

# An Abstract Of The Final Report Of

Robert J. Rice for the degree of Professional Science Masters in Fisheries and Wildlife Administration, Department of Fisheries and Wildlife, presented November 14, 2019.

Title: Fishery Policy Today: Perspectives from Oregon, Washington (DC), and Saskatchewan.

Primary internship conducted at: Oregon Department of Fish and Wildlife (ODFW)  
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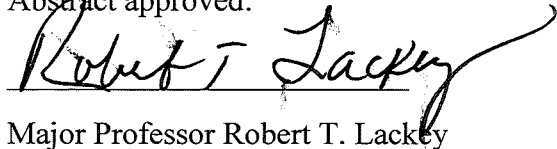
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Policy development and decision-making play a critical role in natural resource management in the Pacific Northwest. To realise my internship requirements for the Professional Science Masters in Fisheries and Wildlife Administration, I completed internships with: the Oregon Department of Fish and Wildlife (ODFW), Portland State University – National Policy Process Seminar, conducted interviews with industry and policy professionals while researching the annual costs of salmon recovery efforts in the Columbia River Basin, attended 2019 Salmon Recovery Conference, and volunteered with the Saskatchewan Ministry of Environment: Fisheries Branch. My internship included deliverables in the form of a white paper on the annual costs of salmon recovery in the Columbia River Basin, a follow-up presentation on these costs at the Oregon American Fisheries Society (AFS) meeting in Bend, Oregon, and a policy review evaluation and presentation for the Ministry of Environment. My annual cost of salmon recovery report stressed that the \$1.25 billion spent on salmon recovery efforts in the Columbia River Basin is only an estimate and based solely on my calculations of costs. Throughout my internship journey I learned many policy related lessons. Lessons learned included: Policy making is divisive, difficult, and time-consuming; policy equals funding and funding equals policy; multiple stakeholders have an impact on the policy making process and each brings their own perspective and set of issues; policy can be right/good, wrong/bad, or neither at the same time depending on your fundamental objective; everyone and every organization has an agenda, value, or belief that impacts their actions; policy development is affected by relationships and trust or the lack of between stakeholders; public opinion is important from a support and funding perspective; support and collaboration during policy development is advantageous for creating successful policy; policy that lasts is well-designed, well-supported, well-funded, and adaptive over time; and good policy analysts stay policy neutral.

Fishery Policy Today: Perspectives from Oregon,  
Washington (DC), and Saskatchewan

by  
Robert J. Rice

A Final Report

submitted to

Oregon State University

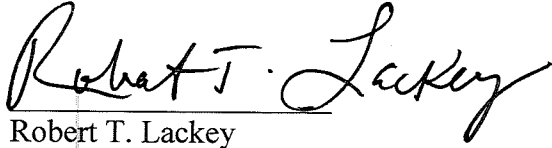
in partial fulfillment of  
the requirements for the  
degree of

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Fisheries and Wildlife Administration

Presented: November 14, 2019

Final Report of Robert J. Rice presented on November 14, 2019.

APPROVED:

A handwritten signature in black ink, reading "Robert T. Lackey". The signature is fluid and cursive, with the first name "Robert" and last name "Lackey" clearly legible. The signature is written over a horizontal line.

Robert T. Lackey

Major Professor, representing Department of Fisheries and Wildlife, Oregon State University

I understand that my final report will become part of the permanent collection of Oregon State Universities Libraries. My signature below authorizes release of my final report to any reader upon request.

A handwritten signature in black ink, reading "Robert J. Rice". The signature is fluid and cursive, with the first name "Robert" and last name "Rice" clearly legible. The signature is written over a horizontal line.

Robert J. Rice, Author

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## **Introduction**

What is policy and how does it relate to today's fishery management practices? Vig and Kraft (2016) stated that "Public policy is a course of government action or inaction in response to social problems". Policy involving management of today's fisheries includes not only governments but numerous stakeholders who have access to a suite of laws and treaties to help advocate their policy preferences. Policy no longer is simply driven by government action or inaction but at times driven by a stakeholder group or groups that focus on a single problem and work to prioritize and emphasize that issue with policy makers and decision-makers. Thus, unraveling the dynamics of a policy debate (i.e., policy analysis) is often difficult because it involves a complex web of conflicting values, advocacy, science, and legal mandates. Recognizing this, Bardach and Patashnik (2016), described policy analysis as a "social and political activity" that is "more art than science" and remains a "complex activity".

