EVERGREEN

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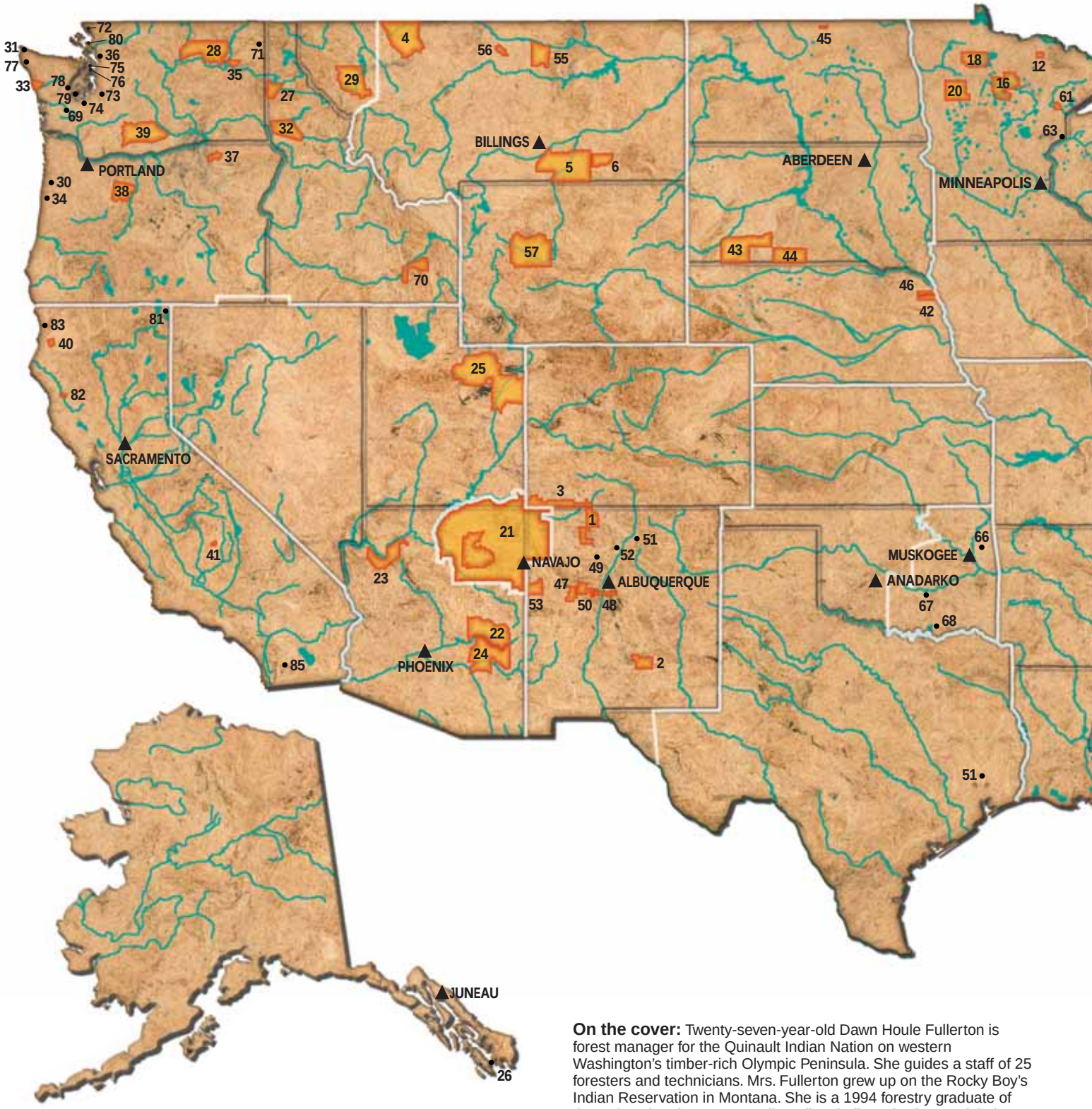
Dawn Houle Fullerton
Forest Manager For The Quinault Indian Nation

Forestry In Indian Country: Progress & Promise

Significant Timbered Reserv



On the cover: Twenty-seven-year-old Dawn Houle Fullerton is forest manager for the Quinault Indian Nation on western Washington's timber-rich Olympic Peninsula. She guides a staff of 25 foresters and technicians. Mrs. Fullerton grew up on the Rocky Boy's Indian Reservation in Montana. She is a 1994 forestry graduate of the University of Montana. Indian tribes believe the future of their cultures rests in educating—and retaining—the young among them. See "Tribal Governments See Economic Development As Key to Preserving Cultural Values," Page 38, Haskell Indian Nations University Offers Holistic Education in Natural Resources, Page 48, and "...a cadre of well trained professionals..." Page 49.

rvations in the United States

1. Jicarilla
2. Mescalero
3. Southern Ute
4. Blackfeet
5. Crow
6. Northern Cheyenne
7. Eastern Cherokee
8. Mississippi Choctaw
9. Passamaquoddy
10. Penobscot
11. Bad River
12. Bois Forte
13. Grand Portage
14. Lac Courte Orielles
15. Lac Du Flambeau
16. Leech Lake
17. Menominee
18. Red Lake
19. Stockbridge/Munsee
20. White Earth
21. Navajo
22. Fort Apache
23. Hualapai
24. San Carlos
25. Uintah and Ouray
26. Annette Island
27. Coeur D' Alene
28. Colville
29. Flathead
30. Grand Ronde
31. Makah
32. Nez Perce
33. Quinault
34. Siletz
35. Spokane
36. Tulalip
37. Umatilla
38. Warm Springs
39. Yakima
40. Hoopa Valley
41. Tule River
42. Omaha
43. Pine Ridge
44. Rosebud
45. Turtle Mountain
46. Winnebago
47. Acoma
48. Isleta
49. Jemez
50. Laguna
51. Picuris
52. Santa Clara
53. Zuni
54. Alabama/Coushatta
55. Port Belknap
56. Rocky Boy's
57. Wind River
58. Big Cypress/Brighton
59. Narragansett
60. Pequot
61. Fond Du Lac
62. L'Anse
63. Mille Lacs
64. Potawatomi
65. Red Cliff
66. Cherokee
67. Chickasaw
68. Choctaw
69. Chehalis
70. Fort Hall
71. Kalispel
72. Lummi
73. Muckleshoot
74. Nisqually
75. Port Gamble
76. Port Madison
77. Quileute
78. Skokomish
79. Squaxin Island
80. Swinomish
81. Ford Bidwell
82. Round Valley
83. Yurok

