# BENEFITS AND ACCESS: THE NECESSITY FOR MULTIPLE USE OF WATER RESOURCES

# OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON WATER, WILDLIFE AND FISHERIES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

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# OVERSIGHT HEARING ON BENEFITS AND ACCESS: THE NECESSITY FOR MULTIPLE USE OF WATER RESOURCES

**Wednesday, March 8, 2023**
**U.S. House of Representatives**
**Subcommittee on Water, Wildlife and Fisheries**
**Committee on Natural Resources**
**Washington, DC**

The Subcommittee met, pursuant to notice, at 2:16 p.m., in Room 1324, Longworth House Office Building, Hon. Cliff Bentz [Chairman of the Subcommittee] presiding.

Present: Representatives Bentz, McClintock, Graves, LaMalfa, González-Colón, Carl, Kiggans, Luna, Duarte, Hageman; Huffman, Levin, Peltola, Hoyle, Porter, and Case.

Mr. BENTZ. The Subcommittee on Water, Wildlife and Fisheries will come to order.

Without objection, the Chair is authorized to declare a recess of the Subcommittee at any time.

Good afternoon, everyone. I want to welcome Ranking Member Huffman and our new and returning Members to the first Subcommittee hearing of the 118th Congress. The Subcommittee is meeting today to hear testimony on Benefits and Access: The Necessity for Multiple Use of Water Resources.

Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chairman and the Ranking Minority Member. I, therefore, ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted in accordance with Committee Rule 3(o).

Without objection, so ordered.

I now recognize myself for an opening statement.

## STATEMENT OF THE HON. CLIFF BENTZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. BENTZ. Let me begin by saying how much I appreciate Chair Westerman giving me the opportunity to lead the Water, Wildlife and Fisheries Subcommittee. I spent much of my life preparing for the opportunity to positively address issues of wildlife, fish, water shortage, and water allocation. And there is no better place to realize on this opportunity than right here in this Subcommittee.

It is my hope that the conversations we will have with the many excellent witnesses that will appear before us, such as those we have here today, will lead to solutions which help resolve the hugely challenging problems that face us across the United States when it comes to water and in our oceans.

These problems include crashing aquatic populations, lack of flexibility in the application of regulation, the forest return to desert of vast amounts of agricultural lands, water-starved but still

ever-expanding cities, declining aquifers, unresolved tribal claims to water, wildfire destruction of watersheds, overallocation, and, of course, the massive impact overgrown forests have on water supplies, to name but a few.

It is also my hope that our discussions, while direct, will focus on solutions rather than why one water user is most deserving or why one approach is most scientific. Anyone who has had anything to do with water allocation knows that a set of veritable Federal and state laws, engineering, culture, environment, agency ambition, money, and even the weather, to name but a few of the normal ingredients of a water discussion.

So, it is easy to dredge up arguments supporting any position, but we really don't have the luxury of time. We absolutely must focus now on encouraging states to increase the sustainable supply of water, to stop using water in ways that irreversibly deplete groundwater resources, and we can't avoid taking on the incredibly difficult question of what we do when there simply isn't enough water.

Do we rely on the markets? Do we rely on regulation? Do we rely on the courts? Do we rely on Congress? Do we rely on technology? These are water-related issues that we will be talking about over the next 2 years.

Of course, this Subcommittee has far more than water within its jurisdiction, and I look forward to hearings on the essential part that hydropower plays in the Western United States, the consequences of reintroduction of various species, including wolves, compacts between states, dams, the treaty with Canada, the implementation of the Magnuson-Stevens Fishery Conservation and Management Act, aquaculture, oversight over the Bureau of Reclamation, and oversight over power marketing administrations such as the BPA, the dams that produce the energy they market, and of course review of U.S. Fish and Wildlife, the National Oceanic and Atmospheric Administration, Indian water rights settlements, and investigation where the new—some $15 billion under reclamations authority is being spent.

Obviously, we have a lot to do. But today, we will be talking about the importance of the multiple uses of water and ocean resources.

A poster child for such warnings is California. After 3 dry years in that state, 2023 began with a series of historic atmospheric river storms. While some of this rain was captured, a significant amount of the water was wasted into the ocean. This week, another strong winter storm brings multiple feet of snow with major impacts expected once again, as I speak, over the foothills and mountains of California.

As of Monday, California's statewide snow water content is 192 percent of average, yet how much of this water will be put to beneficial use? If history is any indication, much of it will go to waste. This is a cycle that we have seen before. The 2016–2017 water year was one of the wettest years in California history and was preceded by 5 dry years. Yet, can we point to any long-term water solutions that resulted in the last decade?

The previous administration tried by approving long-awaited feasibility studies on storage. Our witness, Dan Keppen, will

discuss the implications of these policy decisions to our rural communities addressing food supply. As stated on our water infrastructure, hydropower is the critical use of water as it generates clean, renewable baseload energy.

The Pacific Northwest has benefited from the development of hydropower. In fact, Oregon and Washington are the highest hydropower-producing states in the nation, yet far too often narratives are being pushed that implore the removal of this critical infrastructure. This is a knee-jerk reaction to meet environmental slogans without regard to real-world impacts of these decisions, impacts like a reliable energy grid.

Our witness, Scott Corwin, will speak to the importance of hydropower. Just like water management of the ocean resources can only be as good as their data, unfortunately, instead of utilizing the best available science in the case of data on the red snapper, for example, NOAA insists on converting the state's data into inferior data management program.

Our witness, Martha Guyas, will share with us the firsthand experience of what happens when a Federal agency fails to utilize best available science.

With that, I am sure that each of you will have ideas to share regarding the dangers to our environment, our communities, our economy, and our way of life, should we inappropriately limit our water resources to single purposes.

The Chair now recognizes the Ranking Minority Member for any statement.

**STATEMENT OF THE HON. JARED HUFFMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA**

Mr. HUFFMAN. Thank you. Good morning. Good afternoon, rather. And congratulations, Chairman Bentz. I wish you well. As your Chairmanship of this Subcommittee begins, I want to pledge the good faith and cooperation of my colleagues and I in some work that hopefully we can do together.

Last Congress, this Subcommittee was very productive. We held hearings on 63 bills, 41 of which were bipartisan, 16 were led by Republicans. In all, at least 25 bills related to this Committee's work were signed into law last Congress. That doesn't include impressive wins in the American Rescue Plan, Bipartisan Infrastructure Law, and the Inflation Reduction Act, where a lot of our work became law.

Today, we are focusing on the extensive use of Federal water and ocean resources, and I hope we all can agree that these are resources owned by all Americans, and they should, therefore, be stewarded in a responsible, sustainable way that promotes the well-being of people, wildlife, and ecosystems.

The topic of today's hearing is very broad. I would suggest each of these issues—Western water, hydropower, and fisheries—might merit their very own hearing if we had adequate time, but there are a few overarching themes that I would like to touch upon in these areas, starting with water and fisheries.

The Chairman asked the hypothetical question whether we have done much in the space of water and water supply. I think a better thing to say, in light of everything we have done in the last

Congress, would be thank you. And even though that wasn't said, I will go ahead and say you are welcome, because during the 117th Congress, Democrats enacted real, sustainable solutions that improve water access for American households, the environment, fishermen, and the agricultural industry.

We passed the most significant climate change investment in history, and that included $4 billion for drought mitigation, $550 million for tribal drinking water projects, $2.6 billion for habitat resilience and fisheries science. That was all through the Inflation Reduction Act. We also passed legislation to fund water access through the NDAA, through the Omnibus, through several stand-alone bills, and of course through the Bipartisan Infrastructure Law, which included $8.3 billion to address Western water needs through the Bureau of Reclamation and $2.5 billion for tribal water settlements. And these are huge investments, the biggest in the history of our nation in this space.

And, sadly, although we would have loved for this to be truly bipartisan, we did not have the support of most Republicans on this Committee.

But there is more. Legislating, updating, and reauthorizing the Coral Reef Conservation Act, making improvements to the Fishery Disaster Program, strengthening enforcement against illegal, unregulated, and unreported fishing, phasing out the use of drift gill nets off the coast of California, these are things that will help the needs of fishermen and fisherwomen and improve habitats that are so important to our fisheries.

We also enacted legislation to advance innovative and modern water solutions to stretch our water supplies while enhancing our aquatic ecosystems across the West.

When you talk about climate, because our water challenges and shortages in the West are not driven by the Endangered Species Act, radical environmentalists, or the deep state—in fact, the principal driving force is climate change. That is, of course, the case with the historic drought in the West and other threats to our water supply. Climate change elevates the need for drought-proof water supply projects, including water recycling, modern desalination, investments in modern water storage and groundwater recharge, water conservation, and water use efficiency, and watershed health and ecosystem restoration projects.

These are all things that we, again, enacted record investments in in the last Congress, and these are things that are going to make a real difference for water managers in the years ahead.

On the fisheries side, we are seeing the real and immediate impacts of climate change with no end in sight. Last fall, Bristol Bay Red King Crab Fishery and the Bering Sea Snow Crab Fishery were closed, in part due to climate change impacts. Just last week, the West Coast salmon groups called for the closure of the 2023 salmon season, again, due to drought and poor water management.

Climate change is directly affecting access to fishery resources, and this is why my legislation to reauthorize the Magnuson Act included provisions for climate-ready fisheries.

And then, third, we must be wary of using themes like water access and natural climate solutions as cover for just attacking

NEPA and eroding the Endangered Species Act, the Magnuson Act, the Antiquities Act, and other important laws.

We are seeing this with hydropower projects. Hydropower can be a very useful energy source when it is administered consistent with our nation's environmental laws and with safeguards to protect tribal resources, fish, wildlife, and recreational opportunities.

But attempts to waive legal requirements under current laws so that specific hydro projects can move forward are the wrong way to go. We need to protect fish populations and the communities that rely on them.

So, with that, Mr. Chairman, I very much look forward to hearing from the witnesses. And, again, I wish you lots of success and productivity as our new Chair.

I yield back.

Mr. BENTZ. Thank you for your kind remarks.

I will now introduce our witnesses. First, Mr. Dan Keppen, Executive Director of the Family Farm Alliance. Second, Ms. Martha Guyas, Southeast Fisheries Policy Director for the American Sportfishing Association. Ms. Amy Cordalis, Legal Counsel for the Yurok Tribe, and co-principal of the Ridges to Riffles Indigenous Conservation Group. And Mr. Scott Corwin, Executive Director of the Northwest Public Power Association.

Let me remind the witnesses that under Committee Rules, they must limit their oral statements to 5 minutes, but their entire statement will appear in the hearing record. To begin your testimony, please press the "On" button on the microphone. We will use timing lights. When you begin, the light will turn green. At the end of 5 minutes, the light will turn red, and I will ask you to please complete your statement.

I will also allow all witnesses to testify before Member questioning.

The Chair now recognizes Mr. Keppen for 5 minutes.

## STATEMENT OF DAN KEPPEN, EXECUTIVE DIRECTOR, FAMILY FARM ALLIANCE, KLAMATH FALLS, OREGON

Mr. KEPPEN. Good afternoon, Chairman Bentz, Ranking Member Huffman, and members of the Subcommittee. It is nice to be back in person with you all again.

Thank you for this opportunity to testify today.

There is a passage in John Steinbeck's *East of Eden* that does a pretty good job describing California and much of the West's hydrology. "The water came in a 30-year cycle. There would be 5 to 6 wet and wonderful years, then would come 6 or 7 pretty good years, and then the dry years would come. During the dry years, the people forgot about the rich years, and when the wet years returned, they lost all memory of the dry years. It was always that way."

And it is still that way today. Just last fall, California's reservoirs had dropped to dangerously low levels. A record number of wells in the Central Valley had run dry. Nearly 700,000 acres of the most productive farmland in the world were fallowed. People were told to stop watering their lawns. California was headed for a fourth year of drought. And then, just in time for the holidays, we were blessed with a series of atmospheric rivers.

Just in the past 2 weeks, more than a dozen feet of snow fell in the Sierra Nevada Mountains. California's statewide snowpack report last Friday was 190 percent of normal. The state's record snowpack was set 40 years ago. This week we could actually break that record in Northern California.

Reservoirs across the state are filling, and there is a year's worth of snow melt stored in the Sierra Nevada right now.

After several critically dry years requiring severe cutbacks, many people are asking the obvious question. Does this mean the California drought is over? The answer of course is no. California's water management system was designed specifically to manage this volatile hydrology to store wet-year water to be used in dry years.

But, currently, even our amazing system of dams and canals can't meet the state's water demands. Our population in California, of course, is a factor. But even more remarkable, decades after it was built, the government will no longer allow our existing water infrastructure to operate the way it was intended. More and more, multiple uses of our water resources are ignored in favor of just a few.

Starting in the 1990s, as a result of state and Federal laws, regulations, lawsuits, and agency decisions, reservoirs in California and the Klamath Basin are not allowed to convey the water stored for their intended purposes. Instead, a large percentage of water must now be sent to the ocean.

Each year, this problem is getting worse. Unelected government officials are allowed to divert more and more water away from homes, communities, wildlife refuges, and farms. We have yet to see them demonstrate accountable results showing the promised benefit to endangered fish. Taking 100 percent of once reliable surface water away from Western agricultural communities, which has happened more than once, takes productive Ag land out of production. It also seriously stresses once reliable groundwater resources, imparts tremendous damage on national wildlife refuges in the Pacific Flyway, and destroys the economies of rural farming communities.

While most pronounced in California, Central Oregon, and Klamath Basin, similar experiences are happening in other parts of the West. For those of us who live in those rural communities, it is almost impossible to understand. Many of the farmers and ranchers I work with feel like our government is about to throw away the best food production system in the world at a time when our country and the world will need that food more than ever.

The single species approach to fishery management has steadily ramped up for decades. We have yet to see a correlation that shows a positive response from water directed away from irrigated agriculture and toward targeted species protected by the Endangered Species Act.

Adding insult to injury, farmers and ranchers across the West have been targeted and attacked in traditional and social media. Legions of reporters, documentarians, and bloggers choose to advance narratives that demonize American farmers who toil to make a living growing food for the country.

Fortunately, we know that farmers, local communities, constructive conservation groups, tribes, other stakeholders, and government agencies can work together. It is possible to develop water solutions that reconcile the needs of waterfowl and fisheries in a way that multiple species can thrive in harmony.

Solutions can be reached that address the true stresses on fish in a way that doesn't take away water supplies from farmers and ranchers. My written testimony includes examples of those success stories. For the time being, this nation needs our farmers and ranchers to produce food and fiber. Laws and regulations need to be updated to mandate accountable and transparent results from diverting water away from Western farms and creating man-made droughts.

There has never been a more important time to maintain our country's food productivity. Rising food prices and global hunger are linked to the war in Ukraine, extreme climate events, and other global stressors. Still, our own government has chosen to voluntarily withhold water from rural class food producers in the Central Valley, Central Oregon, and the Klamath Basin. The list would continue to grow if we don't do something soon about these misdirected policies.

The hour is growing late. We look forward to working with you to immediately right this ship.

Thank you.

[The prepared statement of Mr. Keppen follows:]

PREPARED STATEMENT OF DAN KEPPEN, EXECUTIVE DIRECTOR, FAMILY FARM ALLIANCE

Chairman Bentz, Ranking Member Huffman and Members of the Committee: Thank you for this opportunity to share observations with you on the importance of managing water for multiple uses. The Family Farm Alliance (Alliance) is a grassroots organization of family farmers, ranchers, irrigation districts, and allied industries in 16 Western states. We are committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons—many of which are often overlooked in the context of other national policy decisions. The American food consumer nationwide has access to affordable fruits, vegetables, nuts, grains and beef throughout the year largely because of Western irrigated agriculture and the projects that provide water to these farmers and ranchers.

**OVERVIEW**

Managing water for multiple benefits has long been a top goal for water managers across the West. For many years, a primary purpose of Bureau of Reclamation projects was to capture mountain snowmelt, store it, and distribute it during the long, dry summer months of the West, primarily to irrigated lands that produced food and fiber. Then, starting in the late 1960s, for a variety of reasons, water stored for agricultural use had its importance diminished in many watersheds. In recent years, we've actually seen large Western water projects that were originally authorized and constructed to supply farms with irrigation water receive zero allocations for agriculture, with available supplies solely used for environmental uses. In those areas, the pendulum has unnecessarily swung too far with no effort toward compromise. The purpose of my testimony today is to explain why that is happening in certain areas, and underscore the importance of restoring irrigation as a top priority in multipurpose water management.

Water is of key importance to the American West. Food security is as vital to our homeland security as our nation's other strategic interests, and the domestic production of food and fiber, especially on Western irrigated lands is critical to our nation's ability to feed itself in an affordable and safe manner.

In the U.S., a set of forces appears to be aligned against keeping domestic agricultural lands in production, even as our country is now importing more agricultural

products than it exports.[1] Arizona and California are paving over and losing productive farmland at the fastest rate in the U.S.

The U.S. last year faced yet another record-breaking drought year in the West. Undoubtedly, the drought reduced the amount of water for many users, including irrigated agriculture. However, in places like California and Oregon, much of the water that once flowed to farms and ranches was re-directed by the federal government for environmental purposes, mainly for perceived fishery needs. In other words, federal water policy withheld water for hundreds of thousands of acres of productive farmland. In the Colorado River Basin, competing water user interests have mounted a sustained campaign against agricultural water use in the Basin, often pointing to alfalfa as an example of one crop that uses too much water and should no longer be produced. The same is true in the Rio Grande Basin, plagued for more than ten years with Supreme Court litigation among the states where the primary focus has remained on agriculture and "high water use" crops, fueled by misinformation put forward by other, more junior water uses.

At a time when the future of Ukraine and other countries' ability to help feed the outside world is at risk, our ability to increase productivity is being further curtailed—due in part, to our own government and increased competition from other demands for the same water supply. The grim global hunger conditions we once expected to encounter in 2050 may very well hit us sooner.[2] This testimony seeks to explain this critical issue further, and provides recommendations intended to protect irrigated agriculture as a growing number of faraway critics minimize the importance of using water in the West to produce affordable and safe food and fiber.

## PRIORITIZING ENVIRONMENTAL WATER USE OVER FOOD PRODUCTION

Historically, the Bureau of Reclamation has been the federal agency partner to step up and assist with the construction and initial financing of water projects that continue to serve agricultural water users in the Western United States. The Reclamation Act of 1902 is the federal law that funded irrigation projects for the arid lands of 20 states in the American West. The language of the Reclamation Act of 1902, before subsequent amendments, provided wide discretion to the executive branch to withdraw land, and to study and construct projects. Many of these projects were constructed with the primary purpose of supplying water to agricultural water users, building communities in the West, and feeding the nation and the world.

However, the failure of Teton Dam in Idaho, the emergence of the environmental movement, and the announcement of President Jimmy Carter's "hit list" on water projects profoundly affected the direction of Reclamation's programs and activities in the United States. Reclamation projects provide agricultural, household, and industrial water to about one-third of the population of the American West.[3] Reclamation is a major American generator of electricity. Today, with more than 120 years of additional Congressional direction on top of the 1902 Act, the current mission of the Bureau of Reclamation is "to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public". The word "irrigation" isn't even mentioned in Reclamation's mission these days.

For many reasons—political, economic, and social—the priority of serving reliable water supplies from federal water projects to Western agricultural irrigators has significantly diminished in recent decades. Certainly, enactment of well-intended federal laws like the Clean Water Act, Endangered Species Act (ESA), and National Environmental Policy Act along with the effective litigious action taken by critics of irrigated agriculture employing those laws in Western courts has slowly chipped away at the once-reliable stored water supply irrigators have depended on for decades. The federal government has effectively redirected that use, primarily for fisheries protection under the ESA, many times with little if any scientific justification or positive results. Perhaps the most dramatic legislative action taken to move towards multipurpose management of federal water was the Central Valley Project Improvement Act (CVPIA), signed into law in 1992, which mandated balancing competing demands for a limited supply of water, a balance that included meeting

[1] The USDA forecasts the U.S. will again run a deficit in 2023 for the third time since 2019. (*Politico Pro DataPoint*).

[2] To sustainably produce food and agricultural products for more than 9 billion people in 2050, agricultural productivity must increase an average of 1.73 percent annually. From 2011–2020, global agricultural productivity grew at an average of just 1.12 percent per year, a significant drop from the average growth rate of 1.99 percent from 2001–2010 (USDA ERS).

[3] https://www.usbr.gov/history/borhist.html.

the requirements of fish and wildlife; agriculture; and municipal, industrial and power contractors.

**1. Regulatory Focus of California's Bay-Delta Environmental Challenge**

Starting at around the time that CVPIA was signed into law, between 1990 and 2014, a number of regulatory and policy decisions have been enacted, the results of which reduced the average water supply for Central Valley Project (CVP) South of Delta agricultural water service and repayment contractors (farmers and ranchers in the San Joaquin Valley who receive water from the CVP) from 100% of their contracted deliveries, except in the worst drought in California's history in 1976–77, to an average of 35% of contracted supply. Last year, south-of-Delta ag service contractors located on the west side of the San Joaquin Valley received a 0% water allocation. That was the fourth time in a decade those water users received a 0% allocation, resulting in the fallowing of hundreds of thousands of acres of farmland in one of the most productive agricultural regions in the world.

In short, state and federal regulations have reduced water supply availability. With each subsequent policy decision, more water was allocated to in-stream use and away from other uses, such as municipal and agricultural uses. From the 1952–1990 time period, farmers had a sense of reliability and certainty regarding their CVP water contracts and annual water deliveries. But those water deliveries have decreased over time as policy and legal actions were taken to crush that certainty for farmers.

While reduced snowpack over the last several years is certainly contributing to the water crisis in California, the imbalanced application of environmental laws and policies has undermined one of the primary uses of the CVP, supplying water for agriculture, with little apparent benefit to the environment that can be demonstrated. A large portion of the water in the Sacramento and San Joaquin rivers is left in stream to flow to the ocean to provide specific conditions in the rivers for salmon, steelhead, and sturgeon, species protected by state and federal policies and laws. The San Joaquin Valley farms and communities, including major industries in Silicon Valley, use fresh water pumped from the San Francisco Bay-Delta to supplement their needs; however, over the past several decades, exports via those pumps have been reduced through a layering of state and federal policies in order to meet specific water quality standards in the Bay-Delta and to address the decline in the delta smelt population, another protected species. These pumped exports from the Delta are used as key indicators of policy decisions throughout the state regarding agricultural water allocations and fisheries management. Presently, agriculture in California does not have a reliable supply of water, which undermines the industry's ability to make long term decisions regarding adaptation and resilience.

The frustrating fact to agricultural producers is that the severe water cutbacks that have already occurred are not increasing the populations of salmon, steelhead, green sturgeon, or the delta smelt, species listed for protection under the federal ESA. The National Research Council (NRC) in 2012 suggested that reducing pumping for agricultural water does not significantly impact fish populations; whereas other stressors along the systems, such as wastewater contaminants, lack of productive habitat, and competing non-native aquatic species, do have a more significant impact on the health of the ecosystem and the biological functions it supports. Protected fish populations could be more effectively managed and recovered by focusing on other stressors to the Bay-Delta system while also providing a reliable water supply for agricultural use.

**2. The Failure of Single Species Management in the Klamath River Watershed**

The Klamath Project in southern Oregon and northern California is a leading example of the imbalance in federal water policy. Farms, communities, and wildlife are being sacrificed in order to provide more water to ESA-listed fish species, but after 30 years of this policy, there has been no identifiable benefit for the listed fish populations, which are two species of Upper Klamath Lake dwelling suckers in Oregon, and coho salmon in California downstream of that lake in the Klamath River.

In 1903, federal engineers investigated the feasibility of a reclamation project in the area we now know as the Klamath Project. They reported that, unlike other areas, in Klamath, the engineering challenge was not to transport water to arid land. Rather, there was a need to get rid of water. Well over 100,000 acres of open water and marsh was reclaimed. The water that once spilled from the Klamath River during spring snowmelt was instead held back in reservoirs for beneficial use during the irrigation season on world-class soils known for the quality of their food

and habitat production. The agricultural lands and neighboring national wildlife refuges supported millions of waterfowl, amphibians, and terrestrial animals.

A water supply that was reliable for nearly a century has become a guessing game at best, and severe shortages rule the day. The water stored in reservoirs is not allowed to go to the land for which it was stored. Instead, it is held to provide increasing depths in Upper Klamath Lake for endangered suckers or released to the Klamath River to augment flows for coho salmon. In fact, during each of the past three irrigation seasons, the amount released to the Klamath River has been considerably greater than the inflow to Upper Klamath Lake during the same period.

Leaders in the Klamath agricultural community have observed that water management has become more of a competition among regulatory agencies over who can get the most water for one species or the other. For some regulators and others, "winning" has become the goal instead of actual success for species and communities. Food production suffers, communities and wildlife suffer, and the agricultural community feels targeted and devalued. Producers are struggling to explain to their children why raising food has become a thing to be ashamed of, and why the downsizing of the Klamath Project has become a trophy to be won by the opponents of irrigated agriculture in the Basin.

**3. Proposed Flow Experiments at Glen Canyon Dam**

Decisions made by federal administrators regarding allocation of our water resources during this drought must rely on proven technologies, not experiments. Operations of Glen Canyon Dam on the Colorado River is one such example. Currently, Reclamation is evaluating experimental stored water releases at the expense of hydropower generation, in an attempt to stop the potential establishment of smallmouth bass populations below Glen Canyon Dam. Unfortunately, not only is the scientific underpinning of these additional releases unproven, Reclamation's analysis to date has not evaluated any potential non-flow measures to address this concern. Instead, Reclamation is evaluating only flow-related measures, all of which to varying degrees, bypass hydropower generation. All this comes at a time when Reclamation, in fact, has been attempting to use extraordinary measures, like demand management and water purchases affecting farmers in the Basin, to protect hydropower production by keeping water storage levels behind Glen Canyon Dam as high as possible and avert predicted water levels crashing to dead pool as water continues to be withdrawn for deliveries to the Lower Colorado River Basin.

The end result of this will be the cost of purchasing expensive replacement power being passed on to power customers, many of which are small municipal, agricultural and tribal providers whose customers are unable to afford these price increases. But this is not just a financial issue alone. Reclamation has also failed to acknowledge there is not a readily available supply of replacement power available for purchase—even though Western Area Power Administration has identified this as an issue of concern in previous comments on this proposal. We understand there is an environmental need, but again, other uses are being impacted by this narrowly focused proposal. Decisions like these must be grounded in sound science and the financial and technical impacts of these decisions must be fully addressed.

**WESTERN WATER AND LANDSCAPES CAN BE MANAGED FOR THE BENEFIT OF AGRICULTURE AND THE ENVIRONMENT**

Many of our members in the West—particularly in California and the Pacific Northwest—know that our water management system isn't helping anyone as fish continue to struggle, farmers fallow land, businesses and residents face continuing restrictions. That's because it's based on decade-old siloed scientific hypotheses embedded in a top-down regulatory system that lacks the ability to incorporate new science as it becomes available. Fortunately, there are examples in California, Oregon, Washington State, and other parts of the West that suggest other paths might be taken that lead to true multi-purpose management of water resources that yields benefits to agriculture and the environment.

**1. Scientific Study + Proven Results = Smarter Water Management**

Science has been telling us for some time that fish need more than water to survive—habitat restoration and improvement, predator control and food supply are also critically important. In California's Sacramento Valley, on-the-ground projects have generated results to prove this approach works.

**Partnerships to Implement New Science on Butte Creek Turned 100 Salmon into 10,000**—Working together, farmers, urban water users and conservationists made improvements to fish passage, fish food production and habitat for juvenile salmon as well as providing more water at the time when fish needed it

the most. The result has been a dramatic increase in returning salmon from as low as 100 to an average of 10,000 annually. Other species have also benefited. http://westerncanal.com/butte-creek-fish-passage-project

**Operation FatFish—Scientists Teamed Up with Farms to Produce a New Food Supply for Fish**—If salmon are malnourished, they're not strong enough to make it through the Sacramento-San Joaquin River Delta to reach the Pacific Ocean and populations decline. Partnering with scientists at UC Davis and CalTrout, farms have been flooding fields in the winter in order to grow bugs (which growing fish depend on for food) and then re-connecting these floodplains to the river. Results from Operation FatFish have shown an increase in growth and health of juvenile salmon inside and outside seasonally flooded rice fields. In addition, these managed wetlands support millions of waterfowl, shorebirds and other waterbirds along the Pacific Flyway. https://caltrout.org/wp-content/uploads/2018/01/Nigiri.pdf

**Boulders & Branches—Experiments with Fish Habitat Have Produced Improving Salmon Populations**—River Garden Farms created 25 fish habitat shelters made of almond trunks and walnut tree root wads. These were bolted to 12,000-pound limestone boulders and dropped into the river. The roots and branches are designed to help juvenile winter-run chinook survive by serving as a shield against swift river flows and predators. A survey conducted by wildlife biologists revealed a large school of juvenile salmon had taken to the tree roots. Salmon were finding refuge and populations were improving. https://www.rivergardenfarms.com/environment/salmon-shelter-project/

**Painter's Riffle—Biologists Urged Restoration of Spawning Grounds, Leading to Successful Collaborative Projects**—Over time some traditional salmon spawning grounds have been filled in. One example is Painter's Riffle, a side-channel that successfully produced fish nests resulting in up to 750,000 young salmon since the 1980s. When a major storm filled in the channel, farms, water districts and government agencies partnered to open it again. Speaking of a similar project U.S. Bureau of Reclamation Biologist John Hannon said, "These projects are an important part of helping our local fish populations weather the drought conditions and recover in the future." https://norcalwater.org/wp-content/uploads/PaintersRiffleFact-Sheet-FINAL.pdf

**On-Demand Water—Focus on Providing Water for Fish in the Right Place at the Right Time**—Obviously, fish need water, but what science has discovered is that we should focus on providing it at key junctures in time and in combination with other non-flow measures such as those discussed here. These "functional flows" are more productive than simply flooding the system with water. A 2015 study by the Delta Independent Science Board recommended more study on the concept of functional flows, which may promote fish and wildlife health by closely considering time, space and parameter scales relevant to biological processes. https://ceff.ucdavis.edu/articles

Several new projects are being constructed this winter in the Redding area to promote recovery of Chinook salmon by providing additional spawning and rearing habitat. The projects are implemented through a collaboration of Sacramento River Settlement Contractors, conservation organizations and state and federal agencies. These efforts are part of the comprehensive Sacramento Valley Salmon Recovery Program and help to implement the National Marine Fisheries Service's Recovery Plan for the Sacramento River, the California Natural Resources Agency's Sacramento Valley Salmon Resiliency Strategy and Healthy Rivers California (Voluntary Agreements). By following the path that science has laid out, collaborative efforts can improve the environment while increasing water availability and reliability for all water users.