Today's fishery management concerns and practices are as divisive, controversial, and complex as at any time in the history of professional fisheries management. Major concerns regarding climate change, broad scale alteration of ecosystems, intense and increasing demands on water supplies, new technologies to understand species genetics, intensive use of oceans to satisfy human demands, and human population growth, and the associated demands for high quality lifestyles are among a suite of topics within contemporary fishery policy debates. These topics of concern are not limited to a few geographic areas but found in policy debates all over the world.

This project paper will describe the insights and lessons learned from my internship experiences with fishery policy while working towards my Professional Science Master's Degree in Fish and Wildlife Administration (PSMFWA).

## **Professional Context**

My interest in fishery policy started back in 2011 when I was a beginning Fish Biologist with the US Fish and Wildlife Service (USFWS). My assignment in this job was to manage a rainbow trout stocking program along the Colorado River in Arizona. The federal fish hatchery where I worked at raised rainbow trout and a native endangered species, the Razorback Sucker. Each week our facility would stock a few thousand 12" rainbow trout directly into the Colorado River downstream from our hatchery facility. Our stockings were often met with dozens of anglers ready to catch their limit as soon as the fish left the truck and hit the water. Occasionally, and more often in the summer months, anglers in boats would pass by trolling for large 20+ lb. introduced hybrid striped bass.

During the same summer months our facility raised upwards of 10,000 12-15" endangered Razorback Suckers. These suckers were native to the Colorado River and populations had declined with the buildings of large dams like the Hoover Dam, located 11 river miles upstream. The U.S. Bureau of Reclamation (BOR) served as the lead agency for this endangered species program that was part of the larger Lower Colorado River Multi-Species Conservation Program.

My interest in these two programs was peaked when I discovered that the trout-stocking program which provided anglers ample opportunity to catch these fish also fed the hybrid striped bass. What was most surprising from my perspective as a young biologist, was that these hybrid striped bass we fed with trout also preyed on the endangered Razorback Sucker. One day while working with a Senior US Fish and Wildlife program manager, I asked why we stocked trout when we knew that they helped to sustain a healthy striped bass population, which also preyed on the dwindling Razorback suckers? Was it not counterproductive to feed the very predators

that continue to eat the stocked endangered fish? The answer I received was “It’s complicated”. At that point, I was introduced to the reality of modern fishery management and policy. For me, it was the beginning of starting to question why and how decisions and policy were made and how those decisions ultimately played out in day-to-day management.

Based on my academic training and early technician experiences, I had always thought that fishery policy was fundamentally based on science and whatever the biological and ecological conditions deemed were “right” and the “best” for the ecosystem. This mode of thought was challenged further while working in the salmon industry in Alaska. Billions of tiny salmon were being released into the ocean each year and for what reason? I thought before moving to Alaska that large components of the releases were for species recovery programs as often happens in the lower 48. Again, I was incorrect. When I arrived in Alaska and began learning more of Alaska salmon management, my viewpoint shifted. Alaska’s hatchery system produces salmon almost exclusively for commercial and recreational fishing interests. In 2017, almost 47 million hatchery fish contributed to nearly 21% of Alaska’s commercial fishing catch valued at \$332 million (Stopha, 2018). Salmon hatcheries in Alaska were mainly used as tools to increase fishing and export opportunities for the State of Alaska.

Eight years later, as I was fully immersed in the Professional Science Masters in Fish and Wildlife Administration (PSMFWA) degree at Oregon State, I came across an interesting quote from Thomas Birkland’s Book titled *An Introduction to the Policy Process*. Birkland (2016) states, “I am sure that you...have often puzzled over why the government does some of the things it does, particularly when those things are contradictory”. I almost jumped out of my seat and screamed YES when I first read this. This was the reason I became interested in policy and management. Birkland (2016) later states, “These are questions that motivate many people of all

ideological and political persuasions to understand public problems and find solutions to them”. This quote summed up my reason for applying to the PSMFWA program and pursuing a career in fishery policy and management.

The PSMFWA degree requires an internship in lieu of a traditional Master’s Thesis project - a perfect opportunity for me to pursue my interests in policy and management. The course of my internship took me across a number of learning opportunities and experiences with policy and fishery management decision-makers. After many iterations, my internship included five related, but distinct, elements:

- Oregon Department of Fish and Wildlife (ODFW) working with the Fish Propagation staff in the Fish Division;
- National Policy Process Seminar through Portland State University;
- meeting with fishery professionals while completing an outreach project on Annual Costs of Salmon Recovery in the Columbia River Basin;
- 2019 Salmon Recovery Conference and attending and interacting with other attendees; and
- Ministry of Environment’s Fishery Branch in the Province of Saskatchewan interviewing employees.

