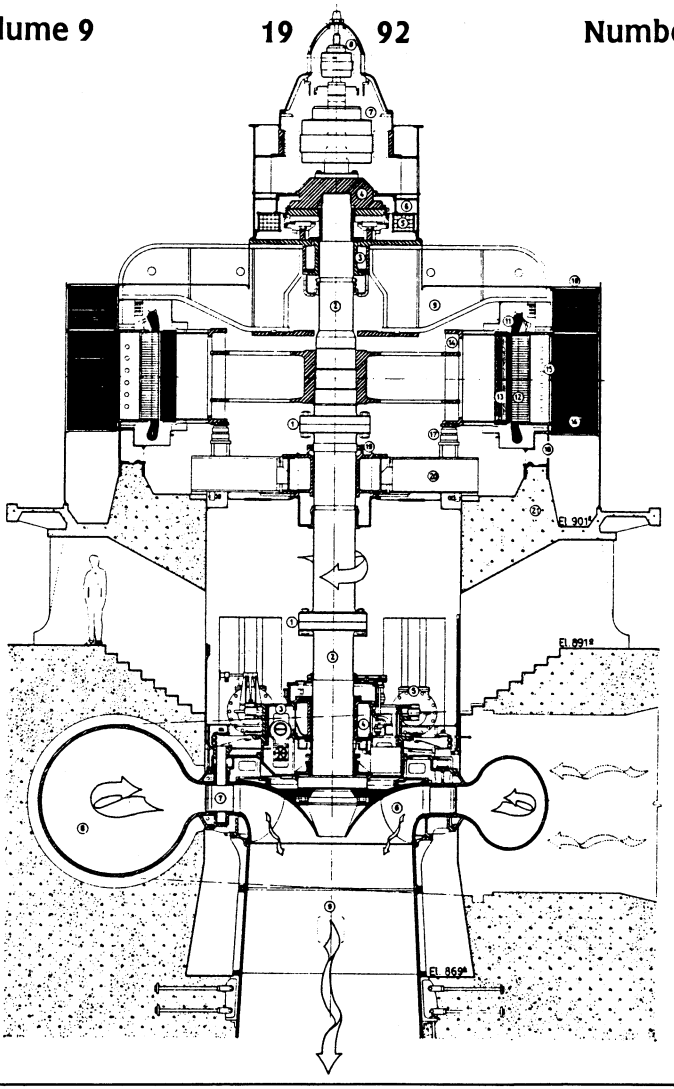
The George Wright
FORUM

Volume 9 19 92 Number 2



The George Wright Society

Dedicated to the Protection, Preservation and Management
of Cultural and Natural Parks and Reserves
Through Research and Education

The George Wright Society

The George Wright Society is a member of
ICOMOS, The International Council on Monuments and Sites,
IUCN, The World Conservation Union, *and*
The Natural Resources Council of America

Editorial guidelines may be found on the inside back cover.
The text paper of the FORUM is made of 50% recycled fibers.
Printing is by Weber & Sons, Park Falls, Wisconsin.

The George Wright FORUM

Volume 9 • 1992 • Number 2

DAM LICENSING & PROTECTED AREAS

Guest Editor: Stephanie S. Toothman

On the Cover: Seattle City Light's Diablo Powerhouse, part of the Skagit Hydroelectric Project. Courtesy of the Historic American Engineering Record, U.S. National Park Service. Delineator: Douglas Pancoast.

William E. Brown

Letter from Gustavus

Building Community & Public Value with Parks

May 22, 1992

I've just finished reading the Vail Agenda [the follow-up report to the conference marking the USNPS's 75th anniversary, held in October 1991 at Vail, Colorado]. It is in many respects a splendid document–articulate and in many places eloquent. It has happily combined the many draft recommendations into a few salient ones under six strategic objectives. It is a comprehensible presentation and sharp in its language. I can't quibble with its premises, its contextual explanations, and its specific recommendations, as far as they go.

The concept that the U.S. national parks are substance and symbol of the national history and character is saved from sentimentality by the vision of a "shared national identity" evoked by the parks. Properly used and understood, the parks as shared fields of historic and current experience would transcend our enriching diversities by helping to build a new, inclusive national community.

Other strong points include the concept of the USNPS as creator of public value (to which I shall return), the stress on worldwide leadership in the preservation of parks and equivalent reserves, and the excellent treatment of organization and work force (under the document's strategic objective #6).

As to implementation, any judgment at this time must be premature. There is a great flurry of follow-up teams on specific objectives and recommendations. I wonder if they cross-reference their efforts to bring

these streams and springs of energy together? I wonder if someone or some monitoring group is holding the teams and committees to the interlocking intent of the Vail Agenda, or if teams and personalities are following their own predilections? I understand that some interpretations have strayed from the Vail formulations; that some recommendations, seen as threats to established order and prerogative, have been shelved before their value can be tested. Such strayings and discardings bode ill for integrated reform.

Perhaps the USNPS's new Office of Strategic Planning could have served as counsel and monitor for the implementation effort, which is nothing if not strategic in intent. But placing that office in Denver removes it from the operations flow, from the day-to-day application of strategic perspective to decision making. So that office will issue its plans, will be scanned by top managers between the last phone call and the next decision.

But policy has often been strangled by administration. And, at the structural level, the lasting value of the Vail Agenda awaits receptive philosophical soil anyway. So back to the Agenda and its implications.

The report's use of the phrase "creating public value" brought back to me a theme that I have explored with other George Wright Society members through discussion and the pages of the FORUM. Given the jeopardy in which humankind has placed itself and the planet, we face years of travail ahead—years of mandatory reform and restructuring of our society to achieve an equitable social and healthy bio-physical environment. For the U.S. to weather, unimpaired, this time of stress, its national parks must become potent tools in the shaping of enlightened public policy. If they continue to be viewed primarily as neutral places of escape from turmoil—preserved aesthetic islands in a context of social and environmental misery—they will, by attrition and predation, be consumed by the politics of scarcity and crisis, no matter their intrinsic values.

The Vail Agenda makes a step in the right direction with the idea of parks as building stones of a national community. But, beyond that, the report is painfully traditional in its circumscribed tone of preserving parks for parks' sake, and, by inference, *from* the machinations of the outer world. No question, this *is* essential, as far as it goes.

I believe that the USNPS's greatest intellectual challenge as an institution is to transcend its inward-looking reliance on the intrinsic values of the parks as justification for existence. It is fundamental that these values and landscapes must always form the core of the agency's institutional ethos. They must be saved and transmitted to future generations unimpaired. But to do this, the USNPS and the national park system must integrate with the larger society, make itself pragmatically valuable in the larger struggle. The USNPS must create a new system of public value based on problem-solving social utility—a high form of utility derived from and utterly dependent upon perpetuation of intrinsic values.

The evidence of utility that society needs—a society increasingly fragmented and insecure—is a direct encounter with the central issues facing

society. The USNPS cannot be directly responsive to all such issues. But it can respond to a significant number of them. And, along with other tools in society's kit, it can be a major part of the solution.

I recognize that the examples of such involvement that follow might strike chords of memory in older park people; and, to a limited extent, they overlap some current activities. But they are qualitatively broader in intent than anything being done in today's philosophically dead political environment. And they would be developed far beyond any similar programs launched during the Hartzog era [i.e., the tenure of USNPS director George Hartzog, from January 1964–December 1972]—that cruelly aborted crusade which now must be renewed.

One final premise illuminates the intent and content of what follows: In the long view, context determines. The survival of parks and equivalent reserves around the world ultimately depends upon the social and environmental health of their surroundings, their bioregions, their nation-states. I am not talking about thresholds or buffer zones here.

I am talking about social and political entities, major ecosystems, and, indeed, the ecosphere. As the world goes, in health and harmony or in disarray, so go the preserved lands. At the center of my thinking is the reciprocal of that formula, that the status of preserved lands signals and largely determines humankind's intentions toward the world.

Preserved lands are lanterns in the gathering darkness—lanterns of inspiration, of education, of social inclusion and enlightenment, of empirical knowledge. *As preserved lands* they are our last touchstones—our species' last uncorrupted connections—with the natural processes that evolved and yet sustain us. For this reason alone, in the context of global change, the preserved lands of the United States and the world represent a public value irreplaceable and inestimable. They are a socio-scientific treasure which, properly used, could help define global-change threats, then instruct us on averting or mitigating their effects. Nothing could be more socially practical or significant than this. This is the kind of public value that waits to be created in the public mind. Lacking the creation of public value, by word and deed, these lanterns will go out, ignorantly sacrificed to the exigent politics of material scarcity and social crisis.

I see three principal areas, all of them hard-core mission-related, where national parks and reserves in the U.S. and abroad can perform substantial social service.

The most dramatic of these is the one just discussed, the use of the world's relatively untainted preserved lands as the scientific baselines and biospheric warning systems that can alert us and guide us through the great reformation that lies ahead. The USNPS and commensurate agencies worldwide have got to fight like the devil to hold these places together and transform them into networked scientific resources that can help stop humankind's destruction of its only home. Unless we radically alter current trends—the product of a mere two centuries of our explosive technological, industrial, and scientific empowerment—we will be plunged into a strange new world of disorder marked by massive and

unpredictable change. But, if wisdom prevails, the world's parks and reserves will act as laboratories for scientists and as schools for society.

Projections and demonstrations of this scientific work and portent, both in the preserved-lands laboratories and beyond them, defines the critical educational and communications function. This is the transfer function that turns knowledge to power. It persuades the public to force political action to reform current social, economic, and geopolitical absurdities that otherwise will kill us all.

Finally, as urged in the Vail Agenda, the parks and reserves can serve as democratic solvents. Sustained environmental reform, with all its pains of transition from habitual destructive lifeways to new life-sustaining ones, requires social hope and conviction of fair play, the quintessential bases of social cohesion. Both natural and cultural parks must contribute to a sense of cultural belonging: shared amenity experiences that bring together diverse elements of our population; inclusive historical and cultural interpretation honoring the contributions of all elements of our varied populations.

The hows of accomplishing these fundamental utilitarian functions include such things as (1) mandates and expertise in science management, designated study zones and research centers, new and purposeful links with national and international scientific institutions; (2) vastly expanded facilities, staffs, and skills in education, interpretation, and communication; and (3) cultural awareness, multi-cultural staffing, and adaptive cultural programs beyond anything yet attempted. These listings of how-to needs will appear in detail when philosophical commitment and wisdom emerge in the land.

The necessity for these things is spread before us every single day. Surely, as rational beings, we cannot dally forever in the present puerility. Meanwhile, until the common sense of this country asserts its will and public virtue is restored, the parks and reserves must be held intact, and their great message delivered with the resources at hand.

Keep the faith,
Bill Brown

*[Note: **Letter from Gustavus**, which debuts above, will be a regular column by contributing editor Bill Brown. As long-time readers of the* FORUM *well know, Bill has contributed many insightful essays to the* FORUM *over the years. He retired from the USNPS recently and moved to Gustavus, Alaska, in the heart of Glacier Bay National Park, where he is writing a book and building a house. As Bill says in this **Letter from Gustavus**, "context determines," and in future letters he will share further thoughts on the all-important context in which parks, reserves, and other protected areas operate.]*

New Membership Rates in Effect

Beginning October 1, 1992, dues for Society membership are US$35 for both individuals and institutions. Student memberships are now $20 per year. Life memberships are $350. Membership privileges include receipt of *The George Wright Forum*, GWS newsletters, a GWS membership directory (to be published soon), discounts on other GWS publications, and reduced registration fees to our biennial conference (institutional members may designate one employee each to take advantage of the discount). In addition, individual members have the right to vote in Society Board elections and to nominate people for Society awards. We no longer offer *Forum* subscriptions. One membership category continues unchanged. Patrons of the Society—those wishing to make a very substantial contribution to our activities and purposes—undertake a financial commitment of at least $500 per year.

A Response to Charles P. Stone's "Humane Natural Area Management in Hawai`i"

by MARY KELLY BLACK
Seneca Falls, New York

It is unfortunate that, in Charles P. Stone's "Humane Natural Area Management in Hawai`i" [Volume 9, No. 1], native v. alien are the terms for discourse, as non-native would make the discourse less imbalanced; terms "alien" and "alien invasions" are biased and emotionally charged. Also, much of the moral argument presented in this article is based on hypothetical future occurrences, questionable inferences, and poorly argued premises.

The range of creatures that animal rights advocates defend is not on a continuum from "disease organism" to "bald eagle," but between native and alien fauna (and not merely mammals). The framework Stone establishes makes it easy to discount the disease organism, thus lining up other expendable creatures within such an unrealistic continuum. Thus, it is not "axiomatic" that a range of choices exists between humans and other species if the range is based on so broad and unrelated a continuum. It is not clear why native species are prima facie "unique" and aliens are not. Who decides the uniqueness? Since most of us are alien to this continent, and to Hawaii as well, what is the cutoff date for the transition from alien to native? In terms of natural systems is such a cutoff date realistic or arbitrary? Are pain and suffering the only criteria for judging humaneness, when the larger issue is the intentional deprivation of a creature's life? I don't think we need sensometers to corroborate that no creature wishes to be deprived of its life. If one seeks a humane method of murdering these aliens, why subject a species as well to laboratory-inflicted pain and suffering to deduce their responses to pain and suffering? Humane societies can provide such information, as well as personal observation and common sense.

Furthermore, concern with the methodology of humane murder

appears before the reader is even convinced of the necessity for killing. Nor does one have to kill, or witness killing, to be opposed to it! It is far more than a "distaste" for methods of killing that animal rights defenders argue against. Also, I am puzzled by the red-herring analogy to carcinogens, and by arguments to ignore "the few" who are raising ethical objections to the arbitrary killing of so-called aliens. Nor have humans "ultimately" caused the problem of introduced "aliens"; they *initially* caused it, and the USNPS is *ultimately* trying to control it, or control nature, a futile effort that only compounds the matter.

If "ignorance, apathy, and greed" on the part of humans have resulted in the loss of native species, why should the price be paid by so-called aliens to right the situation? Removal of these aliens should not be lethal. The public values the lives of all non-human creatures, not simply the ones the USNPS prefers. Why posit an either/or framework between native extinction and aliens; how about coexistence? Ecology presupposes a holistic, not a dualistic, approach. Also, we are all part of nature; nature is not a system external to us that performs "services" for humans.

It is speciesist to state that the "welfare of groups is often more important than the welfare of individuals." Our entire ideology flies in the face of that, though it seems easy enough to extend it to other creatures. There are far more political motives involved in war than individual v. group survival, and we have no more interest in saving the group-as-enemy than the enemy-as-individual. Our justification for killing human enemies is that they are "animals," "subhuman," etc. To defend so-called alien species is not to devalue native species, but to recognize the rights of both, of all; surely, that is what biodiversity encompasses—incorporation, not manipulation. It is also not clear what the relationship is between reliance on technology, or technological abuse, and non-native species? As we know from critics of the USNPS, baseline data are themselves often manipulated for political reasons.

It is a cheap shot to say "all life is precious, etc." and then conclude that choices (about who to kill) must be made in the real world. Do those who object to such killing live in another "unreal" world, and are not knowledgeable and are poor conservationists? Such sophisticated name-calling does not silence the objections, and more importantly, does not respond to the issues raised. Also, do we know what questions future generations will ask? The question raised about past and present decision-makers (wildlife managers) is why did they manipulate and kill "vermin" in the first place.

Readers are being told to hold off on criticism for awhile while "natural managers" do the best they can with present methods. Why the use of the term "final solution"? Apart from its association with the Nazis, it presumes an ultimate status is obtainable and desirable; systems evolve. If ethical issues are in conflict, these should be debated, not cut off. What is wrong with hesitance and reflection, especially in the face of clear objections to the management approach? If decisions cannot be made in a factual void (and I am not sure those who object to management techniques are in such a void), so too decisions should not be made in an emotional void. Balance in nature requires balance in decision-making; doubts and criticism are not only based on facts but ethics, and on uncertainty about human motives and objectives.

CHARLES P. STONE replies:

My goodness! Nazis, murder, subhumans, "speciesist," "cheap shots," and more—all in a brief letter! The button I pushed is called

"animal rights," although the paper was intended to argue *for* that value among others. Unfortunately, single-issue proponents sometimes see the "real world" as far less complex than folks who have to deal with a larger range of issues, both factually and emotionally. One universally supreme value is defined a priori, with all other complicating values subordinate.

I stand by the original article. I believe that it was a balanced and fair effort in favor of *acting* in an uncertain world and in *support* of the stewards of our natural areas. Political responses to *uninformed* criticisms are discouraging to those entrusted with the responsibility of doing the best job possible for present and future generations. Natural areas are important to many people in our society. They should be managed wisely and well. *Professionally* trained people are delegated the care of natural areas, and these individuals seek considerable informed opinion before acting. But act they must. Not to decide is to decide. In the stewardship of natural areas, protecting rights of all individuals–human or other animal (not to mention plants)–is neither practical nor ethical. Other values cannot always be subordinated to saving individual non-human lives now. A choice between incompatible values must be made–in this case *between* alien and native species in natural areas. It is *either* native species preservation *or* alien species invasions. Past, present, and future are part of the decision to act–like it or not.

Ms. Black has a low opinion of USNPS values/preferences, wildlife managers in the past and present, and future generations that are not like-minded. She has a high opinion of "hesitance," reflection, objections, "common sense," emotion, balance, and humane societies. I share her *high* opinions but not the low ones in this case. The discussion and the decisions are about priorities. It won't do to decide before discussion that animal rights is always the supreme value, nor to be ill-informed and ignore other values. I think that those who understand the critical problems of extinction and alien invasions in Hawaii will affirm that management of natural areas is in *response* to the wishes of the public, as expressed in many laws and policies. Numerous mechanisms for informed input exist, but valid judgements must eventually be made by parties responsible. Diverse interests are considered, but all cannot be satisfied because some are in direct conflict. I invite the reader to review what was said in the original paper in context, and to further inform her/himself about the complex issues and values involved in natural area management.