**2. Certainty for Water Users and Water for Endangered Species on the Deschutes**

Farmers in the Deschutes Basin of Central Oregon have been dealing with risks and uncertainties to their water supplies for years. The U.S. Fish and Wildlife Service listed the bull trout and the Oregon spotted frog (OPS) as "threatened" under the ESA, while the National Marine Fisheries Service (NMFS) listed the Mid-Columbia steelhead as "threatened" under the ESA as well. All three species are present in the Deschutes Basin. These ESA listings ultimately culminated in a lawsuit, whereby environmental groups sought a court order to effectively end all irrigation storage in the Deschutes Basin. The water users fought back and defeated the environmental groups' motion for injunctive relief that would have put at risk the water supplies for some 150,000 acres of irrigated farmland in the Basin. The

water users and their irrigation districts took matters into their own hands, as they developed a long-term plan that would both provide certainty for agricultural water supplies, while at the same time, providing a plan that would provide water for and benefit the listed species.

The Deschutes Basin Habitat Conservation Plan (HCP) was the product of 12 years of scientific study, hard work, and collaboration between irrigators, federal and state agencies, the Confederated Tribes of the Warm Springs Reservation, cities, counties, multiple non-governmental organizations, and the general public in the Deschutes Basin. Finalized in 2020, the HCP sets the course for conservation efforts in the Deschutes Basin for the next 30 years. It provides the eight irrigation districts in the basin (organized as the Deschutes Basin Board of Control, "DBBC") with both a pathway and time for modernizing their water delivery systems through canal piping and other projects.

In exchange for the commitments made by the DBBC districts under the HCP to conserve water over time, the DBBC districts are authorized to continue to access their water supplies without running afoul of the ESA, even when those water supplies are limited during times of drought. In this way, the HCP provides a level of certainty with respect to the DBBC district's obligations under the ESA, as well as some level of certainty with respect to their water supplies. At the same time, the ongoing effort to implement the HCP is not without challenges. Districts and irrigators face endless court battles from potential lawsuits brought by national groups who will never be satisfied with the irrigators' commitments to conservation, and routinely argue that irrigated agriculture should take an even harsher hit in the basin than it already has.

Meanwhile, as required under the HCP, the DBBC districts and irrigators are making significant financial investments to implement conservation measures, such as canal piping. Individuals and third-party citizen groups are threatening to prevent open irrigation canals from being replaced with buried pipe, arguing among other things that open ditches flowing with irrigation water amount to water feature "amenities" for their subdivision homes. These challenges are intended to create roadblocks and prevent the districts from implementing solutions for both stabilizing irrigation water supplies and meeting fish and wildlife habitat needs. Despite these ongoing challenges, the Deschutes Basin irrigation districts and their partners remain committed to implementing the HCP, as it is the only real option for trying to keep the agricultural community in the basin intact and in control of its own destiny while providing and protecting habitat for listed and other wildlife species in the Basin.

### 3. Water 4: Conservation that Provides Multiple Benefits to People and Wildlife

Irrigated lands comprise over 60 percent of wetland habitat in the snowpack-driven systems of the Intermountain West. These lands provide vital habitat for migratory birds, sustain floodplain function, and recharge aquifers, but are at risk of fragmentation from rural subdivision, competing water demands, and the ongoing impacts of climate change. We work closely with the Intermountain West Joint Venture (IWJV), a leader in utilizing science and technology advancements to link agriculture, hydrology, and wildlife habitat conservation. The IWJV's Water 4 Initiative is focused on the importance of maintaining agricultural land for habitat conservation and landscape resiliency within western states. The rapid fragmentation of agricultural wildlife habitat, as well as crop conversions and changing irrigation practices, have implications that reverberate beyond agriculture and begin to impact local water availability for people and wildlife. Integrating agriculture, science, technology, and ecology can lead to improved understanding of key linkages related to the importance of agricultural irrigation and the need to invest in modernizing irrigation infrastructure. Such investments also have collateral benefits for landscape resiliency including groundwater recharge, habitat enhancement, and conservation of fish and wildlife.

Spatial analysis combined with detailed water bird population information has allowed IWJV to begin to quantify the exact number of agricultural acres that need to be enhanced/protected in the Klamath Basin in California and Oregon (among other locations) to provide habitat to sustain water bird and waterfowl populations. This has critical implications for the broader agricultural community in the Pacific Flyway. If habitat is not maintained in the Klamath Basin, migrating birds will likely move south, to California's Central Valley, earlier in the season. This earlier migration means birds may arrive before rice is harvested, resulting in potentially devastating impacts to rice production.

Conserving irrigated wet meadows contributes to system-wide resiliency by providing key habitat for migratory birds, sustaining floodplain function, recharging aquifers and supporting agricultural communities.

There are proven examples of where food producers, water managers and conservationists can work together in a way that benefits agriculture and the environment. We must continue to do more of this type of work, where environmental objectives can be reached without taking water away from farmers and ranchers. As will be described in the next section of this testimony, it has never been more important to provide affordable and safe food for our country and the world.

**4. Yakima River Basin Integrated Plan**

The Yakima River Basin (WASHINGTON) supports a $4.5 billion-dollar agricultural economy and historically produced significant salmon and steelhead runs. The Yakima Basin Integrated Plan (YBIP) is a collaboratively developed 30-year plan developed and implemented by YBIP partners such as the Yakama Nation, irrigation districts, cities and counties, conservation groups, the federal government and the State of Washington, among others. The YBIP has provided opportunities in the Yakima River Basin for local, state, and federal partnerships to allow our member irrigation districts, including the Sunnyside Valley Irrigation District, the Roza Irrigation District, the Yakima Tieton Irrigation District, the Kittitas Reclamation District and others to work aggressively on a drought resiliency strategy to modernize their water delivery systems to conserve water to the benefit of both fish and farmers. Modernization of these important irrigation water delivery systems is providing the means to ensure reliable and consistent irrigation water delivery to basin farmers. And, the YBIP has embraced a new drought emergency water storage project at Kachess Reservoir, as well as new fish passage, habitat, water and groundwater supply, and headwaters restoration projects in the Yakima River Basin that benefits and promotes healthy fish, farms and communities.

One YBIP partnership between the Kittitas Reclamation District, Reclamation, the State of Washington and NGOs has been able to establish a more normative summer flow regime in the Yakima River tributaries that typically dried up in the summer months. The Kittitas Reclamation District is also working to increase their canal capacity to carry cool storage water to streams for fish while at the same time making more consistent irrigation water deliveries to agricultural lands in their service area. This resiliency strategy is an integral part of the YBIP collaboration that is working toward increasing salmon and steelhead population abundance and productivity and at the same time provide for a consistent supply to the farmers growing our nation's food.

**5. Forest Management Impacts on Upper Watershed Water Supplies**

It is hard to overstate the importance of snowmelt as a source of fresh water in parts of the Rocky Mountain West, and great attention is paid to ecosystem water cycles in this region. Some of the snow that falls in the mountains goes directly from crystalline snow to water vapor, bypassing the liquid water phase. This phenomenon—sublimation—accounts for the loss of a large portion of the snowfall during the winter months in the Rocky Mountains. Snow intercepted by tree branches sublimates the fastest, often disappearing within a few days of a snowfall. Recently published work by the Rocky Mountain Research Station[4] (RMRS) teases apart how the loss of spruce canopy affects the sublimation rates for snow both in the canopy and on the ground in these ecosystems. These findings have some important implications to snow interception and retention.

Three years ago, Alliance President Pat O'Toole, whose family owns and operates a cattle and sheep ranch on the Colorado-Wyoming border, testified before the Senate Energy and Natural Resources Committee. A study he referenced in his testimony relates to research[5] conducted by the Forest Service on the Upper North Platte River in 2000 and 2003. It shows that management restricting timber harvest had already severely impacted the watershed and water yield to the tune of a minimum of 160,000 AF[6] per year. His testimony included other examples of models for ways of quantifying the amount of water removed from Wyoming's water supply by dying forests and invasive species like the bark beetle, and also references other

[4] Beetle Outbreaks in Subalpine Forests and What They Mean for Snowmelt, May 2021. Rocky Mountain Research Station, U.S. Forest Service.

[5] Estimating Additional Water Yield From Changes in Management of National Forests in the North Platte Basin, May 12, 2000, C.A. Troendle & J.M. Nankervis (Note: This is an independent report prepared for the Platte River EIS Office).

[6] 160,000 AF of water would cover all of Chicago, Illinois with over one foot water.

anecdotal reports from around the West of water yield increases resulting from clearing pinon and juniper stands.[7]

Last June, Mr. O'Toole testified again before the Senate ENR Committee, where he referenced the North Yuba Forest Partnership (CALIFORNIA), which developed a strategy to treat 20 million acres on national forest lands and up to an additional 30 million acres of other federal, state, Tribal, private and family lands over the next decade. The partnership is using the latest science to integrate multiple stakeholder priorities into projects with the objective of accomplishing forest restoration and wildfire risk reduction at a landscape scale. Partnership activities include meadow restoration, ecological thinning of forest density and prescribed fire.

Mr. O'Toole's own family is helping to lead an effort to design a comprehensive, multistakeholder, large landscape initiative to restore two severely degraded (nonfunctioning) 50,000-acre watersheds; one in the Medicine Bow National Forest in Wyoming and a second in the Routt National Forest in Colorado. Their vision is to restore two forested rangelands to a resilient state that filters and stores water, produces protein, sustains wildlife and fisheries, sinks carbon, produces renewable energy feedstocks and enables economically viable rural communities to thrive.

## A PERFECT STORM: WESTERN DROUGHT, INFLATION, WAR IN UKRAINE AND GLOBAL FOOD INSECURITY

Western irrigated agriculture is criticized by some because of the amount of water that is required to grow food and fiber. It is not the farmers that are "consuming" the water. It's the customers who consume the products that farmers and ranchers provide. Farmers and ranchers only grow crops and raise livestock that other people buy as their food source. Current vegetable and value-added farm and ranch products are subject to the same supply and demand rules of American manufacturers. With the current backdrop of severe drought conditions in the West, significantly inflated food costs, global food supply challenges, and a looming global famine, the importance of Western agricultural production has never been greater and should be carefully and thoughtfully valued. Now is the time to focus on the critical importance of maintaining our country's food security and locally sourced foods. Reliable water for Western irrigated agriculture is a critical component in that equation.

The multiple-year drought we have recently faced in many parts of the Western U.S.—coupled with other domestic and global developments—is already affecting the availability and price of food for many Americans. Rising food prices and global hunger are linked to the war in Ukraine, extreme climate events like the Western U.S. drought, and other global stressors. All of these factors have combined to cause significant inflation and global food shortages that loom on the horizon.

### 1. Rising Cost of Growing Food = Rising Food Prices

Those Western producers who do have water have seen production costs increase by as much as 25%, because of rising fuel prices and transportation costs. Rising input costs (fuel, pesticides, fertilizers, equipment repairs), combined with the ongoing energy and supply chain crises, continue to impact food supply and demand.[8] Since January 2021, many fertilizer types have tripled or quadrupled in price and remain high (U.S. Bureau of Labor Statistics).

Inflation was higher in 2021 and 2022 than in any other years of the previous four decades, as measured by the price index for personal consumption expenditures. In 2005, Americans paid about 6.2% of disposable income on food and nonalcoholic beverages. That means that, for every $1,000 of disposable income, only $62 is being spent on food. That frees up tremendous additional capital for other needs, like buying a new car, investing in your children's education, or going on vacation. Globally, people paid roughly 10.2% on the same products. Now, due in part to factors discussed previously in this testimony, the U.S. average has increased to 10.3% with other countries following suit. This is concerning for our national economy since less domestic food production means more global competition and higher prices for American consumers.

Our economy depends on an affordable high-quality food supply for which we spend less of our disposable income than any country in the world. This leaves much more disposable income available for other needs and wants which also fuel our

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[7] Vegetative response to water availability on the San Carlos Apache Reservation, Roy Petrakis, Zhuoting Wu, Jason McVay, Barry Middleton, Dennis Dyem, John Vogel. July 2016. U.S. Geological Survey, Western Geographic Science Center, Flagstaff, AZ 86001.

[8] Steve Benson, Family Farm Alliance Director, Testimony Before the U.S. House of Representatives Republican Forum—"*Skyrocketing Energy Costs are Hurting Americans*"—June 24, 2022.

economy. This small investment in food for our families is made possible because farmers and ranchers have made significant changes in water use practices and investments in technological water efficiency tools. While some say growing crops in the arid West is not "sustainable," available land, growing conditions, workforce and access to transportation have proven this region to be a prosperous agricultural and economic engine.

**2. Global Hunger Crisis**

At the global level, hunger is on the rise, and the world community is not prepared to address this looming crisis. The 2022 *State of Food Security and Nutrition in the World* report[9] prepared by the United Nations Food and Agriculture Organization found that an unprecedented count of up to 828 million people went hungry in 2021, an increase of 46 million from the previous year, and a leap of 150 million people since the start of the COVID-19 pandemic. Even before the latest inflationary woes hit us and after years of seeing global hunger numbers drop, global hunger is back at record levels and rising.

Our organization has been tracking the Global Agricultural Productivity (GAP) Report since 2010, when it first quantified the difference between the current rate of agricultural productivity growth and the pace required to meet future world food needs. That report predicted that total global agricultural output would need to be doubled by the year 2050 to meet the food needs of a growing global population. The *2022 Global Agricultural Productivity (GAP) Report* was released last October by the Virginia Tech College of Agriculture and Life Sciences. The 2022 GAP Index found that total factor productivity (TFP), which increases when producers increase their output while using the same or less inputs, is at its lowest level of growth to date. The overall message of the GAP report is that vulnerable agricultural systems rest on fragile foundations. Reversing the downward trajectory of global agricultural productivity growth, the report says, demands urgent action from policymakers, leaders, donors, scientists, farmers, and others in the agri-food system. In short, the 2022 GAP report found that current efforts to accelerate global agricultural productivity growth are inadequate.

Just in the past month, we've seen "under the radar" media coverage of vegetable rationing in Great Britain, famine in the Horn of Africa, prolonged drought in France, Italy, and other parts of Europe, and farmers pushed to brink due to Argentina's drought. But, sadly—and as is likely to be expected—the story most people are clicking on is "Will climate change upend tequila production?" This issue is no laughing matter. According to the February 21, 2023 edition of *POLITICO's Weekly Agriculture* ("Russia's war pushes food crisis to its most dangerous stage"), this year, 2023 will be the biggest test. Russia is continuing to weaponize food, holding back some of its fertilizer exports while cutting off Ukraine, a major grain and food exporter, from its normal global trading routes—most notably to Africa and the Middle East.

We've also seen increased reports of world leaders sharing fears that global price spikes in food, fuel and fertilizers will lead to widespread famine, prompting global destabilization, starvation and mass migration on an unprecedented scale. Sri Lankan President Gotabaya Rajapaksa fled the country last summer, just days after thousands of protesters stormed his residence over the nation's crippling economic crisis. Sri Lanka for months had grappled with severe food and fuel shortages and skyrocketing inflation. Domestic food production also took a hit by the government's April 2021 decision to ban the importation of fertilizers and agrichemicals, in an apparent shift to organic agriculture. By the time the ban was partially reversed in November, farmers reported a 40 to 50% loss in rice production.

**3. War in Ukraine**

When war first broke out in Ukraine in early 2022, world leaders feared that sanctions and destroyed ports could take nearly 30% of the world's grain supply out of production or off the market this year. Ukraine is a breadbasket for Europe, Africa and the Middle East. Now, global grain stocks are pushing toward a decadal low. Shipments out of the Black Sea ports were too few, and harvests from other major crop producers (U.S., France, and China) were smaller than initially expected due to poor weather in key agricultural regions. These factors are shrinking grain harvests and cutting inventories, heightening the risk of famine in some of the world's poorest nations. The bleak global economic outlook, coupled with higher fertilizer and other production costs, "pose serious strains for global food security,"

[9] https://data.unicef.org/resources/sofi-2022/.

Maximo Torero, the Chief Economist for the U.N. Food and Agriculture Organization said last August.[10]

In December 2022, the U.N. sought a record $51.5 billion for world hunger aid needs, as more than 4% of the world's population needs hunger assistance. The U.N. aid system is being "tested to its limits", according to the U.N. aid chief. This represents a 25% increase in aid over the previous year; over five times the amount sought a decade ago.[11] Hunger-stricken African countries are struggling with reduced wheat imports due to Russia's war in Ukraine. However, one country—Zimbabwe—is looking to build a small strategic reserve for the first time in its history. Zimbabwean President Emmerson Mnangagwa in April described Russia's war in Ukraine as a "wake-up call" for countries to grow their own food (*Associated Press*).

**4. Vanishing American Farmland**

Closer to home, the American Farmland Trust (AFT) reported in "Farms Under Threat 2040: Choosing an Abundant Future" earlier this year that Americans are paving over agricultural land at a rapid pace. From 2001–2016, our nation lost or compromised 2,000 acres of farmland and ranchland every day. "Farms Under Threat 2040" shows we are on track to convert over 18 million acres of farmland and ranchland from 2016–2040—an area the size of South Carolina. If recent trends continue, 797,400 acres of California's farmland and ranchland in 2040 will be converted to uses that jeopardize agriculture. The latest study from AFT shows that Arizona and California are paving over and compromising productive farmland at the fastest rate in the U.S. According to the AFT report, Maricopa County, Arizona is losing farmland at a faster rate than any other county in the nation. Fresno County in California's Central Valley, the nation's leading agricultural county by gross value, is the 17th fastest in the nation in terms of farmland lost to other uses.

According to recent and alarming USDA data, foreign ownership and investment in U.S. agricultural land has nearly doubled over the past decade, 2010 through 2020. As of December 31, 2020, this represents 2.9 percent of all privately held agricultural land in the United States is held in foreign ownership. One of the largest groups of foreign investors is renewable energy companies, causing some to raise concerns that farmland will be further removed from production to meet renewable energy goals.

**5. The U.S. Agricultural Trade Deficit**

The Western U.S. is a critical part of what has long been a proud national agricultural powerhouse, where our country consistently has run an agricultural trade surplus. But in 2019, for the first time in more than 50 years, the U.S. agriculture system ran an agricultural trade deficit, importing more than it exported. The USDA forecasts the U.S. will again run a deficit in 2023 for the third time since 2019. This growing deficit is driven primarily by our dependence on imported Mexican fruits and vegetables (*Politico Pro DataPoint*). Increased reliance on foreign food has never been, and should never be a policy our Nation has intentionally embraced.

**6. Farmland Fallowing Due to Drought**

The U.S. last year faced yet another record-breaking drought year in the West. Farmers and ranchers in some of these areas received little to no water from federal water projects this past summer. Major reservoirs in California and along the Colorado River and Rio Grande reached or approached historic lows. As discussed earlier in this testimony, the government has also regulatorily withheld water from producers in places like the Central Valley of California, Central Oregon and the Klamath Basin. Our farmers and ranchers that are largely responsible for keeping the nation's grocery store aisles stocked were forced to leave fields fallow or reduce livestock herds. Nationwide, the U.S. red winter wheat crop was the worst since 1963. Ranchers didn't have enough grass, hay and corn to feed cattle and other livestock, and were forced to sell off herds early or purchase extremely expensive feedstocks. Oregon and Texas herds were down 30–50%, which will spike beef prices over the next 2–5 years.

Of course, California last year faced another year of punishing drought. A research team from the University of California (U.C.) Merced, studying the California drought, found that the 2022 water shortage in the Central Valley was

[10] U.N. News, August 5, 2022. "Major fall in global food prices for July, but future supply worries remain".

[11] Reuters, December 1, 2022. "From Ukraine to Yemen, U.N. seeks record $51.5 bln for 'shockingly high' aid needs".

2.6 million acre-feet, which resulted in 695,000 idled acres of farmland, with additional acreage impacted. The ravaging drought left hundreds of thousands of acres of Sacramento Valley farmland unplanted this year, causing dramatic harm to people, fish, waterfowl, shorebirds, and other wildlife. Researchers at U.C. Davis published a report entitled "Continued Drought in 2022 Ravages California's Sacramento Valley Economy", which projected that the 2022 drought impacts on farm production are likely to cause a loss of about 14,300 jobs and about $1.315 billion in economic value lost in the Sacramento Valley. California rice production was down 50% in 2022.

Most of the tomatoes consumed in the U.S., fresh, canned, and otherwise, come from California. Factors like the ongoing drought and rising fuel prices made the fruit harder and more expensive to grow, which will materialize in terms of scarce availability and higher prices on grocery shelves in the coming months. While critics of California agriculture suggest that increasing agricultural production in other states is a solution, the reality is that other states simply cannot replace California's lost fruit and vegetable production.

Irrigated land in California is disappearing for a variety of other reasons. The Sustainable Groundwater Management Act (SGMA) requires groundwater users to bring their basins into balance over the next two decades. In the San Joaquin Valley, this will likely mean taking more than 500,000 acres of agricultural land out of intensive irrigated agricultural production.[12] SB 100 (2018) requires 100 percent of the electricity sold to California customers to be derived from renewable or zero-carbon resources by 2044, which will put more pressure on finding room for new solar farms.

Central Arizona Project (CAP) irrigators—due to operating guidelines on the Colorado River—expect about 100,000 acres of farmland will be fallowed in 2023. Most of these lands (approximately 40,000 acres) currently produce cotton, but roughly 20,000 acre—according to CAP producers—will be alfalfa fields.

Undoubtedly, the Western drought has reduced the amount of water for many users, including irrigated agriculture. However, in places like California and Oregon, much of the water that once flowed to farms and ranches is currently being redirected by the federal government for environmental purposes. In other words, federal water policy is shutting down water availability for hundreds of thousands of acres of productive farmland. At a time when the future of Ukraine and other countries' ability to help feed the outside world is at risk, our ability to increase productivity is being further curtailed—due in part, to our own government.

## HOW THE FEDERAL GOVERNMENT CAN HELP

Americans are facing rising food costs and the potential for global famine looms on the horizon. The recent national infant formula shortage has further underscored the importance of a strong national domestic food supply system. Meanwhile, our own government has regulatorily withheld water from producers in places like the Central Valley of California, Central Oregon and the Klamath Basin. Many producers in the Southwestern U.S. are bracing for yet another year of severe drought and unprecedented water shortages.

There are things that the federal government can do to alleviate this disaster and better prepare and manage for future droughts. Federal investments in improving and building new water supply infrastructure—partnering with the Western states and non-federal water users—can help prevent or reduce the impacts of future droughts. Moving away from flow-based single species management to collaborative watershed-based approaches that respect and protect all uses will help prepare Western water stakeholders for a more predictable and secure future. We need to act, and act now, to accomplish these tasks.

Western irrigated agriculture has been dealing with changes in climate and hydrology for over a century. But the prognosis for water supplies in the future is not positive and will continue to negatively impact this important source of our Nation's food supply, the economic engine for most of our rural Western communities. Coupled with the growing demand for existing water supplies from burgeoning cities and the environment, irrigated agriculture is fast becoming a target for one thing—water. We must look to several solutions in order to maintain food security for the nation and economic wellbeing of the Western landscape.

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[12] Public Policy Institute of California Report, September 2022. "Solar Energy and Groundwater in the San Joaquin Valley".

**1. Improve Regulatory Processes at the Federal Level**

The economic, environmental, and national security implications of Western irrigated agriculture must be assessed and incorporated into federal water management decisions. These critically important issues must be treated with the same priority that federal agencies currently place on climate change and environmental values. For example, food security impacts must be properly assessed. Policy makers need to understand the direct and indirect linkages to the economy derived from a low-cost food supply, making available large blocks of disposable income to the consumer spending economy, as well as the availability of high-quality food sources provided by Western irrigated agriculture. Federal decision making must consider more than single species management of water resources, which has shown it can destroy anything and everything else in its path with little to no benefit to a listed species nor accountability by federal agency officials making those choices.

In January, I spent four days in Reno, Nevada at the 55th Annual Mid-Pacific Water Users Conference. This event is organized through a unique partnership between the Bureau of Reclamation and its water user customers in California, Western Nevada, and the Klamath Basin. Much of the discussion at the conference dealt with the juxtaposition of the recent multi-year drought with the series of "atmospheric rivers" that swamped much of California in late December and early January. The conference attendees also had plenty of stories to tell about the recent drought, which showed that water management in the West is becoming too inflexible. Even during times of flooding, state and federal regulations can prevent that water from being held over time to support human uses.

In Reno, I moderated a panel of five CVP water authority and district managers who all emphatically stated that we need a new way of looking at how we manage environmental demands for our limited water resources. One of those speakers, Jason Phillips, the CEO for Friant Water Authority, explained that, even in times when water is plentiful, California's magnificent dams and canals still cannot meet the state's water needs. As discussed earlier in this testimony, starting in the early 1990s, as a result of state and federal laws, regulations, lawsuits, and decisions, (both by elected and unelected officials), reservoirs are not allowed to convey the water stored for the intended purposes, and instead a large percentage of water must now be sent to the ocean.

"This is because decades after they were built, the government will no longer allow our water infrastructure to operate the way it was intended," Phillips said. "Each year this problem is getting worse, and unelected government officials are allowed to divert more water away from homes, communities, and farms."

We need a broader view of how water is used to meet environmental needs, one that considers state water laws, science, population growth, food production and habitat needs.

For those of who live in rural communities that have been impacted by these government decisions, it's almost unfathomable to understand. Many of the farmers and ranchers I work with feel like our government is about to throw away the best food production system in the world, as a time when our country and the world will need them more than ever . . . for what? So agency fishery biologists can sleep better at night?

My friend Ben DuVal, a Klamath Project farmer, shared his frustration last year, after NMFS told Reclamation to release over 400,000 acre-feet of water down the Klamath River, 190,000 acre-feet more than the projected inflow into the storage system.

"If we farmers failed as badly as the federal agency biologists who are controlling water policy, our bankers would have foreclosed on us 20 years ago," he said. "NMFS's regulatory demands are neither fair nor effective."

The "zero" allocation announced in May 2021 for the Klamath Project was unprecedented. The reason for the absolute curtailment of irrigation water was to provide increased water for competing threatened and endangered fish species in Upper Klamath Lake and the Klamath River and a species of whale that eats salmon in the Pacific Ocean, hundreds of miles away. But there is no evidence that any species benefited from this management. Not in 2021. Not in other recent years where irrigation has been shorted in the name of the ESA.

"It's the world's worst-kept secret that NMFS is using Klamath Project water to try to mitigate problems not caused by the Klamath Project," added Paul Simmons, executive director of the Klamath Water Users Association. "And when that doesn't work, they just do it again, and then again."

Lots of pain. No gain.

Adding insult to injury, the Klamath Project was targeted and attacked in traditional and social media. Legions of reporters, documentarians, and bloggers chose

and perpetuated narratives that demonize farmers and ranchers who make a living in irrigated agriculture growing food for the Nation.

Our farmers and ranchers need protection, and the government needs to be held accountable. Biological opinions are being written by unelected agency staff that have grave implications for farmers and ranchers living hundreds of miles away. We don't even know who is authoring these recipes for disaster. There is no accountability or transparency, and it sometimes seems as if they are crafting a grand experiment—consequences, reality and costs be damned. Just last week, the FWS announced the availability of the draft recovery plan for the Oregon spotted frog and the opening of a 60-day public comment period. The estimated cost for recovery of the OSF (on page 12 of the draft plan) is $2.78 BILLION over 40 years.

We need to manage our Western fisheries in a more coordinated manner. The Alliance since 2017 has supported various versions of H.R. 3916, the "*Federally Integrated Species Health (FISH) Act*." This legislation would amend the ESA to vest in the Secretary of the Interior functions under that Act with respect to species of fish that spawn in fresh or estuarine waters and migrate to ocean waters (anadromous fish), and species of fish that spawn in ocean waters and migrate to fresh waters (catadromous fish). We believe that by combining the ESA implementation responsibilities of both NMFS and FWS under one federal Department, we would promote more efficient, effective, and coordinated management of all ESA responsibilities for anadromous and freshwater fish in Western watersheds, from the highest reaches of our headwaters to the Pacific Ocean. Merging the NMFS ESA duties with those of FWS and tapping into the "constructive center" will lead to practical solutions that fit for ranchers, farmers, and other landowners, as well as fish and wildlife and tribal and local communities.

Finally, given the $12 billion+ that the Bureau of Reclamation will be spending over the next four to five years on Western water infrastructure (*see below*), we need to expedite permitting and get these new water projects to construction within a reasonable period of time at a reasonable cost, as well as create collaborative partnerships between federal, state, tribal, and local entities interested in finding solutions to our water-climate problems through adaptive strategies that can work on the ground.

**2. Actively Manage and Restore our Federal Forests**

Drought brings less snowfall in many areas. The snow that falls in some upland areas melts off up to 45 days earlier and runs off downstream on frozen ground. The snowpack no longer functions as a reservoir delaying the release of water in a timely manner. However, the forest floor can be restored through thoughtful management. A responsible level of continuous fuels reduction includes a combination of robust mechanical thinning and prescribed fire. This can be employed to significantly reduce evapotranspiration, tree stress, disease, and pest infestation, preserve healthy forest conditions, and protect species and habitats.

This is not only good stewardship—it is good economics. Failure to employ this approach will continue the downward, accelerating spiral of fuel accumulation, drought, disease, and invasive insects. This will lead, inevitably, to additional high-intensity and costly fire events in the future.

We believe active forest management can increase water yield, improve water quality, provide for jobs, and reduce the cost of firefighting, while increasing forest resiliency. This can be done, in part, by increasing the productivity of national forests and grasslands; employing grazing as an effective, affordable forest and grassland management tool; increasing access to national forest system lands; expediting environmental reviews to support active management; and designing West-wide studies to quantify water yield.

**3. Invest in Technology**

We must manage our water supplies better through more efficient and effective use of technology to improve the modeling and predicting of weather patterns, snowpack, and runoff forecasting, as well as using technology to manage our water storage and distribution to improve efficiencies in utilizing our precious water resources.

