A Fine Line:

Federal Agency Decision-Making in the Development of Recovery Plans for Endangered Fish in Western Rivers

by Lea Linse, 2016-17 State of the Rockies Project Fellow

Introduction

When signing the Endangered Species Act (ESA) on December 28th, 1973, Richard Nixon optimistically declared that "this legislation provides the Federal Government with needed authority to protect an irreplaceable part of our natural heritage – threatened wildlife… Nothing is more priceless and more worthy of protection than the rich array of animal life with which our country has been blessed" (The American Presidency Project). Since then, the act has proven to be one of the United States' most influential pieces of environmental legislation, leading to the protection of over two thousand fish and wildlife species and millions of acres of these species' habitat since 1973. Yet the ESA has sparked considerable controversy, both because of its success and shortcomings. Many criticisms of the ESA result from its tendency to pit conservation against economic development and, as some claim, inappropriately inhibit consideration of economic needs (Corn et al. 2012). Others assert that in fact the ESA has not been enforced strictly enough, and call for even stronger prioritization of species over economic activities. A cornerstone of this argument is often to point out that the goal of the act is after all twofold; not only is it supposed to protect listed species, it is also supposed to bring about their recovery such that the species is self-sustaining and no longer requires protection (16 U.S.C. §3(1)). While the act has been statistically quite successful in achieving the first goal (only nine species that were previously listed have gone extinct), the act's success in terms of the second goal has been questionable. Since 1973, only twenty nine species of over two thousand have recovered enough to be delisted (ECOS). In some places, such as in the Columbia River Basin where protection of endangered salmon and steelhead has been at odds with hydroelectric power operations for decades, these two complaints about the ESA stand in direct opposition with each other. In such cases, federal agencies are left walking a fine line between interests.

This report aims to better understand federal agency decision-making under these circumstances, specifically in the development of the recently proposed Spring/Summer Chinook Salmon and Steelhead Recovery Plan for Snake River, a tributary of the Columbia River **(**see **Figure 1)**. It does not assess whether recovery of listed fish species in this or any region has been successful, or whether federal agency decisions are appropriate or in accordance with the ESA or any other legislation, rather it examines how agencies respond to opposing pressures and choose between potential species recovery strategies. This analysis utilizes a comparison of recovery planning processes in the Snake River with those in the Upper Colorado River. In this analysis, three specific political factors are shown to influence which recovery actions federal agencies choose to pursue or ignore in the recovery planning process. While federal agencies must always account for numerous factors (which may or may not include the three mentioned below) in any decision-making process, this

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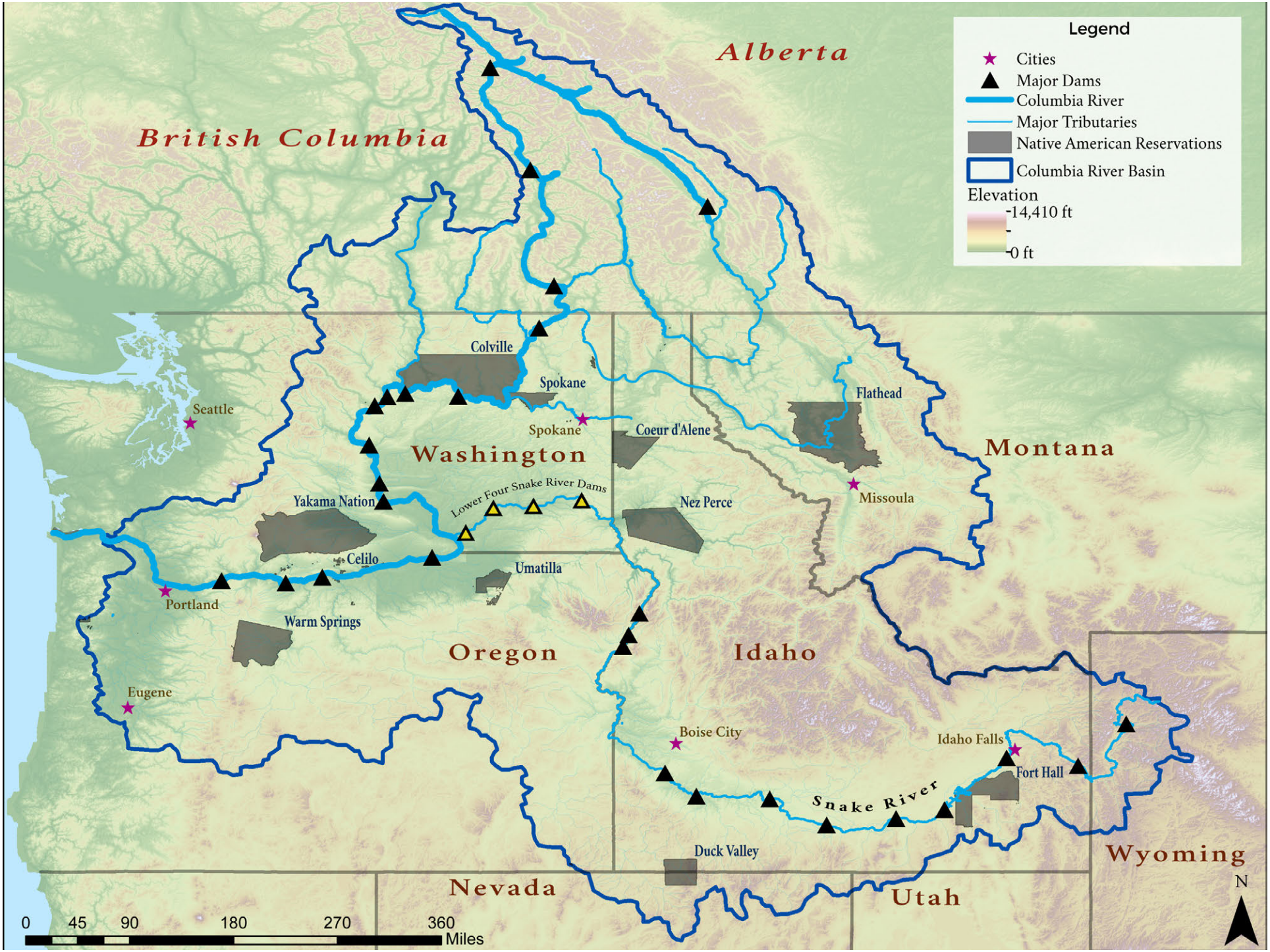
Figure 1: Map of the Columbia River Basin



The Snake River is the largest tributary of the Columbia River and drains the easternmost portion of the basin. Source: ESRI, Bureau of Indian Affairs, National Watershed Boundary Dataset, National Inventory of Dams, Canadian Department of Natural Resources, Columbia River Inter-Tribal Fish Commission, National Elevation Dataset

report focuses on these three because of the interesting role they played in the case studies examined here. These are (1), a "no surprises" agreement made between the National Marine Fisheries Service (NMFS) and dam operators in the Columbia River in exchange for their cooperation with recovery planning in the Snake River Basin, (2) similar agreements made between the Fish and Wildlife Service (FWS) in the development of the Upper Colorado Recovery Implementation Plan (RIP), and (3), the "best available science" mandate for federal agency action enforced by the Clinton Administration and the Supreme Court decision *Bennett v. Spear* (1997). This report further examines how these three elements developed throughout the 1970s-1990s, and thus how they came to be significant. Though it can't be assumed that these three factors influence agency decision-making outside of these case studies, this type of contextual analysis may be more widely applicable as a framework for understanding the power of the status quo in environmental management and thereby provide useful insight into the challenges of designing adaptive policies for a changing West.

The Endangered Species Act: An Overview

As described above, the primary purpose of the Endangered Species Act (ESA) is twofold: first, to protect listed species and their essential habitat such that the species are kept from extinction, and second, to bring about their recovery such that they no longer need to be protected under the act. The act is enforced by the Fish and Wildlife Service (FWS) under the Department of the Interior, and the National Marine Fisheries Service (NMFS) under the Department of Commerce. The FWS manages all listed species except for anadromous fishes (fish that migrate between the ocean and freshwater streams, such as salmon and steelhead), which are managed under the NMFS. The following section provides a brief overview of the act's provisions most applicable to Western river management and an introduction to their significance to recovery planning. This is not a comprehensive overview of the act or any of its sections, and is meant to serve only as background for understanding the following analysis.