Eastern National Coordinates Relief Fund for Hurricane Victims

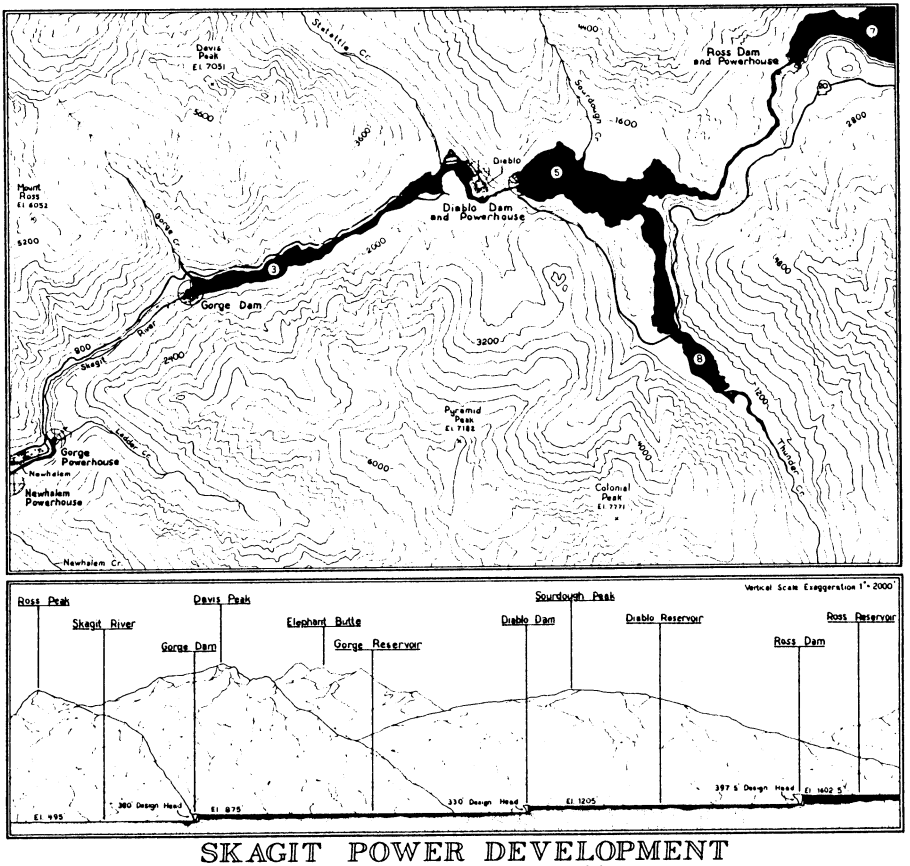
Hurricane Andrew, one of the most devastating storms in U.S. history, ripped through southern Florida in late August. Two national parks, Biscayne and Everglades, took direct hits. Park buildings and employee housing were destroyed. In addition, tree damage was extensive in the Everglades, with the storm mowing down royal palms, hardwood hammocks, and pines. The other impacts on the region's marine and terrestrial protected areas remain to be seen.

Eastern National Park & Monument Association is coordinating a relief fund to help park employees recover. If you'd like to contribute, make a check out to "ENP&MA" notated "Andrew Relief Fund" and send it to ENP&MA, Attention: George Minnucci, 446 North Lane, Conshohocken, PA 19428 USA.

DAM LICENSING & PROTECTED AREAS

Guest Editor: Stephanie S. Toothman

The impoundment of water, whether for public water supplies, irrigation, or hydroelectricity, has had a profound effect on many of the areas within the U.S. National Park System. From the controversy over the flooding of the Hetch Hetchy Valley in Yosemite to the current concerns about the Glen Canyon Dam and the Grand Canyon, the impacts on both cultural and natural resources have been significant and enduring. The articles found in this issue of The George Wright FORUM *illustrate how wide-ranging and challenging these impacts have been, from contributing to changes in USNPS management and policies to the elimination of one of the world's great salmon runs. The U.S. Federal Energy Regulatory Commission (FERC) will be overseeing the relicensing of an unprecedented number of hydroelectric facilities in this decade, many of which will directly or indirectly affect not only parks, but national forests and wildlife areas, and other national, state, and local reserves. The examples presented here are just the tip of the iceberg. They underscore, however, how important reliable resource data, a strong commitment to the resources, and cooperation among all of the involved parties are to seeking reasonable compromises between the preservation and use of these resources.*



SKAGIT POWER DEVELOPMENT
OVERALL SITE PLAN AND SITE SECTION

Relicensing the Skagit Project: The City of Seattle's Approach

Richard Rutz

KING COUNTY DEPARTMENT OF PUBLIC WORKS
Seattle, Washington

The city of Seattle is the owner of and licensee for the Skagit River Hydroelectric Project in northwestern Washington state. The Skagit Project includes three dams and the associated project area and facilities, and provides a maximum generating capacity of 784 megawatts—approximately 25% of the city's electric power requirements—as well as recreational and flood-control benefits. The project is situated within the Ross Lake National Recreation Area, a unit of the U.S. national park system.

In 1991 the city, federal and state agencies, tribes, and an environmental group reached agreement on relicensing the project and measures to mitigate its impacts while enhancing the environment and other values of the area.

DEVELOPMENT ON TRADITIONAL THEMES

The North Cascades area is heir to several great traditions. Centuries ago, the Pacific Northwest was home to the Native peoples who fished the rivers, hunted the game, and lived in close association with their surroundings and traditions. Then Europeans arrived; soon, the newcomers fulfilled their "Manifest Destiny" to tame the land. They wrested the riches of an uncooperative and turbulent environment and turned them to the betterment of the human condition. The lands and streams gave in their bounty, the forests were logged, the railroads built, and the rivers contained and dammed. After a time a reaction began to build in opposition to excesses of development, an awakening of a sense of partnership of humans with the environment, of a need to conserve the resources and values of the area.

The North Cascades, and the mighty Skagit River which flowed from them, have from the start drawn the attention of many people. Mining and agriculture first brought settlers into the interior. In the early years of this century, technology had advanced to the point where the interior forests could be entered to provide a great supply of logs and lumber, and the flow of the Skagit harnessed to provide vast amounts of power for the new genie, electricity.

The city of Seattle won the race to develop the hydropower potential of the upper Skagit, and in 1918 began construction on what was to become a project of three major dams. In 1927 a 50-year license was obtained under the new Federal Power Act for the development of one portion of the project, and later the whole of the project came under this license. In succeeding years various additions were made to the project, raising the heights of dams, enlarging reservoirs, increasing the amount and efficiency of electric power generation. The Skagit Project was a formative event in the development of public power in the West, and its development attracted national attention.

Over time the importance of preserving the great scenic beauty and natural bounty for the enjoyment of all and future generations also came to be seen as an essential goal.

But early efforts to designate a national park in the North Cascades did not succeed. The promise of the first years was lost in the doldrums of the middle years of the 20th century until it burst forth with renewed vigor in the 1950s. The North Cascades Conservation Council (N3C) was formed to champion the cause, and in 1968 achieved its goal when the North Cascades Park Act was passed. Under this act the dams and reservoirs of the Skagit Project were placed within the Ross Lake National Recreation Area which, together with the two units of the North Cascades National Park and the Lake Chelan National Recreation Area, formed the North Cascades National Park Service Complex.

After many years of being displaced and deprived of their inheritance by more recent arrivals, Native Americans asserted and won recognition for their reserved treaty rights to fishing and hunting. With this began a new era of respect for the interests and rights of Native Americans, and participation of the tribes in the major resource issues.

CONTROVERSIES OVER HIGH ROSS AND COPPER CREEK

In the 1970s the city was proceeding with the latest stages in the continuing development of the Skagit Project. From the earliest days the Skagit Project had been designed with Ross Lake (the reservoir behind Ross Dam) as the main storage reservoir. Ross Dam was to be built in four stages to its final elevation. The final stage came to be known as the High Ross project. Down river, a fourth dam was planned near the confluence of Copper Creek. This dam would provide re-regulating capability, and the ability to obtain greater peaking power from the whole hydroelectric project.

These two projects came to be the great environmental issues of the day, and harbingers of things to come. Copper Creek, unlike the upper projects, was located in the highly productive salmon-spawning sections of the Skagit River, an area that was also heavily used by wintering bald eagles. Fresh from victory in the assertion of reserved treaty rights for fishing, the Skagit tribes saw the Copper Creek Project as a major threat to much of the very resource for which they'd fought. Conservation groups and agencies allied themselves with the tribes, and convinced the Seattle City Council

to place the Copper Creek Project in abeyance, where it remains to this day.

High Ross would have raised the level of Ross Lake over 100 feet, flooded six additional miles of the Skagit River valley in Canada, and drowned the Big Beaver valley in the U.S. Led by the N3C, a coalition of U.S. and Canadian groups fought the project. The groups were unsuccessful before the U.S. Federal Power Commission, which decided in favor of constructing High Ross. In other forums, the old agreement with Canada that allowed flooding of the Canadian lands was also upheld. However, by their efforts the groups had built a great amount of publicity and interest for the issue, and Seattle continued to pursue a settlement. In 1984 a treaty was signed between the U.S. and Canada in which Canada provided power equivalent to the amount and cost of power from High Ross in return for the city not building it.

THE INTERIM RELICENSING AGREEMENT

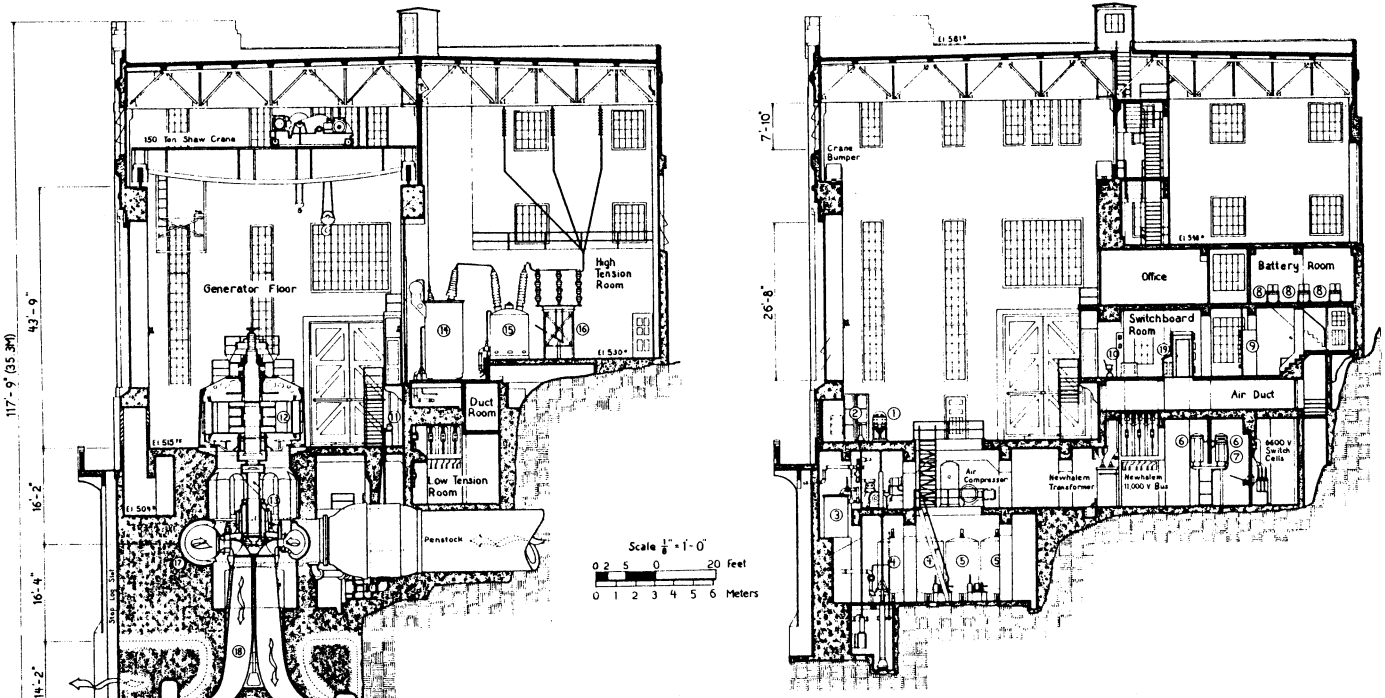
In 1977 the city of Seattle began the process of relicensing its Skagit River Hydroelectric Project. Under the Federal Power Act, most non-federal power dams are licensed for terms ranging up to 50 years, at which time a new license has to be obtained. As one of the first major hydroelectric projects to be licensed (in 1927) under the act, the Skagit Project became one of the first to enter relicensing.

No one really knew what to expect from this relicensing process. The Federal Power Commission (later to be reorganized as the Federal Energy Regulatory Commission, or FERC) saw its role as one of promoting development of the rivers, and had rejected only one project on environmental grounds in its 57-year history. The Seattle City Light Department ("City Light" for short) saw its mission as one of providing power to its ratepayer-owners at the lowest cost. It had always succeeded in its applications to develop and extend the Skagit Project and other projects, and entered the relicensing foreseeing no major obstacles. The agencies, tribes, and conservation groups had participated in the recent enactment of the National Environmental Policy Act, Clean Water Act, and other new environmental laws, and saw the relicensing as a chance to redress the unmitigated impacts of the Skagit Project, but without any history before the Federal Power Commission to support this expectation.

The first clash between the parties came in 1979, when the city's application for relicensing was accepted by the Federal Power Commission. The several federal and state agencies and tribes filed motions asserting the lack of mitigation for major fisheries impacts of the project, and the state of Washington took great exception to the application's lack of consideration and measures for wildlife. In 1981 the city, agencies, and tribes agreed that important information was lacking regarding the fisheries issues, and entered into an interim agreement. Under this agreement operations would be modified and studies done to assess the impacts of the project on fisheries. Other issues, including wildlife and recreational concerns, were not addressed in the interim agreement. As the fisheries studies grew in length and scope, these unresolved issues fell out of discussion and lay dormant and unnoticed.

In the mid-1980s the city foresaw the coming conclusion of the fisheries studies, and began to prepare for the resumption of the relicensing proceedings.

Figure 1. Transverse Section, Gorge Powerhouse, Skagit Hydroelectric Project



SECTION A-A
GORGE POWERHOUSE
SKAGIT POWER DEVELOPMENT

① 20 H.P. Centrifuge Pump
② Sump Valve
③ Governor Oil Sump Tank
④ 1100 Gal. Lubricating Oil Tank
⑤ 1100 Gal. Transformer Oil Tank
⑥ 75 KVA Transformer
⑦ 37½ KVA Transformer
⑧ Storage Battery
⑨ Auxillary Switchboard
⑩ Water Gauge Board
⑪ Johnson Valve Control
⑫ W. Westinghouse Generator
⑬ S. Morgan Smith Turbine
⑭ 138 KV Transformer
⑮ Circuit Breaker
⑯ Disconnecting Switch
⑰ Scroll Case
⑱ Draft Tube
⑲ Control Desk

SECTION B-B

Note:
This drawing based on Seattle City Light: Cross Sections of Powerhouse, Dwg. No. C-266, July 15, 1924; Generator - General Assembly Elevation, Dwg. No. 2434331, no date; Turbine Section, Dwg. No. 2076-H, Sept. 5, 1922; 7 ft. Scroll Case, Dwg. No. 1006-DJ, July 26, 1921; Transverse Section, Dwg. No. 2076-AH, May 8, 1923.

NEW PERSPECTIVES FOR CITY LIGHT

In the period from 1977 to the mid-1980s some important events occurred in the city and region. A lack of planning and the business-as-usual attitude of the Northwest's publicly owned electric utilities led to a nuclear power fiasco for the Washington Public Power Supply System (WPPSS, pronounced "whoops"). In reaction to this and other concerns, a broad consensus came together on new directions for Seattle and Seattle City Light, and produced the *Energy 1990 Report*. On the basis of this report, and in recognition of the major controversies in which City Light and the city were embroiled, Seattle opted not to participate in the second set of WPPSS nuclear power projects, decided against pursuing the Copper Creek project, and developed a new mission statement for City Light. This statement identified three prime responsibilities for City Light: electric service reliability, maintenance of low rates and financial accountability, and environmental protection.

Another major change was the passage of the Pacific Northwest Electric Power Planning and Conservation Act, which brought a new era of energy planning to the Northwest. Though it had few direct consequences for the Skagit, it confirmed the growing public interest and pressure for energy conservation and environmental protection in electric power planning. Furthermore, progress had been made by the agencies and public groups in enacting environmental protections, and the FERC was coming under attack from various quarters. The regulatory, legal, and public climates had changed considerably since 1977.

Recognizing its clarified and broadened mandate, understanding the new circumstances it was facing, and realizing the damage that the city and utility had sustained from the public controversies led City Light to some major adjustments in its approach to relicensing. The outstanding issues in the relicensing were all seen to be environmental, and the Environmental Affairs Division, together with the Power Supply and Planning Division, were identified as the lead divisions. Perhaps most importantly, the concept of a negotiated settlement was identified and approved as one of the principal goals for the relicensing.

GOALS AND OBJECTIVES FOR THE CITY

Seattle never formally adopted a set of goals or objectives, so the following list has the benefit of the omniscience of hindsight. Nonetheless, prime goals of the city for the relicensing included:

- relicense the Skagit Project;
- maintain operational flexibility;
- address the problems and impacts of the project;
- negotiate as good a monetary deal for the city as possible given the first three goals; and
- improve relations with all of the parties to the relicensing proceedings.

The first goal is self-evident, for the Skagit Project is an essential component of the city's electric power supply. The second is familiar to managers everywhere, and involves the ability to meet assignments given the practicalities of the real world, as well as the organizational desire to maintain options and control. The third is a necessity not only to meet regulatory requirements, but also for the city to be a good environmental citizen and for City Light to meet its environmental protection mission. The fourth recognizes that, among other things, maintaining operational flexibility

can be worth some additional monetary costs. The fifth goal both facilitates the first four goals, and aims towards building trust and good will to carry out the agreement and assist in future interactions.

To accomplish these goals, a number of objectives were developed. These included:

1) Develop a negotiations process that fully involves all of the parties. This meant recognizing the right of the N3C and other parties to be there, and according them full respect as parties in the process. While this seems a procedural tautology, there was considerable resentment and suspicion among various parties (not only between the city and other parties) regarding motives, agendas, secret deals, and the like. The establishment of an open process and the development of trust was an early and essential objective.
2) Identify and address all of the issues. This again seems to be a given, but the environmental review process did not emerge fully formed but evolved over time. Also, the hydropower licensing process had never been sympathetic to addressing environmental concerns, and there was always the temptation among developers to minimally address issues with the expectation that the FERC would uphold them. The city entered the negotiations with the interest of identifying all of the issues and then addressing them as best it could. In some areas this included considerable effort towards scoping and the development of information.
3) Solicit ideas and suggestions from all parties, and meet their needs for information. In order to participate effectively, the parties need to be supplied with information in a number of areas. The city made this information available, and worked together with the parties to interpret it and explore possible responses. In some areas the other parties were very forthcoming with ideas, in others the interaction was more of a review of and selection from measures and alternatives that had been proposed by the city.
4) Devise measures and programs that meet the needs of the resource, and that form a comprehensive and workable whole product. It is too often the case that planning for a given resource (fisheries, wildlife, recreation, etc.) fails to consider effects on and by other resources, and without consideration of long-term trends (such as local land use and development trends). It was the determination of the City Light staff that a final settlement should be comprehensive and make overall environmental, management, and economic sense. The programs and measures should meet the needs of the resources.
5) Coordinate with responsible City Light managers, staff and crews in the development of measures that affect them. This not only helped the negotiators develop more workable measures, it also helped institutionalize the measures by creating a sense of ownership among the utility staff.
6) Approach the negotiations with the attitude that a negotiated settlement is achievable and the preferred course of action. The positive attitude helped the negotiations weather some rough moments, and facilitated development of ideas and approaches.
7) Insist on a comprehensive package. Not only did measures and

programs have to fit together, but the deal itself was contingent on settlement in all areas: there would be no piecemealing of issues or parties, no partial settlement on some issues and submittal to the FERC on others. Secondly, the deal had to include all parties. Interestingly, both sides insisted on these conditions, and both felt the constraint at times.