**4. Invest in Western Water Infrastructure**

Planning for water shortage in the West must look to the long-term in meeting the needs of agriculture, energy, cities and the environment. The federal government should partner with Western water users in promoting collaborative solutions, more flexibly implement environmental laws to meet multiple uses and species and use existing funds to efficiently and effectively invest and partner in Western water infrastructure. This will give farmers the tools necessary to deal with these complex

challenges and still grow food for a hungry nation. We must be thinking in terms of "Re-Reclaiming the West", with a focus on adapting our existing infrastructure to meet new hydrologic challenges, now that we know our water comes into our systems in different ways than it did historically. Creativity, thinking outside the box, and the federal government's recognition of the national interests at stake must all converge to create a new path forward for western irrigators who feed our Nation.

New infrastructure and technologies can help stretch water for all uses and boost the economies of Western rural communities. We urge Congress to maintain priority funding and in the new Farm Bill allow more flexible utilization of the Watershed and Flood Prevention Operations Program (WFPO)—administered by the USDA's Natural Resources Conservation Service (NRCS) and also known as P.L. 566—for watershed enhancements. This funding could be used for a variety of critical drought response and resilience projects including irrigation modernization, development of rural water supply sources, erosion and sediment control, and fish and wildlife habitat enhancement. It is also critical for supporting the modernization of irrigation water delivery infrastructure at scale. This is a program that Alliance members have put to use to replace leaking, open canals with pressurized pipes, and overall improving agricultural water security. The program's funding is becoming increasingly competitive because of the scale of need in modernizing agricultural infrastructure.

The NRCS awarded all $500 million that the IIJA allocated to WFPO in two rounds of announcements in 2022. The NRCS' announcement recognized that "[t]he amount provided to protect our watersheds is historic and highlights the priorities set by Secretary Vilsack to address the effects of climate change, ensure equity, and create a path toward climate resiliency." Unfortunately, the "path toward climate resiliency" created by the funding awards is overwhelmingly dedicated to feasibility studies (94% of awards) for small dam construction (59% of feasibility studies) to address flooding concerns in the eastern U.S. This decision raised two concerns with our membership: 1) Several Western irrigation modernization projects which have already developed watershed plans and are in the cue, moving toward implementation, were not funded; 2) It is uncertain how many of the feasibility studies for the new projects will ultimately be implemented. If those feasibility studies ultimately support implementation of small new dam projects, the available funding for a program that is already oversubscribed and underfunded will become even more strained.

**5. The Western Drought's Silver Lining**

Perhaps the only silver lining is that this unprecedented drought crisis is that it drew public and political attention to Western agriculture's critical role in providing a safe and reliable food supply, boosting the national economy, and continuing the country's stature as the world's premier food basket. Certainly, the drought helped drive Congressional action in the past year, where the Infrastructure Investment and Jobs Act signed into law in November 2021 by President Biden included $8.3 billion for Western water infrastructure. The Inflation Reduction Act signed into law last year included another $4 billion to address the Western drought, with priority placed on Colorado River challenges. We can only hope that further political attention leads to necessary, reasonable policies that support farmers and investment in rural communities, including water infrastructure and increased water-storage capacity. The Family Farm Alliance and other Western agriculture and water organizations believe the drought—followed by the recent series of "atmospheric rivers" that have largely restored California's mountain snowpack—underscores the urgent need to take immediate action to help better manage impacts to water resources from drought in the West.

## CONCLUSION

In order for irrigated agriculture to exist into the future, we need to look to enhance management of water supplies and delivery and we must maximize the benefits from the water we have available to meet multiple needs. Growers across the West are stepping up, at their own expense and in partnership with federal funding programs, to provide solutions for the viability of their basins and the communities those basins serve. In many cases, that means senior water rights holders are voluntarily making water supplies available to junior water users, preventing cuts otherwise required. There are other collaborative efforts underway to fund on-farm conservation projects that are helping reduce demand. Urban, agricultural, and environmental water users would all benefit from such efforts in the short and long term.

What does not help is the relentless finger-pointing by non-agricultural water agencies and critics of agriculture, saying that farmers aren't doing enough and what they are doing is killing fish. Critics of irrigated agriculture continue to shame farmers for growing crops, such as alfalfa, saying they should fallow their fields or switch to crops that use less water, which fixes nothing. The Western agricultural system was built on local supply of feed and food. Shifting production to other states adds additional food delivery miles, greenhouse gas emissions from transportation, and ultimately higher costs and/or emptier shelves at the grocery store. Locally grown food for humans, dairy and animal proteins results in lower costs to producers and consumers.

Many agricultural regions of the West do not have an economic base that can absorb additional unemployment, business closures, and the loss of tax revenue that come with fallowing. Agricultural regions, such as the central valleys of California and Arizona, are facing a future of dwindling and unsustainable groundwater supplies as they look to replace potential shortages from traditional sources like the Bay-Delta and the Colorado River. Entire communities are at risk of closing, bankrupting their populations.

Are we going to wake up and realize the world has drifted far from the stability we have known for our lifetimes and make required course corrections? Or do we remain committed to our own demise and continue on a crash course with what may likely be the greatest food shortage in global history? We have some decisions to make. Fallowing Western farmland means increased reliance on food production in other countries with lower or non-existent production standards. Fallowing any land during a time of crisis should be temporary, or we risk losing control of our ability to provide a reliable and safe U.S.-grown food supply.

Agricultural production in the West is an irreplaceable, strategic national resource that is vital to U.S. food security, the ecosystem, and overall drought resilience. The role of the federal government in the 21st century should be to protect and enhance that resource by doing whatever it can to ensure that water remains on farms. At a time of unprecedented change, one certainty holds firm and true—our nation's most valuable natural resource must be preserved. The Alliance looks forward to working with you to address the issues we have identified in this testimony and those we have not.

Thank you for this opportunity to present this testimony today. I stand ready to answer any questions you may have.

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Mr. BENTZ. Thank you.

The Chair now recognizes Ms. Guyas for 5 minutes.

**STATEMENT OF MARTHA GUYAS, SOUTHEAST FISHERIES POLICY DIRECTOR, AMERICAN SPORTFISHING ASSOCIATION, TALLAHASSEE, FLORIDA**

Ms. GUYAS. Chairman Bentz, Ranking Member Huffman, and members of the Subcommittee, on behalf of the American Sportfishing Association, I am honored to testify regarding the importance of sound Federal policies to support the economic, social, and conservation benefits recreational fishing provides the nation.

In 2021, 52.4 million people went fishing in the United States, supporting 826,000 jobs and contributing $129 billion to the economy. In addition to its economic benefits, fishing connects people to the outdoors and provides substantial funding for conservation. Fishing participation is dependent on access and healthy fisheries.

My testimony today will focus on important issues impacting saltwater recreational fishing access and conservation in my region of the southeastern United States.

The first issue I would like to talk about is Gulf red snapper. The Great Red Snapper Count, which was funded by Congress, indicates that there are three times as many red snapper in the Gulf of Mexico as previously estimated. Unfortunately, the path to

integrating this groundbreaking science into management and assessment has not been straightforward. As the stock assessment for Gulf red snapper proceeds, we ask for your oversight to make sure that the Great Red Snapper Count results are meaningfully incorporated to better inform future management of this fishery.

Our recent success with Gulf red snapper is state management, which provides reasonable angler access while improving recreational catch monitoring. Unfortunately, NOAA's insistence on calibrating state data collection programs to MRIP has created unnecessary strain on Gulf red snapper state management.

The calibrations fail to account for the data collection improvements made through the state programs, documented issues with using MRIP for harvest monitoring, and drivers of differences between the state programs and MRIP. Mississippi and Alabama will experience severe and unnecessary cuts in catch limits starting this year due to calibration.

Quickly resolving the differences in state programs and MRIP should be a priority, so that more appropriate calibration methods can be developed. ASA asks Congress to continue to stay engaged on this issue.

South Atlantic red snapper has rebounded so much that the stock is at record abundance and biomass. However, rebuilding success has not translated into successful management that provides reasonable harvest access, and serious questions have been raised about the latest stock assessment, which indicates that the stock is overfished and undergoing overfishing.

NOAA has advocated for bottom fishing closures for all 55 species of snapper grouper to address overfishing of red snapper. Meanwhile, anglers struggle to avoid catching red snapper because the stock is so abundant. The frustrating disconnect between Federal management and reality is posing dire economic and social implications for fishermen, the recreational industry, and our coastal communities.

Thankfully, the South Atlantic Red Snapper Count funded by Congress will provide much needed independent data on this fishery. ASA supports taking a science informed approach and holding off considering drastic bottom fishing closures until this new science is incorporated into the next assessment.

Another major access challenge is the proposed rule to broaden the current 10 knots speed restriction intended to protect North Atlantic right whales from vessel strikes, to include vessels 35 feet and larger, and expanded speed zones that essentially include the whole Atlantic coast out as far as 90 miles, with these restrictions lasting up to 7 months a year.

Regrettably, NOAA did not engage with stakeholders during development of this proposed rule, which has significant flaws that overestimate risk to whales from small vessels, underestimate the number of recreational vessels that would be affected, underestimate the negative economic impacts of this rule, and fail to consider how the rule would reduce human safety.

While we strongly dispute that the proposed rule is a commensurate response to the level of risk posed by 35- to 65-foot vessels, we recognize that the recreational fishing community has a responsibility to help protect right whales. Right whales deserve better

protection, but vast blanket speed restrictions that are not based on the best available science are not the solution.

Our industry is eager to work with NOAA and offers whatever expertise and assistance we can provide to ensure the success of the near real-time monitoring and mitigation pilot program for North Atlantic right whales that Congress included in the recent National Defense Authorization Act. We urge Congress to fully fund this program and believe this approach offers our best hope of saving right whales from extinction.

The last issue I would like to bring to your attention is shark depredation, which is when a shark consumed a hooked fish before it is landed. Because human conflicts with sharks are expected to further increase as shark populations continue to improve, fishery managers and scientists should collaborate with the recreational fishing community on solutions to depredation focused on management, policy, education, and research.

Again, thank you for the opportunity to provide the sportfishing industry's perspective on challenges impacting fisheries in the Southeast. We look forward to working with you on legislation that impacts the recreational fishing industry.

[The prepared statement of Ms. Guyas follows:]

PREPARED STATEMENT OF MARTHA GUYAS, SOUTHEAST FISHERIES POLICY DIRECTOR, AMERICAN SPORTFISHING ASSOCIATION

On behalf of the American Sportfishing Association, I am honored to have been asked to testify before the House Committee on Natural Resources Subcommittee on Water, Wildlife and Fisheries regarding the importance of sound federal policies to support the economic, social and conservation benefits recreational fishing provides to the nation.

The American Sportfishing Association (ASA) is the sportfishing industry's trade association committed to representing the interests of the sportfishing industry as well as the entire sportfishing community. We give the industry and anglers a unified voice when emerging laws and policies could significantly affect sportfishing business or sportfishing itself. ASA invests in long-term ventures to ensure the industry will remain strong and prosperous, as well as safeguard and promote the enduring economic, conservation and social values of sportfishing in America. Recreational fishing is truly an all-American activity. Our fisheries resources, which are held in the public trust and conserved through sound laws and policies, are envied the world over. In 2021, 52.4 million people went fishing in the U.S., supporting 826,000 jobs and contributing $129 billion to the economy. Fishing is the third most popular outdoor recreation activity, behind only running and hiking.[1]

All of this fishing activity supports the economy, connects people to the outdoors and provides substantial funding for conservation. Through fishing license purchases, excise taxes and direct donations, the recreational fishing community contributes approximately $1.7 billion toward aquatic resource conservation each year. I am confident in saying that no other user group contributes nearly as much toward ensuring our nation's waterways and fisheries are healthy and accessible to the public.

Our community is also working hard to ensure that the sport continues for generations to come. After about a decade of steady growth in participation, the number of recreational fishermen in the U.S. surged dramatically in 2020, increasing from 50.1 million Americans in 2019 to 54.8 million Americans in 2020.[2] As the COVID-19 pandemic disrupted work schedules, travel plans and many in-person activities, Americans turned to the outdoors in record numbers for their physical and mental health, and to pass time.

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[1] Outdoor Foundation. 2021 Participation Trends Report. Available online at: https://outdoorindustry.org/wp-content/uploads/2015/03/2021-Outdoor-Participation-Trends-Report.pdf

[2] Recreational Boating & Fishing Foundation and The Outdoor Foundation. 2022 Special Report on Fishing. Available online at: https://www.takemefishing.org/getmedia/155fcbd1-716a-41e5-ad5b-1450b76b9162/2022-Special-Report-on-Fishing.pdf

With COVID-19 vaccines available and life returning closer to normal, fishing participation declined by 4 percent in 2021 to 52.4 million anglers, a number still greater than pre-pandemic. With the return of other activities, we now have more competition for peoples' time, so must work to remind and educate people of why they took up—and hopefully enjoyed—fishing to begin with.

Some of the largest increases in participation have come from Hispanics (increasing by 7 percent from 2019 to 4.7 million in 2021) and females (increasing by 8 percent since 2010 to 19.4 million in 2021). In addition, participation among youth ages 6–17 increased by 14 percent from 2019 to 12.9 million in 2021, providing hope that fishing will continue for generations to come.

Fishing participation is dependent on two primary factors—access and healthy fisheries. Access can take several forms, including physical access to water (e.g., boat ramps, piers, public shorelines) and regulatory access (e.g., seasons, bag limits, size limits, closures). While simply being outdoors and wetting a line is a large part of the enjoyment of fishing, at some level, most people want to actually catch fish too. There are many more effective ways of catching fish than a rod, reel and hook, so for recreational fishermen to have a decent probability of encountering a fish, there have to be a lot of fish in the water.

Decisions that affect fishing access and fisheries conservation are made at every level of government all across the country. While fishing itself can be relaxing and carefree, fisheries policy is generally the opposite. Fisheries management is carried out in a wide range of regulatory and legislative arenas, following complicated processes that often arrive at contentious outcomes.

In the southeastern U.S., where I work, the issues also get more complicated and contentious the further offshore you go. The federal government, via NOAA, manages fisheries in the exclusive economic zone (EEZ), which for the purpose of fisheries management is 3–200 miles off the South Atlantic coast and from 3 or 9 miles out to 200 miles in the Gulf of Mexico.

While there are many important issues affecting marine fishery access and conservation, my testimony today will focus on what I believe are the top four issues currently impacting the recreational fishing community in the southeastern U.S.

**Gulf Red Snapper**

Red snapper is arguably one of the most valued recreational fisheries in federal waters of the Gulf of Mexico, and certainly the most contentious. The fishery is not considered overfished or undergoing overfishing but is in a rebuilding plan.[3] Thanks to state management, Gulf red snapper recreational harvest opportunities have improved in recent years, but challenges remain.

*Great Red Snapper Count*

Results of the Great Red Snapper Count (GRSC), which was funded with a $10 million appropriation from Congress to provide an independent estimate of abundance of Gulf red snapper, indicate that there are more than 118 million red snapper in the Gulf as of 2019. Abundance was previously estimated to be about 36 million fish. The wide disparity in estimates is explained by the GRSC finding a surprisingly large biomass of red snapper over uncharacterized bottom that was not considered in previous stock assessments. Although the GRSC improves our knowledge of red snapper in the Gulf of Mexico, the path to integrating this groundbreaking science into red snapper management and assessment has not been straightforward.

Effective January 1, 2023, NOAA implemented regulations that use a percentage of the baseline GRSC estimate of abundance to increase the overfishing limit (OFL) for Gulf red snapper from 15.5 to 25.6 million pounds (mp). This increase accounts for the abundance of all red snapper over structure and 13% of the abundance from the uncharacterized bottom since most red snapper fishing occurs on artificial reefs, natural reefs, and other structures. The same rulemaking increased the allowable biological catch (ABC), which is equal to the overall annual catch limit (ACL) for red snapper, by 300,000 pounds using the National Marine Fisheries Service bottom longline (NMFS BLL) survey rather than the GRSC. This results in the ABC being an unprecedented 60.1% below the OFL, whereas the previous ABC was 2.6% below the OFL. I'm not aware of any other fishery, at least in the southeast, with such a massive difference between the ABC and OFL. In frequently asked questions issued regarding the final rule, NOAA cites a declining trend in the NMFS BLL survey and uncertainty in the Great Red Snapper Count estimates as reasons for

[3] NOAA Fisheries. Status of Stocks 2021: Annual Report to Congress on the Status of U.S. Fisheries. Available online at: https://media.fisheries.noaa.gov/2022-05/2021%20Status%20of%20Stocks%20RtC_051022_FINAL.pdf

the large difference between the OFL and ABC. Increasing the OFL by a significant margin based on the GRSC, yet only providing a modest increase to the ABC and ACLs for red snapper is confusing to most fishermen, considering the GRSC increased the estimate of red snapper in the Gulf of Mexico by threefold.

After recommending NOAA implement these new limits, the Gulf of Mexico Fishery Management Council (GMFMC) requested catch advice for red snapper be reconsidered using new studies and revised estimates from the GRSC. The GRSC results, revisions to the GRSC estimate for Florida based on a post-stratification analysis, and incorporation of a separate study that estimated red snapper abundance off Louisiana, were then used by NOAA to arrive at a Gulf wide red snapper abundance estimate of 85.6 million fish. This estimate was then used to generate catch advice scenarios for consideration by the GMFMC's Scientific and Statistical Committee (SSC). Ultimately, the SSC and GMFMC recommended an OFL of 18.9 mp and ABC (and overall ACL) of 16.31 mp. This latest round of catch advice sets a much lower OFL than that implemented by NOAA, seemingly discounting the findings of the peer reviewed GRSC, but increases the ABC based on the same information, thus making more fish available for harvest. This change in catch limits is currently under review and pending implementation by NOAA. Although the GRSC results indicate there are roughly three times as many red snapper in the Gulf than previously estimated, if this proposed rule is implemented, the overall Gulf ACL will increase by a modest 8% compared to the ACL in place before the GRSC was complete. This situation is difficult for experts, let alone the angling public, to understand and explain.

A new research track stock assessment for Gulf red snapper is underway and will be followed with an operational assessment that will provide information about stock status and be used to generate catch advice. On a recent stock assessment webinar, NOAA staff tentatively proposed using 2018 GRSC data as regional indices of abundance in the assessment. We are hopeful that GRSC results can be meaningfully incorporated into the stock assessment to better inform red snapper management moving forward.

*State Recreational Data Calibrations*

After two years of testing the concept of state management under exempted fishing permits, in 2020, NOAA delegated each of the Gulf states the ability to set red snapper seasons, bag limits, and size limits for their anglers in adjacent federal waters. State management has been a game changer by providing reasonable private angler access to red snapper harvest that is tailored to local needs while improving recreational catch monitoring compared to the federal Marine Recreational Information Program (MRIP), which provides general trends in recreational catch and effort but was not designed for tracking harvest relative to ACLs. Prior to state management, the federal Gulf red snapper season got shorter every year and was down to just a handful of days. Last year, private recreational angler red snapper seasons set by the states ranged from 57 to 128 days.

Under state management, each state must monitor and constrain harvest relative to their allocated portion of the private angler component of the recreational ACL. To do this, each state uses their own data collection program that is designed to meet the needs of their state and its anglers. For example, Louisiana's program, called LA Creel, replaced MRIP in 2014 to provide more precise, localized, and near real time data on all saltwater recreational fisheries, including red snapper. Alabama and Mississippi designed programs that also provide red snapper harvest estimates independent of MRIP. Florida's program, called the State Reef Fish Survey, was designed to provide more precise and more timely catch and effort data on 13 species, including red snapper, by supplementing MRIP. The surveys from Florida, Alabama, Mississippi, and Louisiana are "MRIP certified" by NOAA, which means they have been peer-reviewed and determined to be statistically valid for monitoring recreational catches.

In the final rule to implement state management, NOAA noted that calibrations that adjust for differences in the state data collection programs and MRIP would be necessary so that 1) landings from each of the different programs can be directly compared and 2) each state's ACLs could be adjusted such that each state's landings and ACL are in the same "currency." NOAA implemented these calibrations effective January 1, 2023. Unfortunately, calibration has created unnecessary strain on Gulf red snapper state management, which has successfully resulted in improved data collection, sustainable access, and until now, minimized the friction between the angling community and fishery managers.

ASA believes the simple calibration ratios that were finalized in this rulemaking calibrate the states' recreational red snapper data to MRIP using methods and data that are not the best available science. Indeed, at their February 2022 meeting, the

Gulf of Mexico sub-group of the MRIP Transition Team acknowledged the limitations of the simple calibration ratio approach and recommended that alternative approaches be explored and used in the long term. While the proposed simple ratio calibrations achieve NOAA's goal of converting state data from four of the Gulf states into MRIP "currency" for easy comparison (Texas has never participated in MRIP, therefore did not require calibration), they fail to account for the data collection improvements made through the various state programs, the documented issues with using MRIP for ACL monitoring of Gulf red snapper, and drivers of the differences between the state programs and MRIP. In essence, although state programs like Alabama Snapper Check and Mississippi's Scales and Tails were designed to improve upon and replace the use of MRIP for red snapper monitoring, the ACLs for these states are still derived using problematic MRIP data. The calibration ratios will result in Mississippi and Alabama experiencing severe 50–60% ACL cuts starting this year, which will result in fewer harvest opportunities for anglers, and in turn, have negative economic impacts on the recreational fishing industry and disenfranchise the angling community that has supported and benefited from the data collection and management improvements realized under state management. Given that the GRSC shows a more robust population than previously believed, these cuts will be especially difficult for anglers to swallow.

When the GMFMC approved these red snapper recreational data calibrations, they recommended postponing implementation of calibration to allow the Gulf states and the NOAA Office of Science and Technology time to resolve the differences in the state data collection programs and MRIP, as recommended by both the Council's SSC and a 2021 National Academy of Sciences report to Congress. Unfortunately, these differences have not yet been resolved, even with encouragement and appropriations from Congress. Although a multi-year plan has been developed, the slow progress in resolving this critical need is perpetuating a climate of mistrust and a lack of confidence, and results in anglers being unfairly penalized.

Just two months after NOAA implemented these calibrations, the GMFMC initiated a new action that would update the calibration ratios for Florida, Alabama, and Mississippi based on recommendations from its SSC and concerns that adjustments to the calibration ratios may be warranted. These updates would change the years and/or MRIP waves used in the calibrations implemented by NOAA, but do not address the need for an alternative long-term approach. Quickly resolving the differences in the state data programs and MRIP should be a priority of NOAA and the Gulf of Mexico sub-group of the MRIP Transition Team so that more appropriate calibration methods can be developed as needed. We encourage NOAA to work collaboratively with the states on this so that both anglers and states trust the calibration process and outcomes.

**South Atlantic Red Snapper**

In terms of rebuilding, Atlantic red snapper is a success story. The fishery has responded to strong regulatory measures taken by the South Atlantic Fishery Management Council (SAFMC) to rebuild the stock. Since 2010, South Atlantic red snapper have rebounded so much that scientists and fishermen both agree the stock is at record abundance and biomass, such that there are now more red snapper in the South Atlantic today than any living person has ever seen. Recruitment of young fish into the population has also been consistently high for nearly a decade. However, success in rebuilding has not translated into successful management that provides reasonable harvest opportunities. The recreational fishery has largely been closed for the past 13 years except for a few weekend openings. Last year's season was two days.

Successful rebuilding also has not affected the status of the Atlantic red snapper stock; the latest stock assessment indicates the fishery is undergoing overfishing and is overfished. Although red snapper are abundant, the fishery is considered overfished because most of the fish in the stock are young, and it is believed that older fish are the key to a healthy population. The stock assessment points to discards from the recreational fishery as the cause of overfishing. As red snapper have become more abundant, fishermen are catching more and are forced to release them when they are fishing for other species outside the red snapper closed season.

Questions have been raised by the SAFMC, scientists, and the public about whether the data and assumed reference points in the stock assessment are leading us to the wrong conclusion about this fishery being overfished and undergoing overfishing. The overfishing designation hinges on discard estimates that are unvalidated, very uncertain, and generally considered unreliable and unsuitable for fisheries monitoring. In addition, much of the fishery independent data used the assessment are from relatively recent studies that do not provide us with a good historical perspective of the fishery, which is problematic for understanding the pop-

ulation dynamics of a fish that can live to be nearly 50 years old. How can red snapper be considered chronically undergoing overfishing when so much progress in rebuilding has occurred that the stock is at record abundance and biomass? Is this record biomass fueling the trend of continuously high recruitment of young fish? What about recruits coming over from the Gulf stock? Are more old fish truly necessary to sustain a healthy fishery, or is it possible that a stock with a lot of young fish can be just as productive as one with a broader range of ages? Better data and a fresh look at the measures of success that are used to assess and manage this stock are needed. Luckily, thanks to $5.1 million in appropriations from Congress, the Atlantic Red Snapper Count will provide independent data on Atlantic red snapper to inform the next stock assessment.

Despite the serious questions about the reliability of the data and stock assessment, NOAA has informed the SAFMC that they are required to act to end overfishing immediately. At the June 2022 SAFMC meeting, the NOAA Southeast Regional Administrator noted that discard mortality needed to be reduced by 65% to end overfishing and advocated for the SAFMC to consider seasonal and/or area-based bottom fishing closures for all 55 species of snapper grouper as a way "to keep people off the fish."

Thankfully, the SAFMC has thus far rejected this approach. Large area and/or seasonal closures to all bottom fishing would be devastating to the recreational fishing industry and South Atlantic offshore anglers and would sacrifice the ability to achieve optimum yield for the other 54 species in the snapper grouper complex. The remarkable rebuilding progress Atlantic red snapper has made in recent years raises serious questions about the need for extreme and draconian measures to end overfishing of red snapper, especially given the dire economic and social implications for fishermen, the recreational industry, and our coastal communities. ASA supports taking a science-informed approach to red snapper and holding off considering seasonal and/or area-based bottom fishing closures and other significant measures until the South Atlantic Great Red Snapper Count and other data that will improve our understanding of the stock are incorporated into the next assessment, which is slated to begin in 2024. ASA also supports taking a fresh look at the red snapper stock assessment assumptions and reference points before considering significant restrictions so that NOAA, SAFMC, and the public can be confident that they are making the right choice about the future direction of red snapper and the snapper grouper fishery as a whole.

ASA supports reducing dead discards of red snapper, but snapper grouper bottom fishing closures are not the way to get there with a stock that by all measures is historically abundant and has rebounded at an astonishing pace. Soon, the SAFMC is expected to take a final vote to recommend that NOAA reduce the ACL for red snapper and prohibit use of more than one hook per line in the recreational snapper fishery as steps toward ending overfishing of red snapper. ASA supports these measures and the SAFMC's efforts to educate fishermen on use of descending devices and best fishing practices that help released fish survive. Moving forward, we are hopeful that states will obtain exempted fishing permits to test other ways to manage this fishery, improve data collection, and provide harvest opportunities that reflect rebuilding success.

**North Atlantic Right Whale Vessel Speed Restrictions**

On August 1, 2022, NOAA announced a proposed rule to broaden the current 10-knot (11.5 mph) speed restriction intended to protect North Atlantic right whales from vessel strikes to include vessels 35 feet and larger (down from 65 feet) and expand the speed zones from discrete calving areas to essentially the whole Atlantic Coast out as far as 90 miles, with these restrictions lasting as long as seven months a year.

These speed restrictions will severely impact offshore recreational fishing in the Atlantic, making fishing grounds that previously took at most a few hours to reach now impossible to get to and from in a single day. Rather than traveling slower, many offshore fishermen will forgo trips entirely, resulting in fewer expenditures and economic activity in coastal communities. Inevitably, many boat owners will question why they own, or would want to purchase, a boat that can't effectively be used for half the year.

To be clear, ASA recognizes that the recreational fishing community has a responsibly to help protect North Atlantic right whales. As America's original conservationists, recreational anglers and boaters proactively support science-based efforts to conserve our marine ecosystems. In many cases, our industry has offered constructive input that was ultimately used to develop management solutions, including sacrificing recreational access for long-term benefits, that meet conservation goals and allow for the continued contributions our sector provides to the nation.

While this proposed rule had been in development for more than a year, NOAA's Office of Protected Resources did not conduct any formal engagement with stakeholders. This lack of engagement helps partially explain, though does not justify, the significant flaws within the rule, including:

- An analysis of NMFS data found approximately 5.1 million recreational fishing trips were taken in this region by vessels 35–65 feet in length since 2008. Assuming all five right whale strikes during that time were from recreational vessels, and that all these vessels were on fishing trips, the chance of a 35–65 foot recreational vessel striking a right whale during an offshore fishing trip is at most 0.000098%, or less than one-in-a-million. Attempting to predict risk on a one-in-a-million chance of a vessel strike is simply not an effective management strategy and highlights the futility of expanding the Seasonal Speed Zones (SSZs) to address such a small possibility of vessel strike interactions.
- NMFS is using unrepresentative whale density values in their risk modelling, thereby creating a significant bias that may overestimate risk to whales from small vessel strikes. NMFS' own technical memo states that, "the high densities predicted along the mid-Atlantic may not be realistic."
- The model assumes 10-meter draft depth criteria when calculating vessel strike risk. However, recreational vessels in this size class rarely have a static draft that exceeds 2 meters. This also creates bias that may overestimate risk to whales from small vessel strikes.
- NMFS underestimates the number of recreational vessels that will be impacted by the proposed rule at 9,200 vessels. However, based on 2021 vessel registration data analyzed by Southwick Associates, there were more than 63,000 registered recreational saltwater vessels measuring 35–65 feet in states across the proposed SSZs.
- NMFS estimates the positive economic output from whale watching in the northeast at $95.1 million. In contrast, NMFS estimates $46.2 million in negative impacts for all vessel size classes and regions combined. It is difficult to understand how the economic benefits of whale watching operations in the northeast exceeds the proposed rule's economic harm to all recreational vessels.
- A sportfishing vessel and a shipping container vessel pose different threats to right whales based on vessel characteristics (e.g., length, draft, traffic patterns). However, instead of developing management options based on known differences in vessel characteristics (mainly traffic patterns), NMFS estimates risk is uniform across all vessels greater than 35 feet which is inconsistent with best available science.
- Enforcement of the proposed rule using Automatic Identification Systems (AIS) would be impractical and could lead to significant human safety risk. AIS is mandatory for certain vessels over 65 feet to improve the navigational safety of the vessel and other vessels operating in the area. AIS is not required on recreational vessels 35–65 feet although many boat owners voluntarily carry and operate AIS for the added safety-at-sea benefits. It is a very real concern that operators of boats less than 65 feet may decide to turn off their AIS systems in fear of triggering a speed restriction enforcement action. This would have the unfortunate consequence of reducing navigational safety, boater safety and hampering efforts during search-and-rescue operations.
- Vessel speed is a significant safety feature on a recreational boat. Most recreational boats lack high displacement hull design that often provides ocean-going and commercial vessel stability and the ability to operate safely in significant sea states. The 10 knot speed limit would force recreational boaters to operate in conditions that would compromise safety of the passengers and vessel.

