

**For Tomorrow's Fish:**

# **Anglers Are The Key to Climate-Resilient Fisheries**



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**for the American Fly Fishing Trade Association (AFFTA)  
and the AFFTA Fisheries Fund**

## Written by anglers, for anglers, *For Tomorrow's Fish* is much more than another white paper.

Led by the American Fly Fishing Trade Association (AFFTA) and AFFTA Fisheries Fund, with support from industry leaders and conservation partners, *For Tomorrow's Fish* serves as the call to arms for an angler-led revolution where conservation-minded anglers are educated, motivated, and activated to demand progress toward healthy and abundant marine fisheries in the face of the impacts of our changing climate.

*For Tomorrow's Fish* outlines how our changing climate poses unparalleled threats to the ocean's ability to regulate itself and, by extension, support healthy and abundant fisheries. Focusing on the unparalleled threats of warming ocean temperatures, ocean deoxygenation, rising sea levels, and increased extreme weather events, *For Tomorrow's Fish* presents anglers, from offshore to inland waterways, with an ultimatum: Anglers must act now, drawing upon the same tenacity, unity, and passion that defined our past battles against threats to our fisheries.

Explicitly linking the impacts of our changing climate to our traditional fishing experience, *For Tomorrow's Fish* clearly outlines the role of the angler, challenging us to become advocates for making our fisheries more resilient to climate change. It calls for a science-based, precautionary fishery management approach that accounts for ecosystem structure and function while maintaining catch at sustainable levels.

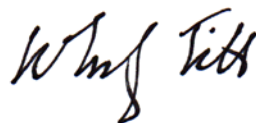
Our call for action challenges anglers to fiercely support members of the fishing industry and advocacy networks who are demanding progress toward healthy and abundant marine fisheries in the face of climate change. Just as we once rallied to protect our fishing grounds from pollution, overfishing, and habitat destruction, we must now push for a united front of anglers, industry representatives, and other committed advocates.

As explorer Robert Swan has observed, "The greatest threat to our planet is the belief that someone else will save it." We ask that you join us in supporting the *For Tomorrow's Fish* effort by embracing its message and elevating it through your community to rally for climate-resilient fisheries and the healthy and abundant fisheries they represent.

