



AMERICAN FISHERIES SOCIETY

Lessons in Leadership: **Integrating Courage, Vision, and Innovation** **for the Future of Sustainable Fisheries**

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Being a Professional: What to Expect

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Five days after graduation from high school, I joined the Army, and a month later, boot camp started. At the time (1959), military service was mandatory. Not knowing what I wanted to do about a career, it made sense to get my military obligation behind me. After my active time in the Army, I was employed as a laborer in the home construction business. This motivated me to enroll at Kansas State University to acquire an education. I chose fisheries management as my major. At the university, I learned about education deferment to postpone military service, and I gradually became aware of the war in Vietnam as some of my friends were drafted. I was fortunate that I was working towards completion of my military obligation and most likely would not be deployed to Vietnam. I graduated in 1965, and only three of us found employment. Being employed with a state fish and wildlife agency was extremely fortunate, and having my military obligation behind me played a part in my being hired.

My studies at Kansas State University included Eugene Odum's pioneering work on the relationship between organisms and their environment. I was aware of the definition of ecosystem, but I didn't yet appreciate that habitat was the key! Working with habitat didn't sound as exciting as working with fish, as I loved sampling the lakes and streams. I thought that these investigations assured sound fisheries management but wasn't fully aware of how the data we collected ended up being used. I soon learned that in addition to science, there were economic and social considerations shaping management plans. Too often, these influences were not aligned with sound biology and ecosystem management. I was dismayed that economic and social considerations often influenced management outcomes by overshadowing science.

Growing up on the Great Plains, I was aware of how the landscape was altered by agricultural practices. I can still remember my amazement at seeing for the first time a stream of clear, cold water tumbling down from the Rocky Mountains. Where I grew up, streams were sluggish, brown, and silt-laden. But, my aha moment about fish habitat occurred when I moved to Alaska—the Great Land—in 1970. Alaska, where fishing was important. Where the fishing industry was the leading employer and the fish-producing environment was largely intact—the preferred habitat for a fish biologist.

Leadership was not a subject emphasized while I studied at the university. And I think my grasp of leadership was centered on who was in charge. During my early years in the field, I came to appreciate how helpful it was to have colleagues who were good leaders, and some

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became important mentors. We were collecting data and performing survey and inventory, which, to me, was exciting. I was not fully aware (yet) how these data would be turned into information and packaged for consumption by a variety of players as management plans were finalized. Over time, I came to appreciate how science information played a very important part in decisions affecting harvest and conservation of habitats critical to fish.

The Alaskan fishermen were active participants in shaping management decisions as they had a financial stake in the outcome. Fishing is Alaska's largest industry; the seasons were short, the competition intense, and conflicts over allocation were constant. The variety of fishing gear also identified the participants: gillnetters, seiners, trollers, sport fishers, and the processing industry that delivered the final product to the consumers. The logging industry and the environmental community were active as they also had a stake in land management decisions. In short, there were a large group of participants with a financial interest in harvest management and habitat conservation.

In addition to the players with a financial stake in the resource, there were numerous political and national interests, including Canada versus the United States and foreign fleets fishing off our shores. Several West Coast states and Canadian provinces had a stake in the fisheries as rivers and lakes provided spawning and rearing areas for populations of fish harvested in Alaskan and U.S. territorial waters. By the 1970s, many of these rivers were dammed to provide power, transportation, and irrigation, greatly reducing the total number of fish produced. In Southeast Alaska, many of the salmon spawning areas were in Canada, with rivers emptying into U.S. waters. Fish harvested in the Gulf of Alaska and the Bering Sea were dominated by foreign fishing fleets. In 1970, U.S. territorial waters had not yet been extended to 200 miles offshore! And even after the exclusive economic zone was extended to 200 nautical miles, Alaska's territorial waters remained at three nautical miles and federal management extended from three nautical miles on out to the end of the exclusive economic zone.

In the late 1960s and early 1970s, logging companies were clear-cutting old-growth timber in the Tongass Forest, located in Southeast Alaska. In 1970, Alaska was 11 years old as a state. Fisheries managers had their hands full allocating a shrinking harvest and were largely helpless to stem the habitat destruction by logging and extractive industries such as mining and fossil fuels. Alaska was fortunate not to have any of its large rivers impounded by large dams, and agriculture activities were limited. But timber harvest, mining, and other extractive activities were damaging critical spawning habitats for salmon.

Habitat protection was not the primary responsibility of the biologists managing the harvest. Their responsibility was to achieve adequate escapement for spawning to ensure future harvests. Habitat conservation and protection was delegated to other divisions and agencies in Alaskan State government. Also, the federal government as well as the Alaskan native tribes were involved, often with little to no coordination.

By the mid- to late 1970s, I was exceedingly aware of the key role habitat management played. Actually, upon reflection, it was quite simple. If fish-producing habitats remained intact, harvest could be adjusted to reflect changing environmental conditions as well as management techniques. But social preferences and economic considerations almost always produced a negative impact on habitats important for sustainable fisheries. Clear-cutting the

forest in Southeast Alaska, without any constraints or considerations for fish habitats, was an obvious example. The expected rotation for timber harvest was nearly 100 years. Rather than punish the timber harvest managers, it made more sense to rehabilitate and recover damaged habitats quickly. In the mid-1970s, Alaska embarked on an ambitious statewide program to rehabilitate and enhance salmon runs.