While we strongly dispute that the proposed rule is a commensurate response to the level of risk that 35–65' vessels pose to right whales, we acknowledge that there is some risk, no matter how minimal. Right whales deserve better protection, but vast, blanket speed restrictions that are not based on the best available science are not the solution.

Among the many flaws with this regulatory approach is the high level of non-compliance with existing vessel speed restriction. According to Oceana, non-compliance within existing seasonal management areas ranged from 32.7% to 89.6%

over three seasons.[4] It is illogical to take a regulatory approach that has shockingly low compliance among a relatively small number of professional shippers, apply it to a much larger area and to tens of thousands of non-professional vessel operators, and expect success.

Rather than rely on blanket speed restrictions that will have devastating impacts to the marine economy and offer little realized benefit to right whales, we believe the focus needs to be on technology that can deliver real-time monitoring of individual right whales. It is feasible to gather real-time location information on a significant portion of the right whale population and disseminate information to mariners and other vessel operators, which would apply empirically-based, targeted precaution instead of excessively severe measures that do not accurately reflect actual risk nor can be adequately enforced.

To that end, ASA is grateful that Congress included in the recent National Defense Authorization Act for Fiscal Year 2023 the authorization of a near real-time monitoring and mitigation pilot program for North Atlantic right whales (Sec. 11303 of Public Law 117-263). We urge Congress to fully fund this program. Our industry is eager to work with NOAA, and offers whatever expertise and assistance we can provide, to ensure the success of the near real-time monitoring and mitigation pilot program. We believe this approach offers our best hope of saving right whales from extinction.

**Shark Depredation**

Imagine hooking the fish of your lifetime, enduring a long, hard fight to get it to the boat, and at the last second before landing the fish, a shark emerges and engulfs your catch. Few experiences can match the highs and lows of fishing as shark depredation, and unfortunately it is becoming an increasingly common occurrence.

Shark depredation occurs when a shark eats or damages a hooked fish before the fish can be landed. These interactions can be frustrating for anglers when they result in damage to or loss of fish, bait, and/or fishing gear. There are also concerns that increasing levels of shark depredation on hooked fish and scavenging of released fish is reducing fish survival, negatively impacting fisheries, and will eventually contribute to stricter regulations intended to offset or avoid shark interactions. The sportfishing community cares about conservation of all marine life, and the escalating issue of shark interactions with recreational fishing must be addressed for the benefit of all fisheries and the fishing public.

A recent study found that, "77% [of anglers surveyed] had experienced depredation in nearshore and pelagic fisheries in the last five years, with depredation more commonly reported in the southeastern United States."[5] 87% of charter guides surveyed said they experienced depredation with clients, resulting in a negative business impact. This research underscores the economic burden and negative attitudes generated from shark interactions.

In the United States, sharks are managed at state, interstate, and national levels and through international treaties. Historically, shark populations were significantly reduced primarily due to overfishing. Over the past few decades, management under the Magnuson-Stevens Fishery Conservation and Management Act has focused on rebuilding overfished stocks and maintaining sustainable shark fisheries. As such, the United States has achieved increases in populations of many shark species.[6] Despite this progress, several shark species are expected to be in rebuilding plans for decades because they are slow to grow and reproduce; prohibited from harvest for conservation purposes; and/or listed under the Endangered Species Act.[7]

Although this multi-layered management framework has contributed to the success in rebuilding shark stocks, it also presents constraints in how fishery managers can respond to increasing shark interactions. Human conflicts with sharks are expected to further increase as shark populations continue to improve. This will require fishery managers and scientists to collaborate with the

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[4] Oceana. July 2021. Speeding Toward Extinction: Vessel Strikes Threaten North Atlantic Right Whales. Available online at: https://usa.oceana.org/sites/default/files/4046/narw-21-0002_narw_ship_speed_compliance_report_m1_digital_singlepages_doi_web.pdf

[5] Grace A. Casselberry, Ezra M. Markowitz, Kelly Alves, Joseph Dello Russo, Gregory B. Skomal, Andy J. Danylchuk. When fishing bites: Understanding angler responses to shark depredation, Fisheries Research, Volume 246, 2022.

[6] Peterson et al. 2017. Preliminary recovery of coastal sharks in the south-east United States. Fish and Fisheries (18):845–859.

[7] NOAA HMS, 2021. 2021 Stock Assessment and Fishery Evaluation Report for Atlantic Highly Migratory Species. National Marine Fisheries Service, Atlantic Highly Migratory Species Division. 250 pp.

recreational fishing community on solutions, while considering the complexities of shark fishery management and science.

We support a variety of methods to protecting sharks across four pillars: Education, Management, Policy and Research.

Education

Given the apparent increase in the frequency of shark interactions, ASA believes educating anglers on how to avoid and respond to them should be a priority in the short term. Guidance should include information on the following strategies:

- Relocation
- Teaching the best methods for landing a fish quickly.
- How to avoid depredation when releasing fish.
- Use of shark deterrents, such as magnetic technology, that can redirect sharks away from boats.

As we learn more about shark interactions and how to address them, ASA expects educational messaging to evolve. We look forward to engaging with fishery managers and other organizations on developing a public messaging campaign surrounding shark encounter education.

Management

We urge NOAA and other fishery managers to consider how shark management measures can impact fisheries and vice versa. NOAA should consider several strategies to manage shark and fish interactions, which could include designing a more holistic management approach that accounts for and balances species interactions, allowing anglers to turn discards into retained fish and allowing anglers to retain fish damaged by sharks.

Harvest increases for shark stocks that are considered healthy and contribute to depredation should also be considered if supported by sound science. However, we caution against expanding the use of indiscriminate commercial fishing gear on sharks, which can create increased bycatch of important recreational fisheries, sea turtles and other protected species.

Policy

It appears that shark depredation of targeted and scavenging of released fish may not be simply opportunistic, but a learned behavior. For example, shark dive tours in which sharks are attracted to dive sites by feeding may teach sharks to associate humans and their vessels with food. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) currently prohibits shark feeding off Hawaii and the Western Pacific because of such concerns. ASA supports amending MSA to end the practice of shark feeding nationwide.

Research

ASA supports ongoing and future research to better understand the occurrence and causes of shark conflicts with fishing vessels. Specific shark research needs include the following:

- The species involved, locations and seasonality of shark interactions.
- Prioritizing shark stock assessments to evaluate harvest opportunities.
- Physiological cues, which may have led sharks to become habituated to people and environmental cues.
- How angler behaviors and regulatory frameworks influence shark interactions.
- Additional techniques and strategies for limiting shark interactions, including the use of deterrents.

Lastly, ASA recognizes that there is a wide array of government and non-government entities that are affected by and should be involved in addressing this challenge. Unfortunately, coordination across the fishery management community on how to tackle shark depredation has been severely lacking. ASA supports the establishment of a multi-disciplinary task force to encourage coordination and communication and identify priorities and funding opportunities for research and strategies to address shark interactions.

Increasing shark depredation is negatively impacting fishing experiences, threatening the safety of sharks and humans, and negatively impacting the sustainability of targeted fish populations. ASA believes that fishery managers need to

move beyond identifying the challenges with shark interactions and begin working collectively on solutions.

**Conclusion**

Thank you again for the opportunity to provide the sportfishing industry's perspective on some of the top challenges impacting marine recreational fishing in the southeastern U.S. We are grateful for the ongoing work of the House Natural Resources Committee to advance legislation that will strengthen the management and conservation of the nation's public lands and waters. We look forward to working with the Committee on legislation that impact the recreational fishing industry and America's 52 million anglers.

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QUESTIONS SUBMITTED FOR THE RECORD TO MS. MARTHA GUYAS, SOUTHEAST FISHERIES POLICY DIRECTOR, AMERICAN SPORTFISHING ASSOCIATION

**Ms. Guyas did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.**

**Questions Submitted by Representative Dingell**

*Our nation's water resources are a vital part of our environmental heritage. As we discuss access to U.S. water resources, we must remember that keeping America's fisheries sustainable is critical in keeping fisherman on the water, rebuilding overfished stocks, and securing our seafood supply.*

*Every angler knows that big fish need little fish to eat, that is why robust forage fish populations are vital for the overall health of the marine ecosystem.*

*Forage fish are smaller fish that support other recreationally and commercially important species such as tuna, salmon, and cod. However, many of these fish species have declined dramatically in recent years, while demand for these fish species has only continued to grow.*

*Question 1. Ms. Guyas, as I recall, the Morris-Deal report, which articulated a vision for management of recreational fisheries and was endorsed by the American Sportfishing Association, included the need for improved forage fish management as one of its key policy pillars. Ms. Guyas, how important are forage fish for healthy recreational fisheries?*

*Question 2. Ms. Guyas, last Congress, I introduced the bipartisan Forage Fish Conservation Act, which was passed out of this committee as part of the broader MSA reauthorization. The Forage Fish Conservation Act would implement science-based management approaches to ensure we have enough forage fish in our oceans for a healthy marine ecosystem. It also earned the support of 10 Republicans and 11 Democrats as co-sponsors, underscoring the broad consensus for strengthened fisheries management. Ms. Guyas, but left unaddressed, how will declining forage fish stocks affect the overall marine environment?*

*Question 3. Speaking of bipartisan efforts to promote healthy fisheries and help sustain fishery access for anglers, American Sportfishing Association has also supported the Recovering America's Wildlife Act. Ms. Guyas, why would RAWA be transformational for wildlife conservation and sportsmen's access to water resources?*

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Mr. BENTZ. I thank the witness for the testimony.

The Chair now recognizes Ms. Cordalis for 5 minutes.

**STATEMENT OF AMY CORDALIS, LEGAL COUNSEL, YUROK TRIBE, KLAMATH, CALIFORNIA, AND CO-FOUNDER, RIDGES TO RIFFLES INDIGENOUS CONSERVATION GROUP, SACRAMENTO, CALIFORNIA**

Ms. CORDALIS. [Native language spoken] Subcommittee Chairman Bentz, Ranking Member Huffman, and members of the Subcommittee, thank you for the opportunity to testify today.

My name is Amy Cordalis. I am a member of the Yurok Tribe, Legal Counsel for the Tribe, and also the co-founder of the Ridges to Riffles Indigenous Conservation Group, a non-profit dedicated to the protection of tribal cultural and natural resources.

Unfortunately, there are few better examples of the challenges associated with multi-use water resources than my home waters, the Klamath Basin in Southern Oregon and Northern California.

The Klamath supports Tribal Nations, a Federal irrigation project, a wildlife refuge, a hydroelectric project, recreation and commercial and offshore fisheries. Historically, when the Klamath was healthy, it could support all these interests. But now the Basin is in ecological, cultural, and economic crisis. No one is thriving.

The Federal Government, working through the Departments of the Interior and Commerce, often work at cross purposes trying to appease the interests of diverse groups rather than serving the public interest through policies that support ecosystem resiliency and equitable access and use of waters.

There is no harsher example of the risk created by Federal agencies working at cross purposes than the 2002 Klamath River Fish Kill. That year, over 78,000 adult Chinook salmon died on the Klamath River within the boundaries of the Yurok Reservation. It was the largest fish kill in American history.

It was caused by the Bureau making deliveries to agriculture that led to historic low flows on the Klamath River at the same time a healthy run of adult Chinook salmon returned to the river. A fish disease called ich spread through the salmon run and killed them.

The fish kill was caused by the Bureau's mismanagement of the Klamath. It led to closures of the entire West Coast salmon fishery in 2004 and harmed endangered whales and was a violation of the Yurok Tribe's water and fishing rights and a breach of the Federal Government's trust responsibility to us.

2023 poses yet again a difficult year in which there may not be enough water to meet the needs of endangered fish and agriculture despite all of the hydrology coming in in other parts of the area.

So, it is not because this is a dry year, but because the Bureau is once again mismanaging the Klamath. The Bureau allowed too much water, including illegal diversions, from Upper Klamath Lake to be used last year. And as a result, lake levels are now low. The Bureau claims there won't be enough water to meet ESA needs and decided to violate the NMFS Coho BiOp by cutting river flows 16 percent below those required by the BiOp from January through April.

Salmon redds are at risk of being dewatered. And as we move further into March and April, tens of thousands of salmon fry are at risk of dying because there won't be sufficient habitat.

These 2 years illustrate that conflicting demands on water often leads to poor management that drives ecosystems and the cultures and economies dependent upon them further into crisis. Making matters worse, the Federal Government continues to ignore the Yurok Tribe's water rights. No water is provided to protect the Tribe's interest, despite decades of harm to our fishery and community water supplies.

We haven't had a viable commercial fishery in over 10 years because salmon populations are at 1 to 5 percent of their historical size. Failed Klamath stocks leads to commercial fisheries' closures throughout the West Coast because salmon country is all connected.

Commercial and subsistence fisheries are important and are likely to collapse under current management regimes. This mismanagement is happening under Republican and Democratic administrations. The Federal Government would do better to serve the Klamath by recognizing water management is a bipartisan issue, because every American deserves equitable use and access to water resources.

The path forward in the Klamath is taking this fundamental approach and supporting local solutions that rebuild ecosystems, cultures, and economies.

Klamath dam removal embodies this approach. Klamath dams don't impact water supplies, generate a very small amount of power, and are old and require significant investments. And they destroy the Klamath River ecosystem and tribal rights.

PacifiCorp made a business decision to remove those dams that were supported by the local stakeholders.

And, Chairman Bentz, in your remarks you asked, who do we rely on? And I urge this Committee, the Subcommittee, to rely on the American people, because time and time again we have always met the challenges of the day, and we will find local solutions to these problems as well.

Thank you.

[The prepared statement of Ms. Cordalis follows:]

PREPARED STATEMENT OF AMY CORDALIS, YUROK TRIBAL MEMBER, LEGAL COUNSEL FOR THE YUROK TRIBE, AND CO-FOUNDER OF THE RIDGES TO RIFFLES INDIGENOUS CONSERVATION GROUP

Subcommittee Chairman Cliff Bentz, Ranking Member Huffman, and members of the Subcommittee, thank you for the opportunity to testify today at the hearing on Benefits and Access: the Necessity for Multiple Use of Water Resources. My name is Amy Cordalis, and I am a Yurok Tribal member, legal counsel for the Yurok Tribe, and co-founder of the Ridges to Riffles Indigenous Conservation Group, a non-profit dedicated to the protection of tribal cultural natural resources. I submit this testimony on behalf of the Yurok Tribe and Ridges to Riffles Indigenous Conservation Group.

**I. USE AND ACCESS TO WATER SHOULD REFLECT THE RICH DIVERSITY OF THIS COUNTRY BY ENSURING THAT EVERY AMERICAN HAS EQUITABLE ACCESS TO WATER RESOURCES**

Across the Nation, there are powerful watersheds that support life on this planet. Iconic watersheds—like the Mississippi, Colorado, Columbia, and the Klamath—carry water and resources from mountain headwaters through forests, plains, deserts, and valleys to the Ocean as a part of this planet's hydrologic cycle.

All life requires water. Accordingly, the United States has developed watersheds to maximize their benefit to the nation. Watersheds support multiple uses, such as providing water for domestic, industrial, commercial, municipal, tribal, fisheries and wildlife, agriculture, hydropower, and recreation. Over the last one hundred years, watersheds were vastly altered through massive federal reclamation and hydropower projects. The buildup of western dams and irrigation projects changed the western landscape and allocated water to consumptive uses for large agricultural, industrial, and municipal needs. The legacy of that development has been the impairment of tribal rights, fisheries, and ecosystem health—but it does not have to be this way.

Multiple federal agencies—subject to complex, often conflicting statutory and regulatory directives—are responsible for managing these diverse watersheds. Climate change and drought further complicate matters by reducing the amount of water available and drastically changing hydrological patterns. Now, many major watersheds in the United States are sick and weak. Overworked and compromised by decades of habitat destruction, too-high water diversions, and pollution. Several west coast fisheries, including the Klamath River, have collapsed and many species are on the verge of extinction. Incredibly, every major river on the west coast has been in prolonged litigation for decades over collapsing fisheries impaired by historic development.

Our current western water conflicts, which are many, arise not from a lack of ingenuity or a failure of its water users to engage in solutions; rather, the conflicts are created by ecosystem collapse caused by inadequate instream flows, polluted water, degraded habitat, over allocation of water, aging infrastructure for reclamation and hydroelectric projects, and conflicting regulatory directives. Congress and federal agencies should support equitable access to water, incentivize ecosystem restoration, and champion regulatory and physical infrastructure modernization to be sure that the multiple beneficial uses of our water resources meet the needs of the public in the 21st century.

Further, use and access to water should reflect the rich diversity of the country by ensuring that every American has equitable access to water resources. This can be achieved by supporting laws and policies that equally value human interests (including Indigenous), business interests, and ecological interests in multiple-use waters. This can be accomplished by:

1) restoring ecological health of major watersheds;
2) empowering stakeholders — tribes, states, businesses, and NGOs — to co-manage water resources;
3) updating or removing aged and inefficient infrastructure;
4) engaging in better water use planning based on the best available science and law, for drought, tribal rights, and agriculture deliveries;
5) upholding the Nation's duties to Indigenous peoples.

## II. WATER USE AND INFRASTRUCTURE BASED ON 20TH-CENTURY ETHOS AND TECHNOLOGY

Much of the Country's water resources were developed in the early 1900s. The development was based on laws, policies, and technologies of the era when little was known about ecosystem function or health. At that time, the nation was ending a war with Indigenous nations and the country was moving westward, developing an agrarian and extractive economy that incentivized inefficient water usage of few over wise use for many.

The nation prioritized the development of water resources to support energy and food production at any cost. Rivers were dammed without fish passage. Ecosystems were altered by wetland draining, flooding of other lands, and rerouting of waterways to construct federal reclamation projects. In most cases, water resources were developed without regard for ecological implications. Tribal treaty rights to water, fish, hunt, and gather were either terminated, removed, or flat-out ignored.

Today, we witness the implications of past water resource development. Many water-based ecosystems across the country are sick—polluted and weak. Some species, including salmon, are close to extinction and we have lost many species already. Tribal water rights remain unrecognized. Of the over 574 federally recognized Tribes, less than 45 have had their water rights quantified.[1] Moreover, these unquantified, and usually senior, tribal water rights remain ignored or contested, like the Yurok Tribe's water rights on the Klamath and many tribes in the Colorado River Basin. Further, much of the hydropower and reclamation project infrastructure built in the 1900s has aged and is in poor condition and in need of significant investment to become efficient and consistent 21st-century technology. Power companies often refer to these projects as "legacy assets" that no longer bring value to the company and are burdens on company portfolios.

Making matters worse, the federal agencies involved in managing multiple-use waterways responsible for protecting farmers, tribes, and species seem to work at cross purposes failing to implement multiple statutory requirements. This results in poor natural resource management that further plunges water ecosystems and communities relying on water diversions into crisis.

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[1] https://crsreports.congress.gov/product/pdf/R/R44148.

Climate change and drought make water resources management even more difficult by reducing the reliability of modeling necessary to support water and species management. Climate change is also causing changes to hydrology patterns in ways that we cannot predict, making management of federal reclamation projects even more unreliable and risky.

## III. ECOLOGICAL, ECONOMIC, AND CULTURAL CRISIS IN MANY WATERSHEDS—CLIMATE CHANGE EXACERBATES CRISIS: THE KLAMATH BASIN EXAMPLE

Unfortunately, there are few better examples in the Country of the challenges associated with multi-use water resources than my home waters, the Klamath River Basin in Southern Oregon and Northern California.

The Klamath River Basin is a mighty basin. Its headwaters are in southern Oregon which flow into Upper Klamath Lake, home to the Klamath Tribes, the Klamath Reclamation Project, and the Klamath National Bird and Wildlife Refuge. The waters then flow into the Klamath River and downstream through the Klamath Hydroelectric project, into California and through Karuk Tribe Country, the Yurok Reservation, and finally into the Pacific Ocean. The Klamath supports tribal nations, a federal irrigation project, wildlife refuges, a hydroelectric project, recreation, and commercial and offshore fisheries.

### a. Klamath Basin Development

For millennia the Indigenous peoples of the Klamath Basin managed the natural resources of the Klamath Basin. The pillar of their management was balance: never take more than what was needed to support family and tribe, reflecting respect and honor for the ecosystem that provided life. Indeed, the people and the species of the Klamath Basin—including the now notorious endangered coho salmon and suckers—evolved and co-existed in the Basin together. The success of this approach is proved by the fact that the historical Klamath salmon runs were the 3rd largest in the continental United States.

This was disrupted by colonization in the mid 1800s and early 1900s. In 1855, the Yurok Reservation was created through Executive Order on the lower 45 miles, one mile on either side of the Klamath River, reserving for the Yurok people its inherent sovereignty, and aboriginal water, fishing, hunting, and gathering rights.[2] The Klamath Reclamation Project was authorized in 1905, setting in motion the draining of the Upper Klamath Basin wetlands and lower Klamath Lake to make over 200,000 acres available for agriculture, the removal of the river channel from the Upper Klamath Lake to the Klamath mainstem, and the construction of over a hundred miles of canals to carry Klamath water to agricultural fields.[3] This work forever changed the ecosystem of upper Klamath lake by dramatically altering its natural state and disrupting critical ecological functions necessary to keep the ecosystem healthy.

While construction on the Klamath Reclamation project was still happening in the Upper Klamath Basin, construction on the Klamath Hydroelectric project began in 1912 and continued with the development of four dams by 1962. Built without salmon ladders, these dams block salmon from accessing over 400 miles of spawning habitat which has nearly annihilated the wild salmon stocks in the Klamath River. Making matters worse in 1955, Congress authorized the development of the Trinity River Diversion ("TRD") to divert water from the Trinity River, one of the largest tributaries to the Klamath and one of the most important for salmon, into the Central Valley Project. In 1980, an Environmental Impact statement reported an 80% decline in chinook salmon and a 60% decline in steelhead populations since the construction of the TRD and reported that lack of instream flows as the primary cause.[4]

Through this, the federal government's trust responsibility to the Indigenous peoples of the Klamath Basin, including the Yurok Tribe, remained to protect tribal homelands, fishing, and water rights. Yet, as for Yurok, the Tribe's hard-fought-for federally reserved fishing and water rights have been ignored. The Tribal commercial fishery has been closed for almost 10 years and the subsistence fishery has been dismal due to nearly collapsed Klamath salmon stocks. The Tribe's water supply is

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[2] www.yuroktribe.org.

[3] https://www.usbr.gov/mp/kbao/aboutus/index.html.

[4] Biological Opinion for the Trinity River Mainstem Fishery Restoration EIS and Its Effects on Southern Oregon/Northern California Coast Coho Salmon, Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook Salmon, and Central Valley Steelhead, at 2. See, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/PCFFA&IGFR/part2/pcffa_109.pdf.

not sufficient to support economic development, housing, or government services on the Reservation.

Today, the federal government working through the Department of Interior—the Bureau of Indian Affairs, the United States Fish and Wildlife Service, the Bureau of Reclamation—and the Department of Commerce—through NOAA fisheries—often works at cross purposes trying to appease the interests of these diverse groups rather than serving the public interest through policies that support ecosystem resiliency and equitable access and use of waters. There are dismal runs of fish and an insufficient water supply on the Yurok Reservation because the federal government manages the Basin to appease competing needs rather than following congressional direction established in the law of the Klamath River through Tribal treaties, the Endangered Species Act, the Reclamation Act and other sources. These important laws establish a priority in the Klamath Basin to satisfy tribal treaty rights and Endangered Species Act needs prior to other interests in the Basin. Yet, the Bureau of Reclamation (Bureau or Reclamation) continues to ignore the Yurok Tribe's water rights and fails to manage the Klamath project to ensure sufficient water for Endangered Species Act listed species.

**b. 2002 Fish Kill and 2023 Temporary Operations Plan; the Federal Government at Cross Purposes**

There is no harsher example of the risk created by federal agencies working at cross purposes than the 2002 Klamath River fish kill. In 2002, over 78,000 adult chinook salmon died on the Klamath River within the boundaries of the Yurok Reservation. This was the largest fish kill in American history. The fish kill was caused by the Bureau of Reclamation allocating water for agricultural deliveries that dropped river flows below 800 cubic acre feet per second at Iron Gate Dam. The result was some of the lowest flows the Klamath River has ever experienced at the same time a healthy run of adult chinook salmon returned to the river. The low flows reduced the habitat available for salmon causing overcrowding, increased water temperatures to almost lethal warm temperatures, and polluted water quality. This created river conditions that spread a fish disease called Ich, a fatal and extremely contagious fish disease that spread through the entire salmon run that year.

The fish kill was man-made; the Bureau of Reclamation diverted water to support agriculture, cut river flows, and the fish died as a direct result. It impacted tribal fisheries, ocean fisheries, and ocean species dependent on salmon. In 2004 west coast salmon fisheries were closed down due to the low levels of Klamath River stock which was the same class of fish killed in the 2002 fish kill. Further, southern Oregon orca whales are now listed on the Endangered Species Act due to population loss caused by insufficient food supplies, mostly salmon from the Klamath River. The Yurok Tribe hopes the salmon did not die in vain. Instead, may their deaths teach us that we must equally value the rights and needs of ecosystems with those of people and businesses on multipurpose waters.

This year, 2023, poses yet again a difficult water year in which there won't be enough water to meet conflicting needs of Endangered Species Listed species of coho salmon and sucker fish, and agricultural needs. The Bureau of Reclamation's mismanagement of the Klamath Reclamation Project is exacerbating these problems. In 2022, Reclamation provided a second agricultural allocation and allowed illegal water diversions for agriculture through late summer, fall, and winter which drained the Upper Klamath Lake to low levels. In January the Bureau adopted a 2023 Temporary Operations Plans (TOP) which adopted a system wide priority of making an Upper Klamath Lake level of 4142.4 to improve sucker spawning habitat in the lake and the USFWS issued a new Sucker Biological Opinion that reinforced the lake level as a system priority.[5] Because of the extra agricultural deliveries, there is not enough water in the lake now to meet 4142.4 while also allowing releases of water to the river to meet the minimum flows required by the NMFS Coho Biological Opinion (Coho BiOp).[6] As a result, for the first time since 2005 when the 9th circuit in *Pacific Coast Federation of Fishermen's Associations v. U.S. Bureau of Reclamation*, 426 F.3d 1082 (9th Cir. 2005), declared Coho BiOp minimum flows in the Klamath essential to salmon survival, the Bureau cut river

[5] https://www.usbr.gov/mp/kbao/docs/klamath-project-january2023top01262023.pdf; https://www.usbr.gov/mp/kbao/docs/20230113final-2023-klamathproject-biological-opinion-fws-wcover-signed.pdf.

[6] https://www.fisheries.noaa.gov/resource/document/biological-opinion-effects-proposed-klamath-project-operations-may-31-2013.

flows to 800–834 cfs, 16% below those required by the NMFS Coho BiOp.[7] The Bureau is now in violation of the Coho BiOp because it is not maintaining minimum flows required by the BiOp, it has not consulted with NMFS on the impacts of dropping flows, and it will cause take of coho which is a violation of the Endangered Species Act. The results have been disastrous. Salmon redds have been stranded. As we move into March, both coho and chinook salmon fry will migrate downriver and there will be insufficient habitat which will cause high mortality.

The loss of this class of salmon impacts the overall health of the Klamath salmon stocks by reducing stock population and genetic diversity. Only 1–5% of the Klamath salmon stocks remain. Only once in the last eight years have the Klamath chinook salmon made the escapement goal and only 20 times out of the last 44 years.[8] Taken together the future is grim for Klamath salmon stocks and the people, like the Yurok Tribe and the Commercial fishermen who depend on them.

Importantly, Yurok's senior water rights remain unrecognized, and no water is provided to protect Yurok's tribal trust resources. A grave miscarriage of justice provided that Yurok's water rights are some of the most senior in the Basin and include flows for fisheries purposes that would provide water to help restore Klamath salmon stocks and ecosystem resiliency.

2002 and 2023 illustrate the challenges of managing multi-purpose watersheds: ecological collapse, harm and failure to recognize tribal rights, conflicting species needs, over allocation of water resources, lack of water to support agriculture and wildlife refuges, and aging inefficient infrastructure. There are too many conflicting demands on too little water in the Klamath Basin. There will be no fish, birds, farmers, or Indians in the Basin if the status quo continues. The Klamath ecosystem will simply collapse.

**c. The Future of the Klamath Basin**

The future of the Klamath is investing in habitat restoration to make the ecosystem more resilient. Species will recover not by providing minimum lake levels or river flows as required by the Endangered Species Act but by improving water quality, restoring habitat, and attempting to restore the Basin closer to its original condition to enable natural ecosystem functions. Agriculture should be made sustainable. Power companies should be allowed to terminate legacy dams and assets. The recent investments in the Klamath Basin through President Biden's Bipartisan Infrastructure Law and Inflation Reduction Act funding will support critical restoration projects that will begin the process of healing the Klamath ecosystem.

As for the role of the federal government, the Klamath Basin would be better served by a recognition that water management is a bipartisan issue because every American, including those in the Klamath Basin, deserves equitable use of and access to water. The best approach is one that empowers local Indigenous people, farmers, power companies, recreation industries, and fishermen to comanage the resources that impact their livelihood. Drought can be managed through planning. Tribal rights can be acknowledged through planning. Agriculture can be managed through planning. The federal government, including Congress and the Administration, should empower this process by investing and supporting locally driven

[7] In more detail, going below the minimum flows violates the ESA in three ways. First, Reclamation has not completed consultation with the National Marine Fisheries Service ("NMFS") on going below the minimums, which have been treated by Reclamation and NMFS as inviolate ever since the Ninth Circuit held in 2005 that the minimum flows had to be met throughout the life of Klamath Project operations plans. Reclamation is, therefore, in violation of its duty to consult with NMFS before it takes actions that are likely to adversely affect SONCC Coho Salmon and Southern Resident Killer Whales by depleting their Chinook Salmon prey base. Second and related, Reclamation set into motion the conditions it now asserts necessitating going below the minimums when it increased agricultural water deliveries in the summer of 2022. Reclamation established the water allocation in the spring in keeping with the 2019 Biological Opinion and Interim Operations Plan, but then allocated an additional 57,000 AF to agriculture when water availability exceeded the spring forecasts. Just as the 2019 Biological Opinion never analyzed the effects of going below the minimums, so too it did not assess the effects of providing more water to agriculture than allocating in keeping with the parameters set out in the operations plan. The past two years have underscored how important it is to ensure adequate water is in Upper Klamath Lake at the end of the water year to ensure water availability to meet the needs of the endangered fish in both the lake and the river. Third, going below the minimums will cause the take of SONCC Coho Salmon in violation of ESA Section 9 by dewatering salmon redds, reducing spawning habitat availability, and reducing juvenile salmon habitat availability. If the flows continue to be below minimums into the spring, salmon fry and juveniles will experience reduced rearing habitat and the impacts of C. shasta infections to young salmon will be exacerbated. In order to avoid such take, Reclamation must not allocate more water to Ag after the water allocations are set in the spring and must not go below the minimum instream flows required to protect ESA-listed species.