Each internship experience brought with it different challenges and insights that will be distilled in this paper.

### **Oregon Department of Fish and Wildlife**

The first part of my internship experience was with the Oregon Department of Fish and Wildlife (ODFW), based out of ODFW Headquarters in Salem, Oregon. ODFW’s mission is to



protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations. ODFW currently employs over 1200 staff with a budget of \$370 million per biennium. ODFW plays an important role in the management and conservation of Oregon's Inland and Marine Fisheries.

The purpose of this component of my internship was to enhance my knowledge of the complexities and challenges of senior leaders within ODFW's Fish Division and learn about the relationships of the Fish Division with other elements of the Oregon Department of Fish and Wildlife and other organizations. More specifically, I shadowed senior members of Fish Division to gain a greater understanding of the larger scale issues facing ODFW. I wanted to gain a better understanding of how ODFW's policies and programs were shaped by biological, ecological, economic, social, and political factors.

I shadowed members of Fish Division throughout their normal work duties and meetings. The internship included time with all sections of Fish Division but focused primarily on Fish Propagation within Fish Division. ODFW and I agreed on this focus largely because of my experience with hatchery management. I was familiar with many of the fish programs, understood current policy issues impacting the department, and could provide feedback on many of fish division's topics.

My internship opportunity with ODFW allowed me to be a "fly-on-the-wall" during many interesting and important meetings. The first fact that stood out to me was the amount of preparation and time ODFW members put into a discussion prior to the meeting. Even the initial meetings where staff was gathering to begin talks on a subject, countless hours of research for background information had already taken place. To a new person in the room, it seemed as though there had already been a handful of prior meetings. Birkland (2016) talks about the steps

of policy process and it begins with issue emergence and agenda setting. I was most involved with these steps during my ODFW internship and learned many specific lessons about state policy and management with multiple stakeholders including the federal government.

The meetings I was involved with regarding hatchery operations, lawsuits against the U.S. Army Corps of Engineers (USACE), and other topics really put into perspective the strength of the staff and their knowledge base regarding these topics. The first meetings on issues were essentially information gathering and sharing sessions. The issues ODFW faced during my tenure that continue today, were large-scale challenges that ODFW is trying to confront sooner rather than later. ODFW's determination to be proactive rather than reactive is a key characteristic of their policy making process.

Interning with ODFW and seeing how a state agency manages fisheries was enlightening in that I never realized the scope of federal actions and the effect they had on state policy and management decisions. Federal agencies play a large role in the current management and enforcement of key fishery policies in Oregon and the Pacific Northwest. Such examples of federal management include the US Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Administration (NOAA) sharing responsibility for implementing the Endangered Species Act (ESA) and NOAA being responsible for managing marine fisheries through the Magnuson-Stevens Act.

Other examples include federal biological opinions, like the ones in the Willamette River Basin, which were part of a consultation process with the USACE, the Bonneville Power Administration (BPA), the BOR on the impact of the 13 Willamette Valley Project dams on ESA-listed species (USACE, 2019). The ESA requires action agencies, like the USACE, the BPA and the BOR seek approval from the USFWS or National Oceanographic and Atmospheric

Administration (NOAA) when they are proposing actions that could affect a listed species (USACE, 2019). The goal of a biological opinion is ensuring that the proposed policies will not jeopardize the continued survival and recovery of the listed endangered species. It is a system of checks and balances under the ESA designed to minimize or eliminate risks to a listed species and work at meeting their somewhat conflicting legal requirements.

ODFW works with action agencies like the USACE on a number of projects and receives funding from these federal agencies to assist with species management. Such topics of discussion and management regarded rainbow trout stockings, steelhead management, water quality, and habitat work. My ODFW internship enabled me to be a part of issue emergence and agenda setting meetings similar to the beginning policy process steps outlined by Birkland (2016). These meeting were mostly gatherings of background information, issue and topic history, along with current practices and concerns. ODFW's meetings initially surprised me by who attended these meetings. There were a variety of biologists, fish propagation staff, researchers, and senior decision-makers. I was surprised at first because I assumed that only policy makers and decision-makers would attend and contribute to such high-level meetings.