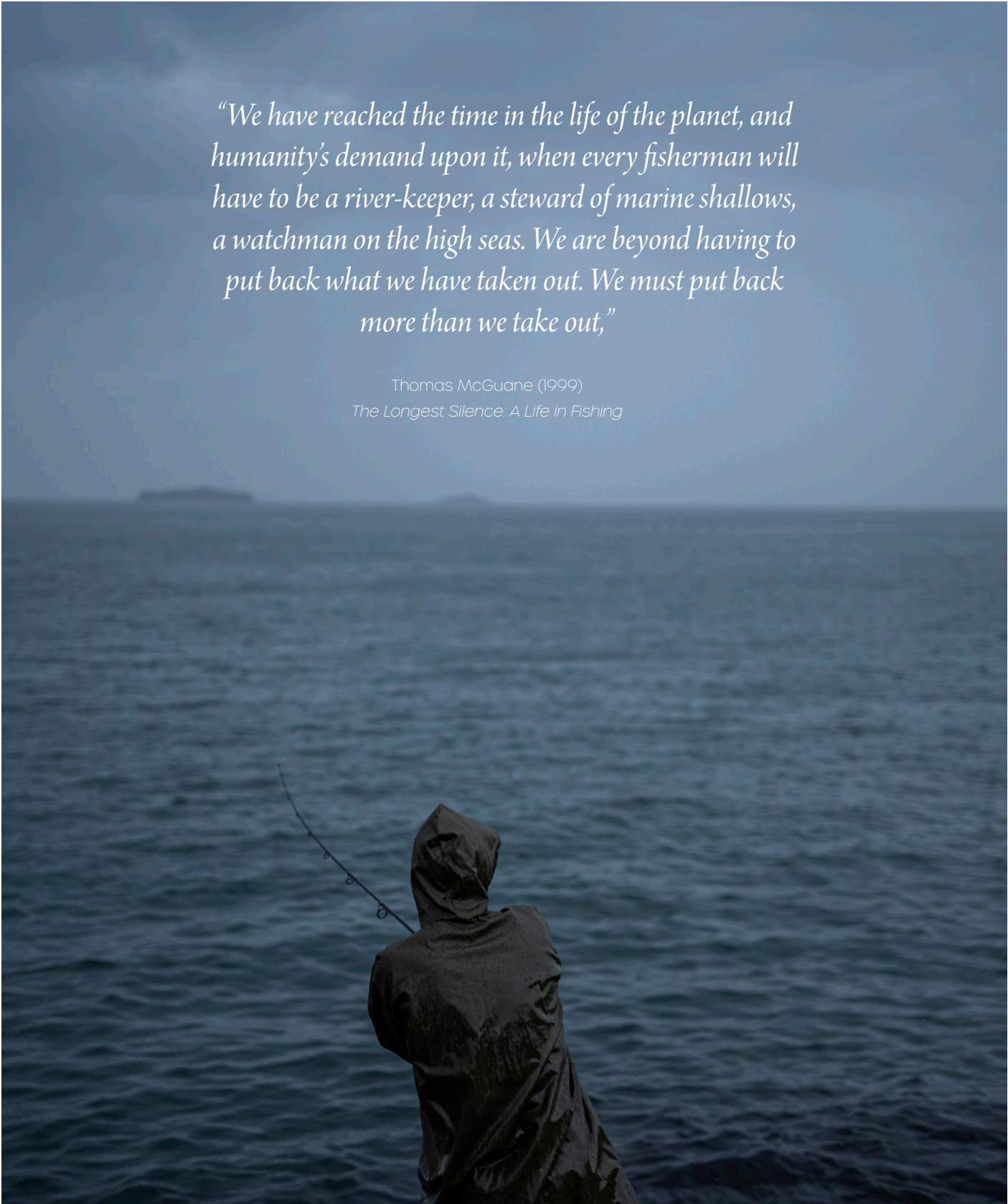
Respectfully,



Lucas Bissett  
Executive Director, AFFTA



Whitney Tilt  
Executive Director, AFFTA Fisheries Fund



*“We have reached the time in the life of the planet, and humanity’s demand upon it, when every fisherman will have to be a river-keeper, a steward of marine shallows, a watchman on the high seas. We are beyond having to put back what we have taken out. We must put back more than we take out,”*

Thomas McGuane (1999)  
*The Longest Silence: A Life in Fishing*



## CHAPTER 1: **The Connection Only Anglers Know**

From the oldest, saltiest striper fisherman being blasted by ocean spray to the child who jolts from bed before sunrise in anticipation of the day of fishing ahead, there is a link between all anglers who choose to pursue the fish that call the ocean their home.

That same link exists for the fish that fuel our passions, whether it's trout, drum, tarpon, striped bass, flounder, salmon, redfish or another of the iconic gamefish of our nation.

The health of our ocean is the single unequivocally greatest influence in the future of marine fishes and for coastal anglers.

Unfortunately, from the delicate high-country waters of the West to the coastal estuaries of the South and to the deepest offshore canyons off the Atlantic and Pacific coasts, many facets of our fishing experiences are changing at unprecedented rates.

Anglers in the Rocky Mountains now experience seasonal fishing closures for their iconic trout due to low water flows and dangerously high river temperatures. Fisheries in Florida and elsewhere in the southern U.S. continue to see catastrophic declines in fish abundance and vital habitat loss due to rising water temperatures and sea level rise. Beloved species along the Atlantic coastline are now either out of range or below sustainable abundance for anglers who have historically depended on their presence for recreational, commercial and cultural values. In the Pacific, extreme weather-related events like marine heat waves serve as straws that could break the proverbial camel's back of populations already pushed to the brink.

While insulating our fisheries from the negative impacts of a changing climate cannot be achieved by any one group, there is no doubt that we as anglers hold the most intense connection possible to the fisheries in need of protection from these changes.

Our collective voice is invaluable, and anglers must lead the way. If we don't, whom can we expect to rise up for us?

We, the collective fishing community, who immerse ourselves in the waters that connect us all, not only hold the rods but hold the keys to unlocking the changes we need to protect our pastimes, traditions and ways of life from a rapidly changing climate.

The work is extensive and the challenges significant, but who better than anglers, whose lives have been changed by what lives in our oceans, to lead the charge?

## CHAPTER 2:

# Past, Present, Future: Acting for Tomorrow's Fish

“We have reached the time in the life of the planet, and humanity’s demand upon it, when every fisherman will have to be a river-keeper, a steward of marine shallows, a watchman on the high seas. We are beyond having to put back what we have taken out. We must put back more than we take out,” —Thomas McGuane (1999), *The Longest Silence: A Life in Fishing*

Insulating and protecting our marine fisheries from the effects of a changing climate is anglers’ greatest challenge to date. That said, it’s important to remember anglers have experience successfully navigating larger-than-life threats.

The history of the recreational angler as the true vanguard of conservation is the story of individuals and organizations recognizing our collective responsibility and leveraging our position to conserve and protect the natural resources essential to our sporting, economic and cultural values. As human demands on our marine environment — including from fishing — continue to increase, so grows our role as anglers in safeguarding fish abundance, water quality and habitat so that future generations can enjoy the thrill of connecting with a heavy fish on the end of the line.

As early as the 1870s, sportsmen’s clubs worked for solutions to exploitative hunting and fishing practices. Sportsmen’s publications like *American Sportsman*, *Forest & Stream* and *American Angler* called for responsible fish and game seasons, limits on gear, and bag and catch limits.

Time and time again, even in the most polarized, socially complex political and cultural atmospheres, conservation has been a bastion of bipartisan partnership with anglers at the helm.

For example, the [Clean Water Act](#)<sup>1</sup> — which passed in 1972 with strong bipartisan support and which the fishing community at large championed — was a historic milestone establishing a fundamental right to clean water. One of its primary metrics is “fishable” waters. While the Clean Water Act remains one of our nation’s most vital safeguards for the health and safety of





[Learn more about the Clean Water Act](#)



[Learn more about Magnuson Stevens](#)



our communities and environment, it is not immune from becoming a political volleyball. With each new administration and Congress, the angling community continues to protect it as the law of the land, despite attempts to change its interpretation.