[8] https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=KlamathTrinity.

solutions such as a management council that would allow tribes, farmers, NGOs, and the federal government to determine annual water allocations and regulatory compliance.

## IV. RESTORE ECOLOGICAL RESILIENCE BY INVESTING IN WATERSHED RESTORATION AND LOCAL CO-MANAGEMENT AND SOLUTIONS

To maximize the public value by supporting multiple uses of water resources, the nation should support ecological resilience by investing in our waters with the goal of ensuring that every American has equitable access to water resources. This can be achieved by supporting laws and policies that equally value human (including Indigenous), business, and ecological interests on multiple use waters, empowering local stakeholders to co-manage water and investing in ecosystem restoration to build watershed resiliency.

Any recent success on the Klamath has come through this fundamental approach of equality in access and use of federal waters. Klamath dam removal represents a model for updating water resource infrastructure to restore ecosystems, improve equitable water use and access while advancing business interests.[9] Klamath Dam removal is contemplated according to the terms of the Klamath Hydroelectric Settlement Agreement (KHSA). The KHSA is signed by California, Oregon, Karuk Tribe, Yurok Tribe, Pacificorp, and several NGOs. Klamath dam removal is scheduled to be completed by December 2024. Four dams will be removed to restore volitional fish passage and allow salmon to return to over 400 miles of spawning habitat. Dam removal will provide several benefits to the entire ecosystem by improving the overall ecosystem's health and resiliency, allowing the river to heal and flow naturally. This will improve water quality, lower water temperatures, and reduce fish disease. This will improve conditions for all species on the river, not just salmon, and will restore important tribal trust resources.

Dam removal does not reduce or impact the amount of water available in the system for sucker fish, coho salmon, or agricultural needs. Importantly, PacifiCorp, owner of the Klamath hydroelectric project, chose to support dam removal based on the best interests of the corporation and their ratepayers because it was more affordable to remove dams than it was to install fish ladders as would have been required by the Federal Power Act. Finally, the Klamath dams generated a very small amount of energy. On the Klamath, dam removal worked because it equally served tribal, ecosystem, and business interests.

Some question removing dams while the country is moving toward renewable energy, arguing hydropower is a clean green energy source. However, no energy source is "clean or green" if it ignores tribal treaty rights, leads species to extinction and causes ecological collapse, which is sadly the case for many hydroelectric projects in the Country. Further, in many cases, a decision on whether to remove aging infrastructure or a legacy asset that no longer serves ratepayers and the public should be left to the power companies and local stakeholders. It should not be influenced by political party positions.

## V. CONCLUSION

"*Conservation means development as much as it means protection.* I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us"

Theodore Roosevelt, Osawatomie, Kansas, 1910

Our Nation developed some of the world's most powerful multiple purpose water resources in the 20th century. Much of this development was supported by President Roosevelt, who believed equally in the development and protection of natural resources. As we enter the 21st century, the Nation should once again follow the leadership of President Roosevelt by encouraging protection, rather than unencumbered development, as the guiding principle of multiple uses of water resources management.

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Mr. BENTZ. Thank you for your testimony.
And with that, I recognize Mr. Corwin for 5 minutes.

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[9] https://klamathrenewal.org/.

**STATEMENT OF SCOTT CORWIN, EXECUTIVE DIRECTOR, NORTHWEST PUBLIC POWER ASSOCIATION, VANCOUVER, WASHINGTON**

Mr. CORWIN. Chairman Bentz, Ranking Member Huffman, members of the Committee, I thank you for this opportunity. I love talking hydropower.

I am Scott Corwin, Executive Director of the Northwest Public Power Association, comprised of consumer and electric utilities across the West, many in communities where clean, renewable hydropower plays a prominent role.

Hydropower has a rich history as a critical part of multiple use river systems. When much of the West was still without electricity in the early 20th century, the dams brought light, economic opportunity, and a new way of life. Dams are also critical to transportation, irrigation, flood control, recreation, and have a multitude of mitigation measures for fisheries and endangered species protection.

Although it makes up only 7 percent of energy capacity nationally, hydropower provides almost 60 percent of the capacity in the Northwest, and almost 90 percent of the capacity used by many of our members who have contracts with Federal power marketing administrations.

There is a lot of great potential for new hydropower at existing dams where there isn't generation yet and at sites where pumped storage is possible. Federally owned hydropower is subject to congressional oversight through this Committee and has a distinctly different regulatory regime than non-Federal hydropower. Utility consumers with first right to Federal power pay for those costs of the operations and maintenance of projects and rates set by those four Federal power marketing administrations, or PMAs. Proper allocation of costs to various power and non-power purposes is an important principle.

Non-Federal hydropower is subject to an often arduous and lengthy licensing and permitting process involving multiple Federal agencies and other interests. The average time to relicense a project is 7 years and costs $3.5 million in paperwork, not counting any new environmental, or safety, or other upgrades.

It took less time to renew Energy Northwest's license for their 1,200-megawatt nuclear plant than it did for their 27-megawatt hydro project. Without change to these unpredictable timelines and costs, there is serious risk of abandonment of projects. According to the National Hydropower Association, by 2035, there are 459 licenses up for renewal for about 9,076 megawatts of hydropower and 8,380 megawatts of pumped storage.

So, we support the legislative proposals that would improve the hydropower permitting process, and we also support creating a level playing field in tax policy for existing hydropower to receive the treatment similar to other renewable generation.

Another permitting challenge to hydropower involves areas prone to wildfire where runoff from Federal lands creates rapid buildup of sediment in reservoirs, which causes serious problems at those projects.

The bottom line is we need hydropower because it is efficient, clean, reliable, relatively low cost, and, most importantly, because it is flexible. It can be adjusted quickly to changes in demand.

Hydropower plays a critical role in the Western interconnection for grid resilience. Though it is only 10 percent of the total generation for the California independent system operator, it makes up 60 percent of the CAISO's spinning reserves.

Hydropower was there when needed during last summer's heatwaves in the Northwest and in California. The four lower Snake dams provided over 1,000 megawatts of energy production and reserve capacity while maintaining flows for juvenile fish migration. And for reference, 1,000 megawatts is about the same amount used by a city the size of Seattle.

A study conducted for the Public Power Council showed losing generation from just those four dams would result in increased annual $CO_2$ emissions of over 4 million metric tons per year and would increase the risk of shortage events in the Western grid, which is already concerned about resource adequacy and increased risk of rolling blackouts, and would cost energy consumers about $790 million per year in added costs. In other words, this is critical hydropower capacity that is not easily replaced.

Hydropower is well positioned to play a lead role in our energy future. It complements and enables other multiple uses of our water resources and is one of the best, most flexible tools that we have to achieve our energy goals and face the challenges ahead.

Thank you for your leadership in holding this oversight hearing today.

[The prepared statement of Mr. Corwin follows:]

PREPARED STATEMENT OF SCOTT CORWIN, EXECUTIVE DIRECTOR, NORTHWEST PUBLIC POWER ASSOCIATION

Chairman Bentz, Ranking Member Huffman, and Members of the Committee, thank you for the opportunity to testify today on the multiple use of water resources so vital to the economic and social fabric of communities across our country. We appreciate you holding this hearing and your support of water resources and specifically of the hydroelectric power generation that our members rely on to energize their communities.

The Northwest Public Power Association is comprised of over 150 consumer-owned electric utilities in the Western United States and British Columbia. These are rural electric cooperatives, municipalities, and public utility districts governed by the people they serve and located in the states of Alaska, California, Colorado, Montana, Nevada, Oregon, Utah, Washington, and Wyoming.

Our membership uses a wide mix of power generation resources including coal, natural gas, hydropower, nuclear, wind, solar, geothermal, biomass, and diesel. With many members relying on it to meet a large portion of their demand, clean and renewable hydropower plays a prominent role in many rural communities in the West that face economic challenges from an array of other factors.

**Background on Hydropower and Multiple Use of Water Resources**

Hydropower has been the foundation of renewable power since the earliest use of the waterwheel to grind corn. In many areas of the country, and particularly in the West, hydropower is a critical element of the multiple use river systems that are the lifeblood of these communities. When much of the West was still without electricity in the early 20th century, the dams brought light, economic opportunity, and a new way of life as the nation emerged from the great depression.

A foundation of the West's energy supply, hydropower is a vital component of our nation's clean energy generation portfolio. Although it makes up only 7% of energy capacity nationally, hydropower provides 25% of the capacity in Alaska, almost 60% of the capacity in the Northwest generally, and almost 90% of the capacity used by our members who have contracts with the federal power marketing administrations

such as the Bonneville Power Administration and Western Area Power Administration.

The dams lend not only a clean, continuing supply of power, they are critical to transportation, irrigation, flood control, and recreation as well. Just down the road from our office in Vancouver, Washington, flood levels of the Columbia River in the late 19th century and during the deadly flood of 1948 were measured at over 30 feet of elevation where the river is usually between one and five feet. We now have 37 million acre-feet of upstream storage reserved for flood control. With respect to navigation, the Columbia and Snake River System moves 51 million tons of international trade, including 60% of all of the nation's wheat according to the Pacific Northwest Waterways Association. Just one towboat with four barges replaces over 500 trucks to haul those same commodities.

The benefits of hydropower pertain to most hydropower facilities, whether produced at federal or non-federal dams. Non-federal hydropower is subject to a lengthy licensing and permitting process by the Federal Energy Regulatory Commission (FERC) in conjunction with various other agencies. Federal projects are marketed by the federal Power Marketing Administrations, are subject to Congressional oversight through this committee, and have a distinctly different regulatory regime than the non-federal hydropower. Most federal projects are owned and operated by the U.S. Army Corps of Engineers and Bureau of Reclamation, but the customers of community-owned utilities with rights to purchase that power pay for the costs of operating and maintaining those projects.

There are four federal Power Marketing Administrations (PMAs), which sell the electrical output of federally owned and operated hydroelectric dams in 34 states. They are the Bonneville Power Administration (BPA), Western Area Power Administration (WAPA), Southwestern Power Administration (SWPA), and Southeastern Power Administration (SEPA).

BPA, headquartered in Portland, Oregon, markets the power from 31 federal dams operated by the Army Corps of Engineers and the Bureau of Reclamation. BPA also owns 15,000 miles of high-voltage transmission lines that tie together this large integrated system.

WAPA, headquartered in Lakewood, Colorado, markets and delivers power across 15 states from 10 rate-setting projects that encompass both WAPA's transmission facilities and the power-generating facilities owned and operated by the Bureau of Reclamation, the U.S. Army Corps of Engineers (Corps) and the International Boundary and Water Commission. These projects are made up of 14 multipurpose water resource projects and three transmission projects.

SWPA, headquartered in Tulsa, Oklahoma, markets hydroelectric power in Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas from 24 Corps multipurpose dams with a combined generating capacity of approximately 2,213 MW. Southwestern operates and maintains 1,381 miles of high-voltage transmission lines.

SEPA, headquartered in Elberton, Georgia, has the authority to market hydroelectric power and energy from 22 reservoir projects operated by the Corps in the states of Alabama, Florida, Georgia, Illinois, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, and does not operate a transmission system.

With their organic statutes linked to flood control and irrigation as well as other governing laws and treaties which address navigation, fisheries, recreation, and environmental stewardship, the federal hydropower projects are prime examples (as are many non-federal projects) of how the multiple uses of water resources fit together to benefit a broad array of interests. It is also worth noting that power customers pay via rates for the costs of power production and transmission and that proper allocation of the costs of other project purposes to the appropriate users is an important principle that supports continued ability to market hydropower effectively.

**Specific Benefits of Hydropower**

Even though hydropower may fluctuate year to year, month to month, or week to week, it is stable and flexible within short periods of time. It has very important positive characteristics in addition to deriving its source of energy from continuously renewable water: (1) it is *efficient* in its conversion of energy; (2) it is *clean* in that it does not have waste heat or external emissions; (3) it is *reliable* since it makes use of basic and time-tested technology; (4) it is generally *low-cost*; and, (5) it is *flexible* in that it can adjust quickly to changes in demand.

While other forms of energy storage that exhibit some of these characteristics may increase over time, the ability to store the energy of falling water is serving us today and provides the fast response needed on demand. Significant pursuit of

development of pumped storage hydropower projects will also serve to create even more capacity for meeting peak demand, for avoiding reliability events, and for balancing other resources.

*Non-Emitting Flexibility*—Hydropower's unique attributes add stability to the grid and enable newer forms of generation. These qualities include a high level of flexibility that very well matches the increasing need to balance intermittent renewable generation sources such as wind and solar. It lends system stability, reliability, ramping capacity, resilience, and effective integration of other resources that do not have this same level of capacity.

*Grid Resilience*—The threat of electric system outages, especially during severe weather, is always a top concern to our members. Grid resiliency is getting more focus at a national and hydropower is particularly well suited to lend a hand with resilience as outlined in a useful Department of Energy report from October 2021 called *Hydropower's Contributions to Grid Resilience* (PNNL-30554). It noted the critical role hydropower can play in the Western Interconnection during extreme events causing unplanned large loss of generation. Hydropower also has qualities very well suited to rapid restoration of service. Even small-scale, run-of-the-river hydropower has potential for adding resiliency in black start situations. In a demonstration project with public power utility Idaho Falls Power, the Idaho National Laboratory completed a series of tests to implement operational controls in which they could restart generators individually and then gradually add load to operate the system in islanded mode—in effect, creating their own new microgrid during emergencies.

Another study from September 2022 by DOE's Pacific Northwest National Laboratory is noteworthy in showing the benefits of regional diversity in hydropower resources. The multiyear drought has had devastating effects in some areas of the West. Each hydropower project and electrical systems are impacted in different ways over various time periods. PNNL found that even during the most severe droughts over the last two decades, hydropower has sustained 80% of average power generation to continue to help balance supply and demand on the grid. (PNNL-33212)

**Access and Challenges**

Access to hydropower as a primary use of water resources is critically important. Losing these assets would be devastating to many communities relying on their multiple purposes and would threaten the stability of our electric system.

For example, even though it is only 10% of total generation for the California Independent System Operator, hydropower provides up to 60% of CAISO's spinning reserves. For the Midcontinent Independent System Operator it can provide up to 35% of spinning reserve requirements according to DOE's *Hydropower Value Study: Current Status and Future Opportunities (January 2021 PNNL-29226)*. This is not capacity that is easily replaced.

When hydropower was needed during last summer's heat wave it was there to help. BPA noted during the heat wave in late June 2022, that the four lower Snake River dams provided 1,118 MW of combined energy production and reserve capacity while maintaining flows for juvenile fish migration. For context, a city the size of Seattle has an average electricity consumption of about 1000 MW.

Two studies by consulting firm Energy GPS, analyzed the operational, financial, and CO2 impacts of breaching the four lower Snake River dams. One study conducted for Northwest RiverPartners detailed why it would take five times as much new renewable generation and battery storage to replace the clean, flexible power of the dams. https://nwriverpartners.org/wp-content/uploads/2022/06/EGPSC_LSRD-Power-Cost-Replacement-Study_6_29_2022_Final_1223.pdf.

Another study by Energy GPS conducted for the Public Power Council, a well-respected organization that represents customers of BPA, analyzed likely results from proposals for increased spill for fish (rather than using the water to generate power) as well as breaching of the four lower Snake River dams. The report showed both policies combined would cost $790 million per year (based on 2023 prices) and result in increased annual CO2 emissions of 4.2 million metric tons per year. The analysis also reveals how a looming scarcity in generating resources in the West is increasing the risk of shortage events, "possibly including blackouts, higher carbon emissions, and higher prices for consumers and businesses." Losing any additional hydropower capacity would only exacerbate these concerns. https://www.ppcpdx.org/wp-content/uploads/Cost-Carbon-and-Reliability-Impacts-of-Increased-Spill-Requirements-and-LSRD-Removal.pdf.

*Market Valuation*—As capacity resources become scarcer, it is evident that hydropower's flexibility is needed to address the resource adequacy concerns arising from situations where renewable portfolio standards and carbon policies create large amounts of variable resources such as wind and solar that may not be available to the system when needed most (for example during an evening peak in hot weather). Traditional energy markets value some attributes of power, such as energy, and are not designed to provide proper price signals for capacity, ancillary services and other attributes. This failure to adequately price hydropower's attributes puts reinvestment in these resources, and reliability of the system, at risk.

*Permits to Remove Sediment*—Some of the challenges to hydropower involve the regulatory process to simply maintain a facility in good working order. A notable example of this is sediment removal when it involves federal lands. In areas prone to wildfire, the run-off from the cycle of fires and floods on U.S. Forest Service lands adjacent to reservoirs creates rapid buildup, dramatically reducing generating capacity, restricting water supply, and potentially causing safety concerns at the dam. This sediment buildup limits storage capability, degrades water quality, and reduces overall generation of a clean and renewable resource. The USFS should accept relocated sediment onto their lands for beneficial use in a timely, transparent, and efficient manner. Federal permitting processes and laws must be reformed to recognize and reflect the time-sensitive climate adaptation challenges this presents.

*Permitting for Vegetation Management*—On another issue related to wildfire, there is still room for improvement in the permitting process for conducting vegetation management on lines crossing federal lands. The benefits of hydropower are only available if the power can be moved to where the demand exists. Ability to properly maintain power lines in a timely manner is critical for stability of the grid, and for prevention of fires caused when trees are blown into lines during storms. There has been some progress on this issue resulting from a federal law passed in 2018 and the follow-on work of a joint federal industry task force. More consistency between federal agencies and their various offices and more pervasive use of standardized agreements that reduce unnecessary time and cost burdens is needed especially for smaller utilities trying to implement critical wildfire mitigation plans with limited staff and budgets.

**Other Challenges and Solutions for Permitting**

Existing or new hydropower projects navigate an arduous federal permitting process that threatens continued access to these resources. The laws around licensing are intended to address the impacts of projects to the surrounding environment, and owners and operators take their stewardship responsibilities and mitigation needs very seriously. But often resources that could be invested in mitigation measures are tied up instead to pay for lengthy processes and duplicative studies that may or may not have a clear nexus to impacts of the project. Energy Northwest, a public power joint operating agency in Richland, Washington said that it took less time and process for them to renew the license for their 1200 MW nuclear plant than it did for their 27 MW hydro project. In describing how this could be the case, they highlight the contrast between having a clear lead agency in the Nuclear Regulatory Commission with authority to drive and manage the other agency reviews versus an array of agencies without firm timelines for their hydro project. FERC should be the clearly designated lead agency for hydro license renewals with the ability to hold to firm schedule discipline and exercise accountability to ensure timely coordination among federal agencies.

We support various legislative proposals that would add more reason to this hydropower permitting process. We also support bills to level the playing field for existing hydropower from a tax perspective to receive tax treatment similar to other renewable generation.

Without significant changes to this process there is risk of more abandonment of projects because developers and investors have other places to focus their resources and project sponsors cannot afford to continue to pursue these projects at exorbitant cost on an unpredictable timeline. According to the National Hydropower Association, 40 licenses (275 MW) were surrendered between 2010 and 2019, and by 2035 there are 459 licenses up for renewal for 9,076 MW of hydropower and 8,381 MW of pumped storage. The average time to relicense a hydropower project is 7 years and costs $3.5 million in paperwork, not counting any new environmental, safety, or other equipment upgrades.

Once a license is in place, *FERC should allow operating flexibility to meet critical needs.* As operators see changes to the hydrograph from wildfire, landslides, flooding, and extreme weather that increases uncertainty, variability, and demand,

it would be helpful if FERC could offer additional operating flexibility to support maintaining and increasing hydropower capacity during certain conditions.

**Conclusion**

Thank you for your attention to the important issues surrounding multiple use of our water resources. As one of those uses, hydropower is positioned well to play a lead role in our energy future. Because of its significant benefits to consumers and to the environment hydropower should be preserved, encouraged, and enhanced where possible. Local communities have benefited for decades from this resource and its capability to provide clean energy, low impact transportation, irrigation, flood control, and recreation. This safe, reliable, and low-cost resource has the flexibility to enable other renewable generation and meet the operational challenges of the energy evolution. Hydropower can be one of the best tools in our industry to help achieve our goals and is a technology too valuable to ignore considering the challenges facing us in the days and years to come.

Thank you for your leadership in holding this oversight hearing today.

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Mr. BENTZ. I thank the witnesses for their testimony.

The Chair will now recognize Members for 5 minutes for questions, beginning with Mr. McClintock for 5 minutes.

Mr. MCCLINTOCK. Thank you, Mr. Chairman. As has been pointed out twice in the last decade, we have seen historic droughts followed by record rainfall. But because we don't have the capacity to store excess water from wet years, we approach catastrophic shortages during the dry ones.

California receives about 200 million acre-feet of precipitation annually. That is about 4,500 gallons for every man, woman, and child in the state every single day. The problem, of course, is it is unevenly distributed over time and distance.

So, we used to build dams to move water from wet years to dry ones. We built aqueducts to move water from wet regions to dry regions. We did that through the beneficiary pays principle, so that the taxpayers weren't on the hook. The projects were paid entirely by the beneficiaries who use the water and the power from those projects.

And in the 1970s we abandoned that model. Sometimes we abandoned dams in mid-construction, and we began financing much more expensive water projects with general taxpayer dollars, which hides their true cost and burden.

A few years ago, the California Energy Commission estimated that the price of water in the San Diego region, the most expensive way to produce water they found was desalination at the cost of $2,300 per acre-foot; water recycling, $1,500; importing water, $925; groundwater storage, $737. Cheapest source of water, according to the California Energy Commission, was good old-fashioned surface storage, dams and reservoirs, at about $600 per acre-foot.

So, put simply, surface water storage gives us nearly four times as much water for the dollar as desalination. And I just don't understand the logic behind less policy. And instead of capturing freshwater before it is lost to the ocean, they prefer to spend four times as much money to recover that water after it is lost to the ocean.

A real life example. We could spend about $1.4 billion to raise Shasta Dam by 18 feet or spend $1 billion for another Carlsbad desalination plant. Shasta would yield as much as 630,000 acre-

feet of water each year; Carlsbad, 56,000 acre-feet. So, for 40 percent more than the cost of Carlsbad, we could get about 1,200 percent more water.

And consider this, when water is drawn out of Shasta, it generates enough electricity to supply about 710,000 homes. When water is drawn out of Carlsbad, it consumes a quarter-megawatt for every acre-foot of water. That is enough to power 25 homes for a year in a state that can't guarantee enough electricity to keep your refrigerator running in the summer.

In fact, the state has made unprecedented subsidies for wind power, but it has to shut down the electricity grid on windy days. This is just lunacy.

California voters approved a purported water bond in 2014 with the promise it would be used for water storage, yet to date it has failed to deliver a single major water project, but $1 billion of these funds are slated to be used to tear down the four dams on the Klamath.

Mr. Keppen, in 2021, the Bureau of Reclamation closed Project A's canal, delivering zero water to irrigators in order to meet the Endangered Species Act requirements. The Klamath Water Users Association estimates the lack of irrigated water led to the loss of $100 million in economic activity, a drastic decline in farm income, and 700 regional jobs lost.

Can you describe what that means in human terms?

Mr. KEPPEN. Thanks for the question, Congressman McClintock. Yes, so I actually moved to the Klamath Basin in 2001, that fall. That was the year that for the first time in 95 years that the water had been shut down in the project.

And in terms of what it does to a community, it is devastating because some folks have the capability to take advantage of the government programs and are able to sort of scoot by. Others can't. So, it creates this tension between neighbors. It really does fracture the community. And it is not just the farmers and the ranchers and the workers that work for them that are impacted. It is all of the other service communities. It is the fertilizer districts or dealers. It is the restaurants. There is a real impact that you see in the community.

And it is pretty depressing because Klamath County, where I live, agriculture is really the big driver in that county.

Mr. MCCLINTOCK. Let me just round a point. The Iron Gate Fish Hatchery depends on the Iron Gate Dam. That hatchery produces 5 million salmon smolts every year; 17,000 return to spawn in the Klamath River every year. What happens to the hatchery if they tear down the dam? And what will that do to salmon populations on the Klamath?

Mr. KEPPEN. Well, I am not really sure I am the one to respond to that question as far as the fishery impacts, honestly. I could definitely look into that and get back to you after talking to Klamath water users and folks in Siskiyou County and others.

Mr. MCCLINTOCK. All right. Thanks. My time has expired.

Mr. BENTZ. The Chair recognizes Mr. Huffman for 5 minutes.

Mr. HUFFMAN. Thank you, Mr. Chairman. So, my colleague from California and I have gone back and forth on a number of things you just heard, and a lot of it, frankly, is just stubborn mythology.

We have explained time and again over the years that big Federal water projects were not paid for by beneficiaries. There were massive subsidies that went into these projects.

And that is part of the problem. We built up an expectation that that is how we do big water. We do massive Federal subsidies, and that just doesn't work anymore.

The idea that desalination is scandalously expensive, well, the folks in San Diego are not stupid. If there was cheap surface storage alternatives for them to keep having water when you turn on the taps in San Diego, they would have done it. Desal made a lot of sense in San Diego, and it was a lot cheaper than the other alternatives that they considered.

So, I don't begrudge them that. I think it has provided them a lot of key resilience during really tough dry years. That is a pretty good thing because desal really works even in the worst drought.

Surface storage is not cheap. The idea that that is the cheapest source of supply—the big controversial surface storage projects that are being pushed in California are some of the most expensive water, they make desal look like a bargain.

And the idea that we haven't built storage projects since the 1970s—we have listed them, we have explained this. We have. They just haven't been big, massive, federally subsidized storage projects.

So, back to the real world, Ms. Cordalis, in your view, what are the key funding priorities in the Klamath Basin that should be fully funded, so that we can try to get through these long-standing water challenges that are affecting your tribe and others?

Ms. CORDALIS. Thank you for the question. First, I want to respond in sharing with this Subcommittee the Yurok world view about rivers. We look at rivers as comprehensive ecosystems that have overall health, similar to our own bodies, right?

Right now, the Klamath is ill. It is sick. And because of that, it is not performing well. And it is just like us; when we are sick, we don't have as high of capacity to support all of the things that we care and love about in our life. And that is the status of the Klamath right now. It is sick.

So, I do want to thank you, I want to thank Congress, for the investments that you all have made in the Klamath ecosystem and restoration, because that is a critical step to healing the Klamath and making it strong again. Already NOAA fisheries, U.S. Fish and Wildlife, are motivating, they are organizing people, they are putting together projects that will gradually restore the health of the Klamath ecosystem as a whole, which will then in turn make it stronger and better able to support all of these various needs.

What we need to do next is get funding to support resolving some of these water challenges. There are funding venues through the Department of the Interior that can support tribal water rights, that can support collaborative agreements, and working with neighbors in the Basin—farmers, tribes, NGOs—to essentially come up with those community-based solutions that are going to help solve these problems. So, those are critical funding supports, sources of funding.

The other one I would add, too, is just looking at, how do we improve efficiency of agricultural infrastructure in the upper basin?

We would really like to learn more from our agricultural neighbors about how can we use those investments to make sure that the existing infrastructure within the Klamath project is as efficient as it possibly can be.

But you put that all together, and that is how we get out of these annual plans.

Mr. HUFFMAN. Right.

Ms. CORDALIS. Yes. Thank you.

Mr. HUFFMAN. Do you want to say a quick word about the importance of responsible permits for hydropower relicensing. Mr. Corwin explained how long it takes and how difficult it is to relicense a hydro project. A lot of these projects were built before many of our modern environmental laws, before we tried to make it something we do with tribal consultation every time we do one of these things.

Now they are coming up for relicensing, and we hold them to higher standards. Why is that important?

Ms. CORDALIS. Well, and let me first start with, I will assure you that it takes just as much time and regulatory red tape to take dams out as it does to get them in, and the last 20 years on the Klamath has demonstrated that.

We learned a lot about dams through the last, what, let's say 120 years in this country. And I think it is important to recognize that throughout the West, in some places dams are OK, in other places, they are simply not. So, I also think that FERC is in a new era.

We heard Chairman Glick express that he wants to support tribal rights through the relicensing, that he wants to take a closer look at—the previous Chairman Glick, sorry—and that FERC wants to take a closer look at the environmental implications of these dams.

So, I think it is important that we, as a nation, when we are thinking about hydro power, when we are thinking about reclamation, when we are thinking about how to support farmers, and also fisheries because commercial fisheries are important, that we really engage in effective natural resource management, that a value——

Mr. BENTZ. Ms. Cordalis, if you could wind up, please.

Ms. CORDALIS. Yes, sorry. I was just essentially going to say we should really take a hard look at the circumstances on the ground.

Thank you.

Mr. HUFFMAN. Thank you. I yield back.

Mr. BENTZ. The Chair now recognizes Congressman LaMalfa.

Mr. LAMALFA. Thank you, Mr. Chairman, and congratulations on your new seat there.

Mr. Corwin, you were speaking of the Snake River, lower Snake River dams and the amount of electricity that they produce, 1,100 megawatts is the figure I see here. So, this is distributed through the Bonneville Power Administration, and the surplus power is frequently used in California.

So, in light of California's power grid, on hot days, being right on the edge, certain folks already have agreements to shut down usage of power in manufacturing and other issues, and, of course, the hell-bent direction they are wanting to push and electrifying everything—stoves, and automobiles, and leaf blowers, and

generators. I don't know how you would turn a generator into—I haven't figured that one out yet.

But where are we going to replace this power? Can the intermittent wind and solar generation make up for 1,100 megawatts just on the lower Snake?

Mr. CORWIN. Yes. Very difficult to replace. And right now, to have the same attributes, both clean and that flexible, that capacity that is so sorely needed, it is just not available. Well, not available through renewable resources. Gas generation has some of those same attributes, ability to follow load.

That is the study that I cited in my testimony, so——

Mr. LAMALFA. Plus, it is $CO_2$-free power, right?

Mr. CORWIN. Yes. $CO_2$-free power. And the study I cited shows it takes about five times as much of other intermittent resources and needing some battery storage, which is not available yet in that size either to replace that, and that is at a lot greater cost as well.

