

Planning in the Human Ecotone: Managing Wild Places on the Togiak National Wildlife Refuge

Stewart Allen

*Change, meaningful change,
almost always comes from
the edge, the margin.*

Paul Hawken

Abstract—The U.S. Fish and Wildlife Service is revising the long-range plan for Alaska's Togiak National Wildlife Refuge, over half of which is designated as the Togiak Wilderness Area. Many of the planning issues are social rather than biological, involving public use and its effects on Refuge resources and opportunities. Planners, managers, and stakeholders are finding themselves in the human ecotone, where two or more legal, social, and cultural edges intersect to produce an abundance and diversity of conflicts, challenges, and opportunities. Planning in the human ecotone requires collaboration, up-to-date information, and an adaptive process.

Introduction

Located in remote southwest Alaska, the Togiak National Wildlife Refuge comprises 4.3 million acres between Kuskokwim Bay and Bristol Bay. Congress established the Refuge in 1980 under the Alaska National Interest Lands Conservation Act, which not only greatly expanded an existing refuge but designated just over half of the new refuge as the Togiak Wilderness Area—the second largest Wilderness in the entire Refuge System (fig. 1). The Alaska National Interest Lands Conservation Act directed the U.S. Fish and Wildlife Service to develop a long-range Comprehensive Conservation Plan for the area, which was published in 1987.

In 2000, the U.S. Fish and Wildlife Service began revising the original plan, taking into account new information, resource conditions, and public uses. We found ourselves operating at the edge of many social, cultural, and legal boundaries—the human ecotone. This required us to create not just a new plan, but a new process for developing it. The process is far from over, but we have already learned several valuable lessons.

Togiak National Wildlife Refuge

The Alaska National Interest Lands Conservation Act specified four purposes of the Togiak Refuge to provide the U.S. Fish and Wildlife Service with management direction and priorities:

1. Protect fish and wildlife habitat and populations in their natural diversity.
2. Fulfill international treaty obligations.
3. Provide opportunity for continued subsistence uses by local residents (consistent with first two purposes).
4. Ensure water quality and necessary water quantity.

These four purposes parallel those of other Refuges established by the Alaska National Interest Lands Conservation Act, as well as reflecting the mission of the National Wildlife Refuge System, which currently contains 536 Refuges nationwide. The System's mantra, "Wildlife First," demonstrates that refuges are not intended to be multiple-use lands that cater to a wide range of uses and values. Instead, the focus is on habitat for fish and wildlife.

In fact, refuges in the lower 48 States are closed to human use until they are specifically opened, and then there is a careful analysis of the type, amount, timing, and location of human use that is compatible with refuge purposes before any use can be allowed. In Alaska, refuges are open to human use until closed—a recognition of the long tradition of subsistence and other human uses that began thousands of

Stewart Allen is a Social Scientist, National Marine Fisheries Service, Honolulu Lab, 2570 Dole Street, Honolulu, HI 96822, U.S.A. E-mail: stewart.allen@noaa.gov. When this paper was prepared he was a Social Scientist, Alaska Division of Refuges, U.S. Fish and Wildlife Service.

In: Watson, Alan E.; Alessa, Lilian; Sproull, Janet, comps. 2002. Wilderness in the Circumpolar North: searching for compatibility in ecological, traditional, and ecotourism values; 2001 May 15–16; Anchorage, AK. Proceedings RMRS-P-26. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.



Recreational use consists mainly of sport fishing, centered on the Kanektok, Goodnews, and Togiak Rivers, all accessed by air. People from across the country, as well as many foreign visitors, come to the rivers. Traditionally, people used the services of guides and outfitters allowed to take clients on the Refuge through special use permits, but more people today are coming on their own. Guided and nonguided visitors access fishing areas by both motorized and nonmotorized boats. Like many wild places in Alaska, the Togiak Refuge has experienced dramatic increases in use levels over the years, although Refuge limits on guided use established in the early 1990s slowed this trend, and use has decreased slightly in some areas over the past few years. Demand for wildlife viewing is increasing, especially the opportunity to view marine mammals and seabird colonies at Cape Peirce, one of a handful of primary walrus haulouts in Alaska.

Early in the plan revision process, we asked people what they valued about the Refuge and its resources. The most frequent responses were “wilderness character” and “environment,” followed by “fish” and “fishing opportunities,” “ecosystem protection,” and “wildlife.” When asked if people believed these values were threatened, most people said they were not, but among the threats listed, “increasing human use” and “crowding and conflicts” between and among sport and subsistence users predominated.

Many planning issues have been identified through the public process required by the National Environmental Policy Act. Identifying issues is especially important for a plan revision because many aspects of managing the Refuge are working fine and do not need to be revised—just updated based on new information. It is therefore important to specify the key issues to focus development and analysis of alternative management directions.