Another and most influential angler initiative is the [Magnuson-Stevens Fishery Conservation and Management Act \(MSA\)](#)<sup>2</sup>. Passed in 1976 and reauthorized through bipartisan support multiple times since, the MSA is the primary law governing marine fisheries management in U.S. federal waters. The MSA extended U.S. jurisdiction to 200 nautical miles offshore and established eight regional fishery management councils with representation from the coastal states and fishery stakeholders. The councils develop fishery management plans that comply with the MSA's conservation and management requirements, including 10 national standards to promote sustainable fisheries management, including preventing overfishing; rebuilding overfished stocks, increasing long-term economic and social benefits; ensuring a safe and sustainable supply of seafood; protecting habitat that fish need to spawn, breed, feed and grow to maturity; and more. The MSA also mandates that U.S. fisheries management includes a transparent and public process of science, management, innovation and collaboration with the fishing community. These tenets make the MSA a tool ripe for anglers and the general public to participate in the highest levels of the fisheries management paradigm.

While the U.S. is the leading edge for fisheries management and fish and wildlife conservation, in the face of the greatest challenge yet, anglers will need to rise up in arms again.

## CHAPTER 3: Our Changing Oceans

For journalist, outdoor writer and lifelong fisherman Todd Corayer, recognizing the effects of a changing climate came in the form of understanding how changing ocean conditions were effecting his fishing.

“I fish a lot. That doesn’t make me a good fisherman,” laughs Corayer. “Sometimes I’ve looked back at the prior month, at what I caught or I didn’t catch, and thought to myself, ‘This can be an indicator of more than I didn’t catch anything.’ Part of recognizing the impacts of climate change is actually considering, ‘Maybe it’s NOT that I’m a bad fisherman.’ Maybe conditions have changed. Maybe the temperature has changed. Maybe the bait profile has changed.”

We as anglers often speak of the death by a thousand cuts afflicting many of our contemporary fisheries. While our warming climate is by no means the only injury our marine fisheries are suffering from, we as anglers must prioritize the injuries that will cause irreparable damage over those that require bandages.

The ocean plays a key part in moderating our planet’s climate. But the ocean has borne the brunt of human-driven climate change, and its ability to withstand these changes is now in jeopardy. These threats to the ocean, by extension, threaten fisheries. Anglers are now seeing the compounding effects of greenhouse gas pollution and the warming that pollution has caused.

Increasing ocean temperatures, sea level rise and more frequent extreme weather-related events are harming our fisheries at increasing rates, both on their own and as multipliers of other issues.



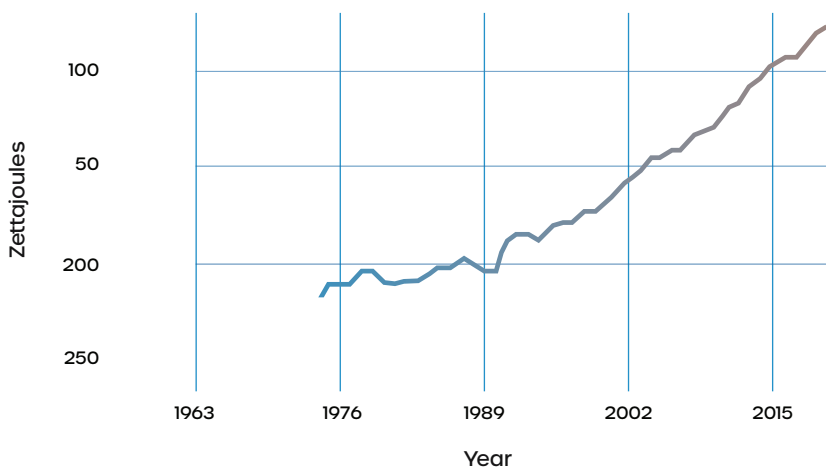
In just the last few decades, U.S. anglers have witnessed challenging stock shifts as rising ocean temperatures push fish populations and bait further offshore and northward. In Florida, fish kills due to algal blooms and red tide events are amplified by warming ocean temperatures and sea level rise. In the Gulf of Mexico, warming ocean temperatures, more freshwater runoff, and other climate-driven changes continue to decrease dissolved oxygen content, further decreasing suitable habitat in an area already losing important fish habitat at an unparalleled rate. Along the Pacific coast, the crippling multiyear marine heatwaves have forced closures in historically large and productive fisheries, decimating anadromous species returns from the Sacramento River to the Yukon River, the effects of which we are still feeling to this day.

Impacts such as these can often appear so big and so complex that they get siloed as individual events. While it is nearly impossible to attribute any single event exclusively to a larger cause, the overall picture is clear: All of these events are directly caused or worsened by our changing climate.

What was once a possible, unsettling future is now our collective reality, and it is important that we as anglers are able to identify these changes in conditions and how they are affecting our fisheries.

## Our Changing Oceans – Warming Ocean Temperatures

“Three or four New Years Eves ago, I went fishing. Conditions were awful, but man, I slammed the striped bass. I got three within the slot limit, and two that were too big to even keep. On a sh\*tty day in January. I couldn’t believe it,” Corayer, the lifelong Rhode Island Striped bass fisherman, states. “So, I’m at home, cracking my beer, congratulating myself on being the world’s best fisherman when I thought to myself, ‘Those fish really shouldn’t be here. January 1st? They should have bounced by now. Those fish should have migrated by now. They should be gone.’ There was no reason that a 20-pound bass, a number of them, should be in a 2- to 3-foot-deep salt pond in Rhode Island. Initially, the fish seemed like the gift. When I think about it now, the insight into that irregularity was the real gift.”