The city did many studies during the information-gathering process. The other parties contributed significantly to the study objectives, and in several cases to the study designs and data-gathering as well. In the course of this work the Skagit became one of the best-understood rivers in the state. The wildlife and recreation analyses brought together scattered, disparate, and unanalyzed data of the past, and developed new information. Archaeological investigations identified a major new cultural resource that has already had implications for our understanding of the use of the landscape by prehistoric peoples.

The data collection and interpretation contributed significantly to the ability of all parties to make reasoned evaluations and resource decisions. The city's proposals, and those of the other parties, made better environmental sense as well as better meeting organizational goals. The results of the studies also made important contributions to the professional literature.

NEGOTIATIONS

Negotiations were conducted in each of the major resource areas, including fisheries, wildlife, erosion control, recreation and visual quality, archaeology and historic resources, and traditional cultural values. Most forums met periodically. While the city often used consultants to gather and develop information, the city developed its own policies and positions, and conducted its own negotiations.

All participants in these negotiations had the authority to represent and negotiate for their respective parties, with all parties reserving the right of upper leadership or management to approve final agreements. A separate policy committee was formed to bring together organizational leadership as necessary. All parties withheld the participation of legal staff until technical and operations staff had developed satisfactory measures and programs.

Each of the parties approached the negotiations seriously; that is, a result was expected and would be seriously sought. The city implemented the procedural objectives described above. Base information was developed and considered by the parties, problems were identified, and problems and resources were jointly prioritized.

In the fisheries forum the discussion was centered on technical matters. For most parties this was the prime issue. In the recreational area the city developed a number of recreational use statistics and data, and discussion was directed towards the design of the studies and the use of the results to develop recreational projects. The wildlife resource had sustained some of the largest, and unmitigated, impacts from the years of development, and was of prime interest to several parties. In this forum were some of the most interesting conceptual questions: crucial to a settlement was the development of a comprehensive view of habitat trends in the Skagit and adjoining river basins, and the development by the parties of common objectives. For archaeological and historic resources, the field information provided primary direction for development of measures.

Once agreement was reached in principle in the several issue areas, a

preliminary agreement was drawn up to outline the overall understanding of the parties. While this was agreed to have no legal force (no one would be allowed to submit it to FERC), it played a critical role of establishing the outlines of the settlement. It established that a settlement could and would be arrived at, and helped correct selective memories of all parties during the final negotiations.

Lengthy negotiations ensued in the presence of legal staff to ensure that the language properly implemented the understandings and responsibilities that technical and policy representatives had agreed upon. Towards the end of the process a submittal deadline from the FERC helped expedite the conclusion of the negotiations.

BENEFITS OF A NEGOTIATED SETTLEMENT

There are some very real benefits that the city and other parties received from a negotiated settlement. The first is that by achieving a settlement the city and the other parties avoided a disputed proceeding before FERC. For a variety of reasons a disputed proceeding was seen as undesirable by all parties. From the city's perspective, FERC was still mostly supportive of the development side of licensing, although less so than it had been in the past. However, FERC was becoming a regular target for sharp scrutiny and criticism from the Congress and public, had had strong new environmental mandates imposed in statute by Congress, and its decisions and interpretations were being routinely rejected by the courts. FERC had its own agenda, which could conceivably include sacrificing the city's interests to further its own. The other parties could count on a largely unsympathetic hearing at FERC, but a probable improvement of their chances in the courts.

By negotiating a settlement the city and the other parties could make use of their superior knowledge of the area, its resources, and the hydroelectric system to craft measures that would better suit the needs of the resources and the parties than would anything that FERC or the courts could develop. Tradeoffs could be assessed and decided by the people and agencies that knew the most about them and would have to live with them. Programs and measures developed by the parties would likely be more efficient in cost and performance.

A negotiated settlement would remove a great amount of uncertainty for all parties. For the other parties, the environmental program components would become known years earlier than in a disputed proceeding. The city could incorporate operational constraints and costs into its planning much earlier. In general, the relicensing would likely be concluded years earlier than in a disputed proceeding.

A negotiated settlement would serve the public relations interests of all parties, and the trust and good will would yield additional benefits in future interactions. The parties would save great amounts of time and money by not arguing before FERC and the courts.

By negotiating a settlement all parties could satisfy most needs and do well in at least some key areas. The alternative was a result that would rankle everyone and satisfy no one. There was a very real chance that a disputed settlement would cost everyone more and yield them less than would a negotiated settlement.

THE SETTLEMENT

The results of the settlement are too numerous and lengthy to describe completely, but include:

- Operations and flow requirements that provide a very high level of protection for anadromous fish populations;
- Acquiring at least 4,000 acres of threatened lands for wildlife habitat protection;
- Constructing, maintaining, and renovating trails, campgrounds, and boat launches;
- Developing and endowing an environmental learning center, and development of scientific research center;
- Protecting archaeological sites and the National Register properties of the project area;
- Providing funds to the tribes to develop tribal cultural centers; and
- Mitigating erosion problems along Ross Lake and other project reservoirs.

The negotiated settlement is seen by all parties as a satisfactory product. But can anyone be said to have "won" the negotiations? In a real sense all of the parties to a successful negotiated settlement are winners, for they have had major goals accomplished and have found the tradeoffs to be acceptable. This is true for the Skagit Project relicensing, where all of the parties secured their major goals. For the city, it can be seen that the major goals identified above were all realized, and at a cost the city found to be acceptable.

The settlement provides benefits beyond this one hydropower proceeding, for it is an unequivocal example that a major environmental proceeding–replete with agencies, tribes, environmental groups, and many controversial issues–can be negotiated to a mutually agreeable and beneficial conclusion. And finally, the subject of concern, the environment, will be better protected and will receive better attention in the coming years. In this case, as the Seattle *Post-Intelligencer* stated in a lead editorial, "cooperation has led to a new ethic of environmental stewardship" that will become, "as it should, a fundamental part of the daily operation of City Light's Skagit hydropower program."

Relicensing the Skagit: USNPS's Approach

Jonathan B. Jarvis

CRATERS OF THE MOON NATIONAL MONUMENT
Arco, Idaho

Between 1986 and 1991 the USNPS participated in intense legal, technical, and policy negotiations with state and federal agencies, tribes, conservation groups, and a major public utility to formulate a comprehensive mitigation agreement for three large hydropower dams in the Pacific Northwest. The culminating agreement, valued at over $100 million, signed by all parties, and submitted to the U.S. Federal Energy Regulatory Commission (FERC) in May 1991, was historic and precedent-setting in scope and complexity. It was also the first agreement of many parties to a hydropower licensing. The North Cascades National Park Service Complex's Division of Resource Management had lead responsibility for the negotiations and formulation of the USNPS position. This article attempts to explain USNPS's approach, policy, and negotiation strategy.

HISTORY

The Skagit River Hydroelectric Project consists of the Gorge, Diablo, and Ross dams, reservoirs, powerhouses, and transmission lines. Together with employee residence areas at Newhalem, Diablo, and Hozomeen, these developments are licensed to Seattle City Light by FERC, previously known as the Federal Power Commission. Except for the transmission lines to Seattle, the Skagit project is situated entirely within Ross Lake National Recreation Area, administered by the USNPS within the North Cascades Complex. City Light is a branch of the Seattle city government.

City Light secured the rights to develop the hydroelectric potential of the Upper Skagit in 1918. Acting under permits first from the Secretary of Agriculture that were succeeded by licenses from the Federal Power Commission, City Light completed four hydroelectric developments on the Skagit between 1919 and 1952.

The Gorge, Diablo, and Ross developments are licensed together as the FERC Skagit Project #553. The project license also contains permission from FERC for City Light to increase the height of Ross Dam an additional 125 feet (the "High Ross" proposal). The construction of High Ross is deferred by a 1984 treaty between the United States and Canada that provides City Light with an equivalent amount of power. The treaty has an effective life of eighty years.

RELICENSING PROCESS

For over ten years, City Light has been and is still operating FERC #553 under a less-desirable annual license while preparing an application for a new long-term (most likely thirty-year) FERC license. As the regulations governing the licensing process do not differentiate between a new license and a relicense, this is in effect the same process that would be required if the dams were being built today. The regulations governing the process are found in the Code of Federal Regulations (18 CFR Ch. 1) and require the applicant to supply to FERC a report on existing conditions; a description of the impacts caused by the project; a description of measures, strategies, and facilities recommended by pertinent agencies; and a statement of measures or facilities that will mitigate impacts and an explanation of any rejection of agency recommendations.

The regulations require each of these to be prepared and submitted for the following categories: water use and quality; fish, wildlife, and botanical resources; historical and archaeological resources; recreational resources; and land management and aesthetics.

FERC may require additional information from the applicant. FERC has taken the position that, for relicensing, the applicant does not have to mitigate for pre-project impacts. Additionally, under the National Environmental Policy Act of 1969, an Environmental Impact Statement is required to review alternatives.

RECOGNIZED IMPACTS OF THE SKAGIT PROJECT

The first step in the process was to determine the effects of the project's existence and continued presence for the next thirty years through a series of studies, funded by City Light. The North Cascades Complex opted to participate in the studies. We assisted City Light in writing the scope of work for the study contracts, served as technical advisors to the contractors, served on the habitat evaluation procedure teams, and, in the case of erosion and archaeology, completed the field work for City Light under several Memoranda of Agreement. This resulted in a distinct advantage in the subsequent negotiations because we were intimately familiar with the studies methodology, shortcomings, and results.

The project occupies approximately 19,226 acres of the 117,000 acres within Ross Lake National Recreation Area. The three lakes inundate 12,400 acres of former river valley within the Recreation Area.

Wildlife and Vegetation. The upper Skagit River valley once contained thirty-four habitats, including riverine, upland, riparian, and wetland. According to City Light studies ("Study of Skagit Dams Original Impacts on Wildlife and Fish Habitat Populations," 1988), all ten

wildlife species studied were significantly affected by the project. These species are indicators of habitat loss and are therefore representative of many other species that were affected by the project.

Recreation. The presence of the Skagit Project impoundments has a significant influence on the management of USNPS lands and limits the potential management regimes for adjacent recreational resources (Seattle City Light, "Skagit River Project, Supplemental Environmental Information," 1989). The level of Ross Lake, dictated by power and flood control, directly affects recreational boating and fishing. Lakeshore recreational use has directly affected vegetation by trampling and clearing.

Soil Erosion. In the project area, 1,238 erosion sites were identified within the drawdown of the three impoundments, with another 16 sites outside of the drawdown. This results in 16.2 miles of eroding shoreline and an estimated loss of 1.5 acres per year (City Light, "Skagit River Project, Report on Existing Conditions of Reservoir and Streambank Erosion," 1989).

Visual Quality and Aesthetics. The Skagit Project, including the three dams, town sites, roads, and the power transmission corridors, all have an effect on the aesthetics of the Ross Lake National Recreation Area, with the transmission lines having the greatest visual impacts (City Light, "Skagit River Project, Supplemental Environmental Information," 1989).

Cultural Resources. In the upper Skagit basin, 126 prehistoric sites have been recorded within the drawdown of Ross Lake (City Light, "Summary of Intensive Cultural Resources Survey in the Upper Skagit Basin," 1989). The constant fluctuations of Ross Lake both erodes material from and deposits it to these archaeological sites. In some cases, the historical integrity of these sites has been or continues to be lost.

Fisheries. The Skagit River flow, as dictated by power production and flood control at the three dams, has an adverse effect on downstream fisheries, particularly in terms of spawning habitat (City Light, "Skagit River Salmon and Steelhead Fry Stranding Studies," 1989). While studies have concentrated primarily on salmon and steelhead species, there are many other resident fish that are affected by stream flows. Lake levels also affect lake fisheries.

THE USNPS NEGOTIATING POSITION

The Skagit project predated the establishment of the North Cascades USNPS Complex, and the enabling legislation for the park units specified that "nothing in this act shall be construed to supersede, repeal, modify, or impair the jurisdiction" of the FERC (Public Law 90-544). In 1988, the Washington Parks Wilderness Act (Public Law 100-668) amended Public Law 90-544 and limited the authority of FERC within Ross Lake National Recreation Area to the existing Skagit Project and specific additional projects operated or proposed by City Light.

The legislation prevented outright USNPS opposition to the projects, so the North Cascades Complex's position was to determine how they could be best integrated, managed and interpreted in the larger North Cascades ecosystem. The policy, as developed by the Complex in this proceeding, is that the Skagit project be operated and the effects of its presence be mitigated so as to have "no significant effect" on the function of the larger ecosystem (USNPS, "North Cascades Complex General Management Plan," 1988). In addition, the recreation potential of the Complex is to be developed only to the point that recreation use has "no significant effect" on the function of

the ecosystem. The Complex's mitigation package considered needs for the expected thirty-year life of the new license; however, the maximum period for which the USNPS can effectively plan is 10-15 years. We realized the effects from the project as well as recreation demand are difficult to predict over such a long period. Therefore, the mitigation package includes specific actions in the first ten years and then periodic evaluation of priorities, with endowments for future mitigation and continued study.

PARTIES TO THE NEGOTIATIONS

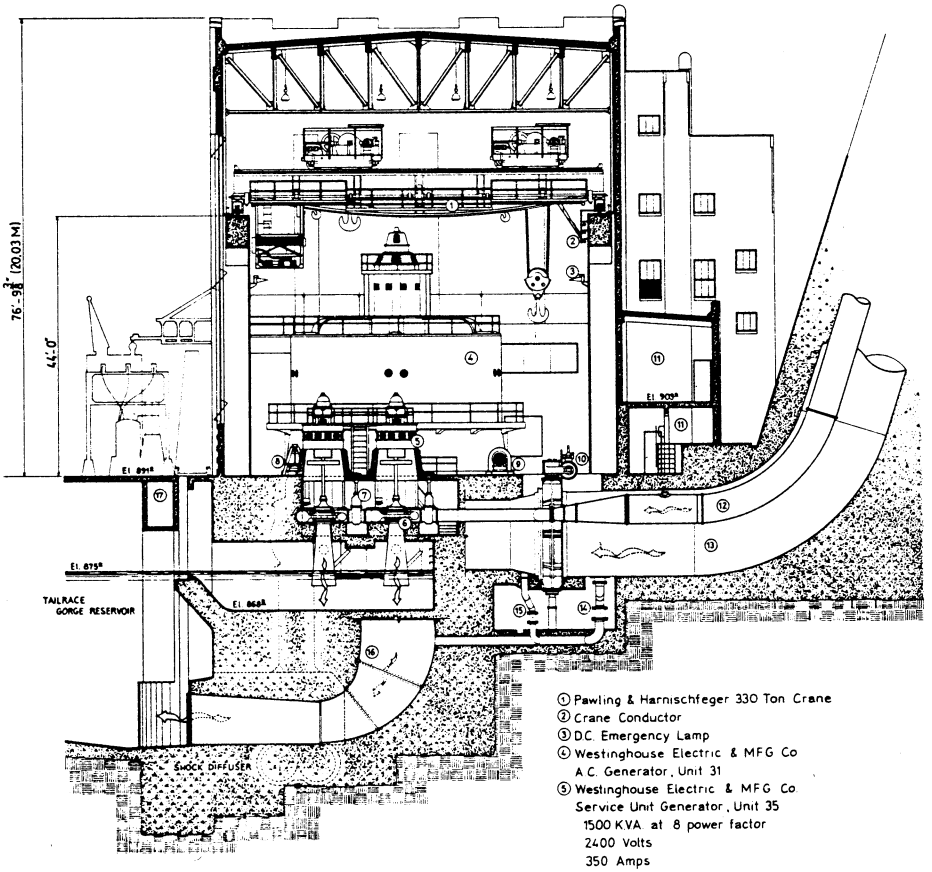
FERC formally recognizes certain agencies or parties as being affected by the project and grants them "intervenor" status. The following parties were intervenors to the Skagit project relicensing and therefore the primary parties to the mitigation negotiations (along with FERC and City Light):

- U.S. National Park Service
- U.S. Fish and Wildlife Service
- U.S. Bureau of Indian Affairs
- U.S. Forest Service
- U.S. National Marine Fisheries Service
- Washington Department of Wildlife
- Washington Department of Fisheries
- Washington Department of Ecology
- Upper Skagit Tribe
- Sauk-Suiattle Tribe
- Swinomish Indian Tribal Community
- North Cascades Conservation Council (N3C)

City Light had delegated the responsibility of negotiations to its Environmental Affairs Division. The key to achieving the final settlement was a shared belief that specific mitigation details worked out by all of the parties with a vested interest and submitted jointly to FERC was vastly preferable to FERC determining the "best" mitigation package gleaned from independent submittals from the intervenors. The intervenors also agreed that the resources at risk and the public would best be served by avoiding a long legal battle. It was this belief, along with a willingness to negotiate and compromise, as well as a deep respect for the resources at risk—attributes shared by all parties, including the utility—that made things work.

NEGOTIATION PROCESS

City Light's Environmental Affairs Division took the lead and established five forums for negotiation: fisheries, recreation and aesthetics, wildlife, erosion, and cultural resources. The Environmental Affairs Division provided specialists to lead the forums. The intervenors participated in those forums related to resources of their responsibility. The USNPS participated in all five. Each forum met at least every other week, some as frequently as twice a week. The North Cascades Complex's Division of Resource Management attended over 100 negotiation forums in one twelve-month period. Working toward a deadline imposed by FERC, each forum was charged with developing an agreement and a mitigation plan. Because there was overlap between forums and mitigation that could help or and hurt one another, coordination was essential. For example, in the fisheries forum, downstream river flow maintenance was a key component in the protection of spawning salmonids. However, lake levels were important in erosion control, recreational lake use (boat launching), aesthetics, and in-lake fish spawning. The fisheries forum discussed the importance of salmonid recruitment and escape to tribal and public fishing, while the wildlife forum discussed salmon



① Pawling & Harnischfeger 330 Ton Crane
② Crane Conductor
③ D.C. Emergency Lamp
④ Westinghouse Electric & MFG Co
A.C. Generator, Unit 31
⑤ Westinghouse Electric & MFG Co
Service Unit Generator, Unit 35
1500 KVA at .8 power factor
2400 Volts
350 Amps
3 phase, 60 cycles
⑥ S. Morgan Smith
Service Unit Turbine, Unit 35
720 R.P.M.
2200 H.P.
306' designed head
⑦ Gate Valve, Service Unit
⑧ Relief Valve, Unit 31
⑨ Spare Exciter
⑩ Butterfly Valve Operating Mechanism
⑪ Storage Room
⑫ Penstock, Unit 35
⑬ Penstock, Unit 31
⑭ Penstock Drain Valve
⑮ Scroll Case Drain Valve
⑯ Steel Draft Tube, Unit 31
⑰ Transformer Cooling Water Duct

Note:
This drawing based on Seattle City Light:
Roof Truss, Dwg. No. SMD-2044, Nov., 27, 1934
General Dwg. Sections, Dwg. No. 4180-CK-1, May 5, 1935
Box Girder, Dwg. No. SMD-2020, Apr., 4, 1931
Penstock Connections, Dwg. No. 783-3, Mar., 25, 1931
14' Butterfly Valve, Dwg. No. MD-1843, Dec., 4, 1930
Service Units, Dwg. No. 4180-AB-1, May 13, 1935

SECTION B-B
DIABLO POWERHOUSE
SKAGIT POWER DEVELOPMENT

Scale 1/8 = 1'-0"
0 2 5 10 20 Feet
0 1 2 3 4 5 6 Meters

Figure 1. Transverse Section, Diablo Powerhouse, Skagit Hydroelectric Project

carcass importance to winter roosting bald eagles. The negotiation meetings became exceptional opportunities for the various agencies to develop a clear understanding of their points in common and differences in policy and mandate. Coalitions were formed and behind-the-scenes conference calls very common. Few ground rules prevailed and each agency approached the negotiations differently. USNPS chose to "put its cards on the table" early by submitting a comprehensive mitigation package for all five forums. The forum meetings essentially proceeded with detailed proposals offered by the intervenors and affirmative or negative responses from City Light. Where additional information was needed, such as surveys, cost estimates, aerial photography, or reference material, City Light was consistently willing to provide it.