Here are the issues that we are exploring as we revise the plan. These are just the tip of the iceberg; a 45-page report describes each in detail:

Water quality—What is the current status of water quality on the Refuge? What is the Refuge's role in improving or maintaining water quality? What is the effect of human use on water quality, especially in the Kanektok River?

Health of fish—Are fish stocks healthy? What are the impacts to spawning areas from public use, trampling by anglers, and boats with jet units? What is the effect of catch-and-release fishing on fish mortality? How can the Refuge minimize the risks of introduction of whirling disease or other parasites that could infect fish populations?

Subsistence opportunities—How should the Refuge define and manage for quality subsistence opportunities? How will the Refuge know if subsistence uses are declining in quality or becoming significantly restricted? What are the main influences on subsistence on the three main river systems? How is increasing recreational use of the three main river systems affecting subsistence uses?

Recreation quality—How do visitors and the Refuge define a high quality recreational experience, and is that experience being provided on the Refuge? What resource and social conditions are desirable to provide high quality experiences, and what are the threats to recreational opportunities? What should be the Refuge's role in defining and managing for quality experiences on the Kanektok, Goodnews, and Togiak Rivers?

Impacts of public use on wildlife in the river corridors—Under what conditions are game species displaced from river corridors during hunting season? What can the Refuge do to minimize effects on subsistence hunting? Under what conditions are bears attracted to human camps along the rivers? What can the Refuge do to minimize the effects of bears on fishing camps and villages, and on recreational visitors?

Management of human use and wildlife at Cape Peirce—How can the Refuge protect marine mammals and other species that depend on Cape Peirce, while providing opportunities for public use?

Possible new land management designations—What lands, if any, should the plan recommend for designation as wilderness? Where and how would additional wilderness help the Refuge to better achieve its purposes? What effects would additional wilderness designation have on human uses and administration of the Refuge? What river segments are eligible for designation as Wild and Scenic Rivers, and which, if any, should the plan recommend? How would Wild and Scenic River designation help the Refuge better achieve its purposes, and what effects would it have on human uses?

Human Ecotone

As we began revising the Togiak Refuge's long-range plan, we realized that we were confronting a variety of social, legal, and cultural boundaries. We found it useful to think of these boundaries as forming a set of human ecotones, borrowing a term from ecology. An ecotone is generally known as a transition zone between two

ecosystems such as coniferous forest and tundra, where two or more different communities meet and interact. Ecotones tend to be places of species abundance and diversity.

The human ecotone is the interface of institutional, legal, and cultural boundaries. It is also an area of great diversity and abundance—not necessarily of species, but of ideas, planning challenges, and opportunities. Planning in the human ecotone requires recognition of these edges and boundaries, and careful consideration of how to incorporate them. From the many we have identified, I'll focus on three: (1) institutional edges, (2) legal edges, and (3) cultural edges.

Institutional Edges

Although the U.S. Fish and Wildlife Service is responsible for protection of resources and opportunities on the Togiak Refuge, it does not have the authority to manage all of the lands and uses that affect the Refuge. Many private lands lie within the Refuge boundaries. Most are owned by Native corporations created by the Alaska Native Claims Settlement Act or are allotments managed by individual landowners. These lands are not subject to Refuge regulations and can be developed, leased, or sold.

Downstream from the Wilderness boundary on the Kanektok River, for example, the entire river corridor is privately owned by the Native Corporation, which allows several guiding businesses to operate seasonal lodges. These businesses do not need a special use permit from the Togiak Refuge unless they take clients upstream to lands within the Wilderness boundary. The Refuge therefore has little control over conditions along the lower river, which Refuge visitors encounter when they progress downstream to the village of Quinhagak (from where nearly all visitors fly out at the end of their trip). The fishing for king salmon, which draws many anglers to the river, tends to be the best along this lower stretch. This leaves the Refuge in the position of not being able to manage one of the key aspects of peoples' experiences. Fishing regulations are the responsibility of the State of Alaska, further removing the U.S. Fish and Wildlife Service from the picture. Shorelands of the river, where most people camp on the abundant gravel bars, are managed by the State's Department of Natural Resources.

Although the U.S. Fish and Wildlife Service works closely with the State and with the Native Corporation, there is often disagreement over management of lands and waters. The State of Alaska has its own set of laws and policies, such as equal access for all residents, and does not support the Federal rural preference for subsistence users. The State also tends not to support limits on recreational use to protect recreational quality, one important tool available to Federal managers. The Federal government has mandates to provide rural preference and to maintain recreational quality, which includes uncrowded conditions.