What I discovered and quickly learned was that the diversity of individual strengths and project experiences filled in gaps among the group. This was the first time that I truly saw how professional diversity strengthened discussion and overall policy creation. The depth of each contributing ODFW member highlighted a key part of the policy and decision-making process. Birkland (2016) talks about thinking of policy making in stages as a way to organize our thinking and understanding the most important elements of the process. ODFW from the beginning introductory meeting was organizing staff to better understand these key issues.

Each member attending added a new viewpoint but also understood other areas of concern through overlap in duties. The flow and exchange of ideas and concerns at ODFW was like watching a policy puzzle come together. Diversity of staff strengthens policy debate and development but it also adds time to the development process. The diversity of backgrounds and job responsibilities can at times draw out competing professional interests and force an agency/organization to rank policy options and prioritize some policy agendas over others.

Teamwork at ODFW in these issue emergence meetings led to successful agenda setting. Teams were able to identify key stakeholders and concerns both internally and externally to establish plans for the future. Future meetings and agenda items were quickly established to promote newer lines of assessment, research, and communication in areas of need. Relationships in ODFW and with other management agencies proved crucial in moving forward with constructive policy actions rather than regressing. Being able to communicate and understand each agencies' roles and responsibilities was instrumental in working through legal and policy grey areas.

The lesson I most learned through my time at ODFW was the importance of teamwork and collaboration in the policy development process. Before any effective action can be taken, one must understand the issue and set clear objectives but understand that multiple agencies will likely set and rank objectives differently. ODFW showed me that a professionally diverse, well-balanced staff supports strong communication and understanding of current fishery issues. As I started to see at ODFW and learned more in my next internship experience, not all parties have the same objectives in addressing a fishery management policy.

Having competing policy objectives is true not only for competing stakeholder groups but also occurs within a single organization or agency. While overlap of duties and responsibilities

among staff in different roles provides a wider area of policy coverage, it also adds complicating elements to the policy development process. Biologists and hatchery staff do not always agree on the same action regarding fishery management plans. This can also be said for lower level staff, like me as a hatchery manager, and a more senior decision-maker with the department. Further, at times not all information is available to each level of staff and therefore interests and ideas may differ due to awareness and scope of responsibilities for the agency and its mission.

### **National Policy Process Seminar – Portland State University**

The National Policy Process Seminar at Portland State University (PSU) offered an opportunity to see how national policy affected regional policy and specifically in the Pacific Northwest. The objective of the seminar was to understand how national policy is made particularly in the water resource, energy, environmental, and natural resource policy domains (PSU, 2018). The seminar was given in conjunction with the Leadership Development Program at the USACE. While the seminar focused on national policy making, emphasis was placed on two case studies (PSU, 2018):

- Exploring how decision-makers, agencies, and stakeholders in Washington D.C. view and engage with the Federal Columbia River Power System Biological Opinion, and
- Analyze and review developments related to the Columbia River Treaty between the U.S. and Canada.

The seminar met once a week over a six-week timeframe concluding with a week-long trip to Washington D.C. to meet with various stakeholders involved with the Columbia River Basin. Various speakers were brought throughout the seminar to describe their work and

organization. Additionally, Dr. Rick Mogren at PSU, a former USACE employee gave a number of lectures along with lead professor Dr. Jennifer Allen. Speakers to the seminar included the Director for the Pacific Northwest Utilities Conference Committee (PNUCC), the Government Relations Director for The Pacific Northwest Waterways Association, and a former Oregon State legislator who also served as the Policy Director for the former Mayor of Portland.

The speakers were detailed and enthusiastic about their work but all had similar messages in their talks. Each spoke of the disconnect between federal and state agencies regarding water policy in the Columbia but all described their organization and objectives as the “right” way to conduct policy. While all the speakers did a good job of communicating issues and concerns with their own organizations and agendas, there always seemed to be a concluding pitch that pushed the audience in one direction of policy over the other. For example, the utilities and transportation speakers all spoke about the importance of environmental policy in keeping waterways clean, but always seemed to finish with the need of transportation and utilities.

The idea of policy perspective came to mind when listening to each talk. All the nice sounding policy words like collaboration, process, and relationships were used but I felt though they were not completely candid. I believe that they must adhere to their agency mission and promote their organizations preferred policy outcome but it was very helpful to seeing different organizations with different competing agendas. Slowly was I starting to understand that nearly everyone has an objective in policy development and it is difficult to remove yourself from potential bias when you are employed on one side of an issue. Evaluating speakers from the perspective of their organizations policy goals and objectives is essential to not falling into their policy “pitch”. While this is not intellectually shocking, it is sobering when I observed firsthand.