THE USNPS MITIGATION PACKAGE

One of the hardest parts of the negotiations was determining what to ask for as mitigation. To formulate a package, all of the North Cascades Complex Divisions—Interpretation, Administration, Maintenance, Visitor Protection, and Resource Management—met repeatedly to develop a "wish list" of projects and proposals. A "recreational prospectus" was developed in-house to identify trails, boat ramps, and other compatible recreational facilities. Fortunately, the Complex had just done a General Management Plan which identified some long-range projects. The Complex had also completed a new Resource Management Plan and a new Wilderness Management Plan identifying a list of needs. The Complex staff recognized the relicensing process as an exceptional opportunity to resolve many long-standing problems and to develop programs that might otherwise never be funded by the USNPS. A project and program list was developed and then refined through consideration of environmental impact, consistency with existing Complex plans, feasibility, opportunity for other sources of funding, and direct relationship to the impacts of the Skagit project. Since City Light had not given a cost ceiling, the Complex included everything the staff felt was necessary to make a comprehensive package. The final package was reviewed by the USNPS Pacific Northwest Regional Office and, upon approval (with fair skepticism that the utility would entertain such a list, I might add), the package was submitted to City Light. This strategy was very effective in that the list provided a focus for the forum negotiations allowing discussions on specific details rather than concepts. By the time of the final negotiations, specific details and cost estimates were well established.

LEGAL ADVICE AND REVIEW

In that the relicensing proceedings and the settlement agreements are a legal process that could resolve outstanding lawsuits and potentially prevent more, legal review became essential in the negotiations. Some discussion was held between the intervenors and City Light as to breaking the forums into separate technical and legal/policy sessions. This was rejected because, in most cases, as with the USNPS, the policy negotiators were the same as the technical negotiators. Additionally, the attorneys needed the technical staff to ensure key mitigation strategies were not lost in legal rhetoric. The Complex involved USNPS attorneys early in the process. This involvement ensured the legal language reflected the technical intent of the negotiators from the USNPS and the U.S. Fish and Wildlife Service. Attorneys were also provided by City Light, who employed at least four, and by

the state of Washington, the U.S. National Marine Fisheries Service, and the Tribes.

AN AGREEMENT TO AGREE

As negotiations began to focus intently on a package of mitigation in all forums, fear arose among all intervenors, and particularly City Light, that one group might break ranks or come in at the last minute with an unrealistic proposal, thus jeopardizing the agreement. Therefore, in September 1990, after much cross-forum lobbying, all parties signed a preliminary agreement which essentially set the "sideboards" of the final agreement. All parties to the preliminary agreement agreed to adhere to the existing process and the basic mitigation proposals on the table as of that time. In spite of very clear language in the preliminary agreement that made it non-binding (inserted by the attorneys), this was in fact the first formal commitment by the intervenors and City Light to a final settlement.

THE FINAL SETTLEMENT

In May 1991 all of the intervenors signed an offer of settlement and five separate but interrelated settlement agreements that specify over $100,000,000 (1990 dollars) to be paid by City Light in mitigation over the next thirty years. The license is expected to be issued for thirty years and begin in 1993 or 1994. If FERC deviates substantially from the settlement agreements they become void at the option of any party. All monies are factored to the Consumer Price Index based on 1990 dollars.

The license includes the raising of Ross Dam (the High Ross project) but does not include mitigation of impacts associated with the raising of the dam. The settlement agreements do not constitute any form of support by the parties for High Ross but define a process for reopening negotiations if High Ross proceeds. Many of the funds will continue through annual licenses after the thirty-year license expires. The North Cascades Complex derives great benefit from these agreements; the components specific to the Complex are outlined in Table 1.

The agreements are substantial and would not have occurred without the commitment to success by the intervenors and City Light, which demonstrated an exceptional willingness to work cooperatively. I believe this is uncharacteristic of most utilities and is a product of the high values at risk in the North Cascades and the large percentage of environmentally aware rate payers in the Northwest.

ADVICE FOR NEGOTIATORS

There are a significant number of FERC-regulated projects scheduled for relicensing in the next ten years. For those individuals chosen to negotiate, I provide the following list of advice.

1. FERC only officially recognizes those with intervenor status, so determine your legal standing. If you do not have standing, contact your solicitor to petition FERC to obtain it.
2. Assign a lead negotiator who understands your organization's policies and, most importantly, has the authority to negotiate. Nothing is more frustrating than meeting with representatives who do not have the authority to negotiate.
3. Obtain good legal counsel, consult with them regularly, and have them attend the negotiations when necessary.
4. Get all intervenors to the same table to determine common ground. Everyone will have their own program and needs but there will be some common

ground. Find it and use it to form coalitions.

5. Look for relationships between and among mitigation proposals. If one party proposes a mitigation action, look closely at their proposal for slight modifications that can complement your program.
6. Look at the relicensing as an opportunity to complete multiparty agreements that formalize relationships, unspoken promises, cooperation, and joint land management.
7. Push the utility to establish a baseline for the impacts of the project on all resources: cultural, visual, recreational, fishery, wildlife, water quality, etc. The utility should scientifically document the pre-project conditions so a baseline upon which to measure impacts can be provided. While FERC will not impose mitigation to pre-project levels, relicensing is to provide mitigation for the continued "occupa-tion and operation" of the hydro facility for the new license term, usually thirty years. If the utility can occupy those resources for the next thirty years, then they must mitigate impacts in exchange for having the monopoly of those resources.
8. Demand involvement in the preparation of the scope of work of studies of baseline conditions. This way you can ensure your areas of special concern are studied.
9. Where possible, be directly involved in the data collection of the baseline studies. Ideally, have the utility contract directly with your park to conduct the studies. This will ensure you are the most knowledgeable of the results.
10. Tailor the mitigation to the expected term of the license. There is a substantial difference in mitigation for fifteen years as opposed to thirty.
11. Examine your mitigation proposals carefully to ensure they do not make a bad situation worse, are in direct conflict with the other intervenors, or are technically impossible.
12. Obtain the stock portfolio of the utility and have a financial analysis prepared by an independent advisor. Determine how much they can afford in mitigation.
13. Be willing to go the long haul. Negotiations are long, tedious, time-consuming, and often frustrating. Be willing to put in the required time.
14. Design your mitigation package with a realistic application to your agency goals. Don't just dream up some "nice-to-do" proposal.
15. For funds, endowments, or large blocks of money that are mitigation proposals, detail how and when this will be administered: who has control, who provides oversight, who provides accountability, can it be invested, and who manages the portfolio. An oversight committee may be necessary.
16. If the mitigation includes land acquisition, who owns the land?. What is its disposition at the end of the license term? Who manages it during the term? Keep in mind that land bought by the licensee is basically a long-term investment from which it could actually profit. Establish a right of first refusal for acquisition, transfer of title, or basis for the new license application at the end of the term.
17. High-voltage transmission lines are hard to mitigate other than visual screening. Placing the lines underground is approxi-

mately $1 million per mile with current technology.

18. Talk to the FERC technical staff to ensure their "additional information requests" to the utility reflect your interests as well.
19. Keep in mind that the negotiations are legal processes; if you work for a public agency, you are representing your constituents and must make a public-relations effort to dispel the impression that deals are being cut in a "smoke-filled room." Be aware that mitigation actions will be passed on the to rate payer and the utility may need some public-relations assistance.
20. Look beyond the license term and attempt to negotiate some commitments. These will be difficult but worth the effort.
21. For new recreation facilities, don't forget operation and maintenance funding. Establish a fund within the mitigation to provide it.
22. License term is over fifteen years are well beyond our ability to plan or predict changing public needs or conditions. Build in some opportunities for periodic re-evaluation.
23. Keep in mind FERC has to do National Environmental Policy Act compliance on the projects. Ideally, your mitigation package will be the preferred alternative within requisite Environmental Impact Statement.
24. Schedule recreational and other developments to occur within the first ten years of the license so that the public can benefit through most of the term.
25. Establish working groups of selected intervenors with specific authority to oversee the mitigation. Don't just leave it to the utility.

Table 1. Outline of the Skagit Project Agreement as it Relates to the North Cascades USNPS Complex

RECREATION AND AESTHETICS

Creation of a North Cascades Environmental Learning Center
Cost: $9,000,000

- City Light will purchase the existing concession owned Diablo Lake Resort and construct an Environmental Learning Center
- Overnight capacity of 60 students and 18 faculty
- Operated by North Cascades Institute (NCI) under an agreement establishing an Oversight Committee of City Light, the USNPS and NCI
- Design, construction, maintenance, vehicles, utilities, start-up costs, furnishings provided by City Light in consultation with the Oversight Committee
- Program support of $4,150,000 over the license term planned, with $3,400,000 to be received as an endowment in year ten

Continuing Measures
Cost: $2,050,000

- Pay replacement costs of Colonial Creek Electrical Cable
- Continue Skagit Tours
- Continue funding Skagit Environmental Endowment Commission

Mitigation Measures
Cost: $733,000

- Hozomeen Boat Ramp ($150,000)
- Ross Lake Boat Docks ($308,000)
- Gorge Lake Boat Ramp ($150,000)
- Colonial Creek Boat Ramp ($125,000)

Other Enhancement Measures
Cost: $4,117,000

- Goodell Creek Raft site ($65,000)
- Damnation Creek Raft site ($25,000)
- Hozomeen water system ($50,000)
- Gorge Creek Overlook ($175,000)
- Thunder Lake Handicapped fishing ($200,000)
- Thunder Knob Trail ($210,000)
- Happy Flats/Panther Trail ($155,000)
- Desolation/Hozomeen Trail ($275,000)
- Ross Lake NRA Interpretive Signs ($150,000)
- Bicycle Needs Planning ($175,000)
- Recreation Needs Assessments ($125,000)
- Future Capital Needs (Ross Lake NRA) ($312,500)
- Operation and Maintenance (Ross Lake NRA) ($2,200,000)

Visual Quality Mitigation
Cost: $4,782,000, with most retained by City Light for its operations

- Transmission Lines: Implement ROW Vegetation Management Plan with native species and reduction in pesticide use; paint some key towers, tanks, and bridges to blend with surrounding environment
- Town sites: Continue maintenance of town sites with shift to native species, with vegetative screening of the switchyards
- Dams: Remove Broome shed on Ross Dam
- Refill of Ross Lake as early as possible after April 15 consistent with other constraints

WILDLIFE

Land Acquisition
Cost: $17,000,000

- City Light will purchase and hold approximately 5,000 acres of riparian land along the Skagit River and the South Fork of the Nooksack River for the protection of wildlife

Research
Cost: $2,300,000

- Research Center in Newhalem operated by USNPS ($180,000)
- Research Funding ($1,500,000, or $50,000 annually)
- Long-term Inventory and Monitoring ($600,000, or $20,000 annually)

Education
Cost: $600,000

- Wildlife Education funding to the NCELC ($20K Annually)

Plant Propagation
Cost: $1,470,500

- City will construct greenhouse and raise 30,000 native plants per year for revegetation of impacted sites in the project area. Facility will hold up to 90,000 plants and be genetically tracked.
- Nine hundred acres of non-residential fee title lands, owned by City Light within Ross Lake National Recreation Area, will be managed in consultation with the USNPS
- A Wildlife Management Review Committee consisting of the involved parties, including the USNPS, will oversee the land acquisition and any wildlife enhancement proposals
- A Wildlife Research Committee consisting of the USNPS, City Light, and Washington Department of Wildlife will oversee the research funding

FISHERIES

Skagit River Flow Mitigation
Cost: $50,000,000 (estimated)

- Establishes a specific flow plan for the Skagit River to maximize protection of salmon and steelhead spawning and offspring
- Establishes a Flow Coordinating Committee, with all parties as members, to oversee and modify the flow plan

Non-Flow Mitigation
Cost: $6,320,000

- Includes steelhead production, off channel salmon habitat improvement and enhancement, chinook salmon research
- Removal of transient barriers to upstream migration on Ross Lake tributaries
- Ross Lake Resident Trout Program ($300,000)
- Establishes the Non-Flow Coordinating Committee, with all parties as members, to oversee the non-flow plan
- Establishes Ross Lake Resident Trout Working Group to include City Light, USNPS, Washington Department of Wildlife, N3C, and British Columbia in the management of Ross Lake Trout

EROSION

Erosion Control Activities
Cost: $845,000

- Implement erosion control at seventy-four sites over ten years
- Provides option for USNPS to complete the work, contract, or defer it back to City Light
- Provides funding in 1991 (pre-license) to begin work at the more severe sites

Erosion Control at New Sites and Maintenance
Cost: $500,000

- New sites that meet specific criteria may have erosion control activities executed from this fund
- Maintenance of previously corrected sites, including monitoring of twenty-one sites that may have serious erosion problems in the future due to potential for mass movement of soil

CULTURAL RESOURCES

Archaeological Resources
Cost: $1,465,000 (estimated)

- Specific mitigation strategies will be negotiated with the parties and the Washington State Historic Preservation Officer
- The current memorandum of agreement between City Light and USNPS will continue for funding the investigations ($200,000)
- Publishing of the results ($25,000)
- Preparation of archaeological plan ($40,000)
- Implementation of archaeological plan ($1,200,000)

Historic Building and Engineering Resources
Cost: $352,000

- Documentation of historic resources, including National Register nominations and comprehensive architectural documentation ($86,000)
- Maintenance and protection of historic properties, including training in historic preservation and the preparation of historic landscape reports for Ladder Creek Falls and the town of Newhalem ($122,000)
- Interpretation of the historic resources, including a walking tour brochure and displays ($144,000)
- A memorandum of agreement has been negotiated with Washington State Historic Preservation Officer concerning the historic resources; an additional agreement will be negotiated concerning the implementation of the archaeological plan

Mitigating Hydroelectric Power Impacts on Cultural Resources

Stephanie S. Toothman
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U.S. NATIONAL PARK SERVICE
PACIFIC NORTHWEST REGIONAL OFFICE
Seattle, Washington

One of the key issues in the negotiations concerning the relicensing of Seattle City Light's Skagit Hydroelectric Project was the mitigation of the project's impacts on cultural resources. Before these impacts could be discussed, however, these resources had to be identified. And, most importantly, all of the parties involved had to concur that there were cultural resources within the project area.

In retrospect, given the unique history of the Skagit project and the archeological record that has emerged after five field seasons, it seems difficult to conceive that there were any questions about the need to do cultural resource surveys within the project area. However, the rugged topography and spectacular scenery of the North Cascades in north-central Washington have always dominated perceptions of the area. Human impact was limited historically by these natural forces; archeologists working in the Northwest had traditionally assumed that prehistoric peoples were similarly deterred, hugging the richly abundant coastlines and avoiding the treacherous high country.

Earlier in the century, City Light actively promoted the achievements and significance of the hydroelectric project to gain the support of its ratepayers. Confronted with the relicensing requirements and compliance with the National Historic Preservation Act, the utility was apprehensive about the consequences of finding any of its properties eligible for the National Register of Historic Places. Both traditional theory and institutional reluctance were overcome by solid research that has resulted in new insights on prehistoric use and occupation of the backcountry and in renewed pride in the historic engineering and civic accomplishments represented by the Skagit project.

The project is located in one of the last areas of the region to be explored historically. Before the 1880s its rugged topography and dense forests were the domain of native peoples; later in the 19th century, with the arrival of Euroamericans, trappers and miners entered the area. In 1897 the area was withdrawn from public settlement as part of 3.6 million acres of federal forest reserves created by a presidential Executive Order. After almost a decade of administration by the General Lands Office, the forest reserves were transferred to the administration of the U.S. Forest Service, under whose jurisdiction it remained until the creation of the North Cascades National Park Service Complex in 1968.

The Skagit River is the most prominent of the five major rivers that drain the North Cascades. Rising in Beaver Lake in British Columbia, the Skagit flows first south and then west through the Cascades to Puget Sound. Between the Canadian border and the town of Newhalem, the river drops over 1,000 feet in less than forty miles. For much of this distance, as the river shifts to a westerly direction, it is compressed into deep, narrow, rock-walled canyons and gorges. It was these features—the 1,000-foot drop and the deep canyons perfectly suited for dam construction—that earned the Skagit the appellation "River of a Million Horsepower."

The scramble for suitable sites to produce hydroelectric power was part of the intense competition that characterized the struggle between public and private interests during the first decades of the 20th century to control the supply of electric power. In Washington, most notably in the cities of Seattle and Tacoma, the growth of municipally owned electric utilities was part of the expansion of city services fueled by the Progressive civic reform movement. Dissatisfaction with the corruption and high prices that characterized the private utilities providing electricity in Seattle gave further impetus to the municipally owned utility. The first city-owned generators driven by hydropower started in 1904; by 1910 Seattle had one of the lowest electrical costs in the country and was advertising itself as the "Best Lighted City in America."

The ordinance establishing the city lighting department, now known as Seattle City Light, was passed in 1910. Expansion of the supply of electrical power as the underpinning for future city growth was its driving theme. The search for new sources led City Light to the Skagit, and, in 1918, after several years of political maneuvering, the city of Seattle received permission from the federal government to build a hydroelectric facility in the Skagit gorge within national forest boundaries. The complex built under this permit ultimately ensured the survival of the city's electric utility.

The four dams and powerhouses of the Skagit project were built over a fifty-year period. Newhalem came first. Built in 1920 and 1921 on

Figure 1. Diablo Dam, Skagit Hydroelectric Project

Newhalem Creek as a temporary generating station to supply power for the construction of the principal dams on the Skagit, it consisted of a 2,770-foot power tunnel that brought water from a small crib dam on the creek to a small powerhouse containing two Pelton wheels and a Westinghouse generator. It began operating in 1921 and continues to supply power to the project. The wood-frame powerhouse burned down in 1966 and has been replaced but the original equipment survived and is still in operation.

The Gorge powerplant was next. A temporary rock-filled timber crib dam was built in 1923 to raise the river thirty feet and divert the flow into an 11,000-foot power tunnel, with a head of 270 feet. It was not replaced by a masonry dam until 1950. That dam, in turn, was inundated by waters impounded by the present Gorge High Dam, which was completed in 1959. The Gorge powerhouse was completed in 1924, together with the transmission line that carried the first electric power from the project to Seattle that September.