Section 4 of the ESA ("Determination of endangered species and threatened species") outlines the fundamental process of listing species. Species may be listed for a variety of reasons, including "natural and manmade factors affecting its continued existence" (16 U.S.C. § 4(e)(1)). Species can either be listed as endangered (that is, its populations have become so minimal that the species is in danger of becoming extinct) or threatened (at high risk for becoming endangered). Threatened and endangered species are herein referred to collectively as "listed species." Importantly, subsection 4(f) also requires the federal government to develop recovery plans for listed species. This subsection alone carries the *recovery* part of the act's purpose. It includes information which must be incorporated into each plan, including "a description of site-specific management actions that may be necessary to achieve the plan's goal for the conservation and survival of the species" and "objective, measurable criteria which, when met, would result in a determination… that the species be removed from the list," as well as estimates of how much carrying out those actions would cost in time and money. Despite its importance to the purpose of the ESA, Section 4 recovery provisions carry little regulatory clout. Recovery plans instead are voluntary, nonbinding documents that by nature require the cooperation of all actors involved if they are to be effective (Rosemary Furfey, NMFS Regional Salmon Recovery Coordinator, personal communication, July 2017). As Patlis writes, "recovery is thus the heart and soul of the Act. It is not, however, the muscle" (1996, 57). The "muscle" of the act is contained in Section 7 and Section 9 regulatory provisions.

Often quoted, Section 7 ("Federal Agency Actions and Consultations") of the ESA requires that federal agencies "insure that any action authorized, funded, or carried out by such agency… is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat." This provision is legally binding. Section 7 also requires that federal agencies (called "action agencies," if they are the ones carrying out an action in question) "consult" with the FWS or NMFS before carrying out any action that may jeopardize an endangered species. In the consultation process, the

FWS or NMFS reviews the proposed action and issues a written "biological opinion" determining whether or not the action would jeopardize a species or "result in the adverse modification" of their habitat. If affirmative, they may also describe "reasonable and prudent alternatives" that would offset the impact of the proposed project (for example, the action agency may be able to make habitat improvements to offset the negative effect of their project on a species). While Section 7 consultations do require agencies to pay much greater attention to how their actions impact listed species, most consultation processes result in the determination of reasonable and prudent alternatives, and projects that have undergone consultation are rarely, if ever, halted due to the presence of an endangered species (Gosnell 2001; Corn et al. 2012).

Section 9 ("Prohibited acts") has proven to be one of the most far-reaching and influential pieces of the ESA. It makes it illegal for *any person*, not just federal agencies, to "take" a listed species. "Take" is defined in Section 3 as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." Like Section 7, the provisions of Section 9 are legally binding, and have been instrumental in efforts to achieve greater protection of species and their habitats, including citizen suits. Section 11(g) ("Citizen suits") allows citizens of the U.S. to bring lawsuits against "any person, including the United States and any other governmental instrumentality or agency… who is alleged to be in violation of any provision of this act." Throughout its history, the ESA has been largely enforced through citizen suits and the courts, setting it apart from many other federal laws which are enforced by government agents or officers of the law.

The following section examines how these provisions of the ESA have been applied in two case studies from two major Western river basins, focusing on how protection of listed fish in each basin has been approached by federal agencies and other stakeholders. While the requirements of the ESA may seem very definitive, in practice, there is some variation in the standards to which they are upheld, and much debate as to the degree of economic impact that is acceptable in species conservation. Federal agency officials at regional levels are often responsible for deciding how forcefully to wield the ESA against economic projects operating in listed species' habitat; these decisions are addressed with particular interest in the following cases.

Case Studies

This report examines federal agency decision-making through detailed investigation of two case studies. First, the Upper Colorado River Recovery Implementation Program and the circumstances that led to its establishment in the 1970s and 1980s are examined through literature review. Though this plan has had limited success in terms of measurable fish recovery, few have suggested that the federal government isn't doing enough to move toward that goal, and the program has instead been heralded as a success in cooperative management. This scenario is contrasted with the development of the recently proposed Spring/Summer Chinook Salmon and Steelhead Recovery Plan for the Snake River. This second case is examined through literature review as well as personal interviews with federal agencies and stakeholders.

Unlike in the Upper Colorado, a number of vocal stakeholders have demanded stronger recovery standards for decades. For instance, Native American tribes, who have long revered native salmon, have claimed that recovery standards under the ESA are the "lowest bar," and that the ESA has failed to give listed species priority over human activities (specifically, the operation of hydroelectric dams) which threaten them (Columbia River Intertribal Fish Commission, personal communication 2016). Still, federal agencies implementing the ESA in the Columbia Basin have been extremely reluctant to use the law to justify significant alterations to hydropower operations, and conflict over salmon and hydropower in the basin is ongoing.

These two case studies are very different in terms of the level of controversy surrounding ESA implementation, though the ways in which they are similar are potentially more important. In both basins, water developments such as dams and reservoirs significantly impact endangered fish populations, yet their removal or significant alteration has not been seriously considered by the FWS or NMFS in the recovery planning process. In the Columbia River Basin, this has been true historically, though there are signs that intense public pressure may have the ability to sway decision-makers to look at more progressive options. Thus, a comparison of the two basins shows the pervasiveness of

the trend described.

The Upper Colorado Recovery Implementation Program (RIP)

In the Colorado River above Lee's Ferry (known simply as the Upper Colorado River), there exist small numbers of four endangered species of fish. At best, these fish might be called "unglamorous" (Bolin 1993, 41). They are the humpback chub, bonytail minnow, Colorado pikeminnow, and razorback sucker. The humpback chub and Colorado pikeminnow were first listed under the Endangered Species Preservation Act of 1966, which was replaced by the Endangered Species Act of 1973. The bonytail minnow and razorback sucker were listed later, in 1980 and 1991, respectively. While culturally important to native tribes, all four of these species have been largely brushed aside by modern developers and water users (coloradoriverrecover.org; Bolin 1993).

As a testament to the negative reputation that these fish have developed, in 1962, prior to the ESA, they were targeted in a widespread extermination effort carried out by Utah and Wyoming fish and game departments. In an act that would be unimaginable today but was a profitable idea at the time, a plant-based poison called rotenone was released from fifty-five drip stations along the Green River and its tributaries for the sole purpose of eliminating native fish from waters that were to be stocked with the more popular sport fish, the nonnative rainbow trout (see in **Figure 2)**. Despite this harsh attempt at their removal, the subsequent damming of the river at the Flaming Gorge Reservoir proved to be even more effective at endangering the species. Today, in addition to the impacts of dams and reservoirs on stream flow and habitat quality, habitat loss and alteration from a variety of other river developments is considered one of the biggest factors endangering the river's four endangered species (Bolin 1993).

When the pikeminnow and humpback chub were formally listed under the ESA in 1973 (see **Figure 3**), it took critics no time to respond. In *Colorado River Water Conservation v. Andrus* (1979), plaintiffs (the Colorado River Water Conservation District and Southwestern

Figure 2: Razorback Sucker and Rainbow Trout

The endangered Razorback Sucker (top) isn't known for its aesthetic qualities or personality. In part because of its unpopularity among sport fishermen, who preferred the more lively and delectable rainbow trout (bottom), this species was one of the federal government's targets in its 1962 native fish removal efforts.
Source: National Park Service and South Carolina Department of Natural Resources

Figure 3: Colorado Pikeminnow and Humpback Chub

When listed as endangered in 1973, Colorado pikeminnow (top) and the humpback chub (bottom) became central to heated controversy between water users and the federal government. Even today, under the Upper Colorado RIP, these fish must compete with agricultural, municipal, and industrial water diversions for a share of the Colorado's limited water. Source: coloradoriverrecovery.org