Throughout all of the seminar speakers, one stood out the most and that was Dr. Rick Mogren. Dr. Mogren, a former USACE employee, made a number of perceptive statements. The first statement was that actors within an issue are drawn together by self-interest. He meant that people and organizations often work together to promote a policy action that serves their individual well-being or desired outcome. Collaboration in policymaking is potentially a useful tool to help achieve these individual policy goals. More organizations joining adds more voices, more dollars, more expertise and personnel, and more votes. Policy makers and legislators tend to pay more attention to the loudest and more politically powerful advocacy groups. In this policy context, smaller organizations are wise to join with other groups to increase their influence on an issue. Organizations may also join with other groups of similar policy objectives to promote or dissuade actions on an issue.

A second key message from Dr. Mogren was that government agencies would spend the minimum amount of money to meet the minimum requirements of regulation and policies. The example given was regarding the USACE and the Biological Opinions along the Columbia River Basin. These opinions set policy for the protection of fish and water along the Columbia and its tributaries. What Dr. Mogren stated was that the USACE's directive was not to promote fish survival practices but match the lowest limits of the requirements legally set for fish survival while minimizing lost money and "waste" water flow. Any additional water flowing over a dam that is not captured for electricity generation is an "opportunity cost" meaning that it cannot be recovered. This conflict between USACE directions and the goals of many governing fish laws, regulations, and treaties are often times at odds but also both directed by the federal government.

Dr. Mogren stressed that the hierarchy and authority of policy carries great weight when interpreting and implementing fishery policy. Often times the agency with the greater funding is

the prevailing policy director. Dr. Mogren stressed how funding and budgets are directly related to policy implementation and vice versa. A politically well-supported policy can also bring in increased funding from multiple sources. In fishery policy along the Columbia, money matters when deciding and implementing policies and directives. Many organizations, State and Federal research staff, fish hatcheries, tribal fisheries programs, consultants, university professors, are substantially funded by salmon recovery dollars and the bureaucratic viability of such organizations is dependent on how many salmon recovery dollars they can obtain.

Our time in Washington D.C. was especially eye opening for a different set of reasons. In Washington D.C. we met with a variety of stakeholders and policy staff from the Office of Management and Budget (OMB), Congressional Research Service (CRS), Congresswoman Beutler's staff, Senator Merkley's staff, Senate Appropriations, American Public Power Association (APPA), State Department and Canadian Embassy – Treaty Negotiators, Government Accountability Office (GAO), and Federal Energy Regulatory Commission (FERC). Each agency or stakeholders provided a different perspective on policy and its creation. Throughout the entire week, there was an overarching theme of discord and mistrust in Washington. Both Democrat and Republican outlets stressed the concern of broken relationships and an increase in partisanship but neither offered solutions or responsible for change.

Learning how important Washington D.C. was in setting federal policy and regulations and the importance of collaboration in policy development concerned me even more when Washington D.C. seemed so politically polarized. The most important lesson I learned in Washington D.C. was how important trust and relationships are between policy makers, their organizations, and stakeholders. A partner at one of the law firms we visited had been involved with politics since the Nixon Administration. He spoke of a time when representatives lived in



Washington D.C. and nearby areas while being neighbors with one another. These close ties built strong relationships among policy makers and served as a benchmark to begin policy process. The gentleman explained when representatives stopped living in Washington D.C. and nearby communities fulltime and began commuting back to their home state each weekend, their relationships with each other failed to develop and trust never followed. He explained in his opinion this is where partisanship grew and the two major political parties began taking fewer compromising stances on key policy issues.

Even as I write this, I am reminded of the growing partisanship in national policy ever since I can remember following politics. It was such a sharp contrast from the team environment and collaborative approaches at ODFW. Without collaboration and a willingness to work together, the policy process never really begins. The party in power drives their agenda and the other disagrees without either willing to compromise. Policy is built on collaboration and compromise while working towards common goals and objectives but this is not always supported in reality. Agencies and advocates compromise when it is in their self-assessed “best interest”. Washington D.C. was a first-hand experience of how policy development can turn difficult and benefits not equally distributed to all stakeholders but to the organizations/parties with the most political power.