Mr. LAMALFA. Yes. We have observed it is pretty difficult for the folks actually wanting to build wind and solar farms, as they like to call them, to get the permits to do so and the land to put them on, the vast amounts of land.

Mr. Keppen, you talked about how water management decisions have been pretty devastating toward long-time traditional users of them, such as the Klamath project. For what reason was the Klamath project built?

Mr. KEPPEN. Irrigation. To supply water to irrigators.

Mr. LAMALFA. Sorry?

Mr. KEPPEN. To supply water to irrigated agriculture.

Mr. LAMALFA. So, was it a multi-use water or was it dedicated to agriculture?

Mr. KEPPEN. Initially, it was dedicated to agriculture, and then as time has gone on, there has also been sort of a refuge component as well, which the farmers work very closely with trying to get water into the National Wildlife Refuges.

Mr. LAMALFA. So, how many acre-feet did that add to the surface of Klamath Lake by building that project?

Mr. KEPPEN. Well, what it did is it allowed you to vary the depth of the lake. The lake was backed up by a natural reef, and when the Klamath project was built, it allowed you to move that water around, and so there is more flexibility, so that you can store water. Typically, it used to be around 400,000 to 450,000 acre-feet of water going to agriculture in the summertime.

Mr. LAMALFA. So, about 400,000 acre-feet that wouldn't have been existing or accessible before the project, which, again, was dedicated to agriculture.

Mr. KEPPEN. Yes. That is probably right.

Mr. LAMALFA. So, how has the community been compensated for the taking of the water from that agricultural project the last 20, 25 years? Has there been a water right that has been bought by the Federal Government in order to rededicate this water supply?

Mr. KEPPEN. There has been a water bank established that helps, encourages people to leave their water in the system for environmental purposes, and they will pay to pump groundwater in exchange for that or to fallow the land. That is about the only

payment I see, and I don't think there has been an actual compensation for the takings involved with the 2021 curtailments.

Mr. LAMALFA. OK. To Ms. Cordalis, the water that has been behind the link in the Iron Gate Dams has provided for variability in running the river, for certain purposes downriver of flushing or for particular ceremonies. With removal of those dams, is there a concern that those water levels will no longer be available to, especially in a dry year, to have those flows or to be able to carry out those rituals?

Ms. CORDALIS. Thank you, Mr. LaMalfa, for the question. So, the Klamath Reservoir is behind the dams, doesn't actually impact the amount of water available in the system. In previous years, there had been a practice of borrowing water from PacifiCorp, which essentially they would allow some of that water to be released, but the Bureau had to pay it back. So, it didn't actually increase the amount of water that was available in the system.

And then, I would also like to clarify that the Klamath Lake and the project didn't increase the amount of storage water available in the lake.

Mr. LAMALFA. The 400,000 doesn't exist?

Ms. CORDALIS. That was just a natural lake. And when they built the project, it essentially just kept the amount of water that was already there.

Mr. LAMALFA. Mr. Chairman, my time is over.

Mr. BENTZ. The Chair now recognizes Congressman Case for 5 minutes.

Mr. CASE. Thank you, Mr. Chair. I have to admit, I have been listening to this hearing and to the remarks, and I am, frankly, searching for the central point of the hearing. I don't think I have heard anything revelatory or anything like that. It seems to me to be pretty obvious that water is a finite resource. It is not infinite. It doesn't go on forever.

We clearly do and should make multiple uses of the water available. It seems that when you get into a situation where the water use is competing around sustainable, some choices have to be made, some management regime has to be put in place, and it seems to me that all of those situations are increasingly complicated by increasing demand at the same time that we see a decreasing supply, and we can argue over what the causes are.

I mean, for me it is climate change and related to start with, and drought is one indication of that. But also, just the fact that we have increasing uses, and it seems obvious that in that kind of a situation we also are drawn into debates over short-term extracted uses of water versus long-term sustainable uses of water.

I don't think anything along those lines is a surprise, and everything that we are talking about here, whether it be hydro, or family farms, or tribal rights, or saltwater fishing, seems to all fit into that regime.

In Hawaii, I don't have too much of the water wars in the sense of the West, so I am going to switch over to the ocean, right, the middle part of this Subcommittee's name.

And I go back to you, Ms. Guyas. Let's take a little bit more of your analysis here. The American Sportfishing Association in my

view seems to get it. You obviously worked with us the last couple of Congresses toward implementation of the 30x30 Initiative.

I think you recognized as a sportfishing alliance that sustainability was really the only way to be able to maintain some kind of a mutual use of the oceans over time. I think you support some hyper-protected areas, and I think you support some managed areas, and I think you support some fairly open areas, and some combination of all of that.

First of all, is that correct? I mean, I am trying to give you praise and all of that, so you can agree with me if you want.

Ms. GUYAS. Yes. I—yes.

Mr. CASE. OK. Thank you. That was what is called a leading question.

So, I guess the question is, where does this go out into the future? I mean, you identified, for example, I think two or three out of your top four concerns. Red snapper, OK, which seems to be the poster child for what we are talking about here, if you talk about the oceans, what lesson is to be learned from our attempted management of multiple uses in the ocean for recreational purposes, for food purposes, for pure protection purposes? So, economic, environmental, natural resources, and recreational.

Ms. GUYAS. Yes. So, I mean, there are a lot of tools in the toolbox that can be used, right? I guess in terms of challenges, going back to my testimony today, looking at red snapper, one of our challenges is making sure that we are using best available science in our decisions.

And going back, you mentioned 30x30, right, we are glad to see the Administration has recognized how important outdoor recreation, recreational fishing, is in conservation. We are waiting to see what the implications are for Federal waters fisheries, of course. NOAA is working on their atlas, and there is a Council Coordinating Committee also that is looking at the existing protections that are in Federal waters, and they are trying to also kind of calculate what have we already done.

So, I mean, yes, there are a lot of tools that we can use.

Mr. CASE. And what are the friction lines coming up? I mean, we still have total overfishing in many of the world's oceans. We have pressure on our marine-protected areas in this country for that matter. It is a constant discussion.

I mean, just, again, focusing on what I think is the purpose of this hearing, which is to evaluate competing uses of increasingly scarce resources in the ocean context, I mean, what are the next generations of discussion? Are there any out there? I mean, climate change is changing our oceans. That is what our Ocean Climate Act of last Congress, which you helped us with, was all about.

Ms. GUYAS. Yes.

Mr. CASE. That is the next generation. I mean, where do we go from here?

Ms. GUYAS. Well, I mean, with climate change, I can tell you the East Coast councils, this is an issue that we are already living in, right? We are seeing changes in fisheries. In our case, in the Southeast, we don't always have the data to tie it to climate change, but that is maybe we think is going on.

And the councils on the East Coast have been going through climate change scenario planning. I was fortunate to participate in one of the workshops. And they are trying to figure out how to address governance issues that are coming up with climate change now, and a lot of that I think is going to be collaboration across the councils as we see fish stocks shift.

Mr. CASE. So, a little bit more talking to each other rather than just arguing for our particular slice of the pie.

Ms. GUYAS. Yes. It is——

Mr. BENTZ. Excuse me.

Mr. CASE. OK. I am sorry. I was trying to wrap up there because I was sensing our Chair about to cut me off.

Thank you.

[Laughter.]

Mr. BENTZ. The Chair recognizes Congresswoman Luna for 5 minutes.

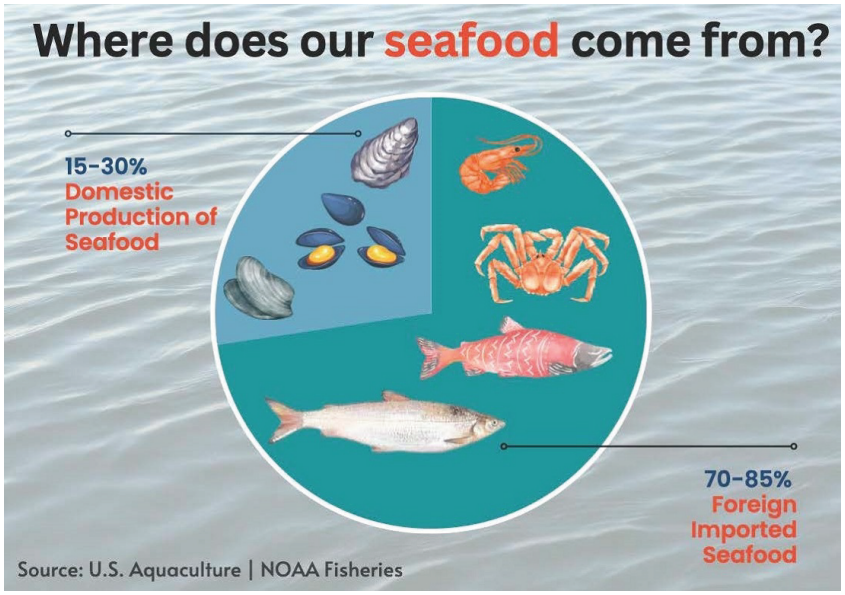
Mrs. LUNA. Thank you very much. The United States is a global leader in fishery management with some of the most highly regulated fisheries in the world. Our anglers are required to follow a broad range of regulations, yet we continue to outsource our fishing and seafood industries to countries like China, making it harder for our domestic fisheries to compete.

Before we discuss the importance of domestic fisheries, please take a look at the impact of China on the global fishing and seafood industry.

Mr. Chairman, I ask for unanimous consent to submit this graphic into the record.

Mr. BENTZ. Without objection, so ordered.

[The information follows:]



Mrs. LUNA. Thank you. China has taken advantage of fisheries on a global scale by using large fleets to harvest far from the Chinese shores. They are the biggest producer of aquaculture seafood in the world, and with 70 percent of the total production and 55 percent of the total value of aquaculture seafood export worldwide.

If I could also note, I was able to actually pull an article that had stated that farmers have coped with toxic waters by mixing illegal veterinary drugs and pesticides into food feed, which keeps their stocks alive, yet leaves poisonous and carcinogenic residues in seafood. So, when we eat it, it is obviously not good.

Like many other industries in China, companies are known for using forced labor and have widespread food and safety violations. These concerns have led agencies like the FDA to put import alerts on Chinese products, mostly fish and seafood products, to determine these imports upon arrival to the United States.

My question is for Ms. Guyas. How does the management and regulation of domestic fisheries compare to foreign fishery operations in countries like China?

Ms. GUYAS. Oh. I mean, absolutely, the United States is undoubtedly a global leader in fisheries conservation. Hands down. Head and shoulders above other nations like China.

Mrs. LUNA. From this information, it is clear that our domestic fisheries produce safer seafood, and honestly I would probably prefer to eat American over Chinese any day of the week.

Domestic fishery also has a significant impact on the economy of the United States. In 2020, commercial and recreational fisheries brought in an estimated $250 billion in sales and employed about 1.7 million people. Many of these industry professionals live in Florida, and some come from my district, where harvesting of red snapper is an area of concern, especially with the improvement of private recreational data that is collected from anglers and vessel permits.

Ms. Guyas, what sort of data is obtained from private recreational anglers that receive vessel permits?

Ms. GUYAS. Well, I can speak specifically to Florida, if you would like.

Mrs. LUNA. Yes, please.

Ms. GUYAS. In Florida, we have a program called the State Reef Fish Survey that is run by the Florida Fish and Wildlife Conservation Commission. And what they do is they have enhanced the Federal MRIP program that is used to collect recreational data where they have really identified the universe of anglers that fish offshore for reef fish, red snapper, grouper, those types of things.

They do specialized surveys to the places where those people fish, and they also target those anglers for effort surveys as well, so that they get better information about private angler catches.

Mrs. LUNA. So, I guess that information could be gathered to improve data that is received from private recreational anglers?

Ms. GUYAS. Yes.

Mrs. LUNA. Rather than outsourcing fishing and seafood products from a country like China where we know little about the quality of the product we are receiving, we have essentially strangled our

fishermen in regulations and red tape, and our food processors have turned to China to easily and cheaply fulfill their needs.

I really think that we need to fix this issue.

And with that, Chairman, I yield back my time.

Mr. BENTZ. Thank you.

The Chair recognizes the Congresswoman from Alaska, Congresswoman Peltola, for 5 minutes.

Mrs. PELTOLA. Thank you, Mr. Chairman. I don't have a question, honestly. I just want to give a shoutout to the representative from the Yurok Nation. I really appreciate you being here. I am also from a river which depends very much on salmon and other marine resources.

Just as a little bit of background on Alaska, and how important the fisheries are and the marine ecosystem is to Alaska, last year the ex-vessel value statewide was around $2 billion, and it usually is about $2 billion in Alaska. It is our second-largest industry in Alaska.

Salmon alone last year, in large part because of the Bristol Bay reds, generated $720.4 million, and the total economic output is about $5.7 billion.

But I just wanted to say that, and I don't have a question. I don't want to waste your time with a question that doesn't make any sense. But I do, Mr. Chairman, hope that I can yield the rest of my time to Representative Huffman.

Mr. BENTZ. Of course.

Mrs. PELTOLA. Thank you.

Mr. HUFFMAN. Which I greatly appreciate. I thank the gentlelady.

And to my new colleague from Florida, I was delighted to hear your remarks about the abuses of foreign fishing fleets. I think you were contemplating the challenge we have with the murkiness of our seafood supply chain. We don't know where a lot of it comes from.

China is not the only bad actor out there on the high seas and in other places doing all kinds of dubious things, but they are the biggest and they are probably the worst in lots of ways. So, you have come to the right place. And if you want to work on this issue in an absolutely bipartisan way, Mr. Graves and I did a lot of good work on this in the last Congress, and we would be delighted to partner with you, because there is a lot more good work we can do.

So, thank you for that.

I am glad I have a little bit of time now to come back to Ms. Guyas, because while your testimony focused mostly on red snapper, which we hear a lot about in this Subcommittee because Mr. Graves is here, he is like Mr. Red Snapper, but you have also supported efforts. You and your organization have also supported efforts on the West Coast to protect salmon and their habitats.

You have opposed efforts in Congress to undermine Federal protections for salmon under the Endangered Species Act, under the Central Valley Project Improvement Act, and other laws, and I really appreciate that. I just want to commend you for that. And you have thrown your support behind protecting Bristol Bay from a really wrong-headed project called the Pebble Mine. So, I appreciate your supporting the greatest salmon stronghold left on

Earth. I am sure Mrs. Peltola would not disagree with that description.

And I just want to ask you, why is it important to anglers that we protect these key salmon habitats?

Ms. GUYAS. Well, I live in Florida where the salmon that we have are raised in an aquaculture facility outside the Miami airport, but I can speak more broadly, just not specifically to salmon. Protecting marine ecosystems is essential to having successful recreational fisheries, right? We need the fish to have the fishing occur, the economic impacts, and the access.

Mr. HUFFMAN. All right. Appreciate that very much and yield back, Mr. Chairman.

Mr. BENTZ. Thank you.

I recognize myself for 5 minutes. Let me begin by asking Mr. Keppen a question. It seems odd, you mentioned that there are literally hundreds of thousands of acre-feet of water stored in the mountains in California right now, but there doesn't seem to be any race to try to figure out how to store it.

I mean, I know that the governor has suggested or opened the door to maybe 400,000, 500,000 acre-feet. And to put that in perspective, if you value this water at $2,000 an acre-foot, it is a huge number. So, thank goodness for the governor making that motion toward recognizing the value of all the water that is up in the mountains about to come out.

What is it going to take to build a fire under people to make them go take advantage of the current situation as opposed to just shrugging and going, oh, that is the way it goes?

Mr. KEPPEN. Thank you, Mr. Chairman. That is a great question. I think there is a fire being lit right now in the fact that Governor Newsom signed this Executive Order to sort of provide a little bit more flexibility to store water over these wet periods.

My understanding is that decision allowed 500,000 acre-feet of extra water to be stored for when we need it when it is dry. Even more of that potential is out there, and, I mean, personally, our organization is going to be urging both the Federal Government and the state government to do more of that, look for opportunities to take advantage of this huge amount of water, so that we can store it and use it in dryer years. And that is going to take forms like, just regulatory flexibility or management flexibility, so we can tackle these multi-benefit goals.

And then, I think, again, it comes back to infrastructure. If Sites Reservoir, which has been around for decades—I mean, I was on the planning committee at DWR for that project in 1999, Mr. LaMalfa, and that project was already 10 years old.

But if that project was in place right now, just in the last month or so, in the month coming into the future, I think they said it could have saved us another 400,000 acre-feet, which is enough water to cover Washington, DC, 10-feet deep. It is a lot of water.

Mr. BENTZ. Thank you for that. What I am trying to get at here is every opportunity we have, people should be saying, "We need to be storing this water," and we are not.

And I had the people from San Diego in my office just a few days ago, and I said, "How much is that desalinated water costing you?"

$3,800. Not $2,000, $3,800 an acre-foot. Yet, we are letting thousands of acre-feet go down the river.

And this is not a situation where we are trying to short the fish. The fish would probably scream with joy if we weren't washing them away with the huge floods that are about to inundate California.

So, I will move on from that for just a moment. I want to go back to the assertion, Ms. Cordalis, that was made regarding the release of water from the Klamath Lake into the river. There is a disagreement apparently over whether or not it is actually stored water, but let's pretend for a moment that that which is released, according to the Bureau, is stored water, and the amount in 2020 in excess of the 400,000—there was 406,000 acre-feet of water released into the river, going down to help the fish, and of that, 76,000 was deemed stored.

In 2021, there was 361,000 acre-feet released; 101,000 was deemed stored. In just this last year, there was 385,000 acre-feet released, and there was 125,000 of that deemed stored. That is water in excess of what flowed into the lake that was then released from the lake. That is how we qualify it.

If you take that number times just $2,000 an acre-foot, that number is somewhere around $612 million.

Now, some would say, what have we done to repair the salmon runs? And the first thing I would mention is, well, we are taking out those dams apparently. That is about $500 million, maybe $550 million. And if we want to add that to the $612 million of water that has been released, and that is in addition to that which would be normally flowing down the river because it is over and above that which flowed into the lake.

So, now we also have the $167 million that is going to be spent over the next 5 years that is going to go for habitat restoration, $32 million a year, or something like that, being spent.

Lots of money is being spent on the climate to try to make it work, and let's all hope it does. Now, having said that, this is because I think it is time that we begin to put a number on the amount that we are actually spending in the form of the water allocated in stream. It is absolutely essential we do it, because too often people talk a lot about that which is taken out but hardly at all about that which is left in.

And I am sorry, but I am going to run out of time here. I am not going to get to ask you a question, which is really very sad. Because you were on the Water Commission in California, you probably have the best ideas on how to store the water. But, sadly, I am out of time, and that will have to remain a secret for the moment.

So, with that, I am going to turn to Mr.—who is next? Congressman Levin, there you are.

Mr. LEVIN. Thank you, Chairman.

Mr. BENTZ. You have 5 minutes.

Mr. LEVIN. Thank you. I want to personally invite you and any Member interested to my district and to see the Carlsbad desalination plant, which is named after the former Republican Mayor of Carlsbad, Claude "Bud" Lewis. It is the largest desal plant in the

Western Hemisphere, provides about 10 percent of San Diego County's water, does so in an environmentally responsible way.

And I am not here to say that desal is the end all and be all for California's water needs or for any water needs. I can tell you at 60 million gallons a day it is the largest in the Western Hemisphere, but it only ranks 10th in the world. I was just in Israel, and I saw a plant that was several times larger. And the reality is that we can do both common-sense water storage, and desal, and recycling, and conservation. The reality is we have to do it all.

So, let's not scapegoat desal when we really need to be doing desal among a number of other things. And, again, a standing offer to come to our beautiful district anytime and to see the desal plant for which we are very proud and for which we have enjoyed broad bipartisan support for as long as I have been involved in Southern California environmental law and policy, which is pretty much my whole adult life. And the project took many years to construct.

I support more desal, by the way, in Southern California when it can be done in an environmentally responsible way. We have gotten around $20 or $25 million in support for a plant in Dana Point. And where we can do it and it makes sense for the community, we should.

Let me turn to talk about the work of the last Congress with regard to water resilience that I think will impact all of us in the Western United States: $1 billion for water recycling, $250 million for desal, and $4 billion to improve the resilience of the Colorado River Basin, all accomplishments of the last Congress.

So, let me ask, Ms. Cordalis, as funding starts to flow—no pun intended—through the agencies, what do you think is important for agencies to keep in mind as they engage with Western stakeholders, identify projects, and provide technical assistance?

Ms. CORDALIS. Early and often communication and transparency and ecosystem-wide restoration. Whether you are looking at the Colorado, the Klamath, the Columbia, the Sacramento, it is important to engage stakeholders, tribes, NGOs, the various agencies, water users, in meaningful discussions about how you can rebuild your ecosystems and projects that provide systemwide benefits, because we have seen that when you invest in ecosystem restoration, it helps us with some of these water issues, because systems become more resilient.

And I do want to express that I think the agencies are already doing a great job with the IRA funding and the bill funding. They are getting into the communities. They are coordinating projects. And I think a lot of this is on the local staff of these agencies, and they are doing a good job of working with communities. We are all thankful for that.

Mr. LEVIN. Thank you for that.

Ms. Guyas, I want to turn to another bill that I have been working on, the Resilient Coasts and Estuaries Act, and I want to thank the American Sportfishing Association and you for endorsing that bipartisan bill. It was with Brian Mast of Florida in the last Congress.

And our district, and Mr. Mast's and many others, would really I think be well served with legislation like this with lots of lagoons,

estuaries, and so forth, really important for a local ecosystem, and not to mention our economy, the coastal economy, so vitally important to us.

The bill would reauthorize what is known as CELCP, the Coast and Estuarine Land Conservation Program, and I am really excited that we are getting a lot of support for this bill.

Can you talk about the importance of coastal and estuarine conservation in ensuring continued access to healthy fisheries in particular?

Ms. GUYAS. Yes. Thank you for your leadership on that bill. We do support it. And this program, what it does and how it is helping fisheries, it is conserving those habitats. A lot of those, especially in the Southeast, are also important fish nursery sites, which that is where our healthy fisheries are, literally, raised. So, thank you.

Mr. LEVIN. Thank you so much.

I am running short of time, but I want to again extend a standing offer to any of my colleagues on either side of the aisle, or anybody out there in the audience or watching at home, to come and visit our desal plant. Again, desal is not perfect, but it has gotten extraordinarily better over the years. And I think our plant, again, is the largest in the Western Hemisphere, is one that we can be proud of, and I hope you can come see for yourselves.

And I will yield back.

Mr. BENTZ. Thank you, Mr. Levin.

Mr. LEVIN. Even Garret Graves is invited.

[Laughter.]

Mr. BENTZ. Thank you, Mr. Levin.

I recognize Congressman Duarte for 5 minutes.

Mr. DUARTE. Yes. Thank you to all of the witnesses here to testify today. Appreciate it.

I live and represent the district that includes Westlands Water District and the South Delta Water Users. I work in agriculture. I know a lot of these guys. I represent many of those communities.

Since the 1990s and the biological opinions and the lawsuits that ensued afterwards, and the removal of water from area to save the Delta smelt, the salmon from the Delta, we have depleted groundwater resources. We have destroyed farms and family farming operations.

I drive through my district and see almond orchards being removed that haven't produced a crop or paid a nickel of bank debt.

I have hospitals going bankrupt. The property tax revenue in this district is eviscerating, evaporating. We have all kinds of social ills. We have a man-made dustbowl in the South Valley. We have spiking respiratory illness in children. We have actually taken certain races of prisoners out of the Coalinga Jail because they are particularly susceptible to Valley Fever or respiratory illness.

We are actually destroying the infrastructure itself with subsidence, as well as our freeways. We have sacrificed a lot for the Delta smelt and the salmon through single species management schemes that I hope have delivered tremendous results for all the species or the salmon, the smelt, but maybe not human so much.

Mr. Keppen, please update us. How have we done? How are the smelt doing? How are the salmon doing?

Mr. KEPPEN. Well, I have been using this same sort of flow centric approach for the last couple of decades, and we are not seeing an impact. I mean, every year we are hearing about some looming crisis that is occurring.

And I think as long as we focus on the single species sort of approach, and until the Bureau and National Marine Fisheries Service, and U.S. Fish and Wildlife Service, who all have sort of their hands in the pie on Delta management, until they look at the entire ecosystem and look at all of the stressors, in addition to the stress the fish cause by flows, I think the Central Valley project is going to continue to under deliver in the Central Valley.

Mr. DUARTE. Thank you very much.

Ms. Guyas, sportfishing, I grew up in San Diego for a while and loved sportfishing. One of the stressors on the salmon in the San Joaquin Delta is their predation by non-native bass. Does the Sportfishing Association that you represent support removing limits and season limits on sportfishing of non-native bass species in the San Joaquin Delta?

Ms. GUYAS. I live in Florida, so if it is OK, we can provide a written response to that question, but I can't speak specifically to that.

Mr. DUARTE. I am very interested in it because removing the bag limits, the caps, the season, on non-native bass in the Delta has been shown through one scientific report after another to very likely help the salmon, even more than the human devastation we have brought into my district might. So, we think that is a common-sense solution.

Mr. Keppen, flood plain restoration and feeding ground for the salmon hatchlings to size up on. What can you briefly tell us on that? I understand it is a far superior approach.

Mr. KEPPEN. Yes. That is one of the sort of the success stories I use as an example in my written testimony. It is happening in the Sacramento Valley right now. So, again, it is one means of improving the health of the fish without necessarily focusing just on flow. So, what they are doing is moving water into the flood plains in the Sacramento Valley, and it is a great collaborative effort between the university, and NGOs, and the farmers, and the ranchers, and the agencies.

And, basically, what they are showing is these fish can get into these flooded areas. I think some of this is in your district, Mr. LaMalfa, where these fish can have sort of shelter from predators in the river, and there is actually more food in there.

I have a picture—I probably should have brought a slide—but it shows on one of these projects where the salmon that are getting into the rice fields, same age as the salmon that are in the river, but they are about three times the size. So, they are——

Mr. DUARTE. Fantastic.

Mr. KEPPEN. Yes. It is really amazing. So, I think that sort of thing can really help us out. And what is happening in the Sag Valley might be mimicked even up in the Klamath Basin. We are going to be bringing some producers down to——

Mr. DUARTE. Thank you. While we are screening ahead and with common sense, it is far less anti-human than what is happening in my district. Tell me what you can about the Marine Mammal

Protection Act and why those wet furry creatures out on the rocks in front of San Francisco Bay are more important than the children in Coalinga, California.

Mr. KEPPEN. Yes. I am not a real expert on that, but all I can say is I know that the sealions and seals are definitely a stressor to salmon on the Columbia and on the Klamath.

Mr. DUARTE. Thank you very much.

I yield back to the Chairman.

Mr. BENTZ. Thank you.

With that, the Chair recognizes Congresswoman Hageman for 5 minutes.

Ms. HAGEMAN. Thank you. The 1902 Reclamation Act was a visionary piece of legislation that recognized that the future of the United States required the development, management, and use of our natural resources, including our water and our real property.

Coming from Wyoming, I am especially cognizant of the importance of the Reclamation Act and the prosperity that it unleashed throughout the interior West as two of the very first projects permitted and built were in Wyoming: Pathfinder Dam and Reservoir, 1,160,000 acre-feet of water; Buffalo Bill, up near Cody, Wyoming, 646,565 acre-feet. And the Pathfinder Dam and Reservoir was over 1 million acre-feet. These are beautiful facilities that together irrigate hundreds of thousands of acres. They provide municipal water. They provide recreation, fisheries, wildlife habitat, hydropower, and they are amenities that are incredibly important to my state and our communities.

We have also learned of the incredible benefits that these projects provide in relation to irrigation and what irrigation has done in terms of creating the bounty that we have in the interior Western United States.

With flood irrigation, we are able to replenish our aquifers. We have the deep percolation and the runoff. And that is what keeps our rivers alive in the West. We are a snowpack state. And as a result, prior to the construction of our dams, and prior to the construction of the buildout of these facilities and the irrigation infrastructure, many of our streams and rivers were dry during certain times, if not most of the year.

The North Platte River, for example, ran dry pretty much every year, as well as the Platte River. And why is that? Because those rivers and streams were kept alive by snowmelt. The water came through as runoff in the spring with spring floods, and then was gone.

So, what do you think happened to the fisheries when the rivers and streams went dry? They didn't exist. It is through the creation of these types of projects that we have been able to create—and I will use the word again—the bounty that we have in the interior West.

In Central Wyoming, south of Casper on the North Platte River, we have what is referred to as the "Miracle Mile." Have any of you ever heard of the Miracle Mile? It is the No. 1 Blue Ribbon fishery in the North America.

Do you know why we have the Miracle Mile in Wyoming? Because upstream we have Pathfinder Reservoir, Seminole Reservoir, Alcova Reservoir. We are able to release 500 CFS of

water every day, 365 days a year, to keep that fishery alive. And as a result, we have people who come from all over the world to enjoy angling, and fishing, and hunting in Wyoming.

But it was all created because of irrigation. It was all created because of the construction of reservoirs. It was all created—and, again, it has provided us with a standard of living that has created the irrigation infrastructure that we needed to grow crops. We grow alfalfa, corn, sugar beets, beans. We have created tens of thousands of jobs, and we irrigate millions of acres in Colorado, Wyoming, and Nebraska. We are able to produce food for our cattle producers. And as a result, we are able to feed the United States.

So, when I come to a meeting like this or a hearing like this and we talk about water, I think one of the things that is incredibly important is that you have to understand that for the interior West especially, without irrigation infrastructure, without reservoirs, we don't have fisheries that so many people love about Wyoming, and Montana, and Colorado, and Utah, and Idaho. We don't have the production of hydropower that keeps the lights on for millions of people throughout the West.

So, Mr. Keppen, in your testimony, you touched a bit on some of the shifting priorities in reclamation projects. And the Reclamation Act was for irrigation. It was to create these irrigation projects. How has that shift in focus affected our ability to protect our water resources and all of the amenities I have described?

Mr. KEPPEN. Well, first, I apologize for not knowing about the Miracle Mile, even though you and I both went to the University of Wyoming.

[Laughter.]

Mr. KEPPEN. But can you repeat the question again, Congresswoman?

Ms. HAGEMAN. The shift in focus of the Bureau of Reclamation from irrigation to environmental, what are the impacts of that?

Mr. KEPPEN. Yes. Well, it is like you say, where I live, and also in the Central Valley to some degree, the water and the irrigation project for the Klamath Basin provides an important water fallow function, and it is part of the Pacific Flyway. Same with Northern California and the Central Valley.