Farther north in the Skagit canyon, the Diablo Dam, a 1,170-foot-long constant-angle arch dam, was completed in Diablo Gorge in August 1930. The powerhouse, designed in a Moderne style with elaborate and unique interior architectural features, was dedicated in 1936. Its equipment was state-of-the-art when delivered and its generators were the highest-rated in the country at the time of its construction. It was this component of the Skagit complex that was included in the Washington State Historic Preservation Office's 1988 National Register multiple-property nomination of the state's historic hydroelectric facilities.

The last of the powerplants of the Skagit project to be started was Ross. Ross Dam is a constant-angle thin arch dam, 540 feet high. Originally planned as the first dam of the Skagit project because it was where the gorge widened to form a large natural storage reservoir, the logistics of construction in this wild and remote location forced City Light to build it last. The dam was dedicated in 1949, with the reservoir, known as Ross Lake, reaching its full height of 1,600 feet above sea level in 1953. The Ross powerhouse was completed in 1952, with power generation beginning that same year.

In addition to the powerplants and their impoundments on the Skagit River and Newhalem Creek, a complex infrastructure was built by City Light, initially to support construction of the plants and, later, their operation. Two municipally owned company towns were built. Planning for Newhalem, originally called City Camp, was begun in 1920. Laid out in a linear arrangement on a flat bar surrounded by gorge cliffs and the Skagit, the buildings of Newhalem included bunkhouses and more elaborate bungalows for the managers, public buildings to serve the needs of the residents and visiting tourists, and warehouses, offices, and various support structures serving the railroad. The railroad itself was begun in 1920 and operated until 1954, providing for most of that time the only access to the towns and the project. At the east end of the town was the Gorge powerplant and Ladder Creek Falls, elaborate gardens developed by City Light director J.D. Ross above the powerplant in pursuit of his interest in horticulture and his wooing of the tourists visiting the Skagit project. Ladder Creek Falls featured an innovative light and sound show to enhance the visitor's appreciation of the area's great beauty.

Seven and a half miles upstream from Newhalem, the construction of the town Diablo began in 1928, fol-

lowing the extension of the railroad along the canyon walls. An incline railroad was built as a spur off the main line to carry loaded freight cars up a 68% grade to the dam construction site. At Diablo, a small Forest Service camp was replaced initially by construction camp buildings. Later, as in Newhalem, more permanent barracks and cottages were built to house the operators and other members of the work force. The Depression and fundraising difficulties intervened before plans for more elaborate tourist facilities planned by Ross could be built. The Diablo powerhouse, however, remains as a unique testament to Ross' interest in public relations. The powerhouse's elevated generators and interior detailing were all part of Ross' grand scheme to awe the citizens of Seattle with the wonders of their very own utility.

Although construction of the Gorge High Dam in 1959 was the most recent major construction project at the Skagit complex, it may not be the last. In 1970 City Light filed an application with FERC to amend its license, requesting permission to raise the height of Ross Dam. The U.S. Department of the Interior, which was involved because it oversees Ross Lake National Recreation Area, requested intervenor status in the consideration of the amendment application, objecting to the potential threats to the environment that the proposed extension posed. City Light's petition was granted by FERC, however, but the project has not proceeded because of the objections of environmentalists and the government of Canada. An international agreement was negotiated that provided power produced in Canada in lieu of power that would have resulted from the raising of Ross Dam.

The Department of the Interior's involvement with the Skagit project further intensified in 1977 when City Light filed a second application with FERC—this time for a new license to operate the entire Skagit project. The department again filed for official intervenor status. In addition to the USNPS, within whose boundaries the project is located, at least two other of the department's agencies are directly involved in the licensing negotiations: the U.S. Fish and Wildlife Service and the Bureau of Indian Affairs.

There was no question in anyone's mind from the earliest stages of the application that there were significant natural resource and recreation issues that would be considered during the application process. Cultural resource issues were not actively considered, or even identified, until much later in the process. The reasons for this include:

- The natural and recreational resources of the North Cascades were foremost in the minds of those who established and first administered the park.
- In the late 1970s the USNPS Pacific Northwest Region was not particularly attuned to the identification and management of cultural resources in "natural" parks.
- The various Native American groups whose ancestors lived in and used the resources of the North Cascades were not as organized in expressing their concerns as they are today.
- There was no one at City Light or within the city of Seattle's Historic Preservation Office who was serving as an advocate for cultural resources at the Skagit project. (In fact, the Historic Preservation Office found they did not have jurisdiction over city-owned property outside of city limits.)

In addition, it was commonly held in Pacific Northwest archeological circles that the prehistoric inhabitants of the area had settled along the coastlines of Puget Sound, the Pacific Ocean, and rivers, and only minimally utilized the wild mountainous interior. This had received confirmation as recently as 1971 and 1975, when two archeological surveys found no sites along Ross Lake. The report for the latter survey essentially stated that the area was not attractive for use by Native peoples and that few archeological sites were likely to be present.

It was not until 1986 that the first references to considering cultural resources as part of City Light's relicensing application appear in USNPS records. Memos prepared by the park's resource management specialist raised the issue of whether City Light's relicensing application was subject to the provisions of the Reservoir Salvage Act for the identification, evaluation, and recovery of archeological resources. City Light's original permits, like all those of the region, has preceded the Reservoir Salvage Act and the National Historic Preservation Act by many decades; the question of impacts on natural or cultural resources had never been considered. In 1986, however, Congress passed the Electric Consumers Protection Act, which required that archeological resources and other values be considered during the FERC relicensing process. Thus, Exhibit E of the FERC application form now requires a report on historic and archeological resources, prepared in consultation with the State Historic Preservation Officer and USNPS.

In May 1987 the park prepared a progress report, based on recent USNPS-funded surveys, updating the basic archeological database along Ross Lake. This report, which documented fifteen prehistoric sites adjacent to or below the high-pool level of Ross Lake, was submitted by the USNPS to help City Light plan its relicensing effort. Combined with the draft North Cascades ethnography then being prepared under contract, this report convinced the USNPS's regional archeologist that there was an excellent probability of locating many varied and significant sites along the Skagit. Citing the requirement of Exhibit E and the responsibilities of both City Light and the USNPS for managing the cultural resources of the project area, he convinced both parties to enter into a trial memorandum of agreement under which the USNPS, with funding provided by City Light, surveyed the perimeter of Diablo Lake during the October 1987 drawdown.

Although the time was short—three days—and much of the area exposed was covered by mud and silt, and though no sites were found during this initial foray by USNPS, the precedent had been set. City Light accepted their responsibility for surveying and evaluating archeological resources and agreed to fund an additional survey along Ross Lake the following year during the extended spring drawdown.

The second year of survey confirmed what had been suspected: that prehistoric groups had used extensively the resources of the interior, penetrating the wilderness along the Skagit and through the mountain passes. The multi-year survey that followed, funded by City Light and done by the USNPS, has produced results that are changing the traditional interpretation of the prehistory of the North Cascades "wilderness." A total of 11,747 acres has been surveyed, resulting in the documentation of 144 prehistoric sites. They include lithic scatters, rock shelters, cooking hearths and related features, and chert quarries. Rather than avoiding the high coun-

try, the Native peoples were making extensive use of the upper Skagit Valley.

Following the second year of archeological survey, attention turned to documenting the historic resources associated with the project. The State Historic Preservation Officer had included the Diablo complex in its multiple-property National Register nomination, and the USNPS had prepared a determination of eligibility for Newhalem in 1978 as part of a compliance package for the construction of a nearby campground. After doing a park-wide survey of the historic resources within the boundaries of the North Cascades Complex in the mid-1980s, the USNPS also believed that the town of Diablo, the incline railroad, the gardens at Ladder Creek Falls, and the other three powerplants were eligible for the National Register. Thus, as the negotiations for the third year of the Memorandum of Agreement began, the USNPS proposed documentation of these resources. As City Light was considering the proposal, a letter arrived from FERC outlining their requirements for a cultural resource survey in eleven single-spaced pages and referring them to the USNPS for further guidance. The deal was essentially clinched.

During the next two years, while the archeological surveys continued, complete Historic American Engineering Record documentation was completed. This included an intensive survey of forty potentially eligible structures and the powerplants, record photography, and a series of measured drawings that detailed the process of hydroelectric production through the entire complex. A greatly expanded National Register nomination proposed a non-contiguous historic district running the full length of the project, including all four dams, three of the four powerhouses, large portions of the towns of Newhalem and Diablo, the Ladder Creek Falls gardens, and the incline railroad. Thirty-eight of the archeological sites surveyed were designated for further testing; to date, twelve appear to be eligible for the National Register.

Throughout the project, both City Light and the USNPS have sought to keep Native American groups with ties to the area informed of activities. Many also had status as intervenors in the relicensing application. In addition to regular informal communications and formal correspondence, two tours of the Ross Lake project have been held involving seven of these tribal groups, from the United States and Canada, to show them first-hand some of the sites that have been found.

The survey data and National Register documentation represent the first phases of this cooperative effort. The long-term commitment to managing these resources is reflected in the comprehensive agreements signed by Seattle City Light and the intervenors, described in the articles by Richard Rutz and Jonathan Jarvis in this issue of the FORUM. Management plans for the historic resources, including historic preservation guides and historic structure reports, have been reviewed, approved, and carried out. Similar plans are scheduled to be prepared for the archeological resources following the completion of fieldwork in 1994. Stabilization of critical sites has already begun. USNPS landscape architects are currently working on documentation of the Ladder Creek Falls and Newhalem landscapes, which will be used to develop management plans for these resources that address wilderness, visual quality, and cultural resources concerns. Annual workshops on preservation issues are co-sponsored by City Light and the USNPS and a jointly produced

publication for the general public illustrating the history and prehistory of the project area is scheduled to be produced.

While the situation of the Skagit project and the resources it contains may be unique, and the coincident mutuality of park and utility interests unusual, the opportunity it presented for cooperation between public agencies is not. Our experience in the Pacific Northwest has shown how the different groups involved can work together, abandoning often adversarial positions to accomplish significant goals. The results of this multi-year cultural investigation has shed new light on the prehistory of the region and the history of its hydroelectric development. By cooperating rather than stonewalling, by seeking areas where we could be mutually supportive, all of the parties involved have made significant contributions to the preservation of these resources in a manner that is both timely and cost-effective. These opportunities are abundant; as public managers it is our obligation to seek them out and profit from them, thus better serving our various mandates and constituencies.

Engineering Drawing Credits: All courtesy of the Historic American Engineering Record, U.S. National Park Service.

Page 9: Site plan of Skagit Hydroelectric Project. Delineator: Dale O. Waldron
Page 13: Gorge Powerhouse. Delineator: Dale O. Waldron
Page 23: Diablo Powerhouse. Delineator: Douglas Pancoast
Page 33: Diablo Dam. Delineator: Diane De Martelaere

An Attempt to Rehabilitate the Aquatic Ecosystem of the Reservoirs of Voyageurs National Park

Larry W. Kallemeyn

VOYAGEURS NATIONAL PARK
International Falls, Minnesota

Voyageurs National Park, which was authorized in 1971 and established in 1975, is located approximately 300 miles north of Minneapolis, Minnesota, along the Minnesota-Ontario border. The park encompasses 88,628 hectares, of which approximately 34,400 hectares, or 39%, is covered by water. Kabetogama Lake and those portions of Namakan, Sand Point, and Rainy lakes that lie within the park make up 96% of the water area.

Lake levels in the park's large lakes have been controlled by a hydroelectric dam at the outlet of Rainy Lake and by regulatory dams on Namakan Lake's two outlets since the early 1900s. The latter dams control the lake levels in Namakan Reservoir, which includes Kabetogama, Namakan, Sand Point, Crane, and Little Vermillion lakes. The latter two lakes are, as are the dams themselves, outside the park boundary. While all these lakes existed as natural water bodies, the present day reservoirs are larger and regulated to satisfy a variety of water users.

Since these are international waters, shared by Canada and the United States, they are regulated by the International Joint Commission (IJC). Legally recognized water uses are navigation, sanitation, domestic water supply, power production, and recreation and other public purposes. While the dams are

regulated by the IJC, they have always been owned and operated by private industry. Day-to-day operation of the dams and reservoirs is usually left up to the industry as long as they maintain water levels within the IJC's "rule curves," which are bands of permitted high- and low-water levels throughout the year.

The "rule curves" use larger-than-natural fluctuations in lake levels on Namakan Reservoir to maintain less-than-natural fluctuations on Rainy Lake. Namakan Reservoir's average annual water-level fluctuation is about 2.7 m, while Rainy Lake's is about 1.1 m. The fluctuation of Namakan Reservoir is about 0.9 m greater than the estimated natural (pre-dam) fluctuation while Rainy Lake's is about 0.8 m less (Flug 1986). The timing of the fluctuations is also different under the regulated system. Regulated lake levels usually peak in late June or early July rather than late May or early June as they did before the dams were built, remain stable throughout the summer rather than gradually declining, and on Namakan Reservoir decline 1.8 m over winter rather than 0.6 m.

Concerns about the effects of the regulated lake levels on the aquatic biota and in particular those organisms and plants that occur in the littoral zone have been expressed ever since the dams were constructed. However, the establishment of Voyageurs National Park, with its emphasis on restoring and preserving the natural environment, resulted in a heightened concern about the impacts of the regulated lake levels on the aquatic ecosystem (Cole 1979, 1982).

RESEARCH PROGRAM

Because of those concerns, in 1983 the USNPS started a research program to assess the impacts of the regulated lake levels on the park's aquatic ecosystem and develop possible alternatives to the present water management program. The primary elements in this program were:

- The development of a hydrological model that could be used to assess the effects of alternative regulatory programs; and
- An analysis of the impacts of the present operating system on littoral vegetation; benthic organisms; the fish community, particularly walleye, *Stizostedion vitreum,* and northern pike, *Esox lucius;* shore and marsh nesting birds, particularly the common loon, *Gavia immer,* and red-necked grebe, *Podiceps grisegena;* and aquatic furbearers, including beaver, *Castor canadensis,* muskrat, *Ondatra zibethicus,* and river otter, *Lutra canadensis.*

Additional studies to obtain baseline information dealt with primary production in the park's large lakes and the relationship between lake levels and boat docks. Archeological surveys from within the park, while not specifically a part of this program, provided information that could be used to assess the impacts of the reservoirs on those resources.

This approach was used because it would allow the USNPS to present recommendations to the IJC for alternative regulatory programs if warranted. It would also allow testing whether alternative programs that more closely approximated natural conditions could be used without seriously conflicting with the other water uses (Cole 1982). Should the IJC authorize an alternative, results from these studies could serve as baseline information which could be used to evaluate the impacts of the new regulations.

ENVIRONMENTAL IMPACTS

The species and biological communities that were investigated were generally found to be adversely affected by the present water management programs, and in particular the greater-than-natural fluctuations

in water levels on Namakan Reservoir. The plants and animals have been unable to adjust to the changes in the magnitude and timing of fluctuations since the dams were constructed, and in particular to the current water management program.

Impacts on Voyageur's aquatic ecosystem occurred throughout the year. Those in a particular season frequently were the result of a combination of water level conditions in previous seasons. For example, summer and early fall water levels that are both high and stable, while extremely favorable for navigation, contribute to spring spawning problems for northern pike and walleye by causing potential vegetative and wave-washed gravel spawning substrates to develop at relatively high elevations. This, in combination with a large winter drawdown, makes the flooding of these preferred substrates the following spring difficult, particularly in low runoff years. Thus, while poor spawning conditions and reproductive success are usually blamed on low spring water levels, they are actually the culmination of a series of water management actions that occurred throughout the year (Kallemeyn 1987a, 1987b).

Similar interactions were observed for the other organisms that were studied in the park. The stable summer and fall water levels also caused beaver and muskrat to build their houses and food caches at elevations that left them extremely susceptible to the large winter drawdown Namakan Reservoir experiences annually (Smith and Peterson 1991, Thurber et al. 1991). The winter drawdown, which causes up to 25% of the area of Namakan Reservoir to be drained, forced otter to change their home ranges (Route and Peterson 1988) and limited the diversity and abundance of benthic organisms, an important component of the aquatic food web (Kraft 1988). The winter drawdown and the resulting low spring water levels make large water level changes necessary in May and June to meet navigational needs. These changes were found to adversely affect nesting success of common loons and red-necked grebes (Reiser 1988).

Lake-level regulation also affected the aquatic macrophyte communities in Rainy and Namakan lakes (Wilcox and Meeker 1991). Both communities were dominated by different species and exhibited less structural diversity than the macrophyte community in a nearby unregulated lake, which experiences an intermediate level of hydrologic disturbance. The lower level of disturbance in Rainy Lake resulted in a stable macrophyte community with little diversity. In Namakan Lake, with its greater-than-natural fluctuation and long winter drawdown, the dominant species were those capable of surviving physical disruption or of invading and maturing quickly.

Those archeological resources that survived the initial filling of the reservoirs continue to be affected by the present water management program. While the majority (75%) of the sites were damaged or destroyed when the reservoirs were initially filled, those that remain continue to be affected by the undercutting and bank slumping that results from intense wave action during the summer high-water period (Lynott et al. 1986). Only those sites located behind and protected by bedrock shoreline have escaped damage.

DEVELOPMENT OF MANAGEMENT ALTERNATIVES

Management techniques providing a hydrologic regime more closely approximating that with which these species evolved appears to be the best means of overcoming the problems. Using such an approach in wetlands management is believed to benefit more plants and

animals and to result in a more typical marsh community than more artificial management techniques (Weller 1978, Ball 1985). Such an approach is also in keeping with the USNPS's mandate to protect, perpetuate, and restore natural environments and native species in national parks, such as Voyageurs (Hayden 1976). The degree to which natural conditions can be restored in these reservoirs will of course be limited by the necessity of meeting the needs of the other water users. But even with those limitations, it should still be feasible to develop more ecologically sound water regulations given our understanding of the relationships between hydrologic conditions and the various biological factors.

The study results and comment from other water users were used to develop alternative regulatory programs. Each consists of a pair of rule curves, one for Rainy Lake and one for Namakan Reservoir. Each alternative was first analyzed with the hydrology model to see if the reservoir system could accommodate the alternative under normal hydrologic conditions as well as extremes. The model also provided projections of hydropower production for each alternative.

To tie these results to potential impacts from the various alternatives, an impact assessment matrix was developed. Results and information from the scientific literature were used to develop ranking factors for those resources addressed in the studies as well as others considered significant to the area that would be affected by changes in the rule curves. These included, in addition to the various biological factors, hydropower production, navigation, flood control, archeological resources, public beaches, and boat dock useability and susceptibility to ice damage. These ranking factors were then used to evaluate the effect of each alternative on the various attributes, with the results entered into the matrix. The matrix, although based on simplifying assumptions about complex ecological and economic relationships, provided a means of integrating the information so that it could be used to facilitate discussions among various water users.