Ocean heat content from 1960–2020, in zettajoules. Scientists measure heat in joules; the amount of heat retained by the oceans is so large it is reported in zettajoules (1 zettajoule = 1,000,000,000,000,000,000 joules.) (source: NOAA/NCEI World Ocean Database).

Initially, the fish seemed like the gift. When I think about it now, the insight into that irregularity was the real gift.”

Covering more than 70% of Earth’s surface, the ocean’s high heat capacity has absorbed 90% of the warming that has occurred in recent decades. Historically, the top few meters of the ocean stored as much heat as Earth’s entire atmosphere. But the ocean’s capacity to protect us is waning. This heat absorption capacity has passed a tipping point, and temperatures in the ocean’s upper layers have increased significantly over the past few decades, placing our fisheries directly in harm’s way. [As the ocean continues to warm like the rest of the planet, its waters will become less efficient at taking in carbon dioxide and can even release it back into the atmosphere more rapidly.](#)<sup>3</sup>





### **What Warming Ocean Temperatures Means For Fish**

No threat looms larger and more negatively affects our marine fisheries than warming ocean temperatures.

Once-abundant fish populations have become less productive, which causes declines in overall abundance. Abundance is not only important for anglers, it is the single largest protection against unpredictability. Abundant fish populations are savings in the bank. Declines in population are compounded by fish populations shifting due to increasing water temperatures, which can lead to downstream impacts such as mismatches between predators and prey and anglers catching unintended species while fishing. Additionally, warmer waters also hold less oxygen. [The overall decline in the oxygen content of oceanic and coastal waters is called “deoxygenation.”](#)<sup>4</sup> This is problematic, because just like for humans, fish require adequate levels of oxygen to survive.

### **What Warming Ocean Temperatures Means For Anglers**

Warming ocean temperatures not only pose never-before-seen challenges for fish but for anglers due to changes in fish behavior.

For example, two of the Atlantic coast’s most iconic species — the black sea bass and striped bass — are landmark examples of oceanic warming altering both fish behavior and abundance. Black sea bass populations have steadily marched northward over the last few decades, and striped bass have seen changes in the timing of migration and spawning due to ocean warming. These changes are leading to an unforeseen set of management complications, including inaccurate abundance estimates, identifying where the fish are and how fishing should be allocated along the coast. Shifting fish distributions can also affect what fish eat; when they are in an area during seasonal migration; and how they interact with other fisheries, for example as bycatch. Many fish are shifting into deeper waters, which also can dramatically decrease anglers’ opportunities.

With rising ocean temperatures, fishing activities will certainly continue to be impacted as costs increase because vessels require longer trips to access the fishing, yet anglers will spend less time fishing due to that increase of travel times.

Of course, these costs and time increase risk, discouraging new and economically challenged anglers.

## Our Changing Oceans – Sea Level Rise

“I used to fish for tailing bonefish almost every day. It was my favorite thing to do in the world,” says Captain Rick Stanczyk, who purchased Bud and Mary’s in Islamorada, Florida, in the 1980’s. “Now, it’s all underwater.”

Global sea levels are rising as a result of human-caused global warming, with recent rates being unprecedented compared to the past 2,500-plus years. [Sea level rise is caused primarily by two factors: the additional water from melting ice sheets and glaciers, and the expansion of seawater as it warms.](#)<sup>5</sup>

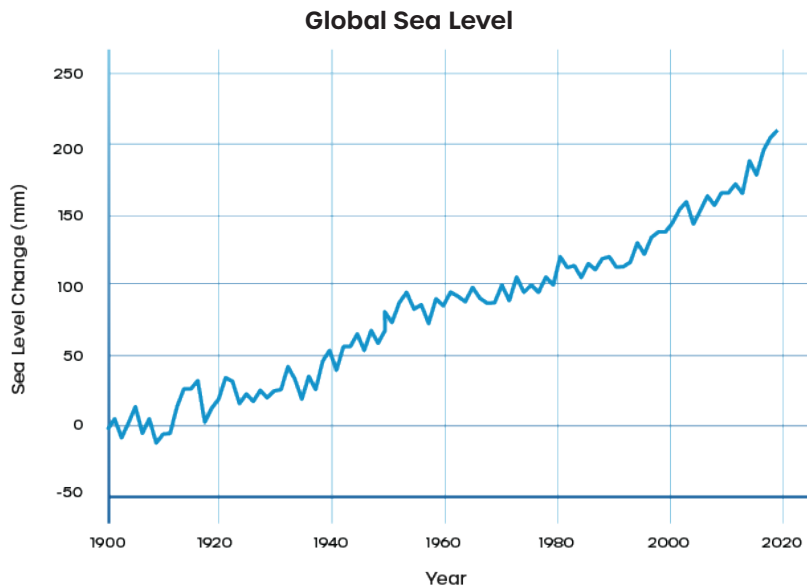
### What Sea Level Rise Means For Fish

Sea level rise is drowning essential fish habitats such as coral and oyster reefs, which require sunlight and/or access to food sources like phytoplankton which occur close to the surface. This is particularly evident in Florida, where scientists have called sea level rise the single most important driver of climate change impacts in the state ([Carter et al. 2014](#)<sup>6</sup>).