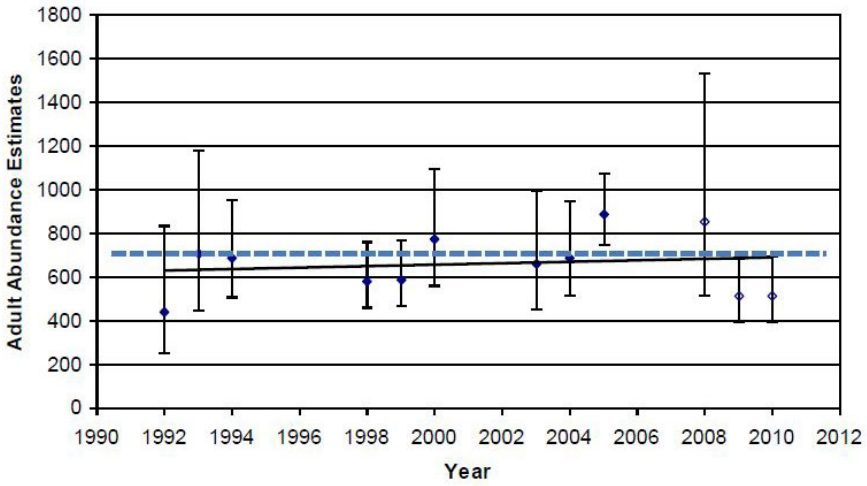
Water Conservation District) claimed that the Governor of Utah and other state officials had violated the ESA by stocking nonnative fish in the Colorado River and thereby causing injury to the species. Plaintiffs alleged that the listing of the humpback chub and Colorado pikeminnow (formerly called the Colorado River Squawfish, as it is referred to in court documents) was not appropriate, and the listing was "impeding valuable property rights owned by the plaintiff districts, delaying the construction starts on certain district projects, and in general, inflating the cost of project construction." Although the Colorado District Court dismissed the case for lack of *in personam* jurisdiction, it made an important statement about how water users of the region viewed conservation. These stakeholders saw the listing of these two economically-unimportant species an impediment to valuable economic development and an overreach of federal action into the realm of private property.

Andrus was just one component of a controversy that had been building for years between water users and the federal government over the protection of endangered species. As Wydoski and Hamill write, "the requirements of Section 7 of the Endangered Species Act had potentially serious ramifications for new water projects that were being proposed by the Bureau of Reclamation… and the operation of several existing Reclamation facilities (e.g., Flaming Gorge and Blue Mesa reservoirs)" (Wydoski and Hamil 1991). This was of great concern to Colorado River water users, many of whom had built their livelihoods on their current access to the river's overallocated waters. "Western law, tradition and politics all stress consumptive uses of water" writes scholar James Bolin Jr. "Historically, economic productivity in the west has depended on ranching, farming, and mining, which in turn depend on moving significant quantities of water out of rivers and streams" (Bolin 1994, 40).

After strong resistance to in-stream flow designations and perceived threats to water use from the ESA listings, the federal government recognized that any program to protect endangered fish would only succeed if it allowed for the continued use and development of the river by water users. It wasn't until 1984 that a lasting solution was finally achieved in the form of the Upper Colorado River Basin Recovery Implementation Program (RIP). This program provided a reasonable and prudent alternative under Section 7 of the ESA in which water developers make a one-time monetary payment for each acre-foot of water removed annually from the river. These funds aided recovery projects by the FWS such as habitat improvements, hatchery operations, and scientific research (Bolin 1993).

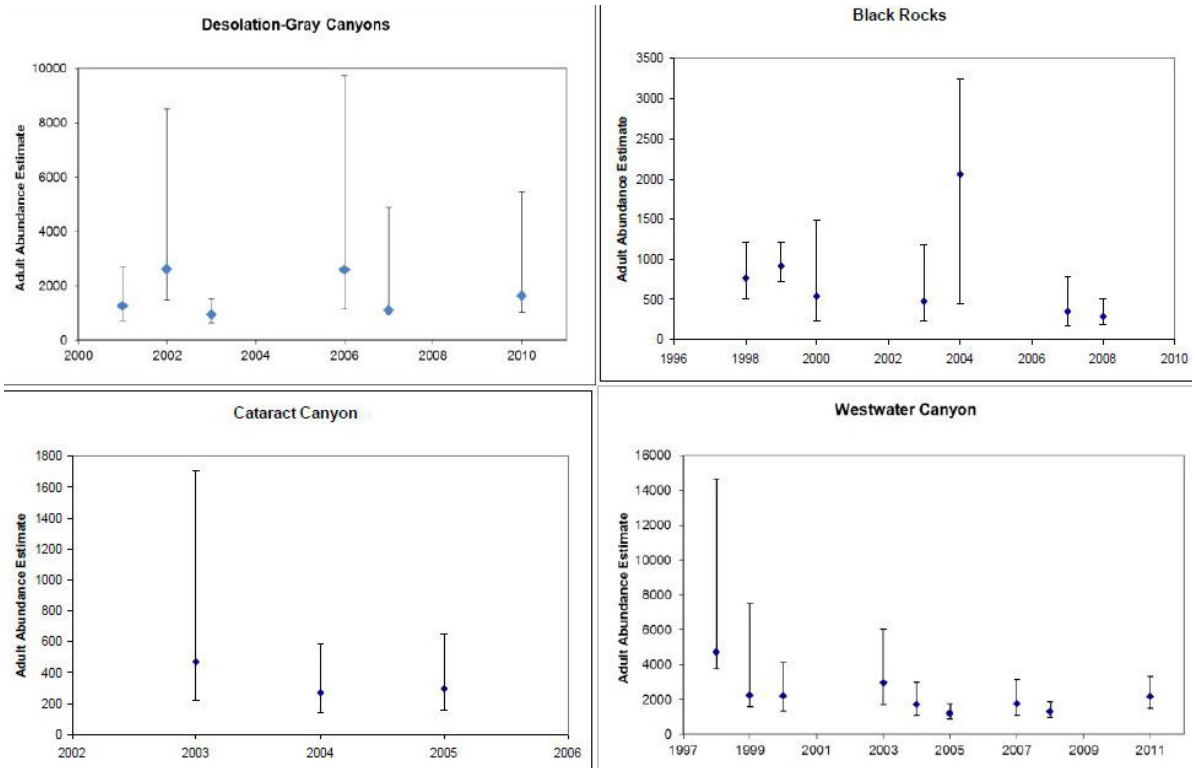
Though heralded as a cooperative success, some have doubted the effectiveness of the Upper Colorado RIP at achieving its stated goals (Ibid.). For instance, populations of all four endangered fish in the upper Colorado River remain low, though supplemented with fish stocked from hatcheries. Pikeminnow populations have increased slightly since monitoring began in the early 1990s as seen in **Figure 4**, and three separate populations of humpback chub are recognized, though none have shown a remarkable increase since 2000 as seen in **Figure 5**. As of 2012, populations of the bonytail minnow and razorback sucker were "not sufficiently numerous in the wild for population estimates," (Upper Colorado River Endangered Fish Recovery Program 2012). These fish remain threatened by habitat loss, competition with nonnative species, and dams and diversions that impede migration routes and cause

Figure 4: Population Estimates for the Colorado Pikeminnow



Adult Colorado pikeminnow population abundance estimates and trend for the Colorado River (Osmundson and Burnham 1998; Osmundson and White 2009; D. Osmundson, U.S. Fish and Wildlife Service, personal communication). Error bars represent the 95% confidence intervals. Estimates are preliminary for the last three years (2008–2010). Dashed horizontal line represents the current population size down-listing criterion.
Source: Upper Colorado Endangered Fish Recovery Program 2012

Figure 5: Population Estimates for the Humpback Chub



Adult humpback chub population estimates with confidence intervals for four populations in upper Colorado River Basin. Clockwise from upper left: Desolation-Gray Canyons (from Badame 2011, 2012); Black Rocks (from Francis and McAda 2011); Westwater Canyon (from Elverud 2011); and Cataract Canyon (from Badame 2008). Source: Upper Colorado Endangered Fish Recovery Program 2012

other types of environmental degradation.