This evaluation procedure is now being used by a steering committee consisting of U.S. and Canadian representatives from private industry, the public, and government, including the USNPS, to develop a consensus on how the waters of Rainy Lake and Namakan Reservoir should be managed. This committee arose partly as a result of a U.S. Federal Energy Regulatory Commission (FERC) licensing action for the U.S. portion of the hydroelectric dam at the outlet of Rainy Lake. The license, which was issued in December 1987, required the licensee to "develop a water-level management plan for Rainy Lake to ensure the protection and enhancement of water quality, fish and wildlife, and recreational resources in Rainy Lake." The pertinent U.S. agencies (the USNPS, U.S. Fish and Wildlife Service, and Minnesota Department of Natural Resources), recognizing the international implications of such a plan and the need to address concerns related to Namakan Reservoir, worked with their Canadian counterparts to establish the steering committee so that the concerns of both U.S. and Canadian water users could be addressed. Should a plan be selected that calls for changes requiring the approval of the IJC, the licensee is required to submit it to them before filing it with FERC.

Meeting the needs of all the legally recognized users will not be easy. Compromises will need to be made, particularly in regard to integrating some of the annual and long-term variation that is an integral

component of an unregulated hydrologic system. While inclusion of that variability in a management plan would be looked upon favorably from a natural resource perspective, users that require a consistent source of water would most likely find it unacceptable. To meet their needs while incorporating some of the natural variability will require the development of a forecasting system that lets them plan ahead to adjust to changes in runoff and lake levels.

FUTURE NEEDS

Continuing monitoring and research must be an integral component of any alternative water management plan. Only with such information will it be feasible to determine if the program is working. Should that not be the case, the study results could serve as the basis for further changes. To be successful, this assessment process must also provide for the continued involvement of those affected. Monitoring and research results must be given out to these parties so they can continue to make informed decisions regarding the impacts of reservoir operations. This sharing of information and continuing dialogue, while not necessarily ensuring the resolution of differences between parties (Huser 1985), does in this instance appear to be a logical means of providing for an objective evaluation of alternatives. It is to be hoped that this process will result in water management which is capable of both protecting the aquatic resource and associated biological communities and meeting the needs of the human users.

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The Elwha Issue:
A Fish Problem that Just Won't Die

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INTRODUCTION

Hydropower. A clean and free energy source—or is it? Viewed most simply as a gear turned by the planet's water cycle, hydropower once seemed a harmless and ingenious way to hitch a complimentary ride on a nature-powered wheel, no strings attached.

Of course, we've learned differently over the past few years. All forms of energy carry a price, hydropower included. The potential loss of the Snake River sockeye salmon, recently listed as an endangered species, is an alarming cost of hydropower. The plight of the sockeye is not unique. Effects of hydropower projects on fish, wildlife, and other resources are being described nationwide.

Since the days of their construction, two hydroelectric projects on Washington state's northern Olympic Peninsula have been a focus of public controversy. Eighty years ago, the Elwha River was enslaved to industry. The money-making scheme of an early-day entrepreneur cost the public dearly: a productive public resource harnessed for private gain, with no restitution paid. The controversy continues today as "a fish problem that just won't die."[1]

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1 H. Fish and B. Adamire, "Elwha Fish Problem Just Won't Die," *The Chronicle* (Port Angeles, Washington), 20 November 1985, p. 1.

The Elwha River drains the largest watershed in Olympic National Park, covering approximately 175,000 acres. Headwaters of the river originate near the center of the park on Mount Olympus. The mainstem of the river is some forty-four miles long, draining into the Strait of Juan de Fuca at the reservation of the Elwha S'Klallam Tribe, just west of Port Angeles, Washington (Figure 1). Once a premier salmon river of the northwestern United States, the Elwha was one of the few rivers in the country (outside Alaska) which supported ten fish stocks (including all five species of Pacific salmon). Additionally, the Elwha was renowned for chinook salmon that sometimes reached 100 pounds in size. In the early 1900s, two hydroelectric dams were constructed on the Elwha River. Neither had provisions for fish passage, although this had been a requirement of Washington state law since 1890.

HISTORY OF THE ELWHA AND GLINES CANYON DAMS

With financial backing of a Chicago investment firm, and oversight by several influential Seattle businessmen, the Olympic Power and Development Company began construction of the Elwha Dam in 1910. Despite the 1890 state law, the Elwha did not provide for a salmon fishway when it was built, and still does not today. The state delivered reminders to the company, and even weak "ultimatums" regarding fish passage requirements. Nevertheless, the reminders went unheeded and the regulations unenforced.

Notwithstanding assertions of increased opportunities for growth and development afforded by the Elwha Dam, the northern Peninsula was not united in welcoming this type of "progress." Long-time observers of the river clearly saw its fate in the futile jumping of thousands of salmon at the base of the dam:

Game Warden Pike and Sheriff Gallagher have been having their troubles this week over the shutting off of the salmon from their spawning grounds by the big dam at the Aldwell Canyon, the same being contrary to the statutes made and provided. True, there is a flume up which the fish may go, but the trouble is, they can't. Hundreds of them have gathered just below the dam during the last few days until they are packed in together like a school of herring, or sardines in a box. Every few moments a big fellow makes a jump clear of the water that shoots out of the flume as tho from a hydraulic nozzle and strikes square in the flume above, only to be thrown back to the pool below.[2]

Dismayed by what he saw, James Pike, game warden of Clallam County, anxiously notified the state fish commissioner, J. L. Riseland:

I have personally searched the Elwha River and Tributaries above the Dam, and have been unable to find a single salmon. I have visited the Dam several times lately . . . and there appear to be Thousands of Salmon at the foot of the Dam, where they are continually trying to get up the flume. I have watched them very close, and I am satisfied now that they cannot get above the Dam.[3]

The Elwha Dam presented quite a dilemma to Leslie Darwin, who succeeded Riseland. Early in his

2 "Power Company Will Fish with a Derrick," *Olympic Leader,* 11 September 1911.

3 Letter from Pike to Riseland (1911), quoted in Bruce Brown, *Mountain in the Clouds* (New York: Simon and Schuster, 1982), pp. 63-64.

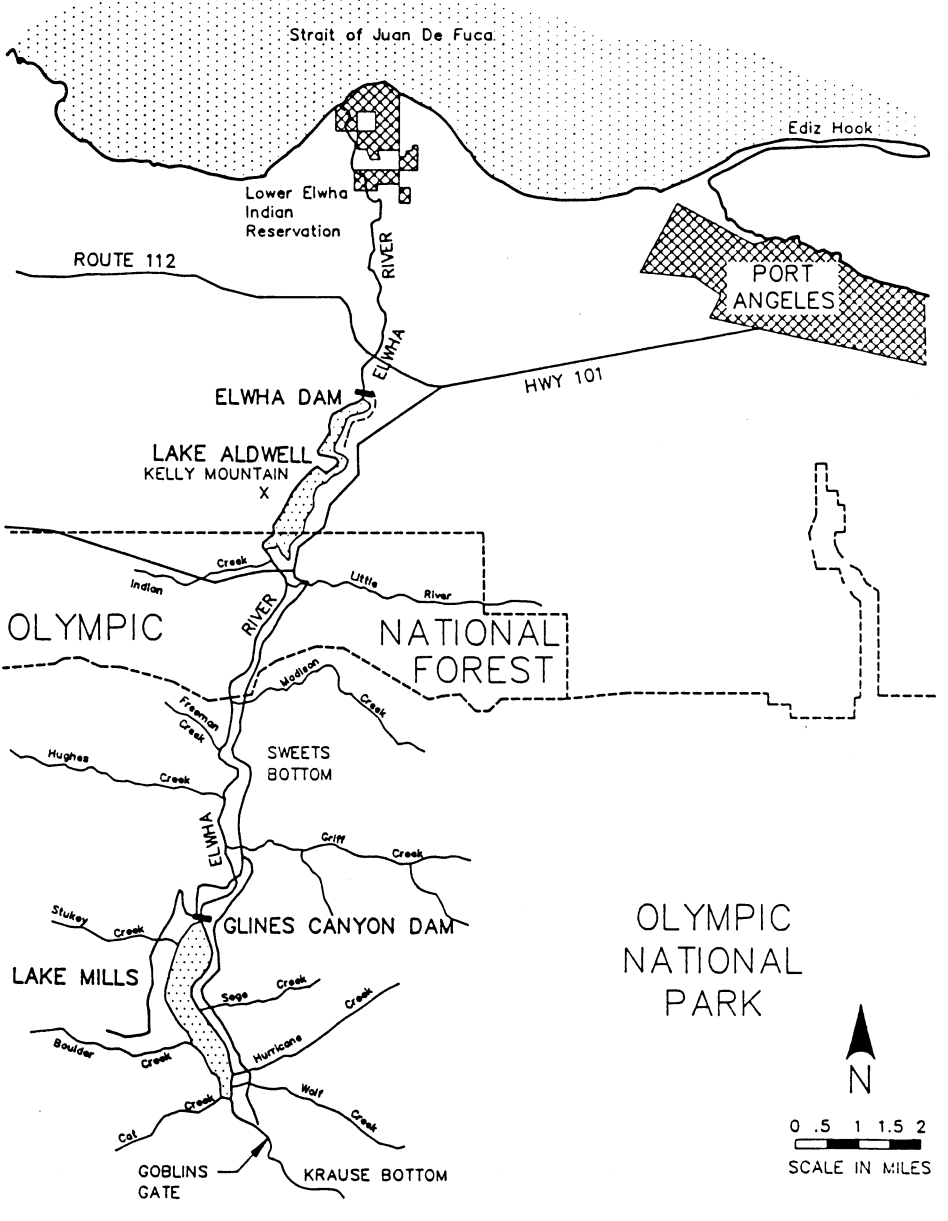

Figure 1. The Lower Elwha River & Vicinity

tenure, Darwin took a firm stand with the owner of a small mill dam on an Elwha tributary by requiring immediate construction of a fishway or removal of the dam. Yet the much larger Elwha dam, promoted as it was by influential Seattle businessmen, was another matter.

Caught between the requirements of a definitive state statute, an industry declaring the required fishway to be unaffordable, and a governor endorsing hydropower, Darwin proposed a compromise. In 1913 he suggested to the Olympic Power Company that a fish hatchery might be accepted at the Elwha Dam instead of a fishway, but only if the hatchery adjoined the dam. In this circumstance, he reasoned, the dam would be an obstruction sanctioned by the state, its purpose being to impede fish for the taking of eggs to supply the hatchery. Although methods of artificial salmon propagation were largely unknown, Ernest Lister, the state governor, seized this idea as a way to untie the hands of industry and meet fish requirements. Lister successfully promoted the idea with the state legislature, and the law was changed to allow hatcheries to be constructed instead of fishways.[4]

This initiated a policy which ultimately affected wild salmon runs throughout the state: "The immediate attraction of the hatchery lieu law from the standpoint of [the Department of] Fisheries was that it increased the department's funding. The drawback, however, was that the state gave up most of its power to stop a dam for the sake of the wild salmon, as well as the interest in doing so, since the bulk of Fisheries' energy was increasingly directed toward building the hatchery system that is today the largest on the Pacific Coast."[5]

Thus, instead of a fishway, the Olympic Power Company was required to provide the state Department of Fisheries with land and funding for a hatchery at the base of Elwha Dam. A hatchery was completed in 1915. During initial years of the hatchery's operation, many thousands of eggs were collected from salmon returning to the river. These were the remaining wild fish that had begun their lives upriver before construction of the Elwha Dam. Each year, fewer and fewer fish returned to the hatchery, and in 1922 the department abandoned it as a failure. The once-abundant wild fish runs were decimated. Adding insult to injury, title searches later revealed that, in fact, the Olympic Power Company never deeded the hatchery to the state as pledged.

In 1926, the Olympic Power Company (reorganized as the Northwestern Power and Light Company) built the Glines Canyon Dam eight miles upstream of the Elwha Dam. Partly located on lands that were then in a National Forest, Glines Canyon Dam was later encompassed by Olympic National Park. No fish passage was provided at the Glines Canyon Dam, since the Elwha Dam had cut off salmon runs more than a decade earlier.

CURRENT STATUS OF THE ISSUE

Standing 105 feet high and 450 feet across at the top, Elwha Dam impounds Lake Aldwell, a 265-acre reservoir. About 200 feet high and 150 feet across at the top, Glines Canyon Dam is a concrete arch structure impounding Lake Mills, a 415-acre reservoir. The Glines Canyon Dam is located on an inholding of approximately 160 acres within the boundaries of Olympic

4 Brown, p. 71.

5 *Ibid.*, p. 74.

National Park. However, 90% of the reservoir inundates park land.

Of seventy-five miles of available spawning habitat in the Elwha River, only the last five miles below the Elwha Dam are currently accessible to salmon. Obstructed upstream by the Glines Canyon Dam, sediment no longer moves the full river length; below Mile 13, the channel is hardened and depleted of spawning gravels. Today, several hundred chum salmon remain, fewer than a dozen pinks return, the status of spring chinook is unknown, and sockeye are absent (although a landlocked form, kokanee, still exists in a lake above the Elwha Dam). Runs of coho, summer steelhead, and fall chinook continue, being supported in the lower river by a tribal hatchery and state rearing facility. A naturally spawning steelhead population (winter run) still returns to the lower river.

Today, the sole recipient of power from the Elwha and Glines Canyon dams is the Daishowa America Company, a Japanese-owned paper mill in Port Angeles. The dams supply 30-40% (approximately 90 megawatts) of the mill's power needs. Constructed before passage of the Federal Water Power Act (now called the Federal Power Act), the Elwha Dam has never had a license to operate. The Glines Canyon Dam received a 50-year license in 1926. Since its expiration in 1976, the dam has operated on annual licenses. The owner of both dams, James River II, Inc., is currently pursuing licensing of the Elwha Dam, and relicensing of the Glines Canyon Dam through the U.S. Federal Energy Regulatory Commission (FERC).

Over two dozen intervenors have joined in the licensing proceedings. A core group of intervenors, the Joint Fish and Wildlife Agencies, has participated in the licensing proceedings for over six years. The group consists of the USNPS (Olympic National Park), U.S. Fish and Wildlife Service, National Marine Fisheries Service, U.S. Bureau of Indian Affairs, Elwha S'Klallam Tribe, Point No Point Treaty Council, and the Washington state Department of Wildlife. This interagency consortium is bound together by a common objective: restoring the Elwha ecosystem. Ironically, the state Department of Fisheries cannot intervene in the proceedings, having forfeited that right in an earlier legal agreement.

Two scientific studies specific to the Olympic Peninsula and the Elwha River proved to be quite important to the positions utlimately taken by the agency and conservation intervenors. In the late 1980s, a study of the fate of spawned-out salmon in the Peninsula's watersheds noted a minimum of twenty-two species of birds and mammals feeding directly on salmon carcasses.[6] Carcasses were found to remain in the watershed of their spawning, generally drifting less than 610 feet from their original location. These findings (and those of other studies) have shown that salmon play a crucial role in food webs and nutrient cycling, serving as a primary conduit for the return of nutrients from the sea to the land.

For eight years the USNPS and the U.S. Fish and Wildlife Service researched what type of fish passage facilities would allow upstream and downstream salmon migration around the dams. If the dams are allowed to remain, at best five of the original ten fish stocks might be restored—and the prospects for doing

6 C. J. Cederholm *et al.*, "Fate of Coho Salmon *(Oncorhychus kisutch)* Carcasses in Spawning Streams," *Canadian Journal of Fishery and Aquatic Science* 46:8 (1989), pp. 1347-1355.

that are only poor to fair (Table 1). If the dams are removed, and using the fish stocks that remain (or the most closely related ones from other areas), prospects of restoration are good to excellent for all but the sockeye (due to a lack of suitable brood stock).

In 1990, the USNPS, U.S. Fish and Wildlife Service, U.S. Bureau of Indian Affairs, National Marine Fisheries Service, Point No Point Treaty Council, and Elwha S'Klallam Tribe determined that sufficient research had been completed to provide a sound scientific basis for decisions regarding these projects. They concluded that only through the removal of both dams could meaningful restoration occur. Feasibility studies commissioned by the Elwha S'Klallam Tribe showed dam removal to be viable. These agencies, along with the conservation intervenors, formally recommended to FERC that the dams be removed. In 1991, the U.S. Department of the Interior concurred in the recommendation.

In February 1991 FERC released a draft Environmental Impact Statement (EIS) on the relicensing of the dams. The document analyzes four alternatives ranging from retaining the dams (with fish passage provided for) to removing them. No preferred alternative was indicated. The draft EIS states that the cost of electric power from the dams to Daishowa America (after the required mitigation is added) will be equivalent to the price that would be paid if the power were purchased from the Bonneville Power Administration grid. This utility has stated that it can provide replacement power to Daishowa America if the dams are removed. A final EIS (which will give a preferred alternative) is expected in 1992. Regardless of the recommendation in the final EIS, the decision is expected to be challenged by one side or the other in court, with a resolution years away.

Table 1. Prospects for Restoration of Salmon Stocks Native to the Elwha River

	If dams remain with fish passage	If dams are removed
fall chinook	poor	excellent
spring chinook	poor	good
coho	fair	good/excellent
winter steelhead	fair	excellent
summer steelhead	fair	good
pink	poor/none	good
chum	poor/none	good
sockeye	poor/none	fair
cutthroat	unknown	good
Dolly Varden	unknown	good

A significant aspect of the relicensing issue is a question of jurisdiction over the Glines Canyon Dam. In April 1991 FERC issued an order asserting jurisdiction over the Glines Canyon project. The Department of the Interior Solicitor's Office maintains that because the dam is within Olympic National Park, FERC has no authority to issue a license. This too is going to court, with a resolution likely at least two years away.

The staffs of two U.S. senators have recently drafted legislation regarding the Elwha issue. In effect, this legislation constitutes a negotiated settlement which opens the way to dam removal, an approach advocated by the fish and wildlife agency consortium of intervenors. The legislation is supported by the entire Washington delegation to Congress, and is to be introduced for consideration in 1992.

IMPLICATIONS OF THE ELWHA ISSUE

Will the decision on the Elwha issue set a precedent? Yes and no. Yes, to the degree that a *component* of other like issues might resemble a *component* of the Elwha case. And yes, surely a decision on jurisdiction will affect some other national parks containing dams. But a proper response to the question of precedent is, largely, "no." That any other dam issue will combine circumstances similar to those on the Elwha is highly unlikely. The uniqueness of the Elwha issue lies in a distinctive combination of circumstances: the Glines Canyon Dam is within a national park; a majority of the river habitat is pristine (i.e., not subjected to logging or agriculture); if the dams are removed, prospects for fish restoration are good to excellent; a Native American tribe having treaty harvest rights lives at the mouth of the river; the amount of power produced by the dams is relatively small and goes to a single recipient; and replacement power is available. The notion that removal of the Elwha and Glines Canyon dams would set a national precedent is clearly erroneous.