Legal Edges

The U.S. Fish and Wildlife Service faces a key legal edge, where two laws butt up against one another, in managing the Togiak Wilderness Area. The Wilderness Act provides national direction for managing the Togiak Wilderness as "untrammeled," where people are viewed as temporary visitors to a largely unaffected landscape. Alaska National Interest Lands Conservation Act provides Alaska-specific direction for managing the Togiak Wilderness as a living, working landscape where people are part of the ecosystem, allowing for traditional motorized uses, travel to and from home sites, and other uses not typically found in Wilderness. Refuge managers and other Federal land management agencies like the National Park Service and the U.S. Forest Service struggle with how to protect wilderness values and character while providing required access.

In addition to the designated Wilderness, the Refuge contains 334,000 acres recommended for designation by the original plan. Under the Alaska National Interest Lands Conservation Act, the Refuge manages these lands not as wilderness study areas, but simply as part of the Refuge without special measures to maintain wilderness character other than the same management present on other portions of

the Refuge. Congress has not yet acted on the recommendation, and is not expected to in the near future.

Ordinarily, this would be a dormant issue. However, as part of the Togiak Refuge plan revision, we are required to evaluate the existing wilderness recommendation and determine whether it should be left the same, decreased, or increased. At this point, the evaluation becomes a central planning issue because of the emotional reaction and controversy accompanying discussions about wilderness.

We are also required by law to evaluate rivers on the Refuge for possible inclusion in the national Wild and Scenic Rivers System. This System is designed to balance dams and river development projects, and their many effects on American rivers, with a means of protecting the free-flowing values and outstanding resources present on other rivers. As is the case with Wilderness, the plan itself cannot designate rivers, only recommend designation to Congress, which is under no obligation to take action.

Under the Wild and Scenic Rivers Act, rivers and their corridors (which average one-half mile on each side of the river in Alaska) are first evaluated for their eligibility—whether they possess values that would make them worthy additions to the system. To be eligible, rivers must be free flowing and their corridors must contain one or more “outstandingly remarkable” values, such as recreation, geology, cultural, fish and wildlife, scenery, or hydrology. Rivers found to be eligible are then evaluated for their suitability—whether eligible rivers should actually be recommended for addition to the system. This analysis is more political, taking into account factors such as the costs and benefits to society of designating the river, and local, regional, and national support (or opposition) regarding designation.

The Alaska National Interest Lands Conservation Act did not add any rivers on the Togiak Refuge to the system, but mandated study of the Kanektok. The study found that the Kanektok was certainly eligible but not suitable, due primarily to the lack of support for designation evident in Quinhagak, by the State of Alaska, and within the U.S. Fish and Wildlife Service. Given the previous lack of support, the mandate to evaluate Refuge rivers for Federal designation turns another latent issue into a controversial one.

Cultural Edges

Use of the Kanektok, Goodnews, and Togiak Rivers by local subsistence users and visiting recreational anglers has resulted in a variety of conflicts, particularly on the Kanektok, which initially attracted the greatest levels of visitors. These conflicts have taken many forms, ranging from direct confrontations on the river, which have become less frequent over the years, to less-observable clashes over cultural values.

As suggested by the description of planning issues, locals view nonlocals as having a variety of impacts to subsistence uses and resources. On the Goodnews River, safety is a primary concern, given several near misses and a recent collision between the small, low-powered skiffs used by villagers and larger, high-powered boats used by guides. On the Togiak, there is often competition for a particular stretch of river where king salmon congregate. State law prohibits sport angling at sites where a subsistence set net is in use, but does not address the situation where villagers coming upriver find their preferred site already being fished by recreational visitors. In such cases, the locals typically will continue upriver, and recreational users will not even be aware that they have displaced local use.

The most prominent and well-documented cultural edge is probably the disparate views of catch-and-release fishing, which is the method practiced by nearly all Refuge recreational visitors. Catch-and-release fishing is either a conservation practice or an ethical transgression. Recreational anglers who practice catch and release are trying to enjoy their activity while minimizing impacts to fish populations. In local culture, however, the practice is aberrant and disturbing—playing with food.

After listening to a protracted discussion about recreational quality, one local resident exclaimed, “Recreation quality—that’s what I always hear about. What about subsistence quality?” Protection of subsistence resources and opportunities can be addressed from the standpoint of quality, as well as being a legal mandate.

Revising the Comprehensive Conservation Plan

We have discovered that planning in the human ecotone requires paying careful attention to several aspects of the planning process:

1. Collaborating with others who have management responsibilities for resources and opportunities associated with the Refuge.
2. Basing analyses on the best available data, including social and biological information collected through scientific and local knowledge methods.
3. Adopting a flexible and adaptive approach to both developing the plan and making it happen.