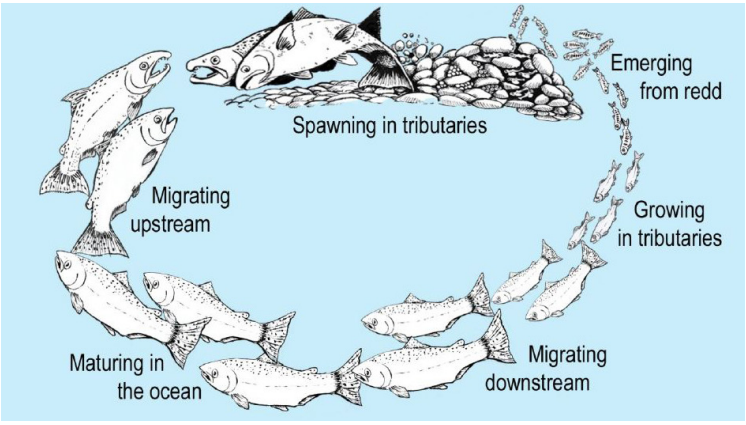
Development of the Proposed Spring/ Summer Chinook Salmon and Steelhead Recovery Plan

Threats faced by endangered fish species in the Columbia River have likewise involved water development and construction of dams, though mitigating them has proved much more controversial. The Columbia River used to host some of the world's largest runs of salmon, fish that are now listed as threatened or endangered under the ESA. Today, it hosts an impressive hydroelectric system, but as many argue, at the expense of the native fish. Because of its unique topography – wide valleys, large rivers, steep, but not too steep – the Columbia River Basin is extremely well suited for the construction of large dams capable of generating tremendous amounts of electricity (Northwest Power & Conservation Council 2008). Today, more than half of all electricity in the Pacific Northwest is generated by hydroelectric dams, which amounts to about 44% of the nation's hydropower generation as a whole in 2012, and residents of the state of Washington enjoy some of the lowest electricity prices in the country (EIA 2014; EIA 2016).

Starting in the early 1900s, salmon populations began to decline substantially, coinciding with a rise in the number of large hydroelectric dams constructed along the Columbia River and its tributaries. While habitat loss and degradation, as well as other factors, have contributed to declines in salmon populations as well, hydroelectric dams are known to have particularly significant impacts such as blocking migration routes, increasing water temperature, and contributing to pollution. Salmon are anadromous, meaning that they migrate between salty ocean waters for their adult life to lay their eggs in high freshwater streams (see **Figure 6**). This migratory pattern is essential to their survival. Newly-hatched salmon must exist in clean, cold, moving water during their first few days of life, meaning that adults must travel many miles up-stream from the ocean where they spend their lives to find a suitable place to lay their eggs (CRITFC). Because of salmon's migratory nature, hydroelectric dams, which often completely block passage up or down stream, have proven to be severely problematic for the fish.

Mitigating the impacts that hydroelectric dams have had on salmon is complicated by the fact that many of the largest dams in the Columbia basin were

Figure 6: Life Cycle of an Anadromous Fish



Each stage of a salmon's life is spent in a different environment. They begin their lives when they hatch in high mountain streams. Before leaving small tributary rivers and streams, juveniles gain their strength for the long journey to the ocean. If they survive, they reach adulthood in the ocean, migrating as far North as Alaska. As adults, they repeat their journey in reverse, returning to the headwater streams where they were hatched to spawn and lay their eggs. There, their life ends and the cycle begins again.
Source: National Marine Fishery Service

built during the 1930s and predate any legislation that sought to protect and improve salmon populations. For example, the impressive Grand Coulee Dam, the largest hydroelectric dam in the basin and one of the largest in the world, began generating electricity in 1941 (Northwest Power & Planning Council 2008). This means that they were constructed without any regard to fish passage (a requirement added much later), and that today, making these old dams fish-friendly can be expensive at best or nearly impossible. For that reason, some have pressed for removal of smaller dams in the basin, such as four dams on the Lower Snake River.

Currently, seventeen populations in the Columbia River and its tributaries (officially called "evolutionary significant units" or ESUs, or "distinct population segments," DPSs) of salmon are listed under the ESA as either endangered or threatened. Most were listed between 1993 and 2005 after their populations had already declined to dangerously low levels (NMFS 2016).

The plight of the salmon is extremely concerning to many in the Pacific Northwest because of the important role that they have played in the culture and economy of different peoples in the region. Salmon fishing was once a significant driver of economic activity, though it has been substantially limited since the introduction of the ESA. More poignant in the current debate is the cultural, spiritual, and economic importance of salmon to the many Native American tribes residing in the Columbia River Basin. Their reverence for salmon goes much deeper than the practical uses for the fish. In the words of Federal Indian Law Practitioner and scholar Bruce Didesch, tribes' fundamental spiritual and cultural connection to salmon is "stronger than you or I could imagine." It is rooted in their story of Creation:

> When the Creator was preparing to bring humans onto the earth, He called a grand council of all the animal people, plant people, and everything else… He asked each one to give a gift to the humans—a gift to help them survive, since humans were pitiful and would die without help. The first to come forward was Salmon. He gave the humans his body for food. The second to give a gift was Water. She promised to be the home to the salmon. After that, everyone else gave the humans a gift, but it was special that the first to give their gifts were Salmon and Water (CRITFC 2014).

Though many tribes have become displaced from their traditional hunting and fishing grounds along the banks of the Columbia, salmon remains a sacred food and irreplaceable part of their culture. This sentiment was unanimously echoed by tribal members in the region who were interviewed for this study. It has motivated tribes to play a very active role in the conflict between salmon and hydropower. As James Holt from the Nez Perce Tribe Water Resource Division described, the tribe's special cultural relationship with salmon puts them in a unique position to fight for their protection. Additionally, some tribes hold fishing rights in parts of the river through treaties with the U.S. government, and argue that these rights are meaningless if there aren't any fish for them to catch.[1] Rebecca Miles, Executive Director of the Nez Perce Tribe said, "the pendulum starts to swing in the history of salmon when tribes get involved" (Rebecca Miles, personal communication 2016). Tribes have been so influential in salmon protection and recovery operations that Rosemary Furfey, Regional Salmon Recovery Coordinator with the NMFS, even went so far as to say that hatcheries owned and operated by the Nez Perce tribe have kept at least one species from going extinct

[1] Prior to the listing of most of the Columbia Basin's salmon under the ESA in the early 1990s, tribes had used these rights as leverage to fight for stronger federal action to protect the fish. Unfortunately, some tribes feel that their treaty rights are in themselves fragile, and after the listing of salmon under the ESA, they have often preferred to base legal action under that legislation instead of their treaty rights (Christine Golightly, personal communication 2016).

(Rosemary Furfey, personal communication 2016).

Much of the political controversy surrounding ESA implementation in the Columbia involves claims from tribes, environmental groups, and other parties alleging that the NMFS has been too soft on hydroelectric operations and that the agency must mandate more significant changes if salmon recovery is to move forward. For example, to mitigate the impact of dams on salmon, the predominate approach taken by the NMFS has been to focus on habitat improvements, hatchery operations, and artificial transport around dams (such as using tanker trucks to move young fish past large dams, and constructing structures called fish ladders to allow fish to swim around smaller dams).

In focusing on these strategies, which are clearly intended to avoid economic impacts on hydroelectric operations, the NMFS has received a great deal of criticism. Tribes such as the Nez Perce along with environmental groups have repeatedly called on the NMFS to mandate significant changes to the hydroelectric system, such as increasing the flow of water over the dams to aid salmon migration or in some cases, removing certain dams altogether, but claim that NMFS has been avoiding taking aggressive action. For instance, Earthjustice, an environmental nonprofit active in lawsuits against the federal government, has claimed that the agency "has ignored science and its legal responsibilities under the Endangered Species Act" and has been avoiding making significant alterations to the status quo (Earthjustice 2016).

Similarly, Rebecca Miles, Executive Director of the Nez Perce Tribe (many members of which have been vocal critics of the government's efforts to protect salmon) has also accused the NMFS of siding with hydroelectric interests and avoiding mandating changes to the hydroelectric system that could reduce fish mortality and help populations recover. She has complained that the "Big Four," federal agencies (NMFS, Bureau of Reclamation, Army Corps of Engineers, and BPA) were "all in bed together," and that the NMFS's decisions regarding endangered fish management were being influenced by hydroelectric interests. What was required under the ESA shouldn't be negotiable, she argued, but the process had become a negotiation (Rebecca Miles, personal communication 2016).

In the Snake River, which is the focus of this report, this conflict takes the form of a conversation about dam removal. Unlike in other tributaries of the Columbia, there has been much discussion about the possibility of the removal of four dams on the Lower Snake River, mostly among tribes, stakeholders, and scholars. As University of Idaho Law Professor Barbara Cosens explained, the reason that the Snake River dams have received more attention is mostly because they don't produce quite as much electricity as other dams in the basin (Barbara Cosens, personal communication 2016). While other dams in the basin have similar impacts on fish, the Snake River dams may simply be easier targets for removal. The case for their removal is strengthened by the suggestion of some scientists that recovery of salmon in the Snake River is not feasible without the removal of those dams (Robert Anderson, personal communication 2016; James Holt, personal communication 2016). Nonetheless, there are significant political barriers that have prevented the federal government from even seriously discussing dam removal as an option, and earlier attempts to place blame on dams in recovery plans have sparked outcry from water users that led to revision of the plan (Rosemary Furfey, personal communication 2016). Thus, in development of the 2016 Snake River plan, dam removal has been touched on only very lightly.