### **Interviews with Stakeholders and Policy Professionals**

An additional component to my internship included correspondence with salmon recovery stakeholders and policy professionals focused on salmon recovery efforts in the Columbia River Basin. I was fortunate to conduct interviews, take phone calls, and talk with

policy influencers across a wide range of stakeholders and professions. My interviews included:

- Natural Resource Manager for Governor Kate Brown,
- Director of Washington State Recreation and Conservation Office,
- Public Affairs Specialist for Bonneville Power Administration (BPA),
- Natural Resource Economist and Director of Oregon Climate Change Research Institute at Oregon State University (OSU),
- Salmon Recovery Coordinator at National Marine Fisheries Service,
- Director for the Pacific Northwest Utilities Conference Committee (PNUCC),
- Agriculture Advisor and Fishery Scientist for the Environmental Protection Agency (EPA),
- Directors and Analysts for NGO's on Water Rights to Native Salmon, and
- the Policy Adviser and Chief Information Officer for the Northwest Power and Conservation Council (NPCC).

One of the key messages I learned from my confidential and candid conversations with these individuals and others is that discretion and trust are extremely important in learning the reasons why organizations promote and develop policy. Many of the conversations I had were frank and thus kept confidential. I found that every organization is structured different for policy development and implementation. Some of the organization were solely staffed with one dedicated policy analyst while other had a team of analysts. Some of the smaller NGO's I spoke with had no policy staff member but a single director or board completed all policy development. Larger agencies like BPA used agency affairs specialists to answer public requests and provide information from the policy making and leadership staff.

While each organization's strategy differed in how they worked and communicated internally to develop policy, they all shared the same characteristic in advocating for an

organizational goal or set of goals. Smaller, less funded NGO's focused on a sole issue and used all of their resources to create attention to that issue and achieve their desired, relatively narrow outcome. BPA emphasized on spreading the message about how much money they spent on salmon recovery and how many projects they implemented and supported. Some of the smaller NGO's and private consultants disagree with BPA policy and how they quantify salmon costs. Organizations such BPA fund a majority of salmon recovery policy in the Columbia River Basin. They work to expand on their costs and project list in various ways. One such way to highlight their costs is using an estimation for salmon recovery costs in advance. Speaking with John Tyler at BPA, he stated that total salmon recovery expenses for BPA annually exceed \$700 million.

Reviewing annual BPA costs for the last two years, the actual expenses for salmon recovery projects including forgone revenue from not passing water through turbines never exceeded \$500 million. The out-of-pocket expenses to BPA were nearly \$200 million less than predicted and was passed onto ratepayers through electrical bill charges. This is a significant cost reduction in estimated vs actual salmon recovery costs expensed by BPA. This method of cost calculation continues to be a contentious topic among salmon recovery stakeholders when calculating BPA's financial commitments to salmon recovery efforts. BPA's method of calculating salmon recovery costs differs from critics in that each stakeholder arrives at a very different total expenditure amount because each organization's goals influence how salmon recovery costs are considered and calculated.

A key lesson I learned from speaking with these professionals across so many organizations was that everyone has an agenda or objective in their policy development. Understanding what and how these organizations are trying to pitch their policy preferences is

key to understanding the policy topic entirely. No one I spoke with appeared trying to deceive me but believe that organizations have a certain message they want to spread. Information can be used in many different ways while organizational outreach may not tell the entire story in a policy debate. Some of the smaller NGO's rely solely on donations so it is important to speak a message that will be positively received by members of their donor base. BPA on the other hand is backed by hundreds of millions of ratepayer dollars and is trying to spend a little as possible outside of their main directives of electricity generation, flood control, and dam operations.

From witnessing the federal government's ability, through the USACE, to change trout stocking policy throughout the Willamette Basin to gaining an outside perspective of many additional agencies and organizations, a policy analyst must remain unbiased and neutral to provide a sound analysis on a fishery issue but this only play out in theory as organizations work to help sell their policy preference. While this may sound easy, I find that the more you know about a subject, the more you must be conscientious that your personal policy biases don't intrude in your work. Everyone's message and policy statements should be taken healthy dose of skepticism and real analysis should be done on their actions.

To understand policy debate in fisheries today it is essential to understand all sides of an issue and each stakeholder's perspectives. Removing personal biases can be difficult but must be done in order to give equal weight and attention to all possible policy actions. However, this only occurs when a person wants to be policy neutral. Many policy makers would readily admit that they are not but we would generally expect most policy analysts to remain policy neutral. They have policy preferences and will do whatever they can to sell their preferences. There is nothing wrong with that – it is just a fact of life in a democracy.