### What Sea Level Rise Means For Anglers

Florida’s rich coastal ecosystems of beaches, dunes, estuaries, marshes, mangroves, seagrass and reefs offer habitats to millions of marine species. The drowning of this habitat deprives juvenile fishes of cover and forage, including diverse species of worms and crustaceans. Without healthy habitats, the fish populations that depend on these food resources, like bonefish, tarpon, permit, and snook, are at risk.

[As many as 7.4 million people along Florida’s 1,350 miles of coastline may experience between 3 to 8 feet of sea level rise by the end of this century.](#)<sup>7</sup> Considering more than 30% of Florida’s population lives within 6 feet of current sea levels, the damage to existing infrastructure and the impacts to fishing opportunities could threaten Florida’s social and economic stability.



This graph shows a continuous increase in sea level throughout the 20th century. Continued sea level rise will displace billions of coastal residents globally in addition to permanently altering coastal fisheries. Source: NASA



## Our Changing Oceans – Increased Extreme Weather-Related Events

By definition, climate is defined as the long-term average of the weather in a given place. Weather is the state of the atmosphere at any given time and place. Increased extreme weather like large storms and weather-related events such as marine heat waves will become more frequent and increasingly more intense, wreaking havoc on fisheries and coastal communities alike.

### What This Means For The Fish

[From 1970-2019, the number of extreme weather events has increased fivefold.](#)<sup>8</sup> In addition to becoming more frequent, extreme weather events have become more severe and unpredictable with respect to timing and location.

In addition to the more familiar extreme weather events such as [increasingly powerful and rapidly growing hurricanes](#),<sup>9</sup> [extreme floods](#)<sup>10</sup> and [droughts](#),<sup>11</sup> which destroy infrastructure and hamper anglers' access, extreme weather-related events can include marine heat wave events such as "[The Blob](#),<sup>12</sup>" which took hold of the Pacific Ocean from 2013-2015, disrupting the ecosystem, causing millions of salmon to avoid warmer U.S. waters and nearly extinguishing an entire age class of Chinook salmon in Northern California's Sacramento River. Another recent marine heat wave off of Alaska in 2018-2019 has now been linked to the collapse of snow crab in the Bering Sea.

### What This Means For Anglers

It means people who have traditional fishing plans (e.g., a spring break fishing trip) may no longer be able to carry out these traditions. Increased costs — for example, longer travel times to reach fishing grounds in deeper water, fewer safe fishing days, and changes to costs and availability of bait — could further extend existing inequality issues within the angling community.



## CHAPTER 4: **Tomorrow's Fish Require Climate-Resilient Fisheries**

Anglers take pride in being salt-of-the-earth, tough-as-nails individuals, with cuts on our fingers and fish slime on our hands. But it is not the toughest or most intelligent of an animal species that will survive; it is the most adaptable. Thus, now is the time to not only accept our own personal responsibility to adapt but also accept our role as an angling community to help the fisheries we love, and depend on, adapt and persevere through changing environments.

It's important to be honest with ourselves. Even if carbon emissions completely stopped tomorrow, the damage humanity has done to our climate from emissions means we've already cooked in decades more of warming. This means that global reductions of greenhouse gas emissions are a necessary long-term goal, but that isn't the only goal.

The necessary paradigm shift to climate-resilient fisheries will not be glamorous. In fact, it is assuredly going to be a grind. It will take a wave of advocacy to install new policy standards; make massive increases of local, state and federal funding; and transition fisheries management to a holistic approach that is science-based, precautionary and adaptive.

Anglers must be the vanguard pushing for this work to be done.

We hold the keys to our own destiny; but to adapt to the changes we are certain to continue to see, we all must first understand what we are even pushing for: climate-resilient fisheries.

## Defining Climate-Resilient Fisheries

Climate-resilient fisheries rely on science-based, precautionary management that accounts for ecosystem structure and function and maintains catch at sustainable levels. In plain terms, climate-resilient fisheries are the result of well-funded management agencies using the latest science, technology and strategies to help protect fish and their habitat.

Maintaining a strong science-based management system will help keep fish stocks at abundant levels that will serve to make them more resilient in the face of change. Managing fisheries in the face of our warming climate will not look the same for every fishery. Some strategies will be helpful across the board, while others will need to be site-/stock-specific or developed as evolving conditions play out.

Managing fisheries in the face of climate change will require new tools and approaches to ensure healthy and abundant fisheries. We will be challenged to continually adapt our management systems to new problems, such as shifting fish stocks and emerging fisheries.