TOURING AMERICA FOR FORESTRY

In this issue, we write about forests and forestry in Indian Country.

"Indian Country" is a term tribal foresters—Indian and white—use to describe forests they manage. And what splendid forests they are: 17.1 million acres of forestland and 9.3 million acres of woodland on 193 reservations in 33 states.

Coast to coast and border to border, tribal forests include every forest type found in the United States: mixed fir-spruce-cedar-hemlock stands along the Pacific Coast; hardwoods and mixed conifer forests in the Northeast and the Appalachian region; black walnut and mixed hardwoods in the Central States; open pine and pinion juniper forests in the Southwest; redwood-fir-sugar pine stands in northern and central California; pine-fir-larch forests in the Cascades and Rocky Mountains; mixed spruce-hemlock stands in coastal Alaska and fir-hardwood forests in Alaska's interior.

Forestry In Indian Country: Progress and Promise is one of the most revealing stories we've run across in the 12 years we've been publishing ***Evergreen***. Readers living in the West's beleaguered timber communities will likely see themselves in some of these stories—for as we discovered, Indian tribes have had great difficulty getting the federal government to admit its role in the near destruction of their cultures. Only recently has the government finally turned the corner on 150 years of policy failures that pushed tribes to the edge of economic extinction.

Our main objective in this issue is to focus congressional and public attention on complex issues and events that are reshaping Indian Country, adding to the economic, cultural and environmental importance of tribal timberlands in the U.S. We need to tell you there are strong opinions expressed in this introductory article—and in our main story, *Forestry In Indian Country: Progress and Promise*. These opinions are not necessarily those of Indian tribes or Division of Forestry officials we interviewed. Suffice it to say there is an enormous amount of controversy swirling about in Indian Country.

Jim Petersen

Towering ponderosa pines in the Salish-Kootenai tribal forest in northwest Montana

For years, a simpler version of this report was published annually by the Bureau of Indian Affairs, Division of Forestry, and the Inter-tribal Timber Council—an association of Indian tribes that own forestland. But due to funding and personnel shortages, the report has not been updated since 1992. In this issue, we do the updating, adding our own perspective on what is troubling Indian Country. As our investigation reveals, inadequate funding is only a symptom of a far more vexing problem. It appears Congress may be in violation of legally binding trust obligations first described in *Cherokee Nation v. Georgia*, a land-mark 1831 Supreme Court decision.

The federal government's authority to supervise Indian relations grows out of the commerce clause in Article 1 of the U.S. Constitution. The clause gave the government the authority to make treaties with tribes. Under these treaties, tribes ceded land to the government in exchange for the government's promise of help. But the promise was vague and bound to be broken. In *Cherokee Nation v. Georgia*, the court defined the nature of the relationship the treaties created. Writing for the majority, Chief Justice John Marshall concluded tribes were neither states of the United States nor foreign states, but were "domestic dependent nations" and, thus, wards of the federal government. But the justices left it to Congress to determine exactly what the U.S. had to do under terms of the developing trust relationship. Thus was born the nation's ever-vacillating policy of paternalism—federal control over virtually every aspect of Indian life. For more than a century, the policy met with failure after failure,

despite billions of dollars poured into programs that were supposed to remove barriers that distanced Indians from mainstream American life. In the end, paternalism became the ultimate barrier, depriving tribes of the opportunity to grow *with* the nation.

Of hundreds of policy shifts, three are notable for their impacts on tribes and tribal lands. The Dawes Act, passed by Congress in 1887, gave millions of individual Indians title to small tracts of tribal land in the hope they would take up farming. The Indian Reorganization Act, passed in 1934, put Indian forestry on a sustained yield basis, ending the allotment program, which had broken millions of tribal acres into tracts too small to be effectively managed. The House Concurrent Resolution 108, passed in 1953, formalized a BIA-inspired attempt to terminate trust relationships with timber-rich tribes the Bureau thought could prosper without government assistance.

Termination marked the low point in the nation's modern-day relationship with tribal governments. It had few—if any—advocates within Division of Forestry ranks, where it was feared the hastily adopted policy would trigger a liquidation of valuable tribal timber. Others thought termination was too dramatic a policy shift for tribes that had been wards of the government for generations. Nevertheless, it remained official government policy until 1970, when President Nixon challenged Congress to again reverse direction. Rejecting both paternalism and termination, Mr. Nixon argued that the government's trust responsibility represented a "solemn obligation...to provide community services...which would presumably allow Indian communities to enjoy a standard of living comparable to that of other Americans."

But it would be another five years before Congress reversed itself for the last time, passing the landmark 1975 Indian Self-determination and Education Assistance Act, which granted tribes the authority—and the funding—needed to manage reservation programs, including forestry. Fifteen years later, Congress passed the National Indian Forest Resources Management Act, mandating coordinated forest resources planning. Then, in 1994, the Self-Governance Act granted tribes the authority to govern themselves, *while not diminishing* the federal government trust responsibility. Among other things, the Act gives participating tribes complete control over their forestlands moving the BIA's Division of Forestry into a technical advisory role. Eventually, the Division will probably be dissolved.