Most importantly, I learned from these meetings with professionals on all sides of many different issues that a single policy approach could be both right, wrong, or neither at the same time. The goals of organizations are really only considered to be good/right, wrong/bad, or neither depending on what side of the issue you stand. BPA believes they are spending enough money on salmon recovery “actions” while many advocacy organizations along the Columbia River feel they do not spend enough money to justify their operations. I learned that you can look at any debated policy topic today from fish hatchery releases to removing sea lions to climate change initiatives and there are multiple opinions on each issue. Removing sea lions has been a hotly debated topic in Oregon and all sides make arguments for why they are “right” the other side is “wrong”.

I have found it difficult to decide on many topics who is “right” and who is “wrong” because these topics are complex, and a matter of perspective and beliefs. Having the best science does not typically help which of the several viable policy options is the “best” choice. Science does not always prevail as the best policy choice as it is only one input in policy development. There are always many possible policy choices. Science is useful in dealing with “facts” but when adjudicating between competing values, the heart of policy making, it may come in conflict with other policy goals or fundamental objectives.

As I finished this element of my internship, I presented the findings of my research titled, Annual Costs of Salmon Recovery Efforts in the Columbia River Basin at the 2019 American Fisheries Society (AFS) Oregon Chapter Meeting in Bend, Oregon. The cost review seemed to be well accepted by an audience of 40-50 people with roughly six questions at the end. One of the most challenging questions to answer was, what was the most challenging part of this project? I answered that all costs summarized are just estimates by the author based on the best

information available. Numerous GAO reports that I studied commented on the inability to track the federal government spending on this issue.

Considering all the other stakeholders involved, the margins of error or double counting weigh more heavily on the estimate. My report highlighted the difficulty in tracking all costs associated with salmon recovery in the Columbia River Basin. The GAO states that it cannot total all federal salmon recovery costs and these costs are intertwined with state and tribal expenditures. My report stressed that the \$1.25 billion on salmon recovery efforts in the Columbia River Basin is only an estimate and based solely on my calculations of costs. The very definition of what expenditures constitutes a salmon recovery costs is highly debatable between various stakeholders and the difficulty and uniqueness of each recovery estimate presented.

### **Salmon Recovery Conference**

In early 2019, I had the opportunity to correspond with the Director of the Washington State Recreation and Conservation Office (RCO) as part of my costs of salmon recovery project. Through this conversation and later emails, I learned what the RCO did for salmon recovery. The RCO is home to the Governor's Salmon Recovery Office and Salmon Recovery Funding Board. It supports coordinated efforts by salmon recovery organizations, regional fisheries enhancement groups, conservation districts, advocacy groups of various environmental efforts, and state, federal, and tribal governments to restore and sustain salmon and steelhead and the habitats upon which they depend (WA RCO, 2019). I found that in early 2019 the RCO supported a Salmon Recovery Conference so I started asking around other salmon professionals what they thought of the conference in the past. The answer I received surprised me. They told me it would be good to attend and see for myself what this conference offered.

The message of the conference was on the state of salmon recovery in Washington and the urgency needed to take effective recovery actions now. Reading the talk schedule with topics on invasive species, the 4-H's in salmon recovery, and communicating salmon recovery the conference seemed like a standard fishery conference debating and sharing on multiple salmon recovery topics. However, I soon realized that the conference was not solely on salmon recovery but also on Southern Resident killer whale recovery. As salmon talks went on, at multiple points stories of killer whales were introduced and wrapped their message around salmon recovery.

One of the main talks during the opening session was on Washington State's Approach to Save the Southern Resident Orca. What I found most interesting was not that this panel discussion was at a salmon recovery conference but what the message presented entailed. The panel stated that society has a "responsibility" to save these whales and "find more fish" to feed them.

Most importantly, the panel stated that "Orca recovery is all about salmon recovery", meaning fish hatchery recovery. This type of salmon recovery described by the panel included both wild and hatchery fish. What immediately jumped in my mind was the Spotted Owl. Are salmon the new Spotted Owl? The comments made me question was salmon recovery really the fundamental objective or just an avenue to secure funding for orca recovery? It was interesting that the panel described increasing hatchery salmon while a majority of the other salmon recovery talks agreed that reducing hatchery fish is key to increasing wild salmon numbers.