The current state of these events in the Columbia River may seem to cast the NMFS in a bad light from a conservation standpoint, but as this report shows, there is more to the agency's reasoning than simply favoring economic interests. Where advocates of stronger federal action often base their arguments on straightforward interpretations of how the ESA reads, federal agencies view the act as a product of a controversial history with many strings attached.

History and Evolution of the ESA

In order to understand federal agency decision-making, it is important to consider that agencies operate in a highly politicized environment, the terms of which are defined largely by the history of the statutes in play. In the

case of the Endangered Species Act, the actions of NMFS and FWS are influenced by historical developments such as interpretations of the act by the Supreme Court, and commitments made by the federal government to pacify critics of the act during contentious periods. Additionally, it is helpful to understand that such commitments were not made haphazardly or necessarily as a result of agency bias, but were rather made in response to other political trends that were lending power to certain interests, especially private property owners and those advocating for deregulation and free-market solutions to governance. Neoliberalism in particular is a trend that gained traction through the 1970s, 1980s, and 1990s and led indirectly to a number of significant modifications to the ESA through congressional amendments and Supreme Court decisions. The following section details how neoliberalism and the ESA interacted through the latter part of the 1900s, and what impact that interaction has had on federal decision-making, beginning with an event that set the ESA on a collision course with neoliberal ideals.

Many who call for greater federal action to protect and recover listed species cite the 1978 Supreme Court case where it all began, *Tennessee Valley Authority v. Hill*. While today it is often heralded as an example of the ESA's power, at the time it sparked fears that the ESA might be a significant obstacle to economic development. The case started with a lawsuit brought against the Tennessee Valley Authority about a dam that was under construction. The suit was entered on grounds that the dam would have jeopardized the last remaining population of a small fish called the snail darter (see **Figure** 7), and thereby violated the ESA. The case was complicated by the fact that the dam was already well on its way to being completed (see **Figure 8**). A District Court had previously heard the case, and ruled to allow completion of the dam on the basis that Congress could not have possibly intended the ESA to halt projects that were already mostly completed, emphasizing both that Congress had funded the project and that construction of it had begun prior to enactment of the ESA in 1973. The case was then heard by the Court of Appeals, which found that the completeness of the project should have no bearing on a decision where a project clearly jeopardizes an endangered species. Finally, after attempts to relocate the population of endangered fish were attempted and were unsuccessful, the case went to the Supreme Court (437 U.S. 153 (1978)). The driving questions became whether the dam operators (the Tennessee Valley Authority) would be taking illegal action under the ESA by completing the dam, and if the court could halt a project of such significant economic benefits as the Tellico Dam, especially considering that construction was already well underway (Ibid.; Ruhl 2012,

Figure 7: Snail Darter

Even fully grown, the Snail Darter is tiny. Partly because of the fish's miniscule appearance, the story of its protection in the face of the Tellico Dam project is one of the most frequently cited in the history of the ESA.
Source: currentsofchange.net

Figure 8: 1978 Tellico Dam Construction

When the Tellico Dam project was halted to protect the recently listed snail darter, the construction was already well underway, as shown in this image taken from around the same time as the Supreme Court was reviewing *Tennessee Valley Authority v. Hill.* Source: currentsofchange.net

497-498).

The Supreme Court ultimately ruled against completion of the dam, an opinion that simultaneously made the ESA one of the nation's most powerful environmental laws as well as one of its most controversial. Chief Justice Burger delivered the majority opinion, ruling that Section 7 of the ESA commands "all federal agencies 'to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence' of an endangered species." The Court ruled that indeed the dam would be illegal under the ESA, and that *regardless of economic losses*, the dam could not be completed (Ibid.). This statement that the ESA allowed no consideration for economic costs and benefits established the act as an "economically insensitive statute" and raised fears that the ESA had too much power over valuable economic activities (Blumm, Thorson and Smith 2008, 709). Indeed, both Chief Justice Burger as well as Justice Powell, who wrote the dissenting opinion, agreed that implementation of the ESA would have significant costs. As Burger wrote:

> "It may seem curious to some that the survival of a relatively small number of three-inch fish among all the countless millions of species extant would require the permanent halting of a virtually completed dam for which Congress has expended more than $100 million... We conclude, however, that the explicit provisions of the Endangered Species Act require precisely that result…Concededly, this view of the Act will produce results requiring the sacrifice of the anticipated benefits of the project and of many millions of dollars in public funds. But examination of the language, history, and structure of the legislation under review here indicates beyond doubt that Congress intended endangered species to be afforded the highest of priorities" (437 U.S. 135 1978, 173-4).

Though Powell argued, contrary to the majority opinion, that Congress could not have intended that such an "absurd result" be produced by the act, he recognized, similar to Burger, that "this decision casts a long shadow over the operation of even the most important projects, serving vital needs of society and national defense, whenever it is determined that continued operation would threaten extinction of an endangered species or its habitat" (437 U.S. 153 1978, 196).

Not directly related to the outcome of *Tennessee Valley Authority v. Hill*, the next events to raise concerns about the impact of the ESA happened as people simply began to use and more widely apply the legislation. First, the scope of the act was realized to be much wider than originally thought as the number of listed species began to grow. Some argue that the ESA initially appeared to be just a localized regulation. Though powerful, it seemed that it only applied here and there, to "one creek, one spring, one cave, one valley" (Plater 2004, 291). This changed, however, beginning with an explosion of citizen petitions to list additional species. In a period of twenty years, from 1975 to 1995, the number of listed species more than quadrupled. Necessarily, the geographic influence of the ESA also expanded as critical habitat was designated to each species pursuant to Section 4 (Ruhl 2012). The consequence, as Ruhl writes, "was to expand the ESA's reach far throughout the nation as the 'one creek' feature multiplied to such an extent that there was a potential 'one creek' problem around every corner" (Ibid.).

Around the same time that the ESA was expanding, other trends in U.S. policy were creating an inhospitable atmosphere for large scale top-down regulations of the sort that the ESA was becoming. In particular, the growth of neoliberalism was dramatically shifting how Americans thought about governance. While most often associated with *laissez-faire* and free-market economic reform, neoliberalism is not isolated only to strict economics. Many would probably agree with Grewal and Purdy who "gladly acknowledge that neoliberalism is not conceptually neat and cannot be defined by a set of necessary and sufficient conditions for its use" (Grewal and Purdy 2014). Generally, neoliberalism is associated with state restructuring involving contraction of command-and-control regulations and re-allocation of federal power to other actors in accordance with distrust of government intervention and emphasis on economic growth and strong private property rights (Harvey 2005; Igoe and Brockington 2007; Fletcher 2010; Peck and Tickell 2002). This restructuring was based, as Harvey describes, on the notion "that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills

within an institutional framework characterized by strong private property rights, free markets, and free trade" (Harvey 2005, 2).

The growth of neoliberalism closely followed, and was to some degree sparked by, the extension of federal regulation in the 1960s and 70s. Citing Harris and Milkis (1996), Wilson writes "often overlooked in the long-running debate over the ESA are the act's origins in the era of social regulation that produced the National Environmental Policy Act, Clean Air Act, Clean Water Act, and Occupational Safety and Health Act. This era of social regulation extended dramatically the scope and reach of the federal regulatory state" (Wilson 2001; Harris and Milkis 1996). This "deepening" of regulatory reform was brought about largely in response to rising inflation and unemployment in the wake of the collapse of Roosevelt's New Deal policies (Harvey 2005, 12-13). Yet the 1970s still saw many turbulent years of economic crisis, which many blamed on the interventionist, Keynesian economic policies that had prevailed since the New Deal (Peck and Tickell 2002, 388). Tensions between the "social democracy and central planning" advocates and emerging support for corporate and market freedom began to conflict, and with the unravelling of the economy the latter group was gaining influence by the mid-1970s (Harvey 2005, 13-14).

Until 1979, the Carter administration had only "shifted uneasily toward deregulation" in the wake of the 1970s economic crisis. But in October of 1979, Paul Volcker, chairman of the Federal Reserve Bank under Carter, instituted dramatic changes to current monetary policy. In a complete reversal from New Deal policies that had favored full employment, Volcker's policies attacked inflation at the expense of employment. The dramatic turnaround came to be known as the Volcker shock (Harvey 2005, 23).