National Archives

Felling big pine on the Spokane Indian Reservation in eastern Washington in the 1920s.

Although these three laws signaled the end of 160 years of paternalism, Congress has yet to deal with the crumbling cornerstone of its relationship with tribal governments. Astonishingly, tribes do not own their land—at least not in the same sense that other private landowners own theirs. For example, tribes can't use their land as collateral to borrow money. That's because fee title to the land—which holds billions of dollars in timber, minerals, oil and natural gas—is still held by the federal government as part of its nebulous tribal trust relationship. One Division forester told us he thinks the nation's more prosperous tribes would gladly give up federal subsidies in exchange for unencumbered title to their land, but many tribes are simply too small to survive without government assistance.

Within the Division of Forestry, the government to government relationship is further strained by the fact tribes now provide more than 40 percent of the money needed to sustain forestry programs once solely funded—albeit sporadically—by the federal government. The Division's annual budget is about $45 million, around two percent of the BIA's burgeoning $1.8 billion Congressional appropriation. Most of the money is spent on social programs. Were it not for the millions of dollars [$31 million in 1996] tribes voluntarily add to the BIA Division of Forestry budget, the federal Indian Forestry Program would be much smaller than it already is. One retired Division forester told us he thinks litigation is long overdue. "The tribes would prevail," he predicted.

Apart from money woes, which are impeding advancements in science-based forestry, the history of Indian forests is quite similar to the history of all U.S. forests. Early day exploitation gave way to early day conservation and, subsequently, to more orderly development of timber resources.

Many readers will be surprised to learn that Indian tribes must abide by the same federal environmental laws that govern the conduct of all forest landowners. Rumors abound that the Clinton Administration recently exempted tribes from the federal Endangered Species Act, but that is not the case. The so-called Secretarial Order, signed last June by Interior Secretary Bruce Babbitt and Commerce Secretary William Daley, normalized three distinct and sometimes conflicting areas of law and policy: tribal rights, federal-tribal trust responsibility and the Endangered Species Act.

Some who read this issue will also be surprised to learn that Indians do not live "in harmony with nature amid vast primeval forests" as the political correctness monitors are wont to say. Most Indians, including those we interviewed, deeply resent the implication theirs is not a technologically advanced society. There is little evidence Indians ever lived in harmony with nature, except in the fertile minds of 17th century romanticists who invented the "noble savage" as an idyllic counter to the savagery whites inflicted on one another during Europe's Middle Ages. And while characterizing Indians as noble savages may appeal to some people, it overlooks 12,000 years of human history, carefully pieced together by archeologists and anthropologists who estimate as many as 100 million Indians were living in North America when Columbus "discovered" the continent.

Jim Petersen

A January sunset falls across Navajo woodlands north of Window Rock, Arizona

Mounting evidence also points to the fact Indians lived in an advanced, mainly agrarian society based on exploitation of natural resources, including soil, water, minerals, trees, fish and game. Millions of acres were planted annually. Where water was scarce, irrigation systems were developed. Fire was routinely used to clear land for crops, clean campsites and promote grass production, which attracted game animals. Gardens were cultivated, fruit and nut trees were cared for and access to hunting and fishing grounds was controlled. A private property rights system emerged, conferring ownership on those who invested human capital in the development of natural resources.

Despite overwhelming evidence to the contrary, images of noble savages living in harmony with nature live on in the popular press. Environmentalists have twisted the Indian image in a symbolism-over-substance campaign promising the public the best way to "save" forests is to leave them to nature, thereby "restoring" pre-European forest conditions. But Charles Kay, a Utah State University wildlife ecologist says pre-European forests can't be restored without first restoring pre-European Indian cultures. He also argues that pre-European forests were not "natural," having already been significantly altered by Indian farming and hunting. "Instead of being 'noble savages' who were too wise to overexploit their resources, Native Americans acted in ways that maximized their individual fitness regardless of their impacts on the environment. [They] were the ultimate keystone species that once structured entire ecosystems."

Here is a summary of what we learned in the course of our six-month investigation of forests and forestry in Indian Country.

- Indian forests are important to tribes for economic reasons, but cultural and religious ties to the land are often just as important, particularly in the Southwest, where woodlands serve both ceremonial and economic ends.
- Since 1910, tribal forests have been managed by the Division of Forestry, a tiny organization embedded in a vast social outreach called the Bureau of Indian Affairs, which is, in turn, a part of the U.S. Department of the Interior. The Division has always toiled in anonymity, never achieving the public stature enjoyed by its sister agency, the U.S. Forest Service. And unlike the Forest Service, the Division has never had the nation's timber industry in the wings to fight—and win—its budget battles.
- Because the Division of Forestry is held captive by a non-forestry bureaucracy, it has always had great difficulty attracting *and maintaining* a following in Congress. As a result, it has never been adequately funded. This in spite of the fact that courts long ago declared tribal forestry programs to be a federal trust responsibility.
- Because the Division has never been adequately funded, many of the advanced technologies pioneered by the Forest Service are not yet in use in tribal forests. Even more revealing is the fact the Division's budget is much too small to support the kind of integrated resource planning and management Congress now requires of other federal forest resource managers. This embarrassment—and its legal implication—is further amplified by the fact voluntary annual contributions *from tribes* account for more than 40 percent of the *federal* Indian Forestry budget.
- A benchmark scientific assessment completed in 1993 by the Indian Forest Management Assessment Team concluded Indian forestry is both underfunded and understaffed compared to other similar public and private ownerships. In the early 1990s, funding for tribal forestry was 63 percent of that for timber production for the national forests, and only 50 percent of what private timber companies in the Pacific Northwest were investing in their lands.
- Although tribal forestry programs are seriously under-funded, the long-troubled working relationship between tribes and the Division of Forestry is probably stronger than at any time in history. Credit the Intertribal Timber Council, a national association of tribes that own and manage timberland. The group, which was founded in 1976, has

done much to focus congressional and scientific attention on tribal forestry's needs and successes. Also credit the Division for somehow managing to stay focused on its core forestry mission, despite the fact federal funding has been woefully inadequate.