And when farms aren't getting water, the refuges are impacted, because the birds aren't going to the refuges to get food. It is the adjacent farmlands that provides them food. So, I have talked to a lot of folks in the waterfowl community——

Mr. BENTZ. Mr. Keppen, could you wind it up, please? We are 49 seconds——

Mr. KEPPEN. OK. One example, when irrigation is taken away, it also has environmental impacts, especially to waterfowl.

Ms. HAGEMAN. OK. Thank you for that, and I yield back.

Mr. BENTZ. Thank you.

I now recognize Mr. Graves for 5 minutes.

Mr. GRAVES. Thank you, Mr. Chairman.

Congressman Duarte, I want to invite you to Louisiana. While you all struggle with your fishery, we have an abundance and would love you to come and participate with the great bounty of the Gulf of Mexico any time.

Ms. Guyas, I want to ask you a question. Over the past few years, we have made a lot of progress in legislation, such as the Modern Fish Act, which really brings recreational fisheries up to the same level in terms of management regime, working with Senator Shelby, received funding for the Great Red Snapper Count, which I think is the most detailed analysis of a fish stock in the country.

The Modern Fish Act not just brought up the sort of parity with recreational and commercial fisheries, but it also required that the best science be used to inform fisheries management decisions.

Noting the findings of the Great Red Snapper Count, noting that the Modern Fish Act requires the use of the best science, do you believe that National Marine Fisheries Service has properly managing the red snapper species in the Gulf of Mexico?

Ms. GUYAS. Well, I think we are still working toward getting that best science incorporated into management and assessment. So, it has been sort of a winding path to use the Great Red Snapper Count results to inform quotas. It has been a little bit of a struggle, and we are on now our second rulemaking to adjust quotas based on the Great Red Snapper Count.

At this point, there is a new assessment going on now for Gulf red snapper, and the analysts are trying to figure out how to incorporate Great Red Snapper Count into it. We will see how that goes, but would love to see that, and then, also, the state data programs as well.

Mr. GRAVES. Which Louisiana, our fishers decided to impose a new fee on themselves to create the Louisiana Creel System to collect better data, to inform decisions, and ultimately to result in better fisheries management.

And I will tell you, I am very much bothered by the fact that the Great Red Snapper Count determined that there was effectively a tripling of the species, or I guess say it differently, there were more than three times the fish in the Gulf of Mexico as National Marine Fisheries Service believed and as the management regime was operating under, which is incredibly frustrating.

And, lastly, I just want to make note that the red snapper off the coast of Louisiana are much better than those off of Alabama.

[Laughter.]

Mr. CARL. They are red because they——

[Laughter.]

Mr. GRAVES. I know you get to speak after me, but I am going to leave before then.

I also wanted to ask, look, everybody agrees that we need to make sure that we are carrying out the best practices to manage the right whale species in the Atlantic and the Gulf of Mexico. However, some of the proposals that have been put out appear to impose restrictions on vessels that I think would actually threaten safety of the vessels whenever right whales may not be within 100 miles of that vessel. And I just didn't know if you had any reaction to that.

Ms. GUYAS. Yes. Thanks for the question. Vessel speed is an important safety feature, actually, on recreational vessels. They don't have the same stability as larger commercial shipping

vessels, so if you are caught in rough seas, being able to go fast is really part of your safety plan to get back home safely.

Mr. GRAVES. Get back home, but also to actually get over the swells. Without that speed, without that momentum, you actually threaten the safety of the vessels and the passengers as well.

Last question. Can you talk about the benefits of artificial reef structures for fisheries and whether, for example, energy infrastructure in the Gulf of Mexico provides benefits to fishery stocks?

Ms. GUYAS. Yes. Absolutely. I am sure you have fished on plenty of oil rigs in your time. Fish love that structure, so for oil rigs you have amberjack that love that, cobia. I am sure you are catching some red snapper there as well. So, yes, that structure is definitely fished by the recreational fishery.

Mr. GRAVES. Thank you. Last question, Ms. Guyas. Did you know that when Mardi Gras was celebrated in Mobile, did you know that there were only two colors to Mardi Gras at that time? It was only purple and gold, which happens to be the two colors of LSU. It was only later that Louisiana added green as well.

So, I yield my remaining time to my friend from Alabama.

Mr. CARL. A lot to ponder there.

[Laughter.]

Mr. CARL. I don't know if I want to follow him or not.

[Laughter.]

Mr. BENTZ. The Chair recognizes Mr. Carl for 5 minutes.

Mr. CARL. Thank you, Mr. Chairman. I do appreciate my friend from Louisiana. Obviously, we have a good time picking at one another.

And, Ms. Guyas, I think my question is going to be more targeted at you. Before I get to you, though, I would like to counter Congressman Huffman. I would love for you to work with us on the shrimping industry. Our shrimpers are a dying art, between fuel prices, between foreign countries that are catching our shrimp that are coming into our waters. I would love for us to come up with a way to save our shrimping industry in Louisiana, Florida, and Alabama, Mississippi, obviously. So, thank you for your offer for all of us to join together.

May I call you Martha? All right. I can remember Martha pretty easy. Martha, like you, I am concerned that NOAA is using the wrong data and issuing conflicting rules. Their decisions hurt anglers, confuse anglers, and are harmful to the local economy, which is my district that I am speaking of. And it is no surprise that NOAA has prioritized its Federal catch data over more accurate state data.

And that is the key. I think Graves referred to it there as the Great Red Snapper Count as we all know it as. States on the Gulf Coast, like Alabama, have done an incredible job of monitoring red snapper. If you are not used to our red snapper program, it is second to none, and I would encourage you to look at it.

And it helps us monitor our red snapper population, and the last thing state needs is more Federal Government, getting more involved and imposing more regulations on our fishermen.

We need to get out of their way and let them fish. That is what they are there for. That is what they came to do. It is their weekend, their money. That is our profits, our tax dollars.

Last year, the NOAA Administration testified in front of this—sorry, they testified in front of the Senate Commerce Committee and said it was crucial for NOAA to base its management decision on the best scientific information available. When the Administration later testified in front of this Subcommittee, I told them I agreed with them 100 percent. And the science he was looking at needs to be the science also used in Alabama, the numbers that we use.

The science clearly showed that we had an abundance of red snapper, and the population continues to grow. The bottom line is, I support increasing the red snapper quota for everyone. And I would love to hear from you about how we can better manage our fisheries in a way that will help all of us.

Ms. GUYAS. Thank you for your question. I think state management has made a lot of progress. Alabama certainly has a great program set up. All five of the Gulf states do. Going back to our conversation with Mr. Graves, we need to get that Great Red Snapper Count in the assessment, so that that is helping to drive forward our management and setting our quotas moving out here from here on out.

The Council of Scientific Advisors, when they have looked at the Great Red Snapper Count, they have kind of struggled figuring out how to incorporate it into management without having it in the assessment. So, I think that is going to be the key moving forward.

Mr. CARL. And for people who don't understand, I heard this said, so I am assuming it is correct. I did read it on Facebook, so it may be a lie. But Alabama has the most reefs of any state. We have buses, we have tanks, we have bridge rubble, you name it, we have it out. Chicken coops, they love chicken coops.

I went out on a University of South Alabama group, and we sent down the robotics, and chicken coops held the most fish of all things in the world. And we are very proud of that, and we have spent a lot of private money getting those reefs built.

So, there is a reason why we have more snapper out there, and you are not going to count those snapper by dragging a net and counting the fish in the net.

I appreciate your time. I appreciate everyone coming and speaking before this Committee. It is important that our voices be heard. It is important that we speak up for those that can't be here to speak for us.

With that, Mr. Chairman, I give my time back.

Mr. BENTZ. Thank you, Mr. Carl.

And with that, I don't see any other witnesses. Is that correct? I thank the witnesses for the valuable testimony and the Members for their questions.

The members of the Committee may have some additional questions for witnesses, and we will ask you to respond to those in writing. Under Committee Rule 3, members of the Committee must submit questions to the Subcommittee Clerk by 5 p.m., Monday, March 13. The hearing record will be held open for 10 business days for these reasons.

I ask unanimous consent to enter into the hearing record the letter from the American Public Power Association. Without objection, so ordered.

[The information follows:]

**AMERICAN PUBLIC POWER ASSOCIATION**
**Arlington, VA**

March 8, 2023

Hon. Cliff Bentz, Chairman
Hon. Jared Huffman, Ranking Member
House Natural Resources Committee
Subcommittee on Water, Wildlife and Fisheries
1324 Longworth House Office Building
Washington, DC 20515

Dear Chairman Bentz and Ranking Member Huffman:

The American Public Power Association (APPA) appreciates the opportunity to submit a statement for the record for the House Natural Resources Committee's Subcommittee on Water, Wildlife, and Fisheries hearing, "Benefits and Access: The Necessity for Multiple Use of Water Resources." APPA supports and agrees with the testimony submitted by Mr. Scott Corwin, the Executive Director of the Northwest Public Power Association (NWPPA).

APPA is the voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide. APPA represents public power before the federal government to protect the interests of the more than 49 million people that public power utilities serve, and the 96,000 people they employ.

**Hydropower Benefits**

Hydropower is one of many uses of water resources. Making full use of the nation's hydropower resources is key to ensuring that the nation's grid remains reliable and resilient, and that utilities can meet emission reduction goals. Hydropower is a source of emissions-free, baseload power. Furthermore, hydroelectric generators can be started or stopped quickly, which makes them more responsive than most other energy sources for meeting demand for electricity at its "peak" or highest volume. Hydropower's "black start" capability makes it especially valuable in restoring power when there are widespread outages or disruptions on the system—this capability allows the generating units to cycle back on quickly if they have been tripped off in a power outage.

**Federal Hydropower**

The federal Power Marketing Administrations (PMAs)[1] provide millions of Americans served by not-for-profit public power and rural cooperative electric utilities with cost-based hydroelectric power produced at federal dams operated by the U.S. Army Corps of Engineers and Bureau of Reclamation.[2] The Corps and Reclamation are the largest and second largest (respectively) generators of hydropower in the country. The PMAs market federally generated hydropower, with a statutory right of first refusal granted to not-for-profit entities, including public power utilities and rural electric cooperatives (called "preference customers"), at rates set to cover all of the costs of generating and transmitting the electricity, as well as repayment, with interest, of the federal investment in these hydropower projects.

In accordance with federal law, PMA rates are set at the levels needed to recover the costs of the initial federal investment (plus interest) in the hydropower and transmission facilities. The PMAs annually review their rates to ensure full cost recovery. None of the costs are borne by taxpayers. Power rates also help to cover the costs of other activities authorized by these multipurpose projects, such as navigation, flood control, water supply, environmental programs, and recreation. The annual appropriations process is also important to the PMAs. Although the customers pay all the PMA costs through their power rates, as mentioned above,

[1] The four PMAs are: the Bonneville Power Administration (BPA), Western Area Power Administration (WAPA), Southwestern Area Power Administration (SWPA) and Southeastern Power Administration (SEPA).

[2] Given the jurisdiction of the Subcommittee, this statement focuses exclusively on federal hydropower. However, in addition to buying hydropower from federally owned dams, many APPA members own and operate their own dams, which are licensed by the Federal Energy Regulatory Commission.

for the Western Area Power Administration, Southeastern Power Administration, and Southwestern Power Administration, those monies flow back to the U.S. Treasury and then must be appropriated by Congress. (Bonneville Power Administration's (BPA) governing statute, amended in the 1980s, allows for a "revolving fund" so ratepayer money goes directly to BPA rather than to the Treasury.) In addition, the PMAs must receive yearly funding levels from Congress for purchasing and wheeling (transmitting) power in a drought situation or when the water at the dams is used for purposes other than for electricity production (i.e., recreation and environmental mitigation). This money for "purchase power and wheeling" will then be paid for by the PMA customers through their rates.

**Challenges Facing Federal Hydropower**

Federal hydropower and the PMAs are critical, though often overlooked, elements of the nation's power supply. Each PMA is unique in its authorizing statutes and the challenges it faces. We would welcome the opportunity to work with the subcommittee to address the PMA-specific issues highlighted below.

**Southwestern Power Administration (SWPA)**—APPA strongly supported S. 3719, the Southwestern Power Fund Establishment Act, introduced by Senators Jerry Moran (R-KS) and Roger Marshall (R-KS) in the last Congress, and urges the reintroduction and passage of the legislation this Congress. The current funding process for SWPA has increasingly failed to provide the financial certainty necessary to ensure steady power rates to customers during drought and other extreme weather events. This legislation would move SWPA to a "revolving fund" model where receipts from power sales would be deposited into a permanent mandatory Treasury revolving fund and retained across fiscal years to fund future expenses as necessary. Future annual discretionary appropriations would no longer be needed. This change will provide SWPA and its not-for-profit customers funding certainty for purchase power and wheeling and other costs. This is a proven model of success for federal utility programs with business-like functions. [*See July 28, 2022, statement for the record submitted by APPA and NRECA to the Senate Energy and Natural Resources Committee*].

**Western Area Power Administration (WAPA)**—The protracted drought in the West has caused reservoir levels to drop precipitously, thereby reducing the production of hydropower at several Bureau of Reclamation projects that is marketed by WAPA. It is possible that reservoir levels may drop so far that hydropower production is no longer possible. To make up for this reduction or even loss of hydropower production, WAPA's customers have long-term contracts for a fixed amount of power. When that power is unable to be generated at hydropower projects, replacement power must be purchased on the wholesale energy market. This means that public power utilities and other WAPA customers are paying twice: once for the ongoing capital repayment and operation and maintenance of the Reclamation project that is unable to produce the contracted amount of hydropower *and* again for the cost of replacement power. As not-for-profit electric utilities, increased costs are shouldered directly by public power customers at a time when the country is already facing high inflation and energy prices.

Last Congress, Congressman Chris Stewart (R-UT) drafted legislation to help address the declining hydropower production in the Upper and Lower Colorado River Basins by providing a pro-rata credit to customers' monthly invoices for service shortfalls in hydropower delivered that are below the contracted amount. Senators Mark Kelly (D-AZ) and Kyrsten Sinema (I-AZ) introduced similar legislation (S. 4233). APPA urges the reintroduction and passage of this legislation. [*See November 10, 2022, letters to Congressman Stewart and Senate Energy & Natural Resources Committee Leadership; APPA Resolution 22–11, "In Support of Colorado River Basin Drought Assistance"*].

**Bonneville Power Administration (BPA)**—The United States and Canada agreed to the Columbia River Treaty in 1964 for the mutual development of the Columbia River power and flood control systems. Under the Treaty, the U.S. provides payments to Canada, called the Canadian Entitlement (CE), in the form of returned power generation. The CE amount is calculated using a formula from 1961, which was based on the expected improvement to U.S. hydropower generation capability due to Canadian storage. Today, these calculations exceed the actual benefits of coordinated operations by an estimated 70–90 percent. An equitable rebalancing of this problem is worth more than a billion dollars to U.S. consumers at a time when many are already facing rising energy prices. APPA urges Congress to press the State Department and the entire negotiating team working under National Security Council officials to move faster on renegotiating the treaty with

a particular emphasis on rebalancing the power provisions between the U.S. and Canada. [*See April 4, 2022, APPA letter to President Biden*].

Making full use of the nation's hydropower resource is key to ensuring that the nation's—and the Pacific Northwest's—grid remains reliable and resilient, and that utilities can meet emission reduction goals. APPA strongly opposes the removal of the Lower Snake River Dams (LSRDs). It is difficult to overstate how critical it is to maintain the LRSDs as the region—and the nation—seeks to lower emissions while maintaining electric reliability and affordability over the long-term. Moreover, recent extreme weather events have demonstrated that the LSRDs are irreplaceable resources not just in the future but right now—both in terms of energy, capacity, and other grid services key to maintaining reliable electricity. [*See APPA Resolution 22–12, "In Support of Hydropower, the Federal Columbia River Power System, and Opposing Breach of the Lower Snake River Dams"*].

**Southeastern Power Administration (SEPA)**—Since the 1990s, the hydropower customers in the Southeast have witnessed the tug of war between the states over the use of federal multi-purpose projects for water supply. The water wars involving the States of Alabama, Florida, and Georgia have engulfed Corps decision making on the execution of water storage contracts, which would supplement water supply at Corps projects. Inherent throughout the debate, the question has lingered whether the Corps has adequately priced storage to compensate for the benefits lost by the hydropower customers who have historically paid for the projects.

With the passage of the Infrastructure Investment and Jobs Act (P.L. 117-53) and the Disaster Supplemental Appropriations Act (P.L. 117-43), the Corps revealed that the Southeast could be asked to repay nearly $500 million in stimulus funds through hydropower rates. These funds have been directed to support work at Corps multipurpose projects on a variety of non-hydropower related projects. Yet, the Corps cost accounting proposes to report to SEPA hundreds of millions in costs that should be borne by other project purposes. For customers in the Southeast, the threat to hydropower resources is not isolated to changes in project operations and competing uses, but also within the books maintained by the Corps.

APPA supports efforts to improve the transparency in accounting for costs to ensure that hydropower customers are not asked to bear costs unrelated to hydropower production.

**Conclusion**

APPA commends the subcommittee for examining the multiple uses of our nation's water resources and looks forward to working on legislative solutions to preserve and maximize our federal hydropower assets.

Sincerely,

DESMARIE WATERHOUSE,
*Senior Vice President of Advocacy and Communications & General Counsel*

**Attachments:**

The following documents were submitted as attachments to APPA's letter to the Subcommittee. These documents are part of the hearing record and are being retained in the Committee's official files:

—July 28, 2022, statement for the record submitted by APPA and NRECA to the Senate Energy and Natural Resources Committee in support of establishing a SWPA revolving fund;

—November 10, 2022, letters to Congressman Stewart and Senate Energy Committee Leadership on drought assistance to WAPA;

—APPA Resolution 22–11, "In Support of Colorado River Basin Drought Assistance;"

—April 4, 2022, APPA letter to President Biden on the Columbia River Treaty; and

—APPA Resolution 22–12, "In Support of Hydropower, the Federal Columbia River Power System, and Opposing Breach of the Lower Snake River Dams."

This letter with all attachments is available for viewing at:

https://docs.house.gov/meetings/II/II13/20230308/115450/HHRG-118-II13-20230308-SD004.pdf

Mr. BENTZ. If there is no further business, without objection, the Subcommittee stands adjourned.

[Whereupon, at 3:50 p.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

## Submissions for the Record by Rep. Huffman

### Letter from Recreational Fishing Organizations

March 7, 2023

Hon. Jared Huffman, Ranking Member
House Natural Resources Committee
Subcommittee on Water, Wildlife, and Fisheries
1324 Longworth House Office Building
Washington, DC 20515

Dear Ranking Member Huffman:

The undersigned recreational fishing businesses, organizations, and individuals write to you share our concerns about some of the challenges facing recreational fisheries today. Saltwater recreational fishing supports substantial economic activity in coastal communities and is an important tradition that brings together generations of Americans. In 2019, our industry of recreational businesses and anglers supported 553,000 jobs and over $89 billion in sales impacts, in addition to providing livelihood, recreation, and connection to one another and to the ocean.[1]

Saltwater recreational fishing relies on abundant fish populations that are managed sustainably by fishery managers in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA). However, in recent years, some have cited the challenges of managing recreational fisheries as reasons to weaken or roll back the conservation measures in the MSA that we depend on. This is especially troubling as, despite progress made under the MSA to rebuild stocks and support sustainable fishing, there is more work to be done to create resilience in our fisheries to ensure generations to come also have the opportunity to fish.

Healthy and abundant fish stocks are an important part of ocean ecosystems and provide opportunities for sustainable fishing now and in the future, and the MSA is a vital part of achieving them. The MSA has been transformative for U.S. fisheries and making them sustainable, but many challenges remain. Despite the progress made through the MSA, there are concerning signs that many stocks are struggling. For example, 20% of stocks are currently overfished. Frankly, we believe that managers could do more to ensure that the law is being implemented as intended to support the resilience of fish stocks and fishing communities.

To us, the greatest threats to the fisheries we rely on are rollbacks to the sustainability and accountability of recreational fishing, challenges with data collection, and our slow progress in addressing the impacts of climate change.

As Congress continues to explore ways to steward our ocean fisheries into the future, we look forward to working with you to address the following serious challenges to the sustainability of recreational fishing.

*Sustainable Recreational Management and Data Collection*

Just like any other fisheries sector, recreational fisheries have an impact on fish stocks and to grow fishing opportunities, we believe that management should be sustainable. That means it must be science-based, uphold catch limits and accountability measures, prevent overfishing, rebuild stocks, and conserve and restore habitat to support healthy and abundant fish stocks. In the long run, abundant fish stocks are what yields the greatest fishing opportunity, and changes to management shouldn't come at the expense of the fish.

[1] U.S. Dept. of Commerce, Fisheries Economics of the United States 2019, NOAA Technical Memorandum NMFS-F/SPO-229A (March 2022), at 14, available at https://media.fisheries.noaa.gov/2022-07/FEUS-2019-final-v3_0.pdf.

Good management relies on good data, and we know that collecting recreational fishing data is inherently challenging. There are opportunities to improve upon our data system in ways that will make management more effective at supporting abundant fish stocks and allowing for the most fishing opportunities for anglers. NOAA Fisheries has made a number of improvements to recreational data over the years, and data collection should continue to build upon this foundation. This includes answering fundamental questions around the number of recreational anglers, their effort and catch, their mode of fishing, discards, and other questions. Improving data also means making refinements to existing recreational fishing surveys and integrating additional surveys in ways that ensure the quality of data is maintained and can adequately inform management, such as by calibrating new sources of data and maintaining consistency of supplemental data systems. New approaches should foster the development of innovative science-based solutions for recreational management. New data is useful in addition to, not in place of, existing information that provides a long-term view. We need to invest in obtaining more data and modernizing our data systems to ensure that our management is responsive and nimble to changes in biomass.

*Addressing Climate Change Impacts*

Climate change is making our ocean waters warmer, more acidic, and lower in oxygen and disrupting where fish are found, what they can eat, where they can live, and how many there are. As fishermen, we see these changes every day on the water. These impacts are affecting recreational fisheries and every part of the management system. There is a lot that fishery managers can do through MSA to prepare our fisheries to adapt to the impacts of climate change. However, the law does not explicitly address climate, and we see opportunities to incorporate climate into the law more fully. Action is needed now to help fisheries adapt to changing conditions. Delaying action to address the climate impacts on fisheries will have costs, such as lower catches, less stable management, and more fisheries disasters. The challenge of climate change shouldn't be a reason to throw up our hands and do less management and less accountability for recreational fisheries. Instead, fishermen, managers, and scientists need to work together better to make sure we are considering climate in management and making fish stocks as resilient as we can.

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As recreational fishermen, businesses, and organizations, we deeply appreciate the decades of leadership in Congress that have created a sustainable fishery management system that supports substantial recreational fishing activity. We encourage you to look for ways to build on the successes we've seen, and avoid policy changes that might weaken the foundations of our system. Instead, we hope to work with you to tackle climate change impacts, enhance our data systems, and build resilience and abundance in our fisheries.

Thank you for considering our comments on these issues.

Sincerely,

*Steve Stracqualursi, Product Director*
12wt

*Whitney Tilt, Executive Director*
AFFTA Fisheries Fund

*Lucas Bissett, Executive Director*
American Fly Fish Trade Association

*Rick Crawford, President*
Fly Fishing Climate Alliance
Emerger Strategies

*Bake Merwin—Owner*
Gig Harbor Fly Shop

*Ross Purnell, Publisher/Editor*
Fly Fisherman Magazine

*Todd Corayer*
Fishwrapwriter.com

*Tim Hardin*
Venturing Angler

*Rich Heffernan*
Angler/Former Board Narragansett Surf Casters, RI

*Ned Bean*
Plum Island and Martha's Vineyard Surfcasters Association, MA

*Eddie Doherty*
Author

*George Baldwin, President*
Connecticut Surfcasters Assoc., CT

*Kirk Deeter, Publisher/Editor*
Angling Trade Magazine

*Michael DeJarnette, Publisher /Editor*
Tail Magazine

*Jack Reis, Director of Marketing*
Fishpond

*Chad Schmukler, Publisher/Editor*
Hatch Magazine

*Dave McCoy, Owner*
Emerald Waters Anglers

*Guy Fleischer, Science Advisor*
Wild Steelhead Coalition

*Brook Scott*
Yellow Dog Community & Conservation Foundation

*Brian Bennett*
Moldychum

*Shane Cantrell*
Galveston Sea Ventures

*Jonathan Ungerland, President*
Cape Cod Salties, MA

*Chris Willi*
Owner Block Island Fish Works Outfitters/Charter Captain, RI

*Patrick Cassidy, Owner*
Cape Cod on the Fly and New England Maritime

*Kyle Schaefer, Owner*
Soul Fly Lodge, Bahamas Flats
Soul Fly Outfitters, Maine

*Peter Auster, PhD,*
Research Professor Emeritus, University of Connecticut
Senior Research Scientist, Mystic Aquarium, CT

*Abbie Schuster*
Kismet Outfitters Tackle Shop/ Charter Fishing Guide,
Martha's Vineyard, MA

*Bruce Bain, President*
Narragansett Surfcasters, RI

*David Monti*
No Fluke Charters/RI Saltwater Anglers Assoc./
Am. Saltwater Guides Assoc./RI Marine Fisheries Council

*Chris Hunt*
Hatch Adventure Travel

*Ted Upton, CEO*
Cheeky Fly Fishing

*Peter Vandergrift, CMO*
Wingo Outdoors

*John Creighton, Trustee*
Cape Cod Salties, MA

**OCEAN CONSERVANCY**
**Washington, DC**

March 10, 2023

Hon. Cliff Bentz, Chairman
Hon. Jared Huffman, Ranking Member
House Natural Resources Committee
Subcommittee on Water, Wildlife and Fisheries
1324 Longworth House Office Building
Washington, DC 20515

Re: Using and accessing federal water resources—Gulf of Mexico red snapper

Dear Chairman Bentz and Ranking Member Huffman:

Ocean Conservancy[1] offers the following perspectives on the management of the private recreational sector of red snapper in the Gulf of Mexico, as it was a featured topic in your subcommittee hearing on March 8, 2023, entitled, "Benefits and Access: The Necessity for Multiple Use of Water Resources."

Red snapper is a commercially and recreationally important fish stock to the Gulf of Mexico region, and management of the fishery must rebuild this stock while balancing efforts to allow fair and accountable access to the resource. Decades of management innovations have improved the health of the stock, increased the stability and profitability of coastal businesses, and expanded recreational fishing opportunity. However, recent management measures, particularly the necessary refinements to the state management system for the private recreational fleet and efforts to incorporate the Great Red Snapper Count into the fishery management system, have been subject to significant misunderstanding by the public. As many of the statements made in the hearing regarding red snapper do not align with the facts or the reality of the situation on the water, we offer these perspectives on the management of Gulf red snapper.

In particular, we note the following key points:

- Red snapper in the Gulf of Mexico is a stock still rebuilding to healthy levels after overfishing drove the population to historically low biomass.
- Every sector that targets or interacts with red snapper—the shrimp trawl fleet, the commercial sector, the for-hire sector, and the private recreational sector—has needed new management measures to restrict catch to sustainable levels as part of efforts to rebuild the stock.
- The private recreational sector is the last sector to experience significant management reform.
- "State management" is a management approach for the private recreational sector that allows the Gulf states to manage private anglers and their catch throughout the Exclusive Economic Zone. As part of this approach, each state must ensure catch stays under its allocated quota. However, overfishing has continued to occur under state management.
- There are concerning signs that the red snapper population is in decline in the Gulf.
- In order to use the best scientific information available to monitor catch levels in the private recreational fishery, calibration ratios ("common currency") were collaboratively developed to allow state and federal data systems to work together, as intended by their complementary designs. These ratios have recently been implemented and are necessary to ensure management complies with the Magnuson-Stevens Fishery Conservation and Management Act (MSA).
- State and federal surveys provide the most information for management when their data are used in complementary ways.
- Calibration ratios, like all scientific considerations in fishery management, will continue to be refined and improved over time. However, fishery management is required to use the best scientific information available at the time of the management decision being made, and so it is appropriate for existing

[1] Ocean Conservancy is working to protect the ocean from today's greatest global challenges. Together with our partners, we create evidence-based solutions for a healthy ocean and the wildlife and communities that depend on it.

calibration ratios to be implemented. Managers have ample opportunity to revise calibration ratios for use in future management decisions at the Gulf of Mexico Fishery Management Council ('Gulf Council').

- The Great Red Snapper Count (GRSC) is being considered in the next stock assessment process. This is the appropriate venue for this new information because the abundance estimate from the GRSC should not be considered independently of the other biological factors of the stock. For instance, a higher abundance estimate may mean that red snapper is less productive than previously estimated. Suggestions that catch levels should have simply been multiplied based on the results of the GRSC fundamentally misunderstand or misrepresent the considerations that go into fishery population studies.
- We note that the GRSC is already being used to set the highest catch levels ever in the fishery.

***Significant overfishing of red snapper led to management changes for all sectors***

The red snapper stock was first put into a rebuilding plan in 1990 after overfishing drove it to just 2% of its historic levels; the rebuilding plan was revised in 2005 after insufficient progress was being made to recover the stock.[2] In order to rebuild the stock, managers needed to address two key problems. First, they needed to further reduce bycatch of juvenile red snapper in the shrimp trawl fleets. This was accomplished in 2008 by implementing bycatch reduction devices and establishing shrimp trawl fishing effort thresholds.[3] And second, managers needed to prevent overfishing from occurring in the directed red snapper fishery; this remains an ongoing challenge.

The directed red snapper fishery is divided into two sectors for management and allocation purposes: commercial, allocated 51% of the quota, and recreational, allocated 49%. The commercial sector is managed through an Individual Fishing Quota (IFQ) program implemented in 2007.[4] Since IFQ implementation, the commercial sector has complied with its catch limit every year. The recreational sector is then further subdivided into two components: private recreational anglers, who fish from their own private boats, and the for-hire sector, who operate charter vessels and headboats that take paying customers out into the Gulf to fish. This subdivision of the recreational sector is referred to as "sector separation," and since its implementation in 2015, the for-hire sector has also stayed under its catch limits.