Becoming certified by the American Fisheries Society (AFS) as a fisheries scientist in 1970, I started to participate in the society's activities. I helped establish the Alaska Chapter and later served as president in 1979–1980. In 1983–1984, I was president of the Western Division, and in 1987–1988, I served as the society's president. The same year of my presidency, I retired from the Alaska Fish and Game Department and took a position as director of marketing for Northwest Marine Technology, a small company specializing in fish tagging and marking technology. The company owner was an enthusiastic supporter of my involvement with the AFS and, as such, offered me the opportunity to be a "full-time" AFS president, underwriting my salary and travel expenses. During this time, the society's executive director, Carl "Sully" Sullivan became a very important mentor as he and I engaged in many discussions about the status of our nation's fish habitats. Sully, sharing his long and varied experience, expanded my knowledge beyond my experience in Alaska to give me a broader understanding of our nation's fisheries, wetlands, and fish habitat. During one of our discussions, Sully brought to my attention something that shaped my thinking for the rest of my career.

We discussed the nation's social and economic priorities, which are often not favorable to fish habitats, and thought about why the best available science often wasn't utilized or effective in decision making. Science is supposed to provide rationale to the deliberation process, and in most cases, there is more science than what is being implemented! What also became apparent was that those in the fish community—those who directly participated in fish harvest, processing, and selling of commercial and recreational fishing gear—were not working towards a common goal of stemming habitat loss. We often fight among ourselves, and this contributes to a lack of effectiveness. Bringing science to the table would allow for development of a common goal of sustainable habitat, which is the foundation of sustainable fisheries.

The conclusion was obvious—we needed to make a better case for why fish habitats are a necessary component of sustainable fisheries. This caused me to think about how AFS might lead a campaign to stem habitat loss and fragmentation. Then, Sully summed up some additional constraints that I should take into account.

If you want to do the United States' fisheries in, you would organize jurisdictionally as we are now. You would split the rivers down the middle, giving bordering states management responsibility. You would divide the Great Lakes between two countries. You would put the catchment of rivers in one country and the mouths of the rivers in another, as we do along our border with Canada. You would organize politically by jurisdiction in some area and by harvesters in other areas. And even some state agencies would be organized by the type of harvesters (sport, commercial, subsistence) and by salinity (saltwater and freshwater). You would give one federal agency responsibility for the saltwater and state governments responsibility for freshwater. You would further divide the saltwater responsibility between the Federal government and bordering states. And you would divide the responsibility for aquatic habitat between some 23 federal agencies.

I was at a loss to respond. He was absolutely right! Our government was organized in the worst possible way for the rational management of our fisheries. And to exacerbate the situation, the fish community expends many resources on fighting among themselves. Not good!

Providing the best available science is the foundation for rational decisions. And this information must be understandable to a wide audience if we are going to develop the rationale for changing the nation's behavior. Habitat conservation is a priority for the society, but we are neither moving fast nor being effective enough to stem the loss. A huge obstacle impeding our efforts is how our government is organized! The trajectory of habitat loss has to change if we expect to sustain our fisheries resources.

Making our science relevant to the public and our constituents is our job! We are aware that our journals will not be studied by others participating in the decision process. Promoting our knowledge is our job! Creating understandable science with a priority-based agenda is necessary to impact management decisions. This means our science has to be translated and packaged and repackaged for different audiences and news outlets. Science can make a difference, but more often than not, social and economic considerations are unrealistic because the science isn't taken seriously.

The challenge is what to do about this situation. As AFS president, in addition to chairing the annual meeting, the only other power I had was to appoint ad-hoc committees. So, I contacted as many of the members of the fish community as possible and challenged them to meet at AFS headquarters in Bethesda, Maryland. Every organization I contacted showed up for the meeting! After becoming chairman (1988–1994), I vowed to run a neutral podium. We agreed not to discuss what we didn't agree upon. At the end of the day, the only subject everybody agreed upon was the importance of fish habitat. This gathering led to the formation of a new coalition, F.I.S.H (Fishermen Involved in Saving Habitat). We agreed that this new effort would not form a new bureaucracy, but rather would function to elevate fish habitat as a high priority within our respective organizations. This was the genesis of the National Fish Habitat Plan that would evolve over the next several years.

The take-away points are as follows:

- We must participate effectively in the decision process.
- We are at war! A war over fish habitat. This is a forever war, and the forces that alter or destroy fish habitat are enormous. Restoration is an uncertain option. The land, wetlands, and water we seek to protect are the nation's kidneys. Many of our rivers and streams—the veins and arteries—have been reduced to function more like alimentary canals carrying away our nation's waste. Take, for example, upriver versus downriver cancer rates in the Mississippi River drainage, and the size of the dead zone in the Gulf of Mexico. This is a dirty war, and it's our health and the well-being of fish stocks that are at stake.
- Fighting this war requires your commitment, passion, intelligence, and enthusiasm.
- Hone your skills. Be a team member. Be a strong and effective communicator. Stay current, participate, learn from your mentors, help them innovate, and empower others—these will be the measures of your professional success.
- Fish habitat decisions are not just about biology; they include social and economic considerations. Habitat loss, more often than not, falls prey to predictable social outcomes

that are flawed by distorted financial considerations. Good science can often reveal this imbalance during the decision process.

- Managing, protecting, and conserving fish habitats requires constant nurturing of existing partnerships, as well as building new partnerships. It requires interaction between the various disciplines inside as well as outside our profession.
- We have the best available science! And we'll always strive to learn more, but we need to be more effective at participating in the decision process. This includes having a priority-based agenda to lead the way.

While we would rather be enjoying Mother Earth by fishing her waters, we must take the lead and see that her health is protected. This is our first priority.