. Congress ratified that court decision in the Truckee-Carson-Pyramid Lake Water Rights Settlement Act of 1990 (Pub. L. No. 101-618, 104 Stat. 3289).

Riverside Irrigation Dist. v. Andrews upheld the Corps of Engineers' denial of a nationwide permit requested by an irrigation district to construct Wildcat Dam and Reservoir on Wildcat Creek, a tributary of the South Platte River, because the increased use of water that the reservoir would facilitate would deplete the stream's flow and thereby injure a critical habitat of the endangered whooping crane.

California's continuing drought conditions have swung operation of the mammoth federal Central Valley Project increasingly toward water releases and other measures for salmon survival. In 1990, the National Marine Fisheries Service listed the Sacramento River winter-run chinook salmon as threatened (55 Fed. Reg. 46515). The United States then sued the Glenn-Colusa Irrigation District, the largest capacity water diverter on the river, to enjoin the district's water diversions until it adopted interim measures such as intake screens to protect the salmon. The federal district court ordered the district to reduce its pumping rate by nearly 50 percent without compensation to the district or affected irrigators. Reclamation Act amendments (Pub. L. No. 102-575, 106 Stat. 4600 (1992)) also are providing increased fish flows in the Central Valley Project. However, the winter-run chinook was reclassified as endangered in March 1994.

IV. Congressional Reauthorizations Relevant to Salmon Recovery

Reauthorization of the ESA has been pending before Congress since 1992. The 103rd Congress is unlikely to reauthorize the ESA before its term ends in 1994, thereby leaving its reauthorization to a subsequent Congress. The act's role in salmon and spotted owl recovery is likely to receive significant attention in the delayed reauthorization process.

During the 103rd Congress two other important statutes related to salmon recovery are scheduled for reauthorization: the Clean Water Act (CWA) and the Magnuson Fishery Conservation and Management Act. A third act, the Marine Mammal Protection Act (MMPA), was reauthorized on April 30, 1994 (Pub. L. No. 103-238) with the amendments significant to salmon recovery summarized below. The MMPA, MFCMA, and marine aspects of the ESA are all administered by NMFS (NMFS 1991). The CWA is administered by the U.S. Environmental Protection Agency, the Corps of Engineers, and the states.

A. *Clean Water Act*

A complete review of the issues raised in the pending reauthorization of the CWA as the nation's principal water pollution control legislation is beyond the scope of this memo. Aspects relevant to salmon recovery include greater emphasis on watershed approaches to water quality maintenance and strengthened statutory requirements and increased federal appropriations for the

reduction of nonpoint sources of pollution, including those which adversely affect salmon such as degraded riparian habitat, runoff from urban, agricultural, and forestry activities, and structural modifications to river and stream hydrology such as dams and diversions. The strengthened nonpoint source provisions could be modeled on those already enacted into law as part of the 1990 reauthorization of the Coastal Zone Management Act (Hildreth, Brown, and Shavelson 1993).

Congress also may consider amendments to CWA section 401 in light of the U.S. Supreme Court's recent decision upholding Washington state's authority to establish minimum stream flows in aid of anadromous fish migrations which are binding on federally approved projects such as FERC-licensed hydroelectric dams (PUD No. 1 of Jefferson County v. Washington Dep't of Ecology). The Oregon Supreme Court recently approved a similar use of section 401 (City of Klamath Falls v. Environmental Quality Comm'n).

B. Magnuson Fishery Conservation and Management Act

As previously mentioned, the MFCMA establishes a management scheme for domestic and foreign fishing within 3 to 200 miles offshore through development of regional fishery management plans for the various fisheries, including ocean salmon fisheries, that require management. Eight regional fishery management councils, including the Pacific Fishery Management Council (PFMC), have been established to cover the U.S. exclusive economic zone (EEZ). Each council must conform the provisions of its fishery management plans to seven national standards aimed at effective conservation of fishery resources. The regulations implementing each fishery management plan must be approved by the Secretary of Commerce.

The MFCMA has been a success as far as domesticating formerly foreign fisheries, but it is generally recognized as a failure with respect to conservation of fish species and protection from overfishing. The waste involved in many fisheries includes the discard of targeted species, as well as the incidental catch of nontargeted fish (such as the three ESA-listed Snake River salmon species) and marine mammals. These are significant issues calling for congressional attention beyond the current focus on marine mammal incidental catch.