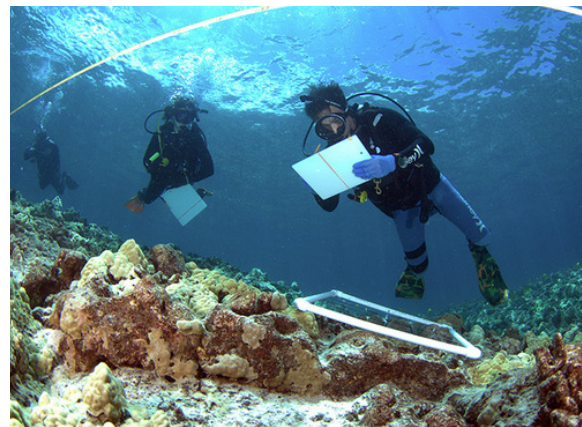
## The Foundations of Climate-Resilient Fisheries

### Fish and sustainable fisheries

Climate-resilient fisheries are managed in a way that prioritizes sustainability and resilience to support healthy marine ecosystems and preserves the ocean's long-term capacity to provide benefits like food and recreation that support businesses, communities and culture. This means adaptively managing fish stocks in ways that prioritize long-term stock health and using a precautionary, integrative and ecosystem-based approach that relies on the best available knowledge. It also means using the climate and ecosystem information available now to shape decisions about our fisheries, including harvest levels, seasons and appropriate gear.

A keystone to climate-resilient fisheries management must be managing for abundance. Currently, the status quo of fisheries management is to redline our fisheries, allowing near-maximum take based on the historical standard of what can be taken and still sustain a population. The problem is, as we discussed in previous chapters, all is not as it has always been. In the face of uncertainty, a precautionary approach is needed, requiring us as anglers to make tough decisions to preserve long-term sustainability. This near-term sacrifice is not solely for the benefit of future generations; it may be required to salvage our current ability to engage with our species of choice.

Climate-resilient management will create new opportunities to proactively address governance and management gaps and encourage agencies to be responsive, providing timely decisions in the context of acute events.





## Habitat

Generally, climate and other stressors will make habitats less resilient and more vulnerable to loss of species and to contraction and degradation. An ecosystem-based approach can include habitat conservation while also promoting resilience in the resident species — for example, by protecting species diversity, preserving species interactions, and protecting age and genetic structure of resident species populations.

Achieving climate-readiness in the habitat space means having habitats that are able to remain intact and retain their function as much as possible. For example, many economically important fish species (including snapper and grouper) spend at least part of their life cycle in seagrass habitats; seagrasses are vital to significant fishing activity and industries. One estimate is that seagrass meadows support the production of [one-fifth of the world's biggest fisheries](#).<sup>13</sup> But climate-resilient fisheries are not exclusively for protecting habitats; they must include taking the loss of habitat into account when adjusting fishing opportunities. If a habitat is in decline, then fisheries within or adjacent to that habitat need to be increasingly protected as well.

Many solutions for protecting and enhancing essential habitats lie outside of the traditional jurisdiction of federal fisheries management. Fishery managers and anglers will need to work across social and political jurisdictions, including with state agencies, local groups and others, to conserve and restore habitat and build their resilience to climate change.



## Communities

For coastal fishing communities, climate-resilience means resilient infrastructure, investment in climate-resilient coastal structures (e.g., mangroves, salt marsh), and retaining participation and access as much as possible in the face of impacts. It means conducting planning and adaptation efforts and having an ability to recover from fishery disasters and events like storms in an effort to maintain vibrant communities and healthy economies.

We as anglers can achieve solutions for communities through the use of adaptation and planning tools and supporting adaptive responses to change. These include things like scenario planning, risk assessment, understanding community and social vulnerability, and finding ways to diversify fishing opportunities.



## CHAPTER 5: Today's Angler for Tomorrow's Fish: A Guide

Mitigating for and protecting our fisheries against the increasingly devastating effects of our changing climate was likely not the role anglers would have chosen for ourselves, but it is the role we are uniquely qualified to play.

Practicing catch and release will not be enough. Liking social media campaigns calling for conservation will not be enough. Thinking that by paying your fishing license fees you are absolved from responsibility is not an option.

The climate has changed and will continue to change. It is already impacting our fisheries, and if we as anglers do not face this climate reality, we risk our identities as anglers disappearing into the rearview mirror.

“But ...” you might be asking yourself, “... these issues are so large. What exactly IS my role in shifting towards climate-resilient fisheries?”

We, as anglers, must start by asking ourselves, “Why do we stop being selfish when we land a fish?” When we return from a day of fishing, our impacts don't stop affecting fisheries, so why aren't we integrating fishing and protecting what we love into our day-to-day lives?

It's the permission we've all been waiting for.

If we care about fish, if we care about fishing, if we care about coastal cultures and traditions and angling communities, we as anglers must wear our passion as a badge of honor and scream it from the rooftops for all to hear.

## Taking Action For Climate Resilient Fisheries

Climate resilient fisheries must be the new standard at the highest levels of government and fisheries management. Progress at the highest levels begins with the actions of individual anglers, the historical vanguard of fisheries conservation, and there's plenty of ways for us to take action today in each of the key elements of climate resilient fisheries.



### Community

NOAA Fisheries' [Fishing Community Profiles](#)<sup>14</sup> tool is a handy resource for folks who are maybe unsure of how marine fisheries and their resiliency directly impacts our communities or are looking to express the importance of abundant and resilient fisheries with someone who may not be as invested in fishing. Whether it's sustainable infrastructure investment, long-term economic viability, inclusivity or public access, your community can be conserved alongside the fish, from the negative impacts of climate change.