Following the Volcker Shock, Ronald Regan's election in 1980 was a critical point in the history of neoliberal reform. Volcker was quickly reappointed to his old position under the new administration, and Reagan spearheaded a "campaign against big government" in an era of deregulation and reform (Harvey 2005, 25). This marked the beginning of a significant transition in the political agenda in the U.S., after which deregulation became priority. It is to this time period that the emergence of neoliberalism is usually attributed in the United States (Harvey 2005, 39; Peck and Tickell 2002, 388).

The election of President Clinton in 1994 brought another, wave of neoliberal reform. In 1996, describing the sentiments of this era, Thompson writes:

> …virtually everyone now agrees that our historical command-and-control approach is inefficient and inadequate by itself to carry us to where we still need to go. Even those who credit our prior environmental successes to this approach concede that it has been costly. As economists and a handful of legal experts have been telling us for decades, the detailed, unrefined, and inflexible rules intrinsic to a command-and-control system have often squandered our scarce societal resources to achieve marginal environmental gains. Money spent to comply with some regulatory rules could have generated far greater environmental gain if our laws had permitted industry itself to decide how best to achieve particular outcomes rather than dictating specific processes and equipment (Thompson 1996, viii).

Congress was fast to act on the TVA decision. The expansion of the ESA in terms of its impacts on private property owners and economic activities did not go unnoticed, especially since the trend of neoliberalism was growing. Congress seemed to think that a powerful act with a tendency to conflict with major economic projects wasn't what the country needed. Their first attack on the ESA's supremacy came nearly immediately after the Supreme Court issued its ruling in TVA. In the same year, both the House and the Senate moved to allow the Tellico dam project to proceed despite the Court's ruling, proposing a set of amendments that would significantly alter the ESA. Although the most extreme of these recommendations (including the removal of Section 7, which commands federal agencies to ensure that their actions no not harm listed species and requires agencies to go through a cumbersome consultation process with the Secretary of the Interior or Secretary of Commerce before executing any action which may impact listed species) were not accepted by Congress, the amendments they did introduce added some flexibility into the act as well as a

process by which projects such as the Tellico dam could apply for exemption from the ESA (Ruhl 2012).

Some of the biggest changes to the ESA came during the Clinton Administration. At this time, the ESA had generated heated debate, and was up for reauthorization by Congress in 1993.[2] It was thus a period during which the ESA was more susceptible to significant changes. Wilson describes a hostile environment in which "the new Republican majority, sympathetic to claims that the ESA hindered economic development and infringed on the rights of property owners, proposed a number of changes to the act." The most extensive plan included giving more consideration to impacts on economic activities and private property rights, providing compensation to landowners who lost money or property under the ESA, making it easier to petition for the delisting of species, and narrowing the definition of "harm" under the ESA to mean only actual physical injury to a member of a listed species (instead of causing population declines, impacting critical habitat, etc.) (Wilson 2001, 165).

While this exact proposal (the Endangered Species Conservation and Management Act of 1995) was never passed into legislation, it served as the basis for a report released a year later by the Clinton administration. It also indicated that the Clinton administration was responsive to Republicans' concerns over the ESA. The Administration sought "a fair, cooperative, and scientifically sound approach to improving the endangered species act." Such was the title of a document submitted by Secretary of the Interior Bruce Babbitt to a congressional hearing in 1995. Notably, the document states that "the Administration recognizes that implementation of the ESA should be improved by building stronger partnerships with states, local governments, private industry, and individuals; by exercising greater administrative flexibility to minimize socio-economic effects and assure fair treatment for landowners; and by reducing delay and uncertainty for States, local governments, private industry, and individuals." Clinton and Babbitt sought "win-win" outcomes for the environment and private interests in their regulatory changes, and made distinct efforts to move away from traditional command-and-control governance (Ruhl 2004). To that end, the administration outlined a package of reforms, titled "*Ten Principles for Federal Endangered Species Act Policy*." These principles included "base ESA decisions on sound and objective science" and "minimize social and economic impacts" (Bear 1996, 3). As shown later in the case study discussion, these two principles would continue to have a legacy in ESA implementation much beyond the Clinton administration.

A near cousin to this report outlining these ten principles was introduced by the Clinton Administration in 1997, and received broad bipartisan support. Titled the *Endangered Species Recovery Act*, its purpose was to reauthorize the act, and it included a mandate for timetables for recovery plans with the goal to delist more species, focused on state government involvement in recovery planning, and emphasized inclusion of cost-effective and economically sensitive recovery strategies. Nonetheless, the legislation was never passed into law, attributable to "the rushed and somewhat contentious end of the 105th Congress" (Wilson 2001, 166).[3]

With the failure of Congressional action, the Clinton Administration sought a more creative approach to ESA reform. Secretary of the Interior Bruce Babbitt was instrumental in developing these reforms. Consistent with the neoliberal outcomes that were increasingly in demand from Republicans, he aimed to give property owners a stronger voice and more security without compromising environmental protection. His solution was a rejuvenation of a provision added to the ESA in the 1982 amendments but seldom used since called Habitat Conservation Plans (HCPs) (Ruhl 2004, 430). As stated in a 1994 Department of the Interior (DOI) news release titled, "Administration's new assurance policy tells landowners: 'No Surprises' in endangered species planning," the policy was intended "to give more economic certainty to landowners involved in reconciling endangered species conservation with land use development." The policy stated that if an endangered species was found on a private landowner's property and they agreed

[2] As stated by Buck et al., "the authorization for spending under the ESA expired on October 1, 1992. The prohibitions and requirements of the ESA remain in force, even in the absence of an authorization, and funds have been appropriated to implement the administrative provisions of the ESA in each subsequent fiscal year" (2012).

[3] The ESA has remained unauthorized ever since, though its provisions remain intact. See Buck et al. 1992, 1.

to a habitat conservation plan (HCP) in compliance with the ESA, and they adhere to that plan, they "will not be subject to later demands for a larger land or financial commitment… even if the needs of the species changes" (DOI 1994).

Babbitt's actions have been praised for their innovation, but some ways in which they affected the future of the act were perhaps unintentional (Ruhl 2004). While they did afford landowners more flexibility, they extended the reach of federal authority under the ESA by expanding the number of HCPs in existence and accompanying incidental take premise. A similar expansion of federal reach had already happened once with the increase in species listed between 1978 and 1982, and with the second wave it became even less popular.

The Supreme Court as well seemed to be favoring more neoliberal outcomes, at least in many cases. As both Ruhl and Lazarus observe, in its decisions regarding the ESA and the environment more broadly after the 1970s, the Supreme Court appears increasingly hostile toward environmental causes (Ruhl 2012; Lazarus 2000). Instead of hostility toward *environmental* causes, these authors suggest that the root of the court's reasoning is more related to government and the enforcement of regulation, regardless of environmental impacts. As Lazarus writes, the Court seems to lack a distinct opinion on the environment, and does not see environmental law as being distinct in its implications from other types of court cases (Lazarus 2000, 37). Rather, "they perceive environmental law… as merely an incidental factual context, in which environmental concerns are at stake, but there is nothing uniquely environmental about the legal issues being raised" (Lazarus 2000, 706). Ruhl suggests that the court was more concerned with regulation of private property rights. When the ESA began to do just that, the Court reacted with hostility.

Lujan v. Defenders of Wildlife was the first in a series of court decisions in which the Supreme Court began to slowly but surely eviscerate the strong language and ambitious provisions set out in *Tennessee Valley Authority v. Hill* (Ruhl 2012). Thus, in Lujan, the court took its first stab at the legislation by emphasizing what is required for groups to have standing to sue under the ESA. Not unique to the ESA, plaintiffs are required to demonstrate that they have been "injured" in some way by the actions of the defendants in order for them to have legal standing to bring a lawsuit. In this case, environmental groups had challenged a rule made by the NMFS and FWS that limited the scope of the requirement for Section 7 interagency consultation under the ESA to federal actions within the U.S. only. Previously, a 1978 rule had extended the scope of Section 7 consultation to also apply to federal actions in foreign nations. Environmental groups challenged that Section 7 of the ESA should apply to federal actions anywhere, and that the 1978 rule should be reinstated. After debate in lower courts, the Supreme Court ruled that the environmental groups had failed to provide evidence of how they would be directly "injured" by the agencies' 1986 interpretation of Section 7. Environmental groups had showed concern for harm to species or ecosystems as a result of the decrease in the ESA's scope, but it was concluded that this concern did not constitute "concrete" injury *to the groups themselves* resulting from the federal agencies' decision not to apply Section 7 of the ESA internationally (Ruhl 2012, 499-500; 504 U.S. 555, 581). In short, the rest of their claims against the agencies were dismissed because the court determined that the environmental groups hadn't established their legal standing.