C. Marine Mammal Protection Act

The MMPA works similarly to the ESA to protect all marine mammals, including sea otters, polar bears, seals, whales, dolphins, porpoises, dugongs, and manatees, regardless of whether they are endangered or threatened. The central mechanism designed to preserve marine mammals and rebuild species populations is a moratorium on the taking of any marine mammal. "Taking" actions include harassing, hunting, capturing, or killing marine mammals.

Recent federal appellate court interpretations of the breadth of the taking moratorium vary, with the Ninth Circuit holding that a tuna fisherman may fire a rifle into the water to deter porpoises from eating catch or bait off his lines without committing a criminal violation of the act (United States v. Hayashi), and the Fifth Circuit holding that tour boats which feed wild bottlenosed dolphins illegally "take" them by disturbing their normal behavior (Strong v. United States). A 1994 amendment now defines taking by "harassment" as "disruption of behavioral patterns, including . . . feeding . . ." (16 U.S.C. § 1362(18)(A)).

The act includes several exceptions to the taking moratorium. In addition to those related to commercial fisheries discussed below, exceptions can be made by permit for scientific research,

public display, or enhancing the survival or recovery of a species or stock, or to Alaskan Indians, Aleuts, or Eskimos for subsistence purposes or for creating and selling native craftworks.

A 1988 amendment requires status reviews of marine mammal stocks designated as depleted and the creation of conservation plans designed to restore species or stocks to their optimum sustainable population (16 U.S.C. § 1383(b)).

D. Marine Mammal Takings Relevant to Salmon Recovery

Congress recognized conflicts between fishing and marine mammal protection in the original MMPA. Section 102 of the original and current act prohibits persons engaged in commercial fisheries from using "any means or methods of fishing in contravention of any regulations or limitations, issued by the Secretary for that fishery to achieve the purposes of this Act" (16 U.S.C. § 1372(a)(5)). Detailed conditions on incidental marine mammal takings by commercial fishermen engaged in particular fisheries are established pursuant to subsequent sections.

While scientific studies indicate that salmon and steelhead make up only a small part of the seal and sea lion diet, the incidental takings provisions of the MMPA are being examined with regard to ESA-listed salmon and other weak salmon runs and the growing populations of several species of pinnipeds from California to Washington. According to several fishermen, sea lions off the Oregon coast routinely take spring chinook from commercial nets, and growing herds at the mouths of northwestern rivers feed on the fish during their seasonal migrations (Seals 1994). In the spirit of the Ninth Circuit decision mentioned above, a 1994 MMPA amendment exempts from the taking moratorium nonlethal measures taken by commercial and recreational fishermen to deter marine mammals from damaging their catch or gear (16 U.S.C. § 1371(a)(4)). Otherwise, the act's new definition of prohibited "harassment" as "any act of pursuit, torment, or annoyance" which has the potential to "injure" or "disturb" would seem to prohibit such conduct (16 U.S.C. § 1362(18)(A)).

Specific groups of pinnipeds feeding at fish ladders also have been a problem. For example, at the Ballard locks in Seattle, Washington, sea lions gather annually beneath the locks and consume more than half of the winter steelhead run, despite NMFS-sanctioned "harassment" measures, which have included relocating the sea lions, shooting them with rubber-tipped arrows, setting of underwater explosives, and projecting the amplified calls of predator Orca ("killer") whales into the water (Seals 1994). This particular conflict has led to a 1994 MMPA amendment which authorizes the Secretary of Commerce to allow federal or state agencies or their contractors to intentionally "lethally remove" individual nuisance animals from any marine mammal species or stock that is not designated as depleted or strategic under the MMPA or listed as threatened or endangered under the ESA (Pub. L. No. 103-238, § 23). The same section requires the Secretary (aided by the Pacific States Marine Fisheries Commission) to investigate whether California sea lions and Pacific harbor seals are adversely affecting the recovery of weak salmon stocks and authorizes the Secretary to study more generally the interactions between pinnipeds and anadromous fish.

Another 1994 MMPA amendment adds a new section to the act providing that the MMPA is not intended to alter Indian treaties (Pub. L. No. 103-238, § 14(1)).