• Generally, Indian forests across the U.S. are in good condition, though many of the same health-related problems found on adjacent national forests are beginning to show up on tribal lands. There is more old growth timber on tribal lands than in neighboring national forests, a tribute to a conservative management style for which the Division of Forestry is famous. Although several tribes are thinning stands that exhibit old growth structural features, there is dismay over the fact the government wants to use these reserves as habitat, without compensating the tribes for not harvesting. Other western landowners have been fighting the same battle for years.

Bud Miller, BIA

Winter logging on the Yakama Indian Reservation in Washington State

• Although tribes are bound by the same federal environmental laws that limit what other landowners can do with their timber, some of the most innovative forest practices in the U.S. can be found on tribal forest lands. One big reason: courts have ruled that Indian forests—though held in federal trust—are not public forests. Thus, timber sale appellants and environmental litigators have not been able to topple tribal forest plans as they have U.S. Forest Service plans. For example, the Yakama Indian Nation in southwest Washington State has implemented a management approach that provides for the harvest of significant amounts of timber, while also providing habitat for species dependent on old growth forest environs.

• Since 1992, the harvest from reservation forests has averaged 706 million board feet a year. Western tribal forests—those in Oregon, Washington, California, Idaho, Montana and Wyoming—account for 62 percent of the harvest, some 436 million board feet. Such a harvest would not have been thought significant a decade ago, but with national forest harvest levels approaching zero, Indian timber is assuming a new economic importance in the West's beleaguered timber communities.

• Change is coming to Indian Country, as newly empowered tribes begin sweeping aside bureaucratic barriers erected by the BIA, most notably during FDR's New Deal era. New industries, including gaming, high technology and manufacturing, are boosting tribal employment, making timber production less important than it once was. This provides new economic and political footholds for Indians who believe their forests should be preserved, not harvested. As if to mirror the country at large, Indian tribes are dividing themselves into factions favoring or opposing harvesting.

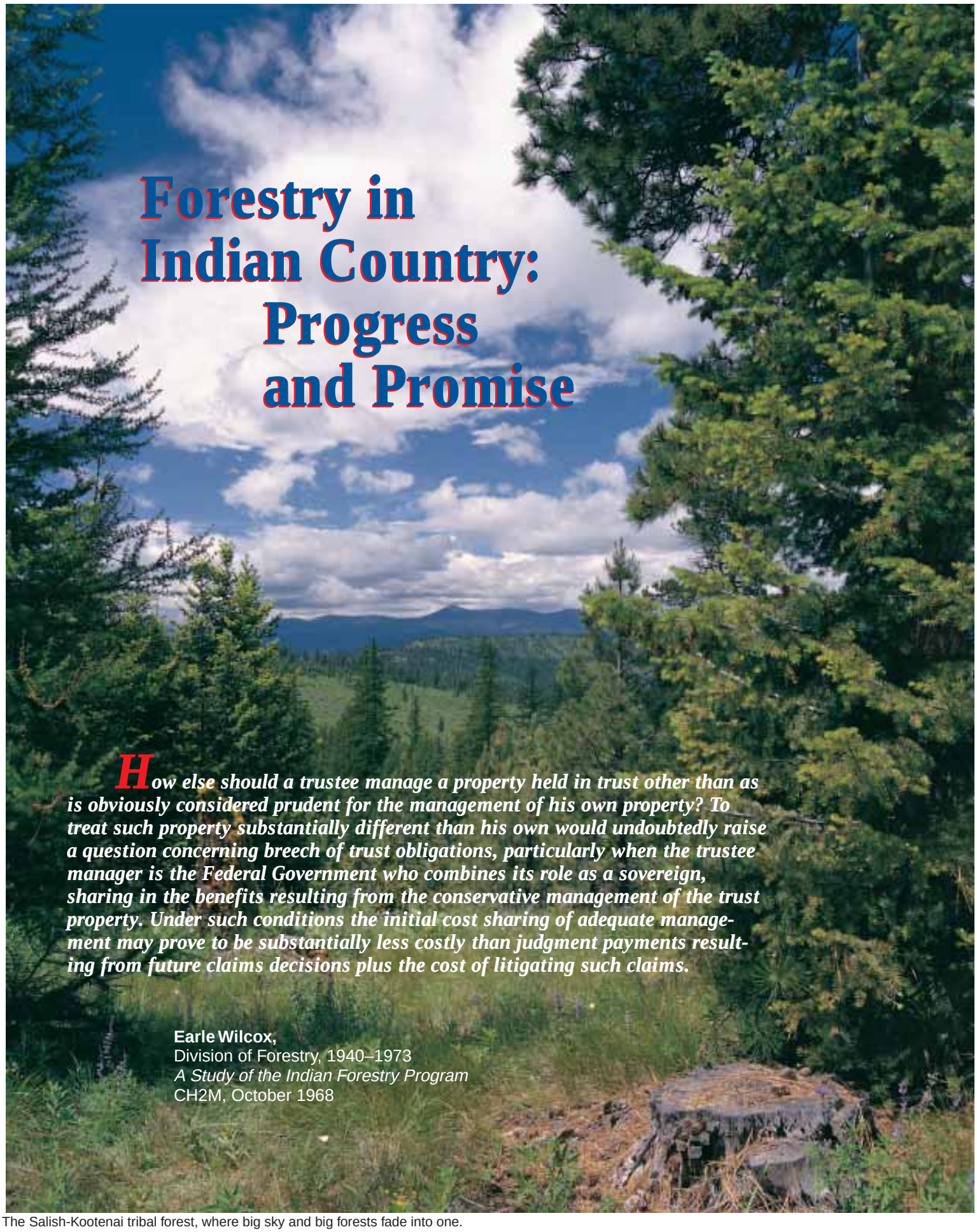
• Although tribal forestlands hold great promise—from both economic and environmental perspectives—further progress in integrated forest resource planning requires increased federal funding. Given the inside-the-beltway popularity of programs with environmental and cultural themes, it is hard to understand why tribes and tribal forests are being overlooked.