### Habitat

Healthy, connected and accessible aquatic habitat – like wetlands, rivers, coastal estuaries, and coral reefs – provide critical areas for fish to eat and reproduce, even boosting fish populations, recovering threatened and endangered species, and supporting resilient coastal communities. Recently, generational investments have been made to establish, connect and restore aquatic habitat, but much more will be needed. To learn more about the importance of habitats to fisheries, the specific habitats your favorite species requires and opportunities to support investing in habitat restoration at [NOAA Fisheries Habitat Conservation webpage](#).<sup>15</sup>



### Fisheries Management

The [Magnuson-Stevens Fishery Conservation](#)<sup>16</sup> and Management Act established eight [Regional Fishery Management Councils \(RFMCs\)](#)<sup>17</sup> that work with NOAA Fisheries to sustain fish populations and fishing activities in part by making recommendations for annual quotas and other fishing regulations for federally managed species in U.S. federal waters. While many anglers are likely more familiar with their state's fish and wildlife management agencies regulations, these councils –which work with the states where jurisdiction overlaps –are often where the rubber hits the road when it comes to conserving fish populations that overlap federal waters or management. Featuring potentially the most transparent process in all of fisheries management and numerous stops along the way for public engagement, the RFMCs and its committees are the apex opportunity for those looking to instill climate-resilient fisheries.

## FIRST: Focus On What's Important To You

“Up near the Nushagak River, we're seeing historic sockeye returns where there used to be none, potentially because of the warming waters of the lakes being more productive for those fish, but the king (chinook) salmon returns are really plummeting. I'm concerned it might be hard for us to remember the scale of things, in the face of climate change. These warmer temperatures could be helping one thing, but hurting 20 others, beyond repair, that we aren't seeing yet. We get so focused on the changes we're seeing immediately, I think it will be easy to lose focus on the entire system, and the entire system working the way it has, together, is why this place is as beautiful and abundant as it is,” says Kvicahk Aspelund, Bristol Bay, Alaska.

We wake with the tides. We rush to secret spots only shared with our most trusted circle. We monitor the weather day and night. Ask any angler's family or friends, and they'll tell you: Anglers have little or no problem prioritizing the things that need to be done to catch more fish.

So, like Aspelund, start simple and ask yourself: What are the key threats to the species that keep me up at night? How does climate change cause or amplify those threats?

It is our responsibility, our duty, to know and steward our own backyards with a depth and quality of experience only an angler knows. There is, quite literally, no one more in tune with these environments than each of us.

## NEXT: Get Active & Stay Active

After recognizing how climate-resilient fisheries are a priority and how they will secure and potentially even enhance your personal fishing, find and support a fishing club, conservation group or a similar group that aligns with these values. Volunteer to help them restore habitat; make your voice heard with decision-makers responsible for the caretaking of fisheries; and make a financial contribution to organizations working to make a difference. With communications and outreach staffers, these groups can often ensure key opportunities cut through the noise of your day-in and day-out news cycle, streamlining anglers' awareness of advocacy opportunities. Often, these organizations simply need financial support to pay for their own staff time to represent your views in the public hearings, boardrooms and the floors of Congress.





### **THEN: Get Loud & Stay Loud**

We may go fishing to get away from the demands of everyday life, but when we return dockside and put our fishing rods up, we need to stay informed and advocate for climate-resilient fisheries. If we're not willing to get loud and stay loud, we can't assume anyone else will do it for us. Find out where important decision-makers and business leaders stand on climate and fishery issues. Call them and ask. Keep abreast of opportunities to weigh in with decision-makers on important management issues at the local, state and federal levels.

Spend consciously and deliberately, exclusively supporting brands, outfitters and guides that participate in advocating for conserving the fisheries their brands depend on. Tell them you support them for exactly this reason. Tell your friends to do the same.

As conservation-minded anglers and consumers, we have every right to expect accountability from businesses, state management agencies, the federal government, and anyone else that profits from or is in charge of protecting fisheries. But we also must remember to support and provide cover for those willing to step up, step out and take part in advocating for climate-resilient fisheries.

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*“There’s no better way than a day on the water, no better place than the boat to have a difficult conversation.”*

— Kvicahk Aspelund, Bristol Bay, Alaska

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## CHAPTER 6:

### On the Water: Anglers for Tomorrow's Fish

This call to arms for anglers to pull on our bootstraps and demand our favorite pastimes be secured for generations through climate-resilient fisheries may appear idealistic, even unrealistic.

That is far from the truth. On the rocky coasts of the North Atlantic, the flats of Florida, the tidal marshes of the South, off the coast of the mighty Pacific and far out into the Alaskan landscape, there are already members of every fishing community who are taking the bull by the horns and leading by example.

Meet just a few of the growing number of anglers who need your help taking charge of the well-being of our fishing and our fisheries in the face of a changing climate.