E. Integration of ESA/MFCMA/MMPA Resource Management

Salmon recovery involves several real-world interactions governed by the ESA, MFCMA, and MMPA that currently are not adequately addressed under these statutory schemes. What

alternatives for integrating living resource management under the MMPA, ESA, and MFCMA are workable and politically feasible? Several regional fishery management councils now routinely prepare multispecies fisheries management plans (FMPs). One can consider the Pacific Fishery Management Council's multispecies groundfish plan as a model under the existing MFCMA framework: It covers multiple species of groundfish, acknowledges and tries to deal with overfishing and overcapitalization through a limited entry scheme; deals with problems of salmon bycatch in a proposed amendment; and explicitly acknowledges the Council's responsibilities to comply with the MMPA, ESA, and the federal Coastal Zone Management Act's federal consistency provision.

With adequate budget and personnel, the preparation of ecosystem plans by some of the more capable councils would seem to be feasible. Such plans would be an extension of the councils' own proposals as part of the MFCMA reauthorization process that FMPs be required to designate habitat essential to achieving optimum yield of a species or species complex, which in turn is said to be similar to a NMFS staff draft proposal. To support more sophisticated planning, the councils and some segments of the fishing industry support amending the MFCMA to allow the councils to collect fees to help pay the costs of management.

Separately from the MFCMA, NMFS is proceeding to integrate some of its roles under the MMPA and ESA through, for example, its October 1992 combined guidelines covering both ESA section 4 recovery plans and MMPA section 115 conservation plans for depleted marine mammals. Are these NMFS combined recovery planning guidelines for ESA-listed species and depleted marine mammals, multispecies ecosystem plans prepared by the MFCMA councils, and the councils' proposed habitat amendments to the MFCMA adequate responses to the general need for more holistic approaches in U.S. living marine resources management? to U.S. fulfillment of its international biodiversity commitments? to the specific recovery needs of ESA-listed salmon that are directly harvested by both treaty and nontreaty fishermen, incidentally harvested on the high seas and in the U.S. EEZ by foreign fishermen and domestic fishermen targeting nonsalmon species as well as other salmon species not listed under the ESA, and prey for several marine mammal species? Probably not, but their implementation would be a definite improvement over the current situation.

V. Conclusion: Legal Linkage for Integrated River Basin and Coastal Ocean Resources Management in the Pacific Northwest

Several legal paths toward salmon recovery have been identified in this memo. Obviously NMFS has a key role to play in implementing the recovery plan developed under the ESA. Management of many significant activities affecting salmon recovery could be accomplished through the promulgation of protective regulations under ESA section 4(d). The design of such regulations would obviously be a complex and sophisticated task requiring input to NMFS, as the "salmon czar," from the multiple resource users in the region whose activities affect salmon recovery, and from the Northwest Power Planning Council, relevant federal, regional, and state agencies, Indian tribes, and other interested parties.

Those same entities and interest groups with standing under the ESA's citizen suit provision also can support salmon recovery through rigorous enforcement of ESA section 9's takings prohibition, which applies to both private and public sector takings of the listed species. Regional and state agencies, Indian tribes, and interest groups also can play a key role by actively monitoring federal agency compliance with ESA section 7 and challenging federal actions which they have reason to believe would jeopardize the continued existence of ESA-listed salmon species or adversely modify their critical habitat (*Idaho Sportmen's Coalition, Inc. v. U.S. Forest Service*).

Treaty tribes whose subsistence and cultural takes of salmon are reduced may seek specific remedies from the federal courts against actions that significantly impede their exercise of treaty fishing rights, especially actions that favor nontreaty over treaty harvest. Tribal direct harvest of listed species does not aid their recovery. However, meaningfully honoring treaty commitments that also involve tribal harvest of unlisted species may provide habitat protection and other benefits to both listed and unlisted species.

With respect to habitat degradation, the Pacific Fishery Management Council can play an important recovery role by fully complying with its obligations under the MFCMA to comment on state and federal activities adversely affecting salmon habitat and receive a response from any federal agencies involved specifying the mitigation measures being considered (16 U.S.C. § 1852(i); 50 C.F.R. § 602.11(c)(7)(iii)), and to assess the effects of salmon habitat changes in its salmon fishery management plans (16 U.S.C. § 1853(a)(7)).