Having successfully addressed key sustainability issues with the shrimp fishery, commercial red snapper sector, and for-hire red snapper sector, managers then turned to improving management of the private recreational fleet. The private recreational sector faces several management challenges: there are millions of individual anglers, they can leave on fishing trips from anywhere in the Gulf (as opposed to leaving from specific ports and marinas), it is difficult to collect data on their activities, and estimating bycatch (discards) and the mortality of those discards is difficult. Further, as the red snapper stock began rebuilding from the combined efforts of the other fishing sectors, recreational anglers regularly exceeded their annual catch limits. This was driven in part due to the size of the fish they caught, and also because long seasons in state waters allowed for anglers to catch lots of red snapper before the federal fishing season began. As a result, federal season lengths significantly contracted, down to as few as three days in 2017.

To be clear, the vast majority of private recreational fishermen are conservationists and are doing everything they can individually to follow the rules—they fish when the season is open, they only keep as many fish as they are allowed, and they try to carefully release fish that can't be brought back to shore. However, the sheer number of recreational fishermen in the Gulf and the challenges of accurately accounting for their activities have led to persistent catch overages. Managers needed to address these issues, and they have tackled it with a combination of expanded data collection efforts and new management approaches.

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[2] Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Red Snapper Rebuilding Plan, 70 Fed. Reg. 32266 (June 2, 2005).

[3] Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery and Shrimp Fishery of the Gulf of Mexico; Amendment 27/14, 73 Fed. Reg. 5117 (February 28, 2008).

[4] Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Amendment 26, 71 Fed. Reg. 67447 (November 22, 2006).

***State management of private anglers contained a serious data flaw that allowed overfishing***

State management is an attempt to improve the fishing experience of recreational anglers while finally implementing accountable, sustainable management for the private recreational sector in the Gulf. Under state management, each of the five Gulf states—Florida, Alabama, Mississippi, Louisiana, and Texas—is authorized to manage a portion of the total private recreational annual catch limit for federal waters. The proportions of catch given to each state were decided by the states themselves and implemented as fixed amounts in the fishery management amendment that established state management, Amendment 50.[5] With Amendment 50, each state took on the responsibility for setting management measures that would keep its catch under its quotas for fishing both in state waters and out to 200 nautical miles (the limit of the Exclusive Economic Zone of the U.S.). This includes the responsibility to accurately monitor the red snapper catch of anglers in state and adjacent federal waters throughout the year and ensure that the landings stay below limits.

However, state management suffered from a major data problem: separating out the reporting responsibility to the five Gulf states meant that each was now using a different survey methodology to estimate landings, and the data from these different surveys could not be directly compared to each other or to their allocated federal quota. In essence, managers couldn't compare landings to quota because each one was calculated in a different "currency," and there was no methodology, or calibration, implemented to convert among them (a problem akin to having multiple currencies used in different countries with no currency exchange rate). As noted by NOAA Fisheries, "Whenever existing and new surveys produce estimates that are systematically different from one another, calibration is an essential step that must occur before the new estimates can be used in science and management."[6]

This lack of calibration between these different sources of data has allowed excessive recreational fishing in each year since state management was implemented. It was particularly notable in 2019, when recreational fishing drove the combined Gulf red snapper fishery (all sectors) over the overfishing limit (OFL) for the first time in over a decade.[7] This exceedance of the OFL put the rebuilding of the stock, which benefits all fishermen, at risk. If fishery management measures are set in a way that fails to restrain fishing below annual catch limits, allows fishing to exceed the overfishing limit, and fails to implement a rebuilding plan, as in this case, they are inconsistent with the requirements of the MSA.

To fix the data issues in state management, a multi-year process was initiated to develop the necessary calibration ratios that would make appropriate comparisons between landings and quota possible. This process is often referred to as developing a "common currency," and it involved the managers and scientists from each of the Gulf states, NOAA Fisheries, the Gulf States Marine Fisheries Commission, and the Gulf Council. In July 2019, NOAA Fisheries' Office of Science and Technology (OST) released a white paper that identified a range of acceptable methods to calibrate data across scientific surveys; they concluded that without a calibration, comparison of state survey landings with an ACL derived from the Marine Recreational Information Program's (MRIP) survey would be "statistically indefensible."[8] The calibration ratios developed during this process are simple calibration ratios (the ratio between catch estimates produced by running the state and federal monitoring systems side by side), a common approach that enables for calibrations to be developed more quickly and allowed each state to use its own calibration method.

In April 2021, the Gulf Council formally adopted these calibration ratios, which were approved for use by their Scientific and Statistical Committee (SSC) (making them the best scientific information available), to be implemented in January 2023.[9]

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[5] Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Amendments 50A-F, 85 Fed. Reg. 6819 (February 6, 2020).

[6] NOAA Fisheries, Statistical Calibration Overview, https://www.fisheries.noaa.gov/recreational-fishing-data/statistical-calibration-overview

[7] Gulf of Mexico Red Snapper Landings. Tab B, No. 6a, August 25, 2020. https://gulfcouncil.org/wp-content/uploads/B-6a-SERO_RS_CouncilSlides082020updated.pdf, slide 6.

[8] NOAA Fisheries Recommends Source of Recreational Catch Statistics for Assessing Gulf Reef Fish Stocks https://www.fisheries.noaa.gov/feature-story/noaa-fisheries-recommends-source-recreational-catch-statistics-assessing-gulf-reef, Published August 7, 2019.

[9] Fisheries of the Caribbean, Gulf of Mexico, and South Atlantic; Reef Fish Fishery of the Gulf of Mexico; Red Snapper Data Calibrations and Harvest Levels. 87. Fed. Reg. 74014 (Dec. 2, 2022).

NOAA Fisheries recently issued the final rule implementing these critical calibration ratios, and they will go into effect for the 2023 fishing season that starts for some states in May. With this rule, states can still manage to meet the needs of their anglers while improving accountability for the sake of the long-term sustainability of the red snapper resource for all users. Implementing these calibration ratios will necessarily rein in recreational fishing in some states, which can come at a cost to local anglers. However, implementing common currency was required to restore management that complies with the MSA, and these actions were necessary to fairly and sustainably manage this public resource.

Refinements to calibration ratios are going to be an ongoing need to ensure the successful implementation of state management. As long as multiple surveys are being used to estimate red snapper landings, there will need to be a way to scientifically convert between them. Ongoing revisions and refinements to calibration ratios can occur, and should occur in particular if new data become available or if changes are made to survey methodologies. These refinements do not imply that existing calibration ratios should not be used. The MSA requires that managers use the best scientific information available to manage stocks and not wait until some future, potentially more preferable scientific information is available. It is necessary to implement the existing calibrations, and managers can take further action to implement revised calibration ratios once they are available. We should also expect calibrations to be essential to the stock assessment process for red snapper.

***The red snapper stock is showing signs of decline***

Currently, Gulf red snapper is more than halfway through its 27-year second rebuilding plan, and it is critical to meet the deadline of having a healthy stock by 2032 for fishermen and communities in the region. During the course of this plan, the stock has improved and is no longer considered overfished, but it has not yet rebuilt to a healthy level. However, as noted above, excessive landings by some states fishing under state management over the last six years have caused red snapper to undergo overfishing in 2019.[10] Most concerning is that two of the most reliable data series (both fishery-independent and fishery-dependent) are showing signs of decline. The bottom longline survey data,[11] one of the longest-running independent surveys used to estimate the abundance of red snapper in the Gulf, has shown that rebuilding progress has stalled, and worse, potentially has started to reverse. In a troubling sign from another long-term fishery-dependent indicator, catch rates in the for-hire sector appear to have declined.[12] Further, some fishermen in the Gulf are reporting significant problems catching red snapper that they can keep, suggesting that excessive fishing has noticeably depleted the fish stock in certain areas. This is particularly notable off the coast of Alabama, where anglers are catching only about a third as many fish as they did just two years ago.[13] With the for-hire and commercial sectors fishing accountably, the private recreational sector is most likely the root cause of these recent red snapper stock declines. Should this level of fishing damage the overall health of the red snapper stock, it is not just private recreational anglers that will suffer—all sectors will end up taking cuts to their quota if the stock declines.

***State and Federal data are designed to work together***

Red snapper management works best when all available sources of data are leveraged. A primary source of data in the Gulf is MRIP, which is a state–regional–federal partnership and survey program that uses a range of survey methods to estimate total recreational catch. Resulting data from MRIP are used to inform assessment and management. The development of MRIP, meant to address some of

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[10] Gulf of Mexico Red Snapper Landings. Tab B, No. 6a, August 25, 2020. https://gulfcouncil.org/wp-content/uploads/B-6a-SERO—RS—CouncilSlides082020updated.pdf. Slide 6.

[11] NOAA Fisheries, Sustainable Fisheries Division, Southeast Fisheries Science Center, "Traditional" Interim Assessment of Gulf of Mexico Red Snapper, Meeting of the Gulf Scientific and Statistical Committee, April 1–2, 2020, available at https://gulfcouncil.org/wp-content/uploads/05a.-RS_Traditional_Interim.pdf.

[12] NOAA Announcement of the 2022 Gulf of Mexico Red Snapper Recreational For-Hire Season, Gulf of Mexico Fishery Bulletin (Apr. 25, 2022), https://www.fisheries.noaa.gov/bulletin/noaa-announces-2022-gulf-mexico-red-snapper-recreational-hire-season. (The most recent season length announcement stated that "[b]ecause the daily catch rate was lower from 2019-2021 than it had been in the recent past, the season length will increase to 79 days this year." A 79-day season length computes to a catch rate of approximately 36,000 lbs/day (ACL divided by days open). When compared to the 2017 average catch rate of 47,753 lbs/day, this indicates a 34% reduction in daily catch rates.).

[13] Alabama Department of Conservation and Natural Resources, 2022 Red Snapper Landings Summary, https://www.outdooralabama.com/2022-red-snapper-landings-summary

the inherent challenges of collecting recreational fishing data, has, according to the National Academies of Sciences, Engineering, and Medicine (NASEM), "resulted in significant improvements to recreational catch and effort surveys."[14] As part of these improvements, a review found that MRIP has "an implementation approach that incorporates the flexibility required to address unique regional and state needs while at the same time maintaining the standardization and national-level cohesion," and that "the program has evolved to become a compilation of regionally based data-collection programs and is better prepared to address data needs at regional and state levels."[15]

In order to better understand catch of red snapper in the Gulf, supplemental state survey programs were designed to complement the general MRIP surveys and address the unique needs of each state. In a 2021 review of MRIP and recreational fishing data, the NASEM recommended that supplemental surveys can provide a number of benefits to inform timely catch estimates when used *in conjunction* with MRIP.[16] Thus, the state supplemental surveys function best not as a replacement to MRIP, but as a complement, enhancing the data available to improve in-season management and stock assessments, which can ultimately lead to better management of the stock.

Each survey has its own methods and inherent biases, which means that results from different surveys can vary even when the surveys are each appropriately designed and capable of producing statistically robust data. The NASEM notes that, "differences among estimates can be moderate, or quite substantial,"[17] which necessitates calibration among the various surveys to ensure consistency. Without a calibration, the landings from state surveys stand alone and cannot be integrated to assess a stock population as a whole.[18] For instance, some state surveys are intended to provide in-season data collection but do not collect landings information outside of the directed season. These differences in data collection mean surveys cannot be used interchangeably, but they can be integrated together to better inform our total understanding of red snapper catch.

Though the state surveys in the Gulf have been certified by MRIP, certification is not the same as calibration.[19] MRIP certification of a state survey does not presume landings estimates produced represent the best scientific information available (BSIA) or imply that they are suitable for in-season management. Rather, certification indicates a data collection program meets a certain level of statistical rigor and that it qualifies for technical and financial support from NOAA Fisheries. After that, calibration is the process that accounts for differences between surveys and standardizes the estimates to a common currency, such as to a historical time series from MRIP. It is important to note that calibration does not imply anything about the quality of one survey over another; calibration merely offers a method for estimates from different surveys to be put into the same currency by reconciling differences. Calibration is important because in converting estimates to the same currency, it preserves the continuity of existing time series.[20]

***The Great Red Snapper Count should be incorporated into the stock assessment***

The Great Red Snapper Count (GRSC) was a congressionally mandated and funded study to take a one-time snapshot of the total abundance of red snapper in the Gulf of Mexico. Abundance studies like the GRSC, if done rigorously and used appropriately, can provide helpful information about the stock and the fishery that can be considered in management. However, there has been an enormous amount of confusion around the appropriate uses of the GRSC for both science and manage-

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[14] National Academies of Sciences, Engineering, and Medicine 2021. Data and Management Strategies for Recreational Fisheries with Annual Catch Limits. Washington, DC: The National Academies Press. https://doi.org/10.17226/26185 at 1.

[15] The National Academies of Sciences, Engineering, and Medicine. 2017. Review of the Marine Recreational Information Program. Washington, DC: The National Academies Press. doi: https://doi.org/10.17226/24640 at 12.

[16] National Academies of Sciences, Engineering, and Medicine 2021. Data and Management Strategies for Recreational Fisheries with Annual Catch Limits. Washington, DC: The National Academies Press. https://doi.org/10.17226/26185.

[17] *Id.* at page 5.

[18] NOAA Fisheries Recommends Source of Recreational Catch Statistics for Assessing Gulf Reef Fish Stocks https://www.fisheries.noaa.gov/feature-story/noaafisheries-recommends-source-recreational-catch-statistics-assessing-gulf-reef, Published August 7, 2019

[19] NOAA Fisheries, Transitioning to New Recreational Fishing Survey Designs, https://www.fisheries.noaa.gov/recreational-fishing-data/transitioning-new-recreational-fishing-survey-designs

[20] *Id.*

ment. With Congress continuing to fund additional abundance studies, it is critical that these misconceptions are addressed.

The GRSC included larger estimates of red snapper occupying uncharacterized bottom (UCB, essentially describing areas that are not obviously reefs) in the Gulf than had previously been estimated. These areas have consistently been surveyed by the long-standing bottom longline survey in the Gulf, which is used to track trends in stock health over time. The preliminary abundance estimate calculated by the GRSC for the total abundance red snapper in the Gulf was 118 million fish, a number which was publicly celebrated prior to peer review of the study (creating extreme confusion surrounding the scientific process). After initial peer-review, the abundance estimate has since been revised down to 85.6 million fish and has been integrated for use in management. Though abundance estimates provide a useful indicator for managers, attempts to frame this number as "correct" and previous abundance estimates as "wrong" are deeply misguided. All factors estimating the productivity, natural mortality, and recruitment of a fish stock are interrelated. For instance, an outcome from the abundance estimates of the GRSC is that scientists may need to reconsider how productive the red snapper stock is, as it is very possible that productivity may have been overestimated. In other words, here is a plausible scenario: before the GRSC, scientists thought there was a smaller, more productive red snapper stock; after the GRSC is incorporated, it is possible there is a larger, less productive red snapper stock. It is important to get this right because if managers were to reflexively and dramatically increase catch levels based solely on the new GRSC estimate and the stock were less productive than estimated, the new fishing levels could quickly decimate the stock.

With this context, it is much easier to understand the challenges faced by scientists on the Gulf Council's SSC in the two times they have been asked to set catch recommendations based on preliminary GRSC estimates before those estimates had been incorporated into a stock assessment. The first time, the GRSC had not been formally peer reviewed; an expedited peer review of the study occurred at the same meeting where the SSC was asked to set catch limits using the GRSC results. The three independent peer reviewers brought up notable concerns about the methods used both in the study itself as well as in the agency's application of the study through an 'interim assessment,' rather than through a full stock assessment within the Southeast Data, Assessment, and Review (SEDAR) process.[21] SSC members were split on how to incorporate the information, ultimately setting a high overfishing limit (OFL) of 25.6 million pounds (raised from 15.5 mp) but only marginally increasing the acceptable biological catch (ABC) from 15.1 to 15.5 mp after considering that other sources of data also available to them—namely a long-standing survey of UCB areas—showed some concerning trends. The SSC was later asked to look at a revised version of the GRSC and ultimately used that information (in combination with all other best available science) to revise the OFL back down from 25.6 mp to 18.9 mp and raise the ABC, from 15.5 to 16.3 mp. Once these new catch levels are implemented (they are open for public comment now), catch levels for red snapper will be set higher than they have ever been set. That means that the total mortality of the stock annually will be higher than scientists estimate was occurring back in the 1990s, when overfishing drove the stock to 2% of its historical biomass, kicking off the entire rebuilding story told here.

Although abundance studies provide important new information, it is imperative that scientists, managers, and others involved in the fishery management process clearly distinguish between the differences in an abundance study and the stock assessment process in order to avoid duplicating the substantial confusion and immense pressure to ignore uncertainty associated with the GRSC preliminary estimate and revise catch levels. In the case of Gulf red snapper, the new catch levels set using the GRSC, done before the study was incorporated into the stock assessment, combined with the catch overages that occurred due to a lack of calibration for the first four years of state management, significantly increase the risk that overall fishing effort will be too high, and will damage both the stock and fishery.

Ultimately, abundance studies should be incorporated into our overall understanding of a fish stock through the stock assessment—not prematurely rushed into the management advice process. The MSA and the regulations to implement the law have established clear and effective processes around how information should be integrated for management consideration. These established processes must be honored rather than rushing to get data out the door if the results could yield a favorable outcome. In addition, strong scientific integrity practices can reduce the

[21] Gulf of Mexico Fishery Management Council, Meeting of the Standing, Reef Fish, and Socioeconomic SSC, March 30–31, 2021, Agenda item II.b, available at: https://gulfcouncil.org/meetings/scientific-and-statistical-meetings/mar-apr2021/

politicization of science and promote better oversight of large, congressionally funded studies like the GRSC. These considerations are important because new abundance studies modeled after the GRSC are currently underway in other fisheries, and it is not yet clear how to best quantify and integrate these studies into sustainable catch recommendations. Future abundance studies should go through standard peer review processes to ensure the management advice qualifies as best available science and can be used in stock assessments.

***Gulf red snapper provides important lessons for managers***

Now that the implementation of calibrations for red snapper survey data is underway, it is important to examine what lessons managers and stakeholders can learn from this process. Based on our experience, we suggest a few:

- **Sustainable management relies on accountability.** To rebuild our fisheries, sectors must be accountable to the ACLs and accountability measures (AMs) set forth by management. After an initial failed rebuilding plan, red snapper started making progress toward rebuilding when sustainable catch limits were implemented and accountability increased—first with the shrimp bycatch reductions, then commercial sector, and then the for-hire sector. However, the private recreational sector was allowed to exceed its ACL several years during the initial implementation of state management, which led to the OFL being triggered in 2019 for the first time in a decade, and jeopardized rebuilding progress and the sacrifices made by all sectors. Sustainability is a cornerstone of recreational management, and new regulations should comply with the requirements of the MSA, including through upholding ACLs and AMs, preventing overfishing, rebuilding stocks successfully, and conserving and restoring habitat to maintain resilient and productive ecosystems that support healthy and abundant fish stocks. We particularly emphasize this point as there was discussion during the hearing about delaying action to end overfishing and implement the rebuilding plan for the red snapper stock in the South Atlantic.
- **Fishery management should be informed by the best available scientific information.** Fisheries data is the foundation of our science-based management system. As new data systems and scientific studies are proposed or developed (such as state surveys or the GRSC), the best practice is to design these to complement and supplement existing data programs and ensure appropriate methodologies are used to integrate new data. As fishery science relies heavily on long-term datasets, abrupt replacements or dramatic shifts in datasets can increase uncertainty and put fish stocks and fishing communities at risk. Advanced planning, cooperative efforts, and transparent communication about both the opportunities and challenges posed with new data approaches is key to maintaining manager and stakeholder trust as our scientific understanding of stocks increases. Additionally, managers cannot delay action in order to wait for more favorable data. The MSA's mandate to use the best available science is an important backstop against delaying needed management actions. Fishery managers will always have to confront situations where the news about the health of a stock is not what people want to hear, and the requirements to act on the best information available to end overfishing and rebuild stocks are crucial for preventing near-term pressures to delay needed management action.
- **Transparency and communication are critical for creating trust in the management system.** Fishery management is complicated, and the intricacies of fishery data and management actions can be difficult to communicate and understand. A key stumbling block in recreational red snapper management continues to be the ability for scientists, statisticians and managers to communicate with stakeholders about the data and science for the fishery. Gulf red snapper management revealed failures to communicate clearly to the public at key junctures, including: failing to clearly set expectations about what stock recovery in a rebuilding plan would look like on the water for states and anglers; an unwillingness to communicate about the challenges of using multiple data sets for management; an egregious lack of transparency in publicly tracking landings data (there is still no public, transparent, and accurate tracking of private recreational red snapper landings in comparison to state specific quotas or the private recreational ACL); serious miscommunications about the appropriate scientific methodologies for including abundance study results in management; and overall, an unhelpful and combative narrative pitting state and federal scientists and managers against each other rather than highlighting the cooperation necessary to

manage a public resource across large geographies, multiple jurisdictions, and many users.

- **Fairness is paramount.** Our marine fish stocks are a public resource, and the law requires that they are managed for the long-term benefit of the nation. This means that current users of fishery resources have a responsibility to the generations that will follow to steward these resources and support healthy fish stocks and ecosystems. Fairness also means that everyone who fishes the stock now shares an equal burden in complying with science-based limits and management approaches; it also means that all sectors should have an opportunity to benefit from efforts to rebuild stocks. When one sector continues to exceed its limits, as has occurred in Gulf red snapper, it hurts the overall health of the stock and can reduce fishing opportunities for other sectors. Overfishing can lead to stock decline and localized depletions and puts fishing communities at risk. When fishermen see favoritism of one sector over another, it erodes confidence and compliance with sustainable management.
- **Plan for change.** Our ocean fisheries are ever-changing. They experience changes due to numerous factors, such as fishing effort and ecosystem impacts. And now more than ever, climate change is dramatically reshaping our ocean and the communities that rely on it. Fishery management must start incorporating more ecosystem and climate information via adaptable management approaches to ensure our ocean can support robust fishing opportunity even as our oceans change. By working together, fishermen, scientists and managers can chart a course to a sustainable fishing future no matter what changes lie ahead.

Thank you for considering our comments, and we hope to work with you in this Congress to ensure red snapper, and all U.S. fisheries, are managed sustainably, equitably, and accountably.

Sincerely,

MEREDITH MOORE,
*Director, Fish Conservation Program*

**Statement for the Record**

**Connor Fagan**
**Federal Policy Manager, Oceana**

**Regarding the "Benefits and Access: The Necessity for Multiple Use of Water Resources" and implications for the North Atlantic right whale**

Thank you, Chair Bentz, Ranking Member Huffman, and members of the Subcommittee for this opportunity to submit testimony related to the intersection of the North Atlantic right whale (NARW) vessel speed rule with fisheries issues. Vessel strikes and fishing gear entanglement are the two leading causes for the ongoing rapid collapse of the NARW population.[1] Vessel strikes cause close to half of all NARW deaths, with 4 reported vessel strikes of North Atlantic right whales in the last 3 years alone.[2]

The 2022 proposed vessel speed rule is based on the best available science and evidence, and the National Marine Fisheries Service is required under federal law to issue a strong final rule. Among other federal mandates related to NARWs, the Endangered Species Act was intended to allow federal agencies to issue rules that carry out the Act's primary purpose of protecting endangered species. The Marine Mammal Protection Act's "major objective" is to stop marine mammal populations from declining and ensure that they remain a functioning part of their marine ecosystems.[3] For both statutes, NMFS is the lead agency tasked with issuing regulations on marine mammals, including NARWs.[4] The proposed rule issued in 2022 is well within the agency's authority and obligation to issue rules in holding with its Congressional mandate to protect endangered species from injury, death, and potentially extinction in this case.

On August 1, 2022, the National Marine Fisheries Service (NMFS) released a proposed vessel speed rule that aims to reduce the risk of vessel strikes to critically endangered North Atlantic right whales.[5] NARWs have been listed as endangered under the ESA since 1970 and are currently classified as critically endangered according to the International Union for Conservation of Nature. The species has been in nonstop decline for over a decade, with only about 340 NARWs remaining.[6]

Collisions with vessels are one the leading causes of injury and death for NARWs, which are dark in color and difficult to spot, swim slowly at the water's surface, and lack a dorsal fin. Since 2017, there have been 14 cases of confirmed NARW mortalities caused by vessel strikes.[7] The true impact of vessel strikes on NARWs may be much higher, as scientists estimate that observed deaths only represent one third of total NARW mortalities.[8]

The original vessel speed rule was issued in 2008. The 2022 updated proposed rule contains critical changes such as including vessels greater than 35 feet in length (compared to the previous 65 feet), expanding seasonal speed zones, and upgrading current voluntary speed zones to mandatory in areas where whales are seen.

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[1] S.M. Sharp et al., Gross and Histopathologic Diagnoses From North Atlantic Right Whale *Eubalaena glacialis* Mortalities Between 2003 and 2018, 135 Diseases of Aquatic Organisms 1, at 1 (2019). https://www.intres.com/articles/feature/d135p001.pdf (July 3, 2019).

[2] Amendments to the North Atlantic Right Whale Vessel Strike Reduction Rule, 87 Fed. Reg. 46,921 at 46928 (August 1,2022); S.M. Sharp et al., *Gross and Histopathologic Diagnoses From North Atlantic Right Whale Eubalaena glacialis Mortalities Between 2003 and 2018*, 135 Diseases of Aquatic Organisms 1, at 1.

[3] 16 U.S.C. § 1531(c)(1); 16 U.S.C. § 1361(6).

[4] *Id*. § 1361(2).

[5] International Union for Conservation of Nature Red List categories and criteria, version 3.1, IUCN Species Survival Commission (SSC) available at https://portals.iucn.org/library/node/7977 (Last accessed March 6, 2023)

[6] North Atlantic right whales' downward trend continues as updates population numbers released (October 24, 2022) New England Aquarium. https://www.neaq.org/about-us/news-media/press-kit/press-releases/north-atlantic-right-whales-downward-trend-continues-as-updated-population-numbers-released/

[7] 2017–2023 North Atlantic Right Whale Unusual Mortality Event (n.d.) *NOAA Fisheries*. https://www.fisheries.noaa.gov/national/marine-life-distress/2017-2023-north-atlantic-right-whale-unusual-mortality-event

[8] Pace, R., Williams, R., Kraus, S.D., et al. (2021) Cryptic mortality of North Atlantic right whales. *Conservation Science and Practice*. 3(2). https://doi.org/10.1111/csp2.346

While Oceana supports the proposed rule, there is room for improvement in an even stronger final rule on vessel speed regulations for the U.S. Atlantic. The agency could improve the rule by removing exemptions for government vessels, requiring use of Automatic Identification Systems (AIS) devices for public vessel tracking, and overall improving enforcement of speed limits.

While current speed regulations only apply to vessels larger than 65 feet, boats of all sizes can cause fatal injuries to NARWs. As mentioned above, the agency points out in their proposed rule that there have been 4 reported strikes in the last 3 years alone. Three out of the four involved vessels were traveling more than 20 knots at the time.[9] Of the 12 known right whale-vessel collisions in U.S. waters between 2013 and 2021, at least eight of the vessels involved were confirmed or suspected to have been under 65 feet in length, demonstrating the deadly risk of smaller vessels to NARWs.[10] In February 2021, a calf died from propeller wounds, broken ribs, and a fractured skull after a collision with a 54-foot recreational fishing vessel that was not subject to the speed requirements. Although the captain was not operating illegally, this collision caused not only the tragic loss of a critically endangered whale, but also resulted in sinking the $1.2 million vessel and endangering all passengers on board.

With so few whales left, every vessel strike is detrimental to the potential recovery of this species. In fact, NMFS has determined that less than one NARW can die from anthropogenic causes per year for the species to maintain its optimum sustainable population.

At high speeds, vessels cannot maneuver to avoid them, and they swim too slowly to be able to move out of the way. Due to not having a dorsal fin and their habit of spending much of their time at shallow depths, NARWs are particularly susceptible to collisions with vessels.[11] Additionally, should a collision occur, studies have found that slowing vessel speeds to 10 knots reduces their risk of death from vessel strikes by 80% to 90%. Additionally, the experience and careful tendencies of mariners are not enough to reduce risks to marine mammals. A 2016 study showed that even trained observers and ideal conditions require cannot properly protect against vessel strikes of NARWs.[12] By expanding the regulation to include boats less than 65 length, NARWs are better protected from these potentially fatal interactions.

Since the release of the proposed rule, there has been pushback from the recreational boating and fishing industries, as well as the pilot operator sector, citing concerns of safety and economic harm. NMFS recognizes that mariner safety is extremely important and has included safety deviation provisions since the initial rule in 2008. The new proposed rule only improves these provisions, including expansion of exceptions to include emergency situations that present a threat to the health, safety, or life of a person; allowing vessels under 65 feet in length to transit at speeds greater than 10 knots when certain weather conditions are detected; and updated reporting protocols. Overall, the proposed regulatory changes continue to emphasize mariner safety.

When discussing the economic impact, some groups pushing back against this rule have claimed that this new rule would be devastating for businesses. However, the proposed seasonal speed zones would only impact boat traffic for the months of the year while the whales are migrating to protect mothers and calves in the Southeast during calving season and when the whales are aggregated in New England. While implementing speed limits on recreational vessels may add some travel time to trips, these zones do not prohibit fishing, boating, or other activities and still allow mariners to utilize the areas.

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[9] Amendments to the North Atlantic Right Whale Vessel Strike Reduction Rule at 46298.

[10] Whale and Dolphin Conservation, Defenders of Wildlife, Conservation Law Foundation, and Center for Biological Diversity v. National Marine Fisheries Service and Wilbur Ross (2021). https://www.biologicaldiversity.org/species/mammals/North_Atlantic_right_whale/pdfs/WDC-v-NMFS-right-whale-vessel-strike-unreasonable-delay-complaint.pdf

[11] Julia A. Dombroski, Susan E. Parks, & Douglas P. Nowacek, Dive behavior of North Atlantic right whales on the calving ground in the Southeast USA: implications for conservation, 46 ENDANG. SPECIS. RSCH., at 43 (2021)

[12] Wiley, D.N., C.A. Mayo, E.M. Maloney, et al. 2016. Vessel strike mitigation lessons from direct observations involving two collisions between noncommercial vessels and North Atlantic right whales (*Eubalaena glacialis*). Marine Mammal Science 32(4):1501–1509.

Saving this species from extinction will take a collective effort from the fishing, boating, and shipping industries to effectively reduce the risk of deadly collisions. The federal government has an obligation to protect these whales from this clear threat by implementing stronger regulations and enforcement procedures.

Thank you again for the opportunity to submit this testimony,

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| Conservation Law Foundation | Defenders of Wildlife |
| Earthjustice | Oceana |
| Whale and Dolphin Conservation (WDC) | |