#### Dave Snyder

Owner and Operator of Halyards Catering, Hook & Knife Charters, and Halyards Restaurant Group, St. Simons Island, Georgia

*“Sea trout and redfish, the two most abundant game fish in the area, have declined. One of my restaurants is 80% federal managed species like snapper, grouper, tuna, triggerfish. Supply has dwindled and the price of some fish have more than tripled. The demand has grown, and the supply is dwindling.”*



[Read Dave's Story](#)





## Todd Corayer

Journalist, outdoor writer, lifelong fisherman, founder of FishWrapWriter.Com, South Kingstown, Rhode Island

*“There’s nothing more important than standing up in a meeting and saying what you see. It won’t always change policy or immediately get you what you want. But that’s the process.”*



[Read Todd's Story](#)

## Kvichak Aspelund

Fly fishing guide, generational commercial fisherman,  
Bristol Bay, Alaska

*“As a guide, it comes down to enforcing even the little things with your clients because your personal efforts are compounding.”*



[Read Kvichak's Story](#)



## CHAPTER 7: **Anglers Are the Answer: Taking Action**

Protecting our marine fisheries from the negative impacts of the changing climate by committing to creating climate-resilient fisheries is an absolute requirement; yet still, it largely remains the elephant in the room.

History has proven it will only be through the unified action of our collective fishing community that our marine fisheries will remain abundant, vibrant and available.

The truth is there is no silver bullet, no one-trick-fits-all fix for creating the change we need. The changes of this magnitude must occur from the lowest to the highest levels of government and management. Paradigm shifts of this magnitude can often appear too complex, too distant or too conceptual to feel available to day-to-day anglers.

Nothing could be further from the truth.

Every single angler in the U.S. — regardless of whether you fish every day or every month; take a chartered trip once a year; or live on the coast, the Rockies or the great plain — has the ability and a responsibility to encourage climate resiliency in the fisheries you love.





## Climate-Resilient Fisheries Require Funding

The creation and establishment of climate-resilient fisheries will take significant commitments of funding to affect change. Healthy and abundant fisheries are vital to thriving economies and vibrant communities, and decision-makers need to know what's at stake to help support investments in protection, restoration and resiliency.

For example, funding National Oceanic and Atmospheric Administration (NOAA) Fisheries to advance several critical areas focused on tackling the impacts of the changing climate on our fisheries has allowed for climate-resilient fisheries to become one of four new NOAA initiatives, supporting the nation's \$370 billion fishing industry and the states, communities and tribes that depend on it. NOAA Fisheries has committed to use this investment to propel forward the entire stock assessment enterprise for game fish and protected species.

It's an example of a great start, but it's only the beginning.

## Climate-Resilient Fisheries Require Policy

"There's nothing more important than standing up in a meeting and saying what you see. It won't always change policy or immediately get you what you want. But that's the process. Anglers need to be part of the process," says Todd Corayer, South Kingstown, Rhode Island.

Our fish tales may be the key to more than bragging rights with our buddies. Informed, educated and engaged decision-makers can more accurately evaluate what's at stake when considering the importance of protection, restoration and resiliency.

Gain a sense of where your local, state and federal management agencies stand on matters of climate. When the opportunity comes, encourage them to act in the best interest of the resource. When they act appropriately, thank them. When they don't, let them know you won't forget it. You care about a fish-abundant future, and their job is to ensure fisheries are well managed.

## Climate Resilient Fisheries Require Proactive Management

“When red snapper were crashing, I jumped in with both feet. I represented the consumer, as a restaurant owner (on the South Atlantic Fishery Management Council). Now, I’m on the steering committee of the [Marine Resource Education Program](#).<sup>18</sup> I love to be on the water, and I want the next generation to be able to enjoy it too.” — Dave Snyder, St. Simons Island, Georgia

Engaging on the issues at the highest levels of fisheries management doesn’t require understanding every aspect of regional fisheries management, testifying before a congressional subcommittee or obtaining a fisheries degree.

Individual states are generally responsible for fisheries management from their coastline out to 3 miles. If you most regularly find yourself fishing within those boundaries or you’re just interested in how you can advocate for climate-resilient fisheries within your state, inquire with your [state fish management agency](#)<sup>19</sup> and ensure you’re bearing witness to the need for climate-resilient fisheries at every available opportunity. It could be an email, a public meeting or a meeting over coffee with a local biologist to learn more about how they could benefit from their commissioners supporting climate-resilient fisheries.

Under U.S. law, NOAA Fisheries is responsible for managing marine fisheries within the U.S. exclusive economic zone, the more than 4 million-square-mile zone that extends from 3 to 200 nautical miles off the coast of the U.S. The eight [Regional Fishery Management Councils of the U.S.](#)<sup>20</sup> are the management bodies most capable of applying climate-resilient fisheries policy on the federal management level. Get familiar and participate. Not comfortable with speaking about fisheries management? Apply to become a part of a regional advisory council panel specifically related to your area of expertise.





## We Make Our Own Luck

The public at large often portrays anglers as acting as eternal optimists, endlessly hopeful we will stumble into that elusive connection, the tug on the end of the line.

But as any of us worth our salt know, on the water — whether it is a local creek, on the flats, off the beach or in the salt — success is the furthest thing from a game of chance. It comes from the hard work we put in before we ever string up a rod — the hours of preparation, the tireless research, the pouring through mental and physical catalogs of experience.

Success comes from all the work we do before we ever wet a line.

In the face of our greatest challenge to date, our success is entirely dependent on anglers demanding climate resiliency for our fisheries.

The anticipation is over. The time is now.

Once again, with thoroughness, diligence and discipline, we as anglers can make our own luck — but only if we act together today for tomorrow's anglers and for tomorrow's fish.

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## Endnotes

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