While several of these legal paths technically are limited to the recovery of ESA-listed species, actions supporting recovery of those species would likely benefit other Columbia and Snake River salmon species as well. Remaining to be investigated and mitigated are the potential adverse impacts on nonsalmon species of some actions taken in support of salmon recovery.

Alternatively, Congress could by special statute approve all or parts of the NPPC's Strategy for Salmon, NMFS' Snake River Salmon Recovery Plan, or other relevant proposals as meeting applicable requirements of the ESA and other federal legislation relevant to salmon recovery. For example, in 1988 Congress enacted the Arizona-Idaho Conservation Act to try and resolve a much more site-specific dispute over ESA compliance and impacts on tribal cultural resources in the construction and operation of the Mt. Graham, Arizona, observatory. The Ninth Circuit Court of Appeals recently upheld the act's constitutionality and its project-specific approval of the observatory as meeting applicable federal legal requirements (*Apache Survival Coalition v. United States*). The court relied on the U.S. Supreme Court's approval of a similar act approving the legal adequacy of certain national forest management decisions in the Pacific Northwest (*Robertson v. Seattle Audubon Soc'y*).

However, such specific Congressional fixes for broader regional resource management issues such as salmon recovery may not be feasible or appropriate. The geographic, jurisdictional, and chronological breadth of the issues involved in salmon recovery suggests the need for major policy, legal, and institutional change in the direction of more integrated management in support of sustainable use of the resource base. At that level, Congressional fixes take the form of integrating living resource management under the MFCMA, MMPA, and ESA. Meanwhile, the steps already taken toward salmon recovery reviewed in this memo, although perhaps not sufficient to save the ESA-listed Snake River salmon species, provide legal linkage for integrated management in support of more sustainable river basin and coastal ocean resource use in the Pacific Northwest.

REFERENCES AND BIBLIOGRAPHY

49 Fed. Reg. 38906 (Oct. 1, 1984); 50 C.F.R. § 424.19.

55 Fed. Reg. 46515 (Nov. 5, 1990).

56 Fed. Reg. 51684 (Oct. 15, 1991).

56 Fed. Reg. 58619 (Nov. 20, 1991).

57 Fed. Reg. 14653 (Apr. 22, 1992).

57 Fed. Reg. 53097 (Nov. 6, 1992).

57 Fed. Reg. 57071 (Dec. 2, 1992); 50 C.F.R. § 226.12.

57 Fed. Reg. 59832 (Nov. 1992).

58 Fed. Reg. 16369 (Mar. 26, 1993); 50 C.F.R. § 227.

58 Fed. Reg. 68543 (Dec. 28, 1993).

Alkire, Carolyn. 1993. Wild salmon as natural capital: Accounting for sustainable use. The Living Landscape, vol. 1. Washington D.C.: Wilderness Society.

American Factory Trawler Ass'n v. Knauss, No. C92-870R (W.D. Wash. July 24, 1992).

Apache Survival Coalition v. United States, 1994 WL 115207 (9th Cir. Apr. 8, 1994).

Australia. Parliament. Senate Standing Committee on Industry, Science, Technology, Transport, Communications, and Infrastructure. 1993. Fisheries reviewed. Canberra, ACT, Australia.

Berry, Helen, and R. Bruce Rettig. 1994. Who should pay for salmon recovery? Pacific Northwest Extension Publication, PNW 470. Corvallis: Oregon State University Extension Service.

Blumm, Michael C. 1987. The Northwest Power Act's institutional innovations and unfulfilled promises. Journal of Environmental Law and Litigation 2:165-175.

Bragg, John. 1993. Salmon out of sync. Pacific Fishing 14, no. 9: 26-33.

Buck, Eugene H., Amy Abel, Maria L. Kessler, and Elizabeth B. Bazan. 1991. Pacific salmon and steelhead: Potential impacts of Endangered Species Act listings. Washington, D.C.: Congressional Research Service, Library of Congress.

Carson-Truckee Water Conservancy Dist. v. Clark, 741 F.2d 257 (9th Cir. 1984), cert. denied, 470 U.S. 1083.

Cicin-Sain, Biliiana, ed. 1992. Ocean governance: A new vision. Newark: University of Delaware.

City of Klamath Falls v. Environmental Quality Comm'n, 318 Or. 532, 870 P.2d 825 (1994).

Confederated Tribes of the Yakama Indian Nation v. FERC, 747 F.2d 466 (9th Cir. 1984).