However, the Elwha issue provides evidence of an evolving public sentiment. The misconception of conservation as being quite apart from, or even the opposite of, development and progress was in full operation during the building of the two dams, as demonstrated in this article written just as the Glines Canyon Dam neared completion:

> *It's either trees or industry, folks. Trees cannot stand if mills must run. Rivers cannot go unbridled unless we want nothing but the solitude of their canyons and open places. We've asked for industry and population, and with hardly no effort on our part, it is here. Let us take care we do not drive future work away. . . . Men died to make that 216 foot dam at Glines Canyon. We who have done little but watch, should mark its establishment fittingly.*[7]

This view of conservation as "anti-development" remains common today. Full acknowledgment in law and policy of the precept "What is good for the land is good for us" may be years away. Yet this recognition is occurring on some fronts, as shown (incrementally) by some of our laws (such as the Electric Consumers Protection Act of 1986, which amended the Federal Power Act by requiring "equal consideration" of fish and wildlife needs). The change in outlook is also evident if one reviews newspaper head-

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7 Quote dates from 7 April 1927, source unknown; found in archives at the Museum of the Clallam County Historical Society.

lines regarding the issue. From 1927: "Romance Hovers About Great Construction Job At Glines Canyon To Be Completed Soon . . . On A Spot Where Two Engineers Planned Work But Short Time Ago, Great Concrete Structure Is Being Completed To Furnish Power For Wheels Of Industry."[8] In 1978, a different tone appears: "Compensation? The Elwha River's Lost Salmon Runs." It becomes more emphatic in recent years: "Dam Removal Prescribed for Ill Elwha" and "Take Down The Dams: Nature First, Power Second."[9]

CONCLUSION

Bound in an economic web and infrastructure created by default as much as by design, individuals and corporations often seem unwilling to volunteer the apparent "sacrifices" required by conservation. If individually we feel we cannot afford the costs, perhaps as a people together, we can. And ultimately, we cannot afford *not* to pay the "price" of conservation.

Far-reaching statutory decisions accompanied the building of the Elwha and Glines Canyon dams. Unique statutory or court decisions may accompany their removal. Whatever the outcome, the Elwha decision will tell a bit more about ourselves as a people, and where we are on the road to conservation.

POSTSCRIPT

After struggling through numerous false starts, I ultimately concluded that the history and implications of this issue are far more important than all the details, however fascinating, that lie between. Having chosen this objective, I must say that the bulk of the Elwha River story belongs to the Elwha S'Klallam Tribe and to the wilderness resources of Olympic National Park. If the Elwha story were fully written, they would be the principal authors. This article therefore represents one paragraph, or a single page at most, of the extensive story that is "the Elwha issue."

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8 *Ibid.*

9 Bruce Brown, "Compensation? The Elwha River's Lost Salmon Runs," *Seattle Post-Intelligencer,* 16 October 1978; Sandi Doughton, "Dam Removal Prescribed for Ill Elwha," *Tacoma News Tribune,* 3 September 1991; Joel Connelly, "Take Down The Dams: Nature First, Power Second," *The New York Times,* 4 January 1992.

What Price Expansion?
Dams versus the National Park Concept

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INTRODUCTION

As Ronald Foresta noted in his *America's National Parks and Their Keepers,* students of bureaucracy are split over the virtue of diversifying agency responsibilities.(1) The USNPS took management responsibility for seventeen national parks and twenty-two national monuments during its first year of operation in 1917. Seventy-five years later, the agency administers 357 units of the the National Park System. The fifty national parks and seventy-nine national monuments constitute only 36% of the total number of USNPS units, while the two original classifications have been joined by twenty others.

Among the additional classifications is one called "National Recreation Area" (NRA). The NRA classification is a broad one and not the exclusive domain of the USNPS, as the Department of Agriculture's Forest Service (USFS) also administers several areas. A number of the eighteen USNPS NRAs are managed under cooperative agreements with other federal, state, and local agencies.

The first NRAs to come under USNPS administration were units surrounding reservoirs. These dams had been built by the Bureau of Reclamation, which sought to relieve itself of subsequent responsibilities associated with managing recreation at these sites. Several prominent officials with the Department of the Interior (which oversees both the Bureau of Reclamation and the USNPS) supported the transfer of these responsibilities to the USNPS during the 1930s and over the following three decades. Their reasoning was

founded upon the idea that the Interior department, not Agriculture, should control the expanding federal involvement in outdoor recreation, and that the USNPS was the logical choice to be the lead agency.

This paper examines the background of a conflict between two views about the role and function of the USNPS. It will identify how a nebulous legislative mandate left open the question of what constituted appropriate expansion for the agency. A conflict over the purpose of the National Park System sprang from this vacuum and has yet to be resolved.

WHAT IS A NATIONAL PARK?

National parks and monuments came into being without a statutory definition as to exactly what they were. Before the USNPS was established, the designation "National Park" was applied by Congress to fifteen areas where varying levels of monumentalism, resort facilities, and local boosterism seemed to be the common denominators. Even so, national parks were not necessarily inviolable (as demonstrated by the controversy over the building of Hetch Hetchy dam within Yosemite), nor were they always inalienable (Mackinac Island National Park was given back to the state of Michigan twenty years after its establishment in 1875).

The first national monuments were created by presidential proclamation under the Antiquities Act of 1906. A definition of the designation was absent in the legislation, however, and a wide variety of national monuments soon resulted. These reservations were once described as "a piece of land either flat or rough, timbered or bare. . . . But the most clearly outstanding character of a National Monument is its complete inconsistency."(2)

Although some conservationists and legislators were concerned about it at the time, no definition for national parks or monuments was included in the 1916 USNPS organic act. The best that the legislation's authors could do was a mandate for the bureau, which took the form of an ambiguous 92-word governing sentence:

> *The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*(3)

The agency's second director, Horace Albright, once said that everyone connected with the drafting of the organic legislation knew generally what a national park was, but not specifically. Frederick Law Olmsted, Jr., the author of the governing sentence, thought this problem could be mitigated by the establishment of an independent commission that would develop policy for national park areas. He knew that a bureaucracy without a clearly defined statutory direction would find it difficult to provide its managers with consistent guidelines. The hurdles of obtaining the act's passage, however, resulted in Congress deleting this provision. As a result, the USNPS was provided with enough general power to promulgate regulations and formulate policy in national parks and monuments.

As the first director of the USNPS, Stephen T. Mather attempted to provide direction for the agency through a letter that he and Albright drafted for Secretary of the Interior

Franklin K. Lane in 1918. While the letter did not define what constituted a national park, it aimed to limit the study of new parks to areas possessing "scenery of supreme and distinctive quality or some natural feature so extraordinary or unique to be of national interest and importance"(4). This was followed by a directive that "the national park system, as now constituted, should not be lowered in standard, dignity, and prestige by the inclusion of areas which express in less than the highest terms the particular class or kind of exhibit which they represent"(5).

Mather was a great promoter of parks in general and foresaw a tiered system of national, state, and local parks. To that end, he organized the first National Conference on State Parks in 1920 as a way to foster the establishment of state parks and set them up as a complement to the national parks.

Another reason why Mather took such pains in organizing the state parks was to ensure USNPS survival by broadening its base of support. These state park constituents could be useful to the USNPS in its struggle with the USFS over which agency would assume responsibility for a unified national recreation policy. The threat of transferring administration of the national parks to the Agriculture department was still very real to Mather, so he also sought ways to make the USNPS distinct from its competitor. The most promising avenue was education, which Mather saw as central to the purpose of national parks. USNPS interpretation began during the summer of 1920 at Yosemite and Yellowstone with "nature guides" who conducted field trips, gave lectures, and prepared natural history bulletins for posting in their respective parks.(6)

By 1928, Mather wished to better institutionalize interpretation within the USNPS. He borrowed a page from Olmsted and asked the Secretary of the Interior, Roy O. West, for an independent commission that would study the situation and make recommendations. When the Committee on the Study of Educational Problems in the National Parks convened later that year, it featured a number of prominent academicians. Before the group set about making recommendations for an educational program, they first considered the logical step of making a clear statement as to what constituted a national park.

THE NATIONAL PARK CONCEPT

Released in 1929, the Committee's report defined the purposes of the parks and their relationship to education in the first three "General Principles for Guidance in Study of the Educational Program":

- National Parks must be clearly of importance to the Nation as a whole. Their support and maintenance from Federal funds can be justified only on that basis. Where the special characteristics are of less than national significance, parks should be supported by local interests.
- The distinctive or essential characters of national parks lie in the inspirational influence and educational value of the exceptional natural features which constitute the reason for the existence of these parks. Outdoor recreation is recognized as an important factor in national park administration, but it is not the primary purpose, and can be enjoyed through abundant opportunities furnished elsewhere. While primitive regions can not be provided to an extent sufficient for the future outdoor recreational needs of the whole people, those primitive areas

with features of especial inspirational significance and educational value should be protected in fully primitive condition as national parks.

- The primary function of national park administration concerns the use of the parks for their inspirational and educational values. The effort to give complete protection to those features which characterize the parks is necessarily a correlated responsibility. That aspect of administration concerned with defining and planning the opportunities to appreciate and interpret the primary features of the parks will naturally determine in major part the program and operation of other activities, such as those concerned with transportation, housing, subsistence and recreation.(7)

These principles were largely the product of the Committee's chairperson, John C. Merriam. Mather had been associated with Merriam for roughly a decade, since both men had been founders of the Save-the-Redwoods League in California. Merriam assumed the presidency of the Carnegie Institution of Washington, D.C., in 1920. He was probably the most influencial man in the country with respect to setting the direction of scientific research for almost two decades. A paleontologist by training, Merriam's initial involvement with national parks came when he garnered foundation support for museums to be built at Yellowstone and Yosemite during the early 1920s. He once explained why educational work in the parks interested him so much:

A large part of all education is unfortunately based upon use of substitutes for realities. I can speak from early experience as professor of paleontology, having lectured for many years by use of charts, casts, and a few specimens. It seemed to me then that interest may be stimulated better pointing out the realities upon which the theory rests. . . . I came to the idea of studying National Parks because of the extraordinary opportunity for first-hand contacts with great natural phenomena. The function of educational work in parks is to give people opportunity to see great things and form their own judgments.(8)

Not only did the national park concept embody what Merriam and the Committee thought that the parks should be, but it embraced something which Merriam labeled "nature appreciation." It was the goal of interpretation and was probably best described by Committee member Harold C. Bryant:

The dispensing of knowledge about park features was a goal important and useful, but it was hoped the park visitor could be taught to think great thoughts, could be sent home full of new ideas, actually inspired. Based on what was seen and heard a visitor could be aroused to contemplate the origin and evolution of the world we live in, the laws which control it and the interrelations of its parts . . . . (9)

Although the national park concept was not perfectly precise, it represented a way of differentiating areas worthy of National Park System status and those appropriate for management by state and local interests. Its biggest flaw, however, was that it did not address how to handle historical areas. The Committee settled for something seemingly in contradiction to its position on natural areas. The USNPS was to illuminate "the general outline of man's career on this continent," thus placing a broad representation of history and an associated scientific preservation over the glorification of the sacred. As Foresta has pointed out, little in the way of a substantive

USNPS history policy has resulted.(10)

Historical areas were still a sideline for the agency in 1929 and the Committee could not foresee the day when over 60 percent of USNPS units could be classed as such. It was more concerned about natural areas, which were (and still are) the primary focus of the USNPS. With the national park concept embraced by Director Albright and constituent groups like the National Parks Association, the Committee was confident that their work would minimize conflicts over the use and function of the National Park System. The first test came in less than a decade.

The number of areas and responsibilities assigned to the USNPS grew dramatically from 1933 to 1937. Adherents of the national park concept had little difficulty endorsing the new USNPS role as the lead federal agency in historic preservation. Nor did they actively oppose adding historical areas formerly under War Department and District of Columbia administration to the National Park System managed by the USNPS.

What acted as a red flag to Merriam was the submittal of a draft bill by Secretary of the Interior Harold Ickes on May 28, 1934. It provided for the USNPS to coordinate the development of parks, parkways, and recreational areas at the state and local levels. After this bill was amended somewhat and became law as the Park, Parkway, and Recreation Area Study Act of June 23, 1936, Merriam wrote: "this situation is to me both discouraging and disgusting."

Having the greatest opportunity that the world has ever presented for doing a very great work and for developing leadership in the study and appreciation of nature and the protection of natural features, the Park Service is rapidly backing away from its original position and is devoting itself to recreation, largely, I understand, because of envy of the general recreational program of the Forest Service.(11)

The envy Merriam was referring to was the almost pathological campaign Ickes had waged against the USFS throughout the 1930s. Ickes and his assistants saw the Interior department's USNPS as the place where all federal involvement in recreation should be managed, in much the same way as the Agriculture department's USFS sought to direct all federal undertakings in forestry.

On the eve of the Parkway Act's passage, Congress appropriated money for a study to determine the recreational possibilities at Boulder Dam and Lake Mead. The USNPS was to conduct the study in cooperation with another agency in the Interior department, the Bureau of Reclamation. Recreational development at Lake Mead commenced as the study was being done with Civilian Conservation Corps enrollees under USNPS supervision.

A cooperative agreement between the Bureau of Reclamation and USNPS followed in 1937, which provided for the latter to assume responsibility for all recreational activities at Lake Mead. There was now a precedent for USNPS administration of recreational areas resulting from the impoundment of water from large dams.(12)

The new responsibility appeared to be willingly accepted by the USNPS director, Arno Cammerer. In his annual report for 1937, Cammerer wrote: "the value and national importance of the Boulder Dam recreational area was proved by the public use of the area during the past year and the vast scientific interest in it displayed by specialists in many fields"(13). Almost coincident with Cammerer's annual report was

his statement published in the *American Planning and Civic Annual*, where he expressed the goal of the USNPS in these words:

The park concept provides a new form of land use, humanly satisfying, economically justifiable, and with far-reaching social implications. . . . While it has been given considerable impetus in this country it is still in its infancy. When it has been accorded proper recognition, the National Park System will comprise fewer lands than those devoted to forestry and agriculture but it will include those areas and structures which cannot be adequately preserved or properly used under any other category of land management.(14)

Cammerer was soon under attack by the leaders of the USNPS's traditional fifth column, the National Parks Association. They saw the USNPS straying from its original ideals and embracing lesser areas like parkways, seashores, and reservoirs. In July 1938 Cammerer requested that the NPA publish his rebuttal to the charges. This was the first time that a director had ever been subjected to the friendly fire of the agency's closest supporters.(15) It was undoubtedly a factor in Cammerer's request for reassignment to a regional director post in 1939.

The task of selecting a new director fell to the National Parks Advisory Board, chaired by Merriam. He and his colleagues wanted to put the USNPS back on what they felt was its rightful course, and in the middle of 1940 chose Newton Drury. The new director was Merriam's protege in the Save-the-Redwoods League and a builder of California's state park system. He was not Secretary Ickes' first choice, however, largely because Drury did not share the view espoused by Cammerer several years earlier.

AN ATTEMPT TO HOLD THE LINE

The rift between Drury and Ickes began with the onset of World War II, when the USNPS Washington office was moved to Chicago. Much of the Interior Building was needed by the War Department, so the USNPS stayed in Chicago until 1946. During that five-year period, the agency faced a number of threats to the parks which, for a time, made the precedent set at Lake Mead seem benign.

Pressure on the USNPS to assume a wider role in recreation was stepped up by Ickes and his assistant secretaries in early 1945. Ickes wanted the USNPS to take up the management of recreational activities at the Shasta and Friant dams in California. Drury attempted to resist by sending a memorandum to Ickes in which he stated that the USNPS policies crafted to resist the threats to the parks would be weakened because "of the impossibility of making a clear distinction in the public (and Congressional) mind between 'multiple use' areas, and the true national park areas, if both of the[se] are administered by the National Park Service."

At Boulder Dam . . . we have had to depart from our traditional wildlife policy as to predators because of the grazing commitments that are accepted there, but not accepted in the national parks. Repeated instances of this sort would tend to break down our traditional policies in all areas under our jurisdiction. Our Service will be stronger if it can keep clear of such equivocal arrangements.(16)

Drury concluded the memo with a resounding declaration that the management of local or mass recreation (except as was provided incidentally to the main function of the USNPS) was not the concern of the agency.

One of Ickes' assistants, Michael W. Straus, drafted a reply expressing the Department's displeasure. Straus was a former commissioner of the Bureau of Reclamation and stated in his response to Drury that "adoption of the policy set forth in the National Park Service memorandum is an open abdication of an important field, which inevitably will result in a stampede by countless agencies of a greedy nature with interest in self-aggrandizement to enter the field with terrific confusion"(17).

Drury kept his allies in NPA informed of the pressure being exerted on the USNPS. In response, the NPA set out to strengthen the 1929 national park principles by attempting to categorize some units of the National Park System as "National Primeval Parks." According to a policy statement unveiled in May 1945 and published several months later, primeval parks were to be inviolate sanctuaries and of exclusively national importance. The NPA called for Congress to establish a new system of primeval parks and monuments, where there was a clear distinction between the supreme natural areas and other units.(18)

Congress, however, did not act upon the NPA recommendations. Instead it granted the USNPS authority to manage recreational use in areas administered by agencies such as the Bureau of Reclamation on August 7, 1946. Several months later, the Coulee Dam National Recreation Area was established under an agreement with the Bureau of Reclamation, patterned after the Boulder Dam/Lake Mead arrangement. Although the NRA designation was now legitimized, Drury continued to resist Bureau of Reclamation proposals for additional recreation areas.

After Ickes tendered his resignation in February 1946, the Bureau of Reclamation stepped up its campaign for dams in a number of river basins throughout the west. The USNPS opposed those projects which it thought to have an adverse impact on National Park System units. Most prominent were the dams scheduled to be built within Dinosaur National Monument. Yet other projects, such as the twenty-three dams proposed for the Rogue River basin in Oregon near Crater Lake National Park, were met with equal USNPS resistance.

Drury's forced resignation came when he openly opposed the new secretary of the Interior department, Oscar Chapman, on the Dinosaur dam issue. Chapman, who had previously been one of Ickes' assistants, later conveniently changed his mind and opposed the dams once Drury was gone. As a result, subsequent USNPS directors Conrad Wirth and George Hartzog were understandably more friendly toward the idea of national recreation areas than Drury had been.

CONCLUSION

As a way of promoting the Department of Interior's supremacy in recreation, the NRA designation was less successful than Ickes and his assistants had hoped. In 1963 the secretaries of Interior and Agriculture signed the so-called Peace of the Potomac, in which the two departments pledged to cooperate with each other on proposed NRA designations affecting the future management of federal lands. This agreement effectively ended Interior's attempts to unilaterally assume administration of Forest Service land.(19) The Forest Service has since used the NRA designation to ward off environmentalist proposals to establish national parks in places such as Hells Canyon (Oregon), Sawtooth (Idaho), and Smith River (California).

As Drury predicted, the NRA designation did work to blur the distinction between the superlative areas

that the USNPS traditionally managed and the lands once considered the province of state and local authorities. One outcome was apparent in the Foresta study of the early 1980s. He found the USNPS to be in a state of confusion with regard to its mission and the purpose of the National Park System it manages.(20) Yet federal bureaus are created to carry out the will of Congress, and often reflect the vague and sometimes contradictory direction given them. Congress has not acted to clarify the 1916 USNPS Organic Act, but it did direct the agency in 1970 to manage all areas in the National Park System in accordance with the 1916 Act and subsequent legislation.(21)

Drury's vulnerability was due to his defense of a policy governing the composition of the National Park System in a statutory vacuum. He was susceptible, as all USNPS directors have been, to the political forces which have greater latitude when prescriptive legislation is absent. As a result, the national park concept has faded from view. Vestiges of it remain in the USNPS, however, generally as the foundation for policies whose origins may be hazy to current and future employees.