A major implication of this ruling had less to do with the ESA's use internationally and more to do with the future of lawsuits brought against it. In determining that agencies' decisions about how to interpret Section 7 did not cause injury to environmental groups concerned about the impacts of such decisions, the Court essentially deemed Section 7 consultation procedures as "a black box shielded from public scrutiny" (Ruhl 2012, 500). As Ruhl writes, the case solidified that "the consultation between the action-taking agency and the FWS or NMFS is not the kind of procedure in which third parties have any direct participation rights that could be injured should the agencies disregard or improperly conduct the procedure" (Ibid.).

In 1995, the court further restricted the applicability of the ESA in *Babbitt v. Sweet Home Chapter, Communities for a Great Oregon.* This case stands out because on the surface, it appeared to be a win for the environment, but in reality worked against the statute as a whole. The ruling

determined that there had to be a direct causal connection between harm to a species and an action for it to qualify as a "take" of that species. In some cases, such as habitat destruction, proving direct causality is difficult (Ruhl 2012, 501-2). For instance, while one might be able to show with population data that numbers of a species began to decline when a certain habitat disturbance occurred, that data does not necessarily prove that the habitat disturbance – and not an unrelated event – caused the population decline. As a result, it became more difficult to prove that any particular human action should be made illegal under the ESA.

The 1997 case, *Bennett v. Spear*, clearly showed that the court was becoming more hostile toward the ESA and more sensitive to private property rights. In this case, ranchers brought suit against the federal government on grounds that the FWS had failed to use the "best available science" in their decisions. This provision had never been used in court to contradict the power of the ESA, and lower courts had claimed that the ranchers did not have standing to sue against the ESA. After all, the purpose of the ESA was to protect listed species against human activities that harmed them, and it seemed counterproductive to allow perpetrators of those activities to claim injury and sue the federal government. Thus, prior to this case, standing had not been extended to include parties representing economic interests that may be harmed by carrying out the act. The Supreme Court, though, showing clear bias toward the protection of private property rights and economic activities, reversed. They thereby expanded the notion of standing to encompass "any person," including economic interests harmed by the act, had standing to sue. In addition, the Court also confronted the scope of the legislation directly by strictly enforcing the "best available science" mandate "to ensure that ESA not be implemented haphazardly, on the basis of speculation…to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives" (520 U.S. 154 1997, 177-8). This unanimous court opinion was a clear departure from the sentiments of *TVA v. Hill* and the "at any cost" concept of species protection (Ruhl 2012, 504).

In both this case and in the previous ruling in *Lujan v. Defenders*, the Supreme Court used the issue of standing to restrain the ESA, but in different ways. In *Lujan v. Defenders*, the court made it more difficult for environmental groups to prove standing with regard to Section 7 consultation, thereby limiting their ability to attack agencies' application of the ESA and demand more stringent application of the act. In contrast, in *Bennett v. Spear,* the court used standing to open the ESA to attack from those who favored economic growth and private property rights over strong federal species protections. Furthermore, though the "best available science" mandate was nothing new in the ESA, *Bennett v. Spear* gave it power. The terminology actually dates back to the 1982 Congressional amendments (Corn et al. 2012, 17-18). The "best available science" mandate also comes up in the designation of critical habitat (though economic considerations are allowed here), and especially in the consultation process. In the consultation process, everything must be scientifically supported (Corn et al. 2012, 22-24). If an agency fails to do so, they may be susceptible to litigation, often in the form of citizen suits, which have been important to ESA implementation (Ruhl 2012, 496).

Fully a decade after *Bennett v. Spear*, the Supreme Court again took up the ESA in the 2007 case *National Association of Homebuilders v. Defenders of Wildlife*. The most significant outcome of this case was the ruling that the ESA applies only to discretionary agency actions, marking a full turnaround since the ruling in *TVA v. Hill,* in which the court so famously upheld the strictly applied to *all* federal actions (Ruhl 2012, 505). Discretionary actions, while not explicitly defined in the ESA, are distinguished from nondiscretionary actions, which are actions which agencies are specifically directed to carry out under a separate statute (Davison 2006, 31).

As these cases showed, *TVA v. Hill*, rather than setting a new precedent, turned out to be an outlier in Supreme Court decision-making which instead leaned considerably toward deregulation and weakening of centralized laws (Court 2003, 29-31). Plater observed that the surprising victory of TVA is likely because the ESA was viewed differently at the time than other major environmental legislation passes in the 1970s. The Clean Air Act and Clean Water Act, for example, were distinctly command-

and-control regimes, marked by broad geographic scope and heavy government regulation and requirements imposed on private land owners and developers. The ESA, on the other hand, seemed to apply primarily to federal actions instead of private landowners, and instead of blanketing the entire geography of the nation with mandates, it could only be applied to the immediate critical habitat in which endangered species were found (the "one creek" idea). Furthermore, its implementation relied heavily on public action in the form of citizen suits, lawsuits against the government by private citizens, instead of the government imposing unwanted control over its subjects (Plater 2004, 290-291). Only after the ESA's transition to a much more expansive piece of legislation did the court begin to take a more unfavorable stance.

Understanding NMFS and FWS Decision-Making

Given the contentious history of the ESA as described above, from the perspective of the federal government, taking direct action against large-scale water development projects is not so straightforward as critics would make it sound. As the primary decision-makers in many ESA conflicts, the NMFS and FWS more than any other parties must be keenly aware of the political context of their actions. Specifically, the history of ESA implementation since the rise of neoliberalism in the federal government and Supreme Court decisions has set a precedent for prioritization of economic growth and private property rights over conservation. The result of this history has been to limit the power of the federal government with regard to what it can ask or demand of other agencies and stakeholders with regards to recovery planning.

In the Upper Colorado River, this should be immediately clear considering the stated purpose of the Upper Colorado River RIP. As stated on the program's website, "The Recovery Program is a unique partnership of local, state, and federal agencies, water and power interests, and environmental groups working to recover endangered fish in the Upper Colorado River Basin while water development proceeds" (coloradoriverrecovery.org). Its stated purpose is in practice as much to allow the continuation of water development as it is to ensure compliance with the ESA. This is quite similar to the explicit "no surprises" policy studied more in-depth below as part of the development of the proposed Snake River Spring/Summer Chinook Salmon and Steelhead Recovery Plan.

The "No Surprises" Policy and "Best Available Science" Criterion in Snake River Salmon Recovery Planning

As mentioned above, recovery planning under the ESA is a non-regulatory, but nonetheless important tenet of achieving the ESA's goal of recovering species such that they no longer need federal protection. Like other aspects of the ESA, recovery planning also has the ability to become very controversial. Because of the volatile nature of the ESA, the NMFS in the Snake River Basin has been very careful to develop its recovery plans in such a way as to minimize the likelihood of conflict and litigation. The following discussion of the "no surprises" policy and "best available science" standard show two ways in which the NMFS has sought to accomplish this. Both clearly reflect neoliberal philosophy in that they both, directly or otherwise, result in the prioritization of economic interests over drastic action to conserve and recover endangered species.