Department of Game v. Puyallup Tribe, 414 U.S. 44 (1973).

Environmental Law Institute. n.d. Using pollution control authorities to protect threatened and endangered species and reduce ecological risk. Washington, D.C.: U.S. Environmental Protection Agency.

Fong Yue Ting v. United States, 149 U.S. 698 (1893).

General Accounting Office. 1988. Endangered species: Management improvements could enhance recovery programs. Washington, D.C.

Greenpeace v. Franklin, 982 F.2d 1342 (9th Cir. 1992).

Hildreth, Richard G., Mara Brown, and Robert Shavelson. 1993. Integrated watershed management, cumulative impacts, and implementation of nonpoint source controls: Legal and policy analysis. Final report to the Oregon Water Resources Research Institute and EPA Region 10. Eugene, Or.

Houck, Oliver A. 1993. The Endangered Species Act and its implementation by the U.S. Departments of Interior and Commerce. University of Colorado Law Review 64:277-370.

Huppert, Daniel D., David L. Fluharty, and Elizabeth S. Kenney. 1992. Economic effects of management measures within the range of potential critical habitat for Snake River endangered and threatened salmon species. School of Marine Affairs, University of Washington, Seattle, Wash.

Idaho Dep't of Fish and Game v. National Marine Fisheries Serv., 1994 WL 144792 (D. Or. Mar. 28, 1994).

Idaho Sportsmen's Coalition, Inc. v. U.S. Forest Service, No. 93-0350-S-HLR (D. Idaho Feb. 17, 1994).

Jarman, M. Casey, Richard G. Hildreth, and Jamie Marsailer. Forthcoming. The MFCMA-MMPA-ESA reauthorizations: Incremental fine tuning versus holistic solutions. Ocean Yearbook 11. Chicago: University of Chicago Press.

Lone Wolf v. Hitchcock, 187 U.S. 553 (1903).

Louisiana v. Verity, 853 F.2d 322 (5th Cir. 1988).

Marine Mammal Commission. 1993. Annual report to Congress, 1992. Washington, D.C.

Morrill v. Lujan, 802 F. Supp. 424 (S.D. Ala. 1992).

National Marine Fisheries Service (NMFS). 1991. Strategic plan for the conservation and wise use of America's living marine resources. Washington, D.C.

National Marine Fisheries Service (NMFS). 1992. Proposed regime to govern interactions between marine mammals and commercial fishing operations. Silver Spring, Md.

National Marine Fisheries Service (NMFS). Office of Protected Resources. 1992. Recovery planning guidelines. Silver Spring, Md.

National Oceanic and Atmospheric Administration. 1993. 1995-2005 strategic plan. Washington, D.C.

National Wildlife Fed'n v. FERC, 801 F.2d 1505 (9th Cir. 1986).

National Wildlife Fed'n v. National Park Serv., 669 F. Supp. 384 (D. Wyo. 1987).

NEPA categorical exclusion for recovery plans. 1986. Memorandum from USFWS Director.

Nez Perce Tribe v. Idaho Power Co., 1994 WL 96501 (D. Idaho Mar. 21, 1994).

North Slope Borough v. Andrus, 642 F.2d 589 (D.C. Cir. 1980).

Northwest Power Planning Council. 1992. Strategy for salmon. Portland, Or. 2 volumes.

Northwest Power Planning Council. 1993. Columbia River Basin Fish and Wildlife Program. Portland, Or.

O'Connor, Clive, and Margaret O'Connor. 1994. Mabo and the Law of the Sea Convention: State and national implications in the changing position of Australia as an international maritime state. Maritime Studies, Jan.-Feb., 1.

Oregon Natural Resources Council v. Bureau of Reclamation, 1993 U.S. Dist. LEXIS 7418 (D. Or. Apr. 5, 1993).

Oregon Water Resources Research Institute. 1994. The salmon FAQ (frequently asked questions) sheet. Corvallis, Or.

Organized Fishermen of Florida v. Watt, 590 F. Supp. 805, aff'd, 775 F.2d 1544, cert. denied, 476 U.S. 1169 (1984).

Pacific Northwest Electric Power Planning and Conservation Act, Pub. L. No. 96-501, 94 Stat. 2697 (1980) (codified at 16 U.S.C. §§ 839-839h).

Pacific Northwest Generating Coop. v. Brown, 822 F. Supp. 1479 (1993).