We are indebted to many who helped put this issue together. Among them, Bob Miller, retired Assistant Chief, Division of Forestry, now living in Polson, Montana; Ralph Goode, tribal forester, Confederated Salish and Kootenai Tribes, Ronan, Montana; Arch Wells, Acting Chief of the Bureau of Indian Affairs, Division of Forestry, Washington, D.C.; and the Intertribal Timber Council Operations Committee, Portland, Oregon. We also want to thank those who wrote key articles: Alan Newell, President, Historical Research Associates, Missoula, Montana; Greg Blomstrom, planning forester, Hoopa Valley Tribe, Hoopa Valley, California; and Dr. Gary Morishima, technical advisor, Quinault Indian Nation, Mercer Island, Washington. Thanks also to our tour guides: John Waconda, BIA Albuquerque Area Forester, Albuquerque, New Mexico; Alex Becenti, Navajo Nation Tribal Forester, Window Rock, Arizona; Dawn Fullerton, Quinault Indian Nation Forest Manager, Taholah, Washington; and Russell Roy, Penobscot Nation Forest Manager, Old Town, Maine.

Over the last six months many friends have asked, "What's really different about forestry in Indian Country?" Most of the differences are too small to be noticed, but there is one huge difference. Among the tribes we visited, there is an openly expressed reverence for land and family that is unlike anything we have ever witnessed. We suppose many non-white foresters hold similar views, but such personal expressions are not yet part of the industrial or government cultures in which they work. Reverence for land and family is very likely the most important lesson to be learned in Indian Country. It is what has sustained tribes through a very troubling period in their long history. We hope you enjoy this issue as much as we enjoyed bringing it to you.

Onward we go,
Jim Petersen, Editor

Forestry in Indian Country: Progress and Promise



How else should a trustee manage a property held in trust other than as is obviously considered prudent for the management of his own property? To treat such property substantially different than his own would undoubtedly raise a question concerning breech of trust obligations, particularly when the trustee manager is the Federal Government who combines its role as a sovereign, sharing in the benefits resulting from the conservative management of the trust property. Under such conditions the initial cost sharing of adequate management may prove to be substantially less costly than judgment payments resulting from future claims decisions plus the cost of litigating such claims.

Earle Wilcox,
Division of Forestry, 1940–1973
A Study of the Indian Forestry Program
CH2M, October 1968

Jim Petersen

The Salish-Kootenai tribal forest, where big sky and big forests fade into one.

An Essay by
James D. Petersen

Indian Country. Twenty-six million acres of forest and woodland scattered across thirty-three states. Forty-four billion board feet of standing timber. Twelve thousand years of human history. Maybe more.

Where this story of America really begins is lost in antiquity. But this much is true: The first "Americans" walked here on a long-gone land bridge that joined Russia to Alaska's Aleutian Island chain. We aren't sure what brought the first Americans here, but we think they were hunting mastodons, giant elephant-like beasts that once roamed North America. Whatever the reason, their descendents are still here. Among the politically correct, they are called "Native Americans," though most of them say they prefer to be called "Indians," a name given to them by a lost Italian named Christopher Columbus.

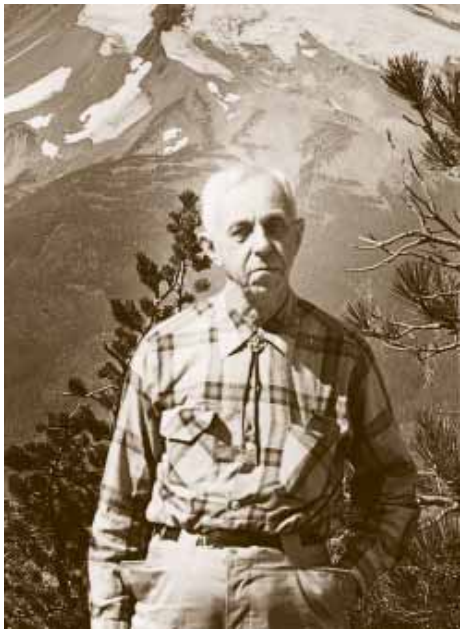
For centuries, historians credited Columbus with "discovering" America, but we now know there were millions of Indians living in North America when he sailed into the Caribbean in 1492. They had been here for perhaps 12,000 years, but until historians relegated Columbus to his more rightful place in history, there were few advancements in our understanding of how Indians lived, or how significantly they had altered the landscape first seen by European settlers in the 1500s.

"The first European settlers did not step off boats into a vast, primeval forest, untouched by human hands," declared Dr. Edward Buckner, in a 1996 ***Evergreen*** interview. "Millions of Indians were living in these forests. More than half their food supply came from cultivated fields kept free of trees by repeated burning."

Dr. Buckner, a University of Tennessee forest scientist, has spent years studying Indian influences on forests in the eastern U.S. He scoffs at the popularized notion that Indians lived "at one with nature" in vast, primeval forests untouched by human hands. "There is no historic or scientific evidence to support the largely romantic idea that eastern forests were somehow formed independent of human influence," he declares. "To assume that some 'natural' forest condition existed here before European settlement began is to ignore 12,000 years of human history."