The "no surprises" policy has become the standard for communication between the NMFS and other agencies in the course of developing recovery plans for listed species of fish in the Snake River. It means that NMFS will not include anything in their final recovery documents that has not been internally reviewed by the agencies involved (Rosemary Furfey, personal communication 2016). This policy actually dates back to the Clinton administration's ESA reforms, though originally it does not appear that it was intended to apply to communication between agencies. Instead, Secretary of the Interior Babbitt's HCP initiative used the language to describe assurances to private landowners. This was a significant element of Clinton's neoliberal reforms which focused on giving private property owners and economic interests more consideration under the ESA. Today, this remnant of earlier neoliberal reforms still serves the purpose of allowing those who would have to alter their economic activities under the ESA more certainty that they will not

be asked to do anything beyond actions they agreed upon. The only difference is that, instead of private landowners, it is now federal agencies benefitting from this policy. Thus, so long as the Bureau of Reclamation, Army Corps of Engineers, and Bonneville Power Association are allowed to review and comment on recovery plans before they are released and agreed upon, recommendations such as dam removal or significant, profit-reducing alterations to the hydroelectric system likely will not be found in the final reports. The "no surprises" policy therefore works to perpetuate a neoliberal power structure which gives economic interests power over regulatory agencies, and prevents the NMFS from moving in new directions when old strategies are shown to be ineffective. It was an impasse such as this which prompted a recent lawsuit against the federal government over the impact of the Federal Columbia River Power System on endangered salmon.[4] In his ruling against the NMFS, an Oregon District Court judge concluded that "federal agencies have… continued to focus essentially on the same approach to saving the listed species – hydro-mitigation efforts that minimize the effect on hydropower generation operations with a predominant focus on habitat restoration. These efforts have already cost billions of dollars, yet they are failing" (*National Wildlife Federation v. National Marine Fisheries Service* 2016). In short, the NMFS had failed to fix existing problems and consider new solutions, a trend consistent with the impasse created by the neoliberal "no surprises" policy.

Additionally, NMFS faces pressure to be certain that their policies are in accordance with the "best available science," a mandate which has shielded economic interests from the ESA at least to some degree. As University of Idaho Law Professor Barbara Cosens explained, agencies must always be aware of the possibility to be challenged on their science. They may just as easily be challenged for doing too much for salmon as not doing enough, so they must ensure that without question, their decisions can be backed up by science (Barbara Cosens, personal communication 2016). The best available science mandate also dates back to Clinton's neoliberal ESA reforms, it was the first of the administration's "Ten Principles for Federal Endangered Species Act Policy." It was also strictly enforced in *Bennett v. Spear* with the explicit intent of avoiding "needless economic dislocation." This economically-sensitive enforcement of the statute clearly reflects the neoliberal tendencies of Clinton's administration. Indeed, by being extremely conservative in its actions as a result of the best available science mandate, the NMFS is avoiding "economic dislocation," though advocates of stronger protections for salmon would likely say that impacts to hydroelectric operations must be accepted in order to achieve meaningful recovery.

The impacts of these practices are clearly shown in the content of the 2016 recovery plan, and especially in what content it does not include. Specifically, it barely touches on dam removal as a possible recovery action, and both the "no surprises" policy and the best available science requirement contribute to the agency's reluctance to breach this topic. As described earlier, the "no surprises" policy has made it difficult for the NMFS to publish any plan that contains recommended actions that the dam-operating agencies involved do not like. This certainly includes dam removal. Also, the agency would not suggest such a controversial action, such as dam removal, without concrete science supporting their decision. The problem is, as discussed earlier, that in a complex ecosystem, it is very difficult to prove what impact any given action will have on salmon populations (Barbara Cosens, personal communication 2016). Similarly, it is difficult to prove that dam removal is the only option which would successfully lead to recovery, and because of their "no surprises" policy working with other agencies, the NMFS can be assured that they would not be able to publish a plan that recommended dam removal when there are still other more palatable options on the table.

Despite its limitations, the 2016 plan has actually been described as being more progressive than other recovery plans developed earlier for other populations of fish in the Columbia River (Rosemary Furfey, personal communication 2016). First, the Snake River plan focuses largely on an adaptive management strategy, and identifies

[4] This lawsuit was the latest in a series of lawsuits brought against the NMFS and other federal agencies in the Oregon District Court over the operation of the Federal Columbia River Power System. While this paper does not discuss the details or significance of these cases, they clearly show the reluctance of the NMFS to mandate significant changes to hydropower systems. For more information, see "The Role of the Judge in ESA Implementation: District Judge James Redden and the Columbia Basin Salmon Saga," Blumm & Paulsen (2013).

a number of key uncertainties such as potential impacts of climate change and current gaps in the agency's scientific understanding of salmon's interaction with the hydropower system (NMFS 2016, 160-162). One section in particular within the adaptive management strategy represents a small, hesitant move on the part of NMFS to reach beyond their historical impasse with hydroelectric interests and implement more drastic recovery actions. Section 6.4 of the report, titled "Potential Future Actions," states that "we believe that the site-specific recovery actions recommended in this Plan, combined with actions already completed, will result in *progress toward* recovering species. However, these actions alone are *unlikely to achieve recovery*" (NMFS 2016, 185-6, emphasis added). This line is quite important to understanding the recovery planning scenario in the Snake River. It reveals that the NMFS is aware of the fact that they are being economically sensitive in their recovery planning, especially because the plan fails to include some potential recovery actions, such as the breaching of dams in the Lower Snake River. It also represents a conscious effort to move beyond the existing power structure and attempt to take more progressive action. For instance, table 6-8 in the report outlines "potential future actions," including a category titled "improve mainstem Snake and Columbia River hydropower programs, operations, and effects." While this section does not specifically address dam removal as a potential future action (instead, it focuses on reducing water temperature and pollution problems associated with reservoirs, improving fish passage around existing dams, and implementing research programs), the table does make brief mention of dam removal (NMFS 2016, 185-187). This table, which does not appear to have been created by the NMFS but instead by Beechie et al., summarizes "habitat restoration types and their ability to ameliorate climate change effects," includes a category called "longitudinal connectivity" or (in parenthesis), "barrier removal." This category includes "removal or breaching of dams," an action which Beechie et al. find "ameliorates temperature increase," "ameliorates base flow decrease," and "increases salmon resilience" (Beechie et al. 2013; NMFS 2016, 185). In short, what this table says is that indeed (as tribes and others have been saying for years) is that dam removal would seem to be beneficial to salmon recovery. It is significant in this report because it indicates that perhaps, dam removal could be part of the NMFS's adaptive management strategy.

Many interviewees for this project expressed exasperation when asked about a possible solution to the impasse between salmon and hydroelectric power. A common sentiment was that no good solution existed, and that the conflict would continue indefinitely. What salmon recovery planning in the Snake River shows, though, is that, while the impasse between the NMFS and hydroelectric operations is perpetuated by practices that originated decades ago through neoliberal reforms to the ESA, there are signs, however small, that it will not last indefinitely.

Conclusion

The relationship between the ESA and the rise of neoliberalism has largely lead to a decline in the scope of the act and agencies' ability to take drastic measures to restore species' populations. From the height of the act's scope at *Tennessee Valley Authority v. Hill*, the legislation has been altered and influenced to embrace neoliberal policy and deregulation. Transformed by presidential administrations and congressional actions, and affected by Supreme Court decisions, the law's reach has been changed in some expected ways and others that were not foreseen. The introduction of the "no surprises" policy under the Clinton Administration assuaged the concerns of private landowners and property rights advocates, but the adoption of this "no surprises" policy among federal stakeholders involved with species' recovery has had larger implications in the case studies discussed in this paper. These changes were compounded by the *Lujan* decision, in which the Supreme Court placed the Section 7 consultation process in "a black box shielded from public scrutiny" (Ruhl 2012, 500). Thus, the "no surprises" policy, originally intended for private landowners involved in HCPs, has been adopted amongst federal agencies, and cannot be challenged in court. While the use of the policy may seem benign, and aimed at inter-agency cooperation, it has required NMFS to abide by the interests of agencies deeply invested in the Federal Columbia River Power System. Thus, hydropower interests have an equal seat at the table in a conversation that should be prioritizing species' recovery. In this atmosphere, it seems difficult

for NMFS to make the unpopular decision to reconsider the relationship between imperiled anadromous fish and water infrastructure in the basin.

In the Upper Colorado River, the ESA has been considerably less controversial, largely due to lack of pressure from stakeholders to increase protections for fish. Interestingly, in this atmosphere, we see federal agencies behaving in much the same way as federal agencies in the Columbia River. A similar standard of communication as the "no surprises" policy exists between stakeholders and federal agencies through the cooperative Upper Colorado Recovery Implementation Plan, and federal agencies are limited in what sacrifices they can ask water-users to make to improve endangered fish survival. This regional comparison reveals that agencies have limited political freedom not only in the Columbia, but in the Upper Colorado as well, and likely in other regions and circumstances. Thus, it indicates that acknowledgment and analysis of such restrictions might be necessary to understand federal agency decision-making in a broad array of natural resource management scenarios. Further research could be conducted to determine whether similar patterns observed in this report occur elsewhere.

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