Paddock, Richard. 1994. Limits aim to enhance salmon run. Eugene Register-Guard, Apr. 9, A1, 6A.

Palila v. Hawaii Dep't of Land and Natural Resources, 852 F.2d 1106 (9th Cir. 1988).

PUD No. 1 of Jefferson County v. Washington Dep't of Ecology, 849 P.2d 646 (Wash. 1993), aff'd, 1994 WL 223821 (U.S. Wash. May 31, 1994).

Puyallup Tribe, Inc. v. Department of Game, 433 U.S. 165 (1977).

- Puyallup Tribe v. Department of Game, 391 U.S. 392 (1968).
- Pyramid Lake Tribe v. Morton, 354 F. Supp. 252 (D.D.C. 1973).
- Riverside Irrigation Dist. v. Andrews, 758 F.2d 508 (10th Cir. 1985).
- Robertson v. Seattle Audubon Soc'y, 112 S. Ct. 1407 (1992).
- Rohlf, Daniel J. 1989. The Endangered Species Act: A guide to its protections and implementation. Stanford, Calif.: Stanford Environmental Law Society.
- Ruff, James D., and John F. Fazio. 1993. Hydropower costs of Columbia River salmon recovery. Northwest Power Planning Council, Portland, Or. Photocopy.
- Sanders, Allen H. 1983. The Northwest Power Act and reserved tribal rights. Washington Law Review 58:357-386.
- Seals irk fishermen, residents of condos. 1994. Eugene Register-Guard, Apr. 12, C2.
- Seuffert Bros. v. United States, 249 U.S. 194 (1919).
- Sierra Club v. Lujan, 1993 WL 151353 (W.D. Tex. Feb. 1, 1993), appeal dismissed, Sierra Club v. Babbitt, 995 F.2d 571 (1993).
- Strong v. United States, 5 F.3d 905 (5th Cir. 1993).
- Sweet Home Chapter of Communities for a Greater Oregon v. Babbitt, 17 F.3d 1463 (D.C. Cir. 1994).
- Tear, Timothy H., J. Michael Scott, Patricia H. Hayward, and Brad Griffith. 1993. Status and prospects for success of the Endangered Species Act: A look at recovery plans. Science 262:976-977.
- Tennessee Valley Auth. v. Hill, 437 U.S. 153 (1978).
- Tulee v. Washington, 315 U.S. 681 (1942).
- U.S. Dept. of the Interior. Fish and Wildlife Service. 1990. Policy and guidelines for planning and coordinating recovery of endangered and threatened species. Washington, D.C.
- U.S. Senate Committee on Commerce, Science, and Transportation. 1994. Marine Mammal Protection Act Amendments of 1993: Report on S. 1636. 103d Cong., 2d sess. S. Rept. 103-220.
- United States v. Billie, 667 F. Supp. 1485 (S.D. Fla. 1987).
- United States v. Bresette, 761 F. Supp. 658 (D. Minn. 1991).
- United States v. Dion, 476 U.S. 734 (1986).

United States v. Glenn-Colusa Irrigation Dist., 788 F. Supp. 1126 (E.D. Cal. 1992).
United States v. Hayashi, 5 F.3d 1278 (9th Cir. 1993).
United States v. Mitchell, 553 F.2d 996 (5th Cir. 1977).
United States v. Shoshone Tribe of Indians, 304 U.S. 111 (1938).
United States v. Winans, 198 U.S. 371 (1905).
Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658 (1979).

ABBREVIATIONS AND ACRONYMS

BPA - Bonneville Power Administration
C.F.R. - Code of Federal Regulations
ESA - Endangered Species Act
F. - Federal Case Reporter
Fed. Reg. - Federal Register
FERC - Federal Energy Regulatory Commission
F. Supp. - Federal Supplement Case Reporter
MFCMA - Magnuson Fishery Conservation and Management Act
MMPA - Marine Mammal Protection Act
NMFS - National Marine Fisheries Service
NPA - Northwest Power Act
NPPC - Northwest Power Planning Council
S. Ct. - Supreme Court Reporter of West Publishing Co.
U.S. - United States Supreme Court Reports
U.S.C. - United States Code of Statutes
USFWS - United States Fish and Wildlife Service
WL - West Law computerized case reporting system of West Publishing Co.

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