Collaboration

The group of people developing the new plan consists not just of Refuge managers, but of local residents from six villages and representatives from the two State agencies that manage lands and resources on the Refuge (the Department of Natural Resources and the Department of Fish and Game). The group meets face-to-face regularly, getting used to each others' values, perspectives on the issues, participation styles, and areas of knowledge. Meetings provide an opportunity to share information and knowledge about aspects of the Refuge that people value.

Throughout the planning process, we focus on the Refuge's roles and responsibilities in addressing issues and taking actions, and how this fits within the bigger picture. The issues identified so far can not be "solved" by the U.S. Fish and Wildlife Service alone because we don't have the authority to address every facet of the problems or opportunities. The roles and responsibilities of others having authority for various aspects of the issue are identified explicitly.

For example, if the issue is water quality in the Kanektok, there are things that the Refuge can do to help measure, maintain, or improve water conditions—this is one of the Refuge purposes, after all. But the State also has a role, as does the village of Quinhagak, the Native Corporation, and other agencies such as the Environmental Protection Agency.

The advantage of this approach is that it plays to the strengths of the collaborative planning process, turning the institutional edge from a potential liability into an asset. The Refuge doesn't just say "that's someone else's responsibility." The Comprehensive Conservation Plan revision focuses on what the Refuge will do, but references and incorporates the actions that others are already taking or plan to undertake in the future. This allows us to seek collective solutions across institutions and cultures.

As another example, we have spent a great deal of time on Wild and Scenic Rivers, letting stakeholders know what has happened on other rivers, and how river planning is done. As a result, Wild and Scenic River study is viewed by many as a forum for better communication and management for entire watersheds, again bridging legal and institutional boundaries.

Science-Based Decisions

In the human ecotone, it is necessary to muster all of the available information to address the issues, including collection of primary data specifically for the plan. It is a given that all the parties involved may not agree on how the Refuge should be managed, but we would like to begin with a set of data and local knowledge that everyone agrees is useful.

The importance of primary data specific to the Refuge and issues cannot be overstated. For example, preserving water quality is one of the purposes for which the Togiak Refuge was established. Water quality is not just a concern for fish and

wildlife; people who live near the Refuge also depend on high quality river water for household use. Visitors also depend on and highly value water quality. There is concern that improperly disposed human waste from Refuge visitors and others may be contributing to contamination of waters within the Togiak Refuge.

Although there is concern about conditions on all three rivers, most attention has centered on the Kanektok, which has the highest use levels. It is also accepted that the Refuge exerts the greatest control over uses and conditions above the Wilderness boundary. This summer, we have begun a testing program that samples water on the Kanektok as it leaves the Wilderness boundary. Sampling regularly throughout the summer will allow us to compare bacteria levels at various levels of public use in the river corridor. The results may be difficult to interpret because humans are not the only source of fecal coliform that ends up in the river, but they will let us know whether there is a problem.

The planning team member's comment about subsistence quality led us to conduct a study of subsistence users in the local villages to better understand the dimensions of quality for subsistence use of the river corridors. The study identified conflicts with subsistence quality so the planning team can pinpoint areas of concern. The qualitative study is capturing many local viewpoints and much knowledge about the river corridors.

We are also replicating and extending a 1995 survey of recreational visitors to the three river drainages (Kanektok, Togiak, and Goodnews). The results will provide the planning team with a representative view of river visitors, including their experiences, evaluations of river conditions, and attitudes toward possible management actions. Having current information that addresses the planning issues will allow the planning team to collectively learn more about the Refuge and how it is seen and used from diverse perspectives. The result should be a plan that is more sensitive to a range of values and uses.

Flexibility

Finally, we have learned that planning in the human ecotone requires a flexible and adaptive process. We must adapt the planning issues to not just focus on the Refuge's needs, but on the needs of those around us because the Refuge is just one piece of a social and biological system. We must remain open to collecting new information as new issues emerge or old ones transform through new information and collaboration. We must be flexible in our timeframe, because it is unreasonable to expect everyone to progress based only on the agency's agenda and deadlines. Finally, we must even be flexible in our meetings—not one of which has occurred as planned due to the weather and the charter flights required to bring people from the far-flung villages. We have made sure that the U.S. Fish and Wildlife Service decisionmakers are aware of these considerations and of the consequences of ignoring them. As a result, work on the plan revision is proceeding smoothly.

Conclusions

In some ways, every planning effort takes place in the human ecotone. Public lands in particular have a broad range of constituents who have different ideas about the benefits that should be provided to society. Recognizing and accommodating the institutional, legal, cultural, and other edges present is just as important as recognizing the ecological characteristics of lands and waters. In the end, decisions about public land management are political. This does not mean decisions need not be grounded in the best science and social and biological information available, for they should. The concept of the human ecotone serves to keep us aware of the social context of resource planning and management, and of the opportunities and pitfalls that await us.