Dr. Buckner's views are upheld in hundreds of accounts, written by early explorers, pioneers and historians. More recently archeologists and anthropologists have unearthed still more evidence of advanced agrarian cultures developed by Indians hundreds of years *before* European settlement began. But war-weary European philosophers who invented the Age of Romanticism chose to portray Indians as "noble savages" living in harmony with nature.

Two hundred years later—and much to the consternation of many contemporary observers—the image lives on in the popular press, propped up by vote-seeking politicians and environmental groups who hold up Indian cultures as examples of the way all Americans should live. Writing in *Clearcut*, the Sierra Club's attack on industrial forestry, Herb Hammond suggested Indians practiced a kind of forestry that placed protection ahead of use. "In scientific terms, we recognize that their use of the forest was ecologically responsible, meaning that it kept all the parts." But Mr. Hammond's vision has little basis in history. Most Indians were farmers and hunters, not foresters. To make way for crops, they cleared away millions of acres of forest, usually by burning. In the Southwest, where water was scarce, primitive irrigation systems were constructed, allowing water to be diverted and stored for use during dry summer months. Because Indians did not have fertilizer, they were forced to move on once the soil's nutrients were depleted. More land was cleared, and previously cleared forests slowly grew back. These latter forests were the "wildernesses" the first Europeans described in their journals.



National Archives

Jay P. Kinney, first chief, Bureau of Indian Affairs, Division of Forestry, 1914-1933

With millions of mouths to feed Indians were also adept and efficient hunters, a fact confirmed in *Aboriginal Overkill: The Role of Native Americans in Structuring Western Ecosystems*. The exhaustive study, by Utah State University wildlife ecologist Dr. Charles Kay, concludes that Indian hunting was the likely reason why early European explorers found so little game in the Intermountain West. But by keeping big game populations small, tribes also helped increase biological diversity in both plant and animal communities. "[It] appears to be a robust hypothesis that applies not only to elk, but also to moose, bison, mule deer and other ungulates throughout the Intermountain West, and I suspect that it applies to other areas of the Americas as well," Dr. Kay wrote. "By limiting ungulate numbers and purposefully modifying vegetation with fire, Native Americans structured entire plant and animal communities."

Dr. Kay's research led him to a startling, if not controversial conclusion: leaving forests to the vagaries of nature disturbance including wildfire, disease and insect infestations—the current environmentalist mantra—will not restore pre-European forest conditions. "If aboriginal predation and burning created those [plant and animal] communities, then the only way to maintain what we call ' natural areas' is to duplicate aboriginal influences and processes."

The Early Years

By the time the Bureau of Indian Affairs Branch of Forestry was established in 1910, Indian Country was a vastly different place than it had been when European settlement began. Twelve thousand years of human history had been squeezed into some very small spaces called "reservations," where it was assumed living apart from white society would give Indians time to adjust to a fast changing world. But by the late 1800s, it was clear confinement on

reservations was not the answer, so Congress reversed course, granting millions of allotments—small tracts of land Indians could own on their home reservations. The idea seemed simple enough: land ownership would lure Indians away from centuries of communal living, enabling individual families to prosper farming their government granted homesteads.

The strategy might have worked had the government also turned away from paternalism. But it did not, though the search for ways to promote economic self-sufficiency eventually led to development of vast tribal timber reserves in the Upper Midwest and Pacific Northwest, where soils were poorly suited to farming but ideal for timber production. By the late 1870s, some of the largest logging and sawmilling operations in the nation were on Menominee and Chippewa tribal forestlands in Wisconsin and Minnesota. But the government did not give up easily on its one-size-fits-all vision of Indians as farmers. In 1873, the Supreme Court ruled *(United States v. Cook)* the Menominee's had no legal right to sell timber, unless the clearing was for agricultural purposes. Otherwise, the court said, the logs belonged to the United States. The ruling did not set well with Indian agents responsible for nurturing tribal economic self-sufficiency. Its impact fell heaviest on western tribes that had already come to rely on timber harvesting as a source of both income and employment. Napoleon Bonaparte, chief of the Snohomish tribe, laid the situation bare in a January 1874 telegram to Interior Secretary Delano. "Don't starve and scatter my children. Let them continue logging." But it would be another 15 years before Congress charted the necessary course correction. It did so in 1889 with passage of the so-called "Dead and Down Act," granting tribes the right to salvage dead timber for commercial purposes. Green timber still could not be removed, unless it stood on land that was being cleared for farming. Even so, the act became the first legal recognition of the Indians' right to use their forests for commercial purposes.

The Division of Forestry

It took two acts of Congress to create the Division of Forestry. The first, in March, 1909 appropriated $100,000 for forestry work on Indian reservations. The second, in June 1910, authorized the Secretary of Interior to approve the first ever sales of mature, live tribal timber. Since its founding, the Division has toiled in the shadow of the Forest Service never achieving the stature accorded its sister agency. Its initial $100,000 appropriation was not increased for 15 years. During one ten-year period when Division salaries were frozen, Forest Service salaries doubled. Indeed, the Division might simply have wasted away had it not produced two remarkable leaders: its first chief, Jay P. Kinney, who hired Indian forestry's first professional foresters; and Earle Wilcox, a brilliant forester who headed the Division in the early 1970s, and developed its widely acclaimed inventory analysis system for uneven-aged forests. Although the two men never worked together, their careers spanned more than 60 frustrating years in which the Division struggled forward, its forestry mission always overshadowed by the more politically popular Bureau of Indian Affairs, to which it still reports.

National Archives

Turn-of-the-century railroad logging on the Quinault Indian Nation.

"We were never very popular with the Bureau," recalls Bob Miller, a Division forester who worked with Mr. Wilcox for many years. "Nobody over there understood forestry. Our successes were often the result of Earle's leadership or personal friendships that developed between Division foresters and tribal leaders."