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Some Reflections on Battlefield Interpretation

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The recent upsurge in interest in things military, brought about by the Gulf War and the success of the Ken Burns television documentary on the American Civil War, has caused reflection on the way in which U.S. military parks are being interpreted. As a veteran of the Vietnam War, battlefields hold an especial fascination and importance to me. Recent trends in historic preservation seem to regard buildings and landscape as of greater importance than the event itself. While agreeing on the need to protect the integrity of battlefield sites, I suggest that this effort has, in many ways, overshadowed our appreciation and focus on the exceptional uniqueness of these resources.

A battlefield is a strange and special place–a piece of land that for a millisecond of history became of whirling vortex of intense importance. Masses of men and tons of equipment are caught up in this whirlwind and dashed about at the whim and discretion of their leaders–leaders who, often as not, had little real control over the fast flickering shadows and murky clouds of battle. Then, just as when a tornado passes, all that is left are the shattered remains of life and property. With a brief passage of time, the remains are gathered in and disposed of, and the land smooths the jagged edges and goes back to what it was before. The battle's claim to importance depends on other events in other places or, sometimes, by the scholarly determination or political patronage of later generations.

Yet within this passage of time strange things happen, anonymous patches of vegetation are christened, stagnant frog ponds are rendered immortal, and

lonely country lanes are burned into human memory. Some battlefield place-names are indelibly marked in the U.S. national consciousness. The "Copse of Trees" at Gettysburg, the "Bloody Pond" of Shiloh, and the "Sunken Road" of Antietam conjure images, stir the soul, and evoke passionate emotions. They form a litany and roll-call of the triumph and tragedy of the Civil War—of our collective history.

As more time passes the memory shifts and alters. Old battles in distant times become abstractions as they pass from event to memory to icon. Those who fought, be it at Brandywine or Ke Sah, will forever hold a different perception than the judgment rendered by some future generation. Some places become enshrined while others are cast into obscurity, but the reality of those places is not changed: only the way they are remembered. Thus it also follows that the manner in which a battlefield interpretive program is presented depends, in great measure, on the relationship the presenter had with the event or like events.

In these times when context and relevancy are the coin of intellectual currency, it is well to remember that battles are events that occurred in their own particular time. While it is important to place them in the context of the war and in relationship to the broad sweep of history, it is also vital that the sense of perspective not be lost. This sense of perspective focuses on the immediate and visible place where the visitor is standing, setting the event in its own time and place.

While battlefields are usually interpreted as a large, whole event, they are really a stage for the drama of thousands of small stories. They encompass profoundly personal circumstances that can elicit horror and wonder. They are places where we confront the best and worst characteristics of our human nature; where brutality, waste, and carnage live side-by-side with honor, heroism, and self-sacrifice. It can be fairly stated that there are no winners, only victims. The people there were caught up in events not necessarily of their own making, and through all this they often rose to heights of glory or sank to depths of depravity.

We too are "victims" of battles. We live with the consequences of the success or failure of those men. When we place emphasis on messages and themes that are related to a site but not specific to it, we tend to reduce the particular experience and importance of the event. One battlefield then becomes just like another, the "real" importance placed in the outcome, not the event itself. Phrases about sacrifice, struggle, and devotion take on a shopworn connotation that removes us from the human experience of warfare.

Academia changes its interpretation of these events on a regular cycle. Revisionist historians have altered our perceptions of importance and priority. As a public institution, the USNPS is constantly refining and reinterpreting its institutional presentations to reflect these scholarly trends. While this may change our intellectual relationship to a battle, it cannot and does not change the reality of that place. The recent controversy over the name of the national historic site commemorating the Battle of the Little Bighorn illustrates the changing tides of academic and institutional priorities. What happened in those steep ravines and grassy slopes has not changed.

To reduce a British soldier of the American Revolution to a mere hireling, forced into the ranks to subdue a group of malcontent colonials, is just as wrong as classifying George Custer as a genocidal bigot. They were products of their time, influenced and taught by the same

type of institutions and beliefs that place us in relationship to our own time. They differ from us only in their time and place. In this sense it becomes possible to rejoice in the defeat of a cause and at the same time feel empathy with those who died defending it. The death of any person, even in what we may perceive to be an ignoble cause, should not diminish the loss.

We have swung wide in methods used to interpret these areas. These approaches run from the "red line-blue line" clinical analysis of the tactician to the human-interest reductionism of the sentimentalist. While no single method is wrong, neither has any particular one proven satisfactory. The changing tides of historical analysis and political imperatives become the major influence on the way battlefields are interpreted to the public. Current trends seem to place greater emphasis and analysis on the political and sociological circumstances that surrounded the battle than on the events within the battle.

A battlefield, far more than any other site, is a place for reflection and contemplation. It is a place for viewing a battle as an event in its own time and place. For this we need to enhance our understanding of those who were there and appreciate their world. What was it that kept a man in line of battle at Gettysburg? Was it the same thing that caused a man to climb down a rope net into a landing boat off Iwo Jima?

Encompassing the breadth of these special places requires a knowledge and vision that is unique. The interpreter should strive to go beyond the basics of troop placement and position and beyond those little asides from personal narratives often used to add color to a presentation. While it may be important to understand the contextual overview, the first obligation of battlefield interpretation is understanding the battle. The interpreter should paint a vision of the battlefield. A description that is visceral, transcendental, particular, and immediate.

An International Society of Protected Area Managers and Professionals

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A paper prepared for the 4th World Congress on National Parks and Protected Areas, Caracas, February 1992

BACKGROUND

Much of the impetus for considering some form of international protected areas society came in 1982 from Kenton Miller [then director of IUCN, the World Conservation Union] and Bing Lucas [currently head of IUCN's Commission on National Parks and Protected Areas, or CNPPA], both of whom provided suggestions on the idea in the months preceding the 3rd World Parks Congress at Bali, Indonesia. Their notes, along with comments from other individuals, served to provide the background for discussion at Bali. As a consequence of these discussions, the following recommendation was made: ". . . to enhance communication among protected area personnel and to extend interest and a sense of involvement in the aims of protected areas, IUCN should work towards establishing an organization of those involved or interested in national parks and protected areas based on personal membership for whom *Parks* magazine could serve as a channel of commu-

nication" (McNeely and Miller 1984). There was thus a formal recognition of the need to expand communication to a broader representation of protected area professionals, managers, and academics, particularly at the working level. It also acknowledges that new individuals could contribute significantly to supporting the aims of IUCN and the CNPPA both at the international and national levels. It would further serve to strengthen the feeder group that could take on volunteer responsibilities for CNPPA in the future.

There was general support for the concept, yet strong reservations about an organization that might take on many of the traditional CNPPA objectives and activities. The loss of some of the functions that were perceived to be integral to IUCN and CNPPA could place CNPPA at risk. Another concern related to a fear that resources might be diverted from IUCN and CNPPA to the new society. At a time when IUCN was having difficulty finding funds to support *Parks* magazine, this was a very real concern.

As a consequence of the Bali recommendation, some preliminary work was undertaken to explore the feasibility of an association (Erdman 1984). Findings arising from Erdman's study and consultation confirmed that "an association should advance management science appropriate to parks as well as demonstrate the application of that knowledge in protected areas." He suggested organizational options ranging from maintaining the status quo to the setting up of a distinct association independent from IUCN. Initial feedback concluded that any association should have a close link with or become an integral part of IUCN and CNPPA. The timing of the establishment of such an association was identified as a significant issue with some favoring deferral until a future time. In fact, this is what happened. The idea, however, resurfaced (Thorsell and Eidsvik 1991) at the International Conference on Science and the Management of Protected Areas in Canada in May 1991. As a result, some additional consideration has been given to the idea in consort with the previous material (Miller 1982; Lucas 1982). This paper is, consequently, to some degree a reiteration of previous comments as well as a contemporary update to provide a focus for decision and subsequent implementation.

Prior to understanding in some detail the specific roles for a protected areas association, it is worthwhile to consider the generic functions normally ascribed to a professional association or society. Traditionally, these associations serve a number of needs (Parker 1991), more particularly:

- The promotion of interests of the profession;
- The maintenance of high standards of expertise, i.e., maintenance of a standard of ethics, enforcement of a code of conduct;
- The certification of appropriate academic institutions;
- The enhancement of professional and managerial skills;
- The sharing of ideas and experience and consequent debate;
- The communication of contemporary information about the profession and its members; and
- The promotion of communication and dialogue between members.

In the case of the development of a society for protected areas professionals there would need to be a recognition of the diversity of "professions" that contribute to protected area establishment and management and the consequent re-

quirement for flexibility in the acceptance of potential members. Recognition of the requirement for collaboration between various professions would be inherent within any association.

In considering the particular circumstances of IUCN and CNPPA it is apparent that there is a need to:

- Broaden the base of membership and consequently to build a wider constituency to support the purpose, program, and priorities of CNPPA;
- Enhance communication in promoting the exchange of ideas, knowledge, and experience; and
- Develop standards for protected areas personnel and ensure suitable training is available.

It has been previously recognized that one of the prime considerations in setting up a global association is the need for a close linkage with IUCN and CNPPA as the lead international bodies concerned with national parks and protected areas. Any association would need to have a clear definition of its role and be seen as complementary. As a prerequisite to defining the purpose and functions of an association, it is relevant to provide a cursory review of the functions of CNPPA to see if selected roles, objectives, or tasks would be appropriate to devolve to a new association. CNPPA's purpose is to serve IUCN as the leading international scientific and technical body concerned with the selection, establishment, and management of national parks and other protected areas. In collaboration with other IUCN commissions and agencies, CNPPA promotes the establishment and effective management of a worldwide network of terrestrial and marine protected areas. Its objectives are to:

- Participate in the development, promotion, and implementation of World Conservation Strategies, i.e., setting global objectives and priorities;
- Participate in the development of IUCN's conservation program and support project implementation;
- Maintain and international network of independent volunteer experts that can contribute to IUCN's mission;
- Provide a forum for the exchange of views and scientific information on protected areas; and
- Cooperate with the World Conservation Monitoring Centre (WCMC) in developing a global database for all categories of protected areas and assist in the analysis and dissemination of the data.

In addition, the CNPPA has a number of related tasks, including:

- Focusing public attention on protected area issues;
- Promoting professionalism in protected area management through training, publications, meetings, and other means;
- Advising the World Heritage Convention and international protected area programs;
- Advising governments and other organizations on conserving and managing species and wildlife populations; and
- Periodically evaluating the status of species and biological diversity conservation initiatives.

Parks magazine is the primary communication vehicle of CNPPA. The magazine attempts to demonstrate the contribution protected areas make to sustainable development, improve the quality of management, promote the management of protected areas as a profession,

and communicate other relevant information.

AN INTERNATIONAL PROTECTED AREAS SOCIETY

In assessing the role of CNPPA, and considering those items that should be excluded as they are perceived to be within the CNPPA purview, and considering the roles that are essential to a professional association, the following sets forth the core focus of an international protected areas society.

Its **goal** would be to provide a focus for individuals involved with the management or operation of protected areas to enhance their knowledge so as to promote the conservation of natural and cultural resources through the effective management of protected areas throughout the world.

Its **objectives** would be to:

- Develop and enhance professional standards in protected areas management through developing, educating, and training protected area personnel at all levels by
  (1) providing information; promoting and organizing professional training programs, including academic studies; organizing regional schools and international seminars;
  (2) sponsoring workshops, seminars, and conferences to provide for the exchange of ideas and experience; and
  (3) reviewing and designing curricula and accrediting educational institutions.
- Foster communication and exchange of information and ideas among those involved in protected areas management in different countries in cooperation with IUCN by:
  (1) publishing a professional journal for all members of the society, to be built upon *Parks* magazine, stressing professional articles, book reviews, etc.;
  (2) publishing a newsletter related to protected areas management containing a diversity of information on people, events (upcoming and past), national and international activities and accomplishments, information on related organizations, e.g., the George Wright Society, Federation of Nature and National Parks of Europe, World Wide Fund for Wildlife;
  (3) publishing papers, monographs, field manuals, and books dealing with a broad range of protected area matters, including both terrestrial and marine areas, both science and management, both popular and technical, both natural and cultural, and both abstract and practical; and
  (4) encouraging the best modes of communication throughout the membership network, including concepts such as E-Mail.
- Encourage enactment at the field level of ideas and priorities arising from the World Parks Congresses, regional working sessions of CNPPA, and society-sponsored events. This would be done by integrating philosophy and general direction into national and regional strategies (for example, by ensuring biological diversity through concepts such as sustainable development). Agency programs would emphasize delivering specific actions, such as creating a global protected areas network representative of the world's ecosystems.
- Respond to CNPPA requests for advice on appropriate personnel for consultancies dealing with protected area matters; and

- Publish a directory of members and their areas of specialization and expertise.

ORGANIZATION OF THE SOCIETY

Membership. The society's membership would be as inclusive as possible and would build on the international network of professionals, managers, and academics. The society would be open to all persons professionally involved in the planning, establishment, operation, and management of protected areas; to those carrying out research in or about protected areas; to those involved with management, executive, or other advisory bodies having policy or managerial roles; and to those that are interested in the operation and management of protected areas.

Link with CNPPA. CNPPA members have previously indicated that there should be a close link between the commission and any international protected areas association. The following options all satisfy this condition (see also Figure 1).

An independent society would appoint an international advisory board to work with the chairperson of CNPPA. The society would be a member of IUCN.

A partially integrated society would work jointly with CNPPA to appoint an international advisory board to work with the chairperson of CNPPA.

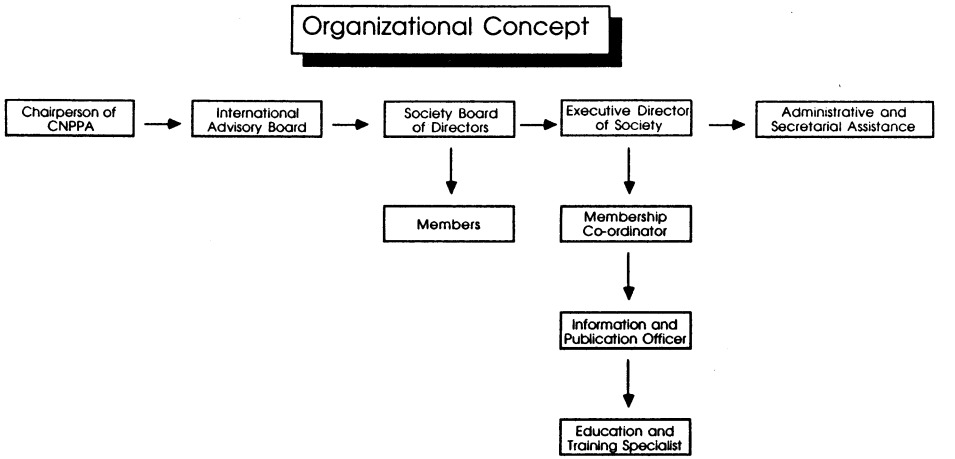

Figure 1. Organizational Concept

A fully integrated society would be a division of CNPPA and would report through the CNPPA chairperson.

An existing association or society could serve as a catalyst to build an international society, provided it received CNPPA support. The George Wright Society or other comparable societies might be considered. It would be a member of IUCN and would report through the chairperson of CNPPA.

Hemispheric sub-associations or societies could be established or utilized, consolidating into a federation at the global level. Existing organizations such as the George Wright Society (North America) or the Federation of Nature and National Parks of Europe could be the catalysts in their geographic spheres. An international advisory board or panel of representatives from each hemispheric association would report to the chairperson of CNPPA. The sub-associations and federation would be members of IUCN.

Funding. It is estimated that, to fulfill basic activities, an international protected areas society would require US$250,000 annually, at a minimum. This would cover staff salaries, membership services, publishing a newsletter and a professional journal, and providing a minimum level of training and educational services. Funding of the society would come from: a differentiated scale of membership dues, IUCN (for undertaking specific roles that would be devolved), and donations from foundations, individuals, and other international organizations. The society should strive to become self-supporting within five to seven years. The society headquarters should be located in an area with a modest cost of living. A location having dependable global communication links is essential.

CONCLUSIONS

The rationale and need for an international society of protected area professionals has been discussed for over a decade. If there is to be a commitment to enhance knowledge and expand communication to those most involved and dedicated to the operation and management of the world's protected areas, a concerted effort must be made by IUCN to support the establishment of a global protected areas society.

[Ed. note: The GWS welcomes comments from its members and other FORUM *readers on the ideas and possibilities raised in this article. Write to us at P.O. Box 65, Hancock, Michigan 49930 USA. We will share your ideas in a future issue of the* FORUM.*]*

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About the GWS . . .

The George Wright Society was founded in 1980 to serve as a professional association for people who work in protected areas and on public lands. Unlike other organizations, the GWS is not limited to a single discipline or one type of protected area. Our integrative approach cuts across academic fields, agency jurisdictions, and political boundaries.

The GWS organizes and co-sponsors a major U.S. conference on research and management of protected areas, held every two years. We offer the FORUM, a quarterly publication, as a venue for discussion of timely issues related to protected areas, including think-pieces that have a hard time finding a home in subject-oriented, peer-reviewed journals. The GWS also helps sponsor outside symposia and takes part in international initiatives, such as the Global Biodiversity Conservation Strategy.

Who was George Wright?

George Melendez Wright (1904-1936) was one of the first protected area professionals to argue for a holistic approach to solving research and management problems. In 1929 he founded (and funded out of his own pocket) the Wildlife Division of the U.S. National Park Service—the precursor to today's science and resource management programs in the agency. Although just a young man, he quickly became associated with the conservation luminaries of the day and, along with them, influenced planning for public parks and recreation areas nationwide. Even then, Wright realized that protected areas cannot be managed as if they are untouched by events outside their boundaries.

Please Join Us!

Following the spirit of George Wright, members of the GWS come from all kinds of professional backgrounds. Our ranks include terrestrial and marine scientists, historians, archaeologists, sociologists, geographers, natural and cultural resource managers, planners, data analysts, and more. Some work in agencies, some for private groups, some in academia. And some are simply supporters of better research and management in protected areas.

Won't you help us as we work toward this goal? Membership for individuals and institutions is US$35 per calendar year, and includes subscriptions to both the Forum and the GWS newsletter, discounts on GWS publications, and reduced registration fees for the GWS conference. *New* members who join between 1 October and 31 December are enrolled for the balance of the year and all of the next. A sign-up form is on the next page.

The George Wright Society
Application for Membership

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_____

ZIP/Postal Code: _____

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Please ✔ the type of membership you desire:

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- ❒ Student Member *$25/year*
- ❒ Institutional Member *$35/year*
- ❒ *Here's an additional contribution of* $_____.

Dues and contributions are tax-deductible in the USA.

Note: Except for Life Memberships, all dues are good for the calendar year in which they are paid. New members who join between 1 October and 31 December will be enrolled for the balance of the year and the entire year following (this applies to new members only). *Special Note to Canadian Applicants:* You may pay either with an international money order in U.S. dollars or with a cheque for the equivalent amount (using the current rate of exchange) drawn in Canadian dollars.

Optional: Please name your profession or occupation and any specialty or expertise:

_____

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