The main lesson learned from this conference was that hidden agendas are real and other interest groups will "join" another organization in order to gain more support and funding for their cause. I believe the reasoning behind supporting salmon recovery may have been directed toward gaining support and funding from salmon recovery and not truly about recovering

salmon. The panel further explains that the orca recovery group is “aligned with the salmon recovery board” and supports their actions. The panel member justified increasing hatchery production in Washington by stating that scientists and the panel had reviewed concerns and viewed the urgency of needed food for the orcas as acceptable reasoning for increasing releases of hatchery fish.

### **Saskatchewan Ministry of Environment: Fisheries Branch**

The final portion of my internship was working with the Ministry of Environment’s Fisheries Branch in the Province of Saskatchewan. The Province supports a full-time fishery staff of approximately 12 including biologists, senior leaders, and a program manager. My role here has been to help review and analyze all current fishery policies within the province and provide feedback and recommendations. My work has consisted of reviewing, summarizing, and recommending possible actions regarding existing policies. Current policies range from aquaculture practices, fish import/export, commercial and recreational fishing practices.

My work has been guided by two main fisheries regulations/laws in the Fisheries Act and the Fisheries Regulations. These two documents serve as the basis for all fishing laws and policy in the province. For my policy review, I conducted interviews, phone calls, and had each staff member complete a policy questionnaire to better evaluate fish policy from an operational perspective. Staff member know the policies better than anyone else and were best suited to help with finding limitations and areas for improvement. My policy review concluded with a formal policy review document, Saskatchewan Fishery Policy Review 2019, that was submitted to the Fishery Branch Manager and two senior team leads.



In addition to providing feedback on current policies, I conducted a jurisdictional scan and risk assessment for multiple fishing policies currently in review. These policies are being evaluated for possible revisions based on provincial fishery concerns. This work entailed researching, reviewing, and constructing a comparison of similar policies from other provinces and states. This scan was used to provide the program manager and Minister of Environment tools to evaluate and consider future changes to Saskatchewan policy. Finally, I provided Ministry presentation on my policy findings and recommendations for the entire fishery department at their annual staff meeting. My presentation provided an overview of my work, responses from staff, and recommendations for the department and future fish policy in the province.

The main lesson I learned from The Saskatchewan internship experience is how difficult it can be to provide unbiased, neutral policy analysis to decision-makers. I always considered myself able to remove my own opinions but it is easier said than done when putting a formal policy analysis on paper for review. This was a very challenging experience as there is no dedicated policy staff member and this type of review had never been done before. Keys for this part of the internship included collaboration and communication with other staff members and learning how to retrieve relevant information to assist with the review.

Fishery policy in Saskatchewan was not that different from the State of Oregon. While the size and complexities of Oregon's programs are more challenging, many similarities exist. Common fishery problems associated with climate change, invasive and non-native species, water quality, commercial and recreational fishing regulations, and public education were found in both areas.

## **Final Thoughts**

Overall all the elements of the internship provided many great opportunities and yet remained challenging with each experience. What I thought policy making and analysis was, has been much refined since I began this internship. Many lessons have been learned; some surprising, many confirmatory, and a few, interesting, but trivial. Here are the key lessons I learned and encountered throughout my journey:

- Policy making is divisive, difficult, and time-consuming.
- Dr. Mogren was correct: policy equals funding and funding equals policy. They work hand in hand more than I ever realized.
- Multiple stakeholders have an impact on the policy making process and each brings their own perspective and set of issues. This only adds to the amount of time and resources needed to include and work with all parties.
- Policy can be right/good, wrong/bad, or neither at the same time. It all depends on the evaluator's perception of what the policy goal ought to be.
- In the policy world, everyone and every organization has an agenda, value, or belief that colors their presentations and interactions.
- Policy development is affected by relationships and trust or the lack of between stakeholders.
- Public opinion is important from a support and funding perspective. Policy makers do not always agree with the public but it is beneficial to give public stakeholders an opportunity to voice their concerns.
- Some advocates are willing to compromise more than others. Support and collaboration during policy development and analysis is advantageous for creating sustainable policy.

- Policy that lasts is well-designed, well-supported, well-funded, and adaptive over time and there are no large, influential political losers continuing to undermine the policy.
- Good policy analysts stay policy neutral. It is important to be policy unbiased and neutral when providing analysis. A policy analysts' job is to provide the most accurate policy neutral information available to decision-makers.

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