The late Mr. Wilcox worked for the Division for 33 years, and he was its chief for three years before retiring in 1973. Though he was one of the most respected foresters then in government service, Mr. Miller believes it was his considerable political skill that enabled him to accomplish so much in the three years he was Division chief.

"Earle feared no one," Mr. Miller says, recalling what he believes to be his friend's greatest achievement. "For years, the federal government charged tribes millions of dollars annually for managing their forests. Earle convinced Congress the government should not be charging tribes to fulfill trust duties that courts had ruled to be constitutionally guaranteed. Thanks to his leadership, the government now returns those millions of dollars to tribes that invest the same dollar amount in improving their forests."

Before his 1989 retirement, Mr. Miller was Assistant Chief of the Division of Forestry, a position that afforded him a close look at its underlying problems. "There never was enough money to go around," he recalls. "But our deeper problems resulted from the fact we were a forest management organization wrapped inside a social services agency that was forever trying out a new program it thought would help the Indian people. Forestry was often swept away in nebulous, trust related issues over which we had little control."

So it would seem: citing mismanagement, tribes have sued the Division for not harvesting enough timber and

for harvesting too much timber. In the celebrated 1980 and 1983 *Mitchell* cases, the Division was successfully sued for not promptly replanting an allotment it had harvested on the Quinault Nation. The replanting work had not been done because the Division did not have enough money in its reforestation budget.

"Our warnings about funding deficiencies and resulting trust violations were routinely ignored by the Bureau," Mr. Miller recalls.

Mr. Wilcox first sounded the alarm in 1968. [See Page 8] In an interview with a consulting firm hired to evaluate the Indian Forestry Program, Mr. Wilcox said he did not believe the federal government was managing Indian forests as well as it was managing its own national forests. He further suggested it might be cheaper for the government to improve its tribal forestry program than to defend itself in court. But Mr. Wilcox's admonition seems to have fallen on deaf ears. After his 1973 retirement, Indian Forestry funding fell to such a low level that the Division did not have a single professional forester on staff in its Washington, D.C. office. "We were essentially non-existent," Mr. Miller recalls. "Imagine the Forest Service or the Bureau of Land Management without any professional foresters on staff in their Washington offices. It would be unthinkable."

Bud Miller, BIA

A modern-day Timberjack feller-buncher on the Yakama Indian Reservation

Despite chronic funding problems, Mr. Miller recalls a few good years when Indian forestry made progress. "In the seven years before my 1989 retirement, we were in the limelight, particularly in forest planning, fire management, mapping and woodland resource management," he recalls. "Those are the years I like to remember best." The good years began in 1977, when Congress finally boosted the Division's budget by $5.5 million. The following year it rose by another $6.6 million. "But we and the tribes still had to fight for the money," Mr. Miller recalls. "Several Bureau area directors and superintendents wanted to divert it to non-forestry programs projects, even though Congress intended the money for forestry."

Since 1978, Congress has added money for numerous one-time activities including inventory and planning, woodland resources and forest products marketing, but it has yet to deal with the Division's baseline funding needs. Almost eight years have passed since Congress ratified the National Indian Forest Management Act. Still today there is precious little money for environmental compliance, historic preservation, forest road maintenance, computer modernization or integrated forest planning, now the cornerstone of the Clinton Administration's vision for managing federal forest lands nationwide. Mr. Miller believes the problem is not entirely of Congress' making. "There is no direct chain of command linking the Division Chief to BIA area foresters or agency managers," he explains. "All communications are passed along by BIA area directors and superintendents, who are often more interested in guarding their power bases than they are in forestry. I doubt Congress knows how serious the problem has become."

The Intertribal Timber Council

Where recent funding progress has been made, Mr. Miller credits the emergence of the Intertribal Timber Council, an association of 73 tribes that own and manage timberland. "They have been able to help tribes appeal to Congress where we could not," he explains. "Without them, I don't think the Division's budget would ever have been increased. We have helped each other immeasurably, to the ultimate benefit of the tribes."

Since its formation in 1976, the Intertribal Timber Council has played an increasingly important role in tribal forestry matters. Its leadership position in Congress was secured by its involvement in *An Assessment of Indian Forests and Forest Management in the United States*, a landmark 1993 investigation of forests and forestry in Indian Country. But the study—by scientists widely regarded by both Republicans and Democrats, included recommendations that carry a price tag lawmakers seem unwilling to bear—a 182 percent increase in the Division's baseline budget, from $66.2 million to $187 million a year. Such an increase, the scientists noted, would "put coordinated resource planning and management on Indian reservations on par with that of the National Forests." While the recommended $121 million budget increase may seem excessive, it is not when compared to other federal forestry budgets. For example, the Division's 1996 per acre timber production budget was only 63 percent of that of the Forest Service. Its budget for integrated forest management was only 38 percent of that of the Forest Service, up from 35 percent in 1991, but still insufficient to hire fish or wildlife bio-logists, soil scientists, range managers or archeologists—positions forest planners consider essential.

The *Assessment* presents a detailed summary of problems and opportunities present in tribal forests and woodlands: money for computers, scholarships in the environmental sciences, reforestation, technology transfer, roads made impassable by rain, historic preservation, fish and wildlife habitat restoration,

Jim Petersen

Albuquerque Area Forester, John Waconda, on a logging operation in the Jicarilla Apache Tribal Forest in northern New Mexico. At 36, Mr. Waconda is the youngest area forester in the BIA. He believes the Division of Forestry may eventually be disbanded, as more tribes take over management of their forests

forest protection and ecosystem management. The list goes on, providing plenty of ammunition for lawmakers fond of sponsoring legislation with environmental or cultural themes.

The assessment also recites a litany of forest health problems westerners know well. Insects and diseases are spreading through overly dense pine and fir forests kept open for eons by frequent, low intensity fires started by lightning or by Indians who used fire to keep their fields and hunting grounds open. But as Indians were herded onto reservations, their fires went out. Then, in 1911, a nation fed up with wildfire forced Congress to put the Forest Service in the fire fighting business, unknowingly laying the groundwork for death and destruction in the West's national forests.

The problem is less severe in Indian Country than in some national forests, a result of the Division's greater reliance on selection harvesting techniques that replicate low intensity fire. But woody debris accumulations are increasing in some tribal forests, creating a paradox. One of the best ways to reduce the risk of large wildfires is to set small fires that gradually consume excess woody debris. By replicating natural and aboriginal fire patterns, so-called "prescribed" fires help reset the biological clock in fire-resistant forest types, thus aiding natural regeneration and plant diversity. They also help contain insects and diseases that reduce forest productivity if left unchecked. But intentionally set fires are a tough sell with a public that has been battling big forest fires since 1910. Prescribed fires occasionally escape their handlers. They also pollute the air, arguably violating state and federal air quality standards. But an increasing number of western landowners, including several tribes, have added fire to their management plans. Last year, tribes burned some 55,000 acres. Ecologists have targeted about three percent of total tribal acres fire for prescribed burning.

Money Troubles in Indian Country

Beyond risk reduction, there are compelling economic reasons for using fire to protect the health and productivity of tribal forests. Across the nation, these forests provide jobs for more than 40,000 Indians and another 9,000 non-Indians. For the fiscal years 1992–1996, the harvest averaged 706 million board feet per year, and harvest revenue topped $154 million annually. Western tribal forests led the way, harvesting an average annual 436 million board feet of timber worth $132 million in harvest revenue. On some reservations, timber dollars account for more than half of all tribal revenue.

Tribal harvesting is also assuming newfound importance beyond reservations, where plummeting national forest harvest levels have decimated many federally dependent timber communities. In 1986, western national forests in Regions 1, 3, 4, 5 and 6 harvested almost 8.8 billion board feet of timber, almost 17 times what was harvested from western tribal forests. But in 1996, the same regions harvested just 1.97 billion board feet of timber, about 4.5 times what was harvested from western tribal forests. Even more revealing, the 1996 western

tribal harvest exceeded all Forest Service regions in the West, except Regions 5 and 6, which harvested a combined 1.32 billion board feet, about 19 percent of their 1986 harvest.

Long overlooked tribal woodlands are also taking on new economic importance, especially in the Southwest, where forests give way to sparsely-timbered pinon-juniper woodlands. Here, Indians harvest nuts, fuelwood, fence rails for livestock corrals, herbs for Native medicines, pinion pitch for waterproofing baskets; and juniper tannin, an excellent wood preservative. The Division pegs the combined value of these harvests at $54 million a year, but economists estimate this revenue stream could be significantly increased with greater investments in manpower and technology.

It is the same everywhere in Indian Country. Manpower and technology shortages are forcing tribal resource managers to make do with less. Advanced computers and software programs capable of linking with advanced satellite mapping and global positioning systems—standard fare in other federal resource planning agencies—are rarely found on reservations. In March 1998 testimony before the House Appropriations Subcommittee for Interior and Related Agencies, Intertribal Timber Council President Jaime Pinkham, estimated almost $7 million is needed to eliminate deficiencies in the BIA's forestry program. "It is an unfortunate truth that the Bureau, despite its legal obligations as trustee, has never fully provided current and appropriate management for the forest and woodland resources it holds in trust for tribes across the country," he testified.

Citing estimates from the BIA's 1997 *Status of Forest Management Inventories and Planning*, Mr. Pinkham reported the volume of trust timberland acres covered by current, legally required management plans has declined to about 63 percent since 1993. Moreover, current management plans exist for only 40 percent of 17.1 million forest acres under BIA trust management. On a reservation-by-reservation basis, only 39 percent of forested reservations had current plans in place in 1997. "To operate such forests without current plans is to invite mismanagement, long term damage to forest resources and consequent federal liability for breach of trust," Mr. Pinkham warned.

The seriousness of the funding shortage is further spelled out in the Division's 1996 *Funding and Position Analysis*. According to the report, the Division operations budget declined by more than 17 percent between 1993 and 1996, and staffing declined 23 percent to 567 full time positions. Tribal forestry staffing increased seven percent to 528 full-time positions, not nearly enough to compensate for the loss of Division professional and technical staffing, which now stands at the 1984 level. Worse yet, temporary employment, which stood at 1,396 in 1993, fell to 547 in 1996, a direct result of federal government's reduction-in-force program.

Most revealing though is the report's acknowledgment that the federal Indian Forestry Program would not exist today were it not for millions of dollars from participating tribes voluntarily contribut-

Jim Petersen

Jicarilla nursery technician, Terrence Julian, among 17-week-old ponderosa pine seedlings grown from seeds collected from nearby tribal forests. The BIA built this temporary greenhouse in 1979. Next door is a new forest development monitoring station, constructed at tribal expense.

Jim Petersen

Across this empty, windswept log yard stands all that remains of the Navajo Nation sawmill and particle board plant near Fort Defiance, Arizona. Four hundred Navajos worked here before litigation forced the operation out of business. "Now it is a pigeon roost," laments one tribal forestry employee.

ing year after year. In 1996, more than 40 percent [$31 million] of the $77 million program budget came from tribes. But even with tribal contributions, Indian Forestry is $40 million and 668 people short of what is needed to put it on par with other federal forestry programs. The situation has become so frustrating that many Division foresters now talk openly about separating the Division from the Bureau of Indian Affairs. Others predict the Division will sunset in a few years as more tribes opt to go it alone, augmenting their forestry programs with federal trust dollars.

Tribal Forestry Differences

"My job is to eventually work my way out of a job," says John Waconda, the Division's Albuquerque Supervising Forester. At 36, Mr. Waconda is the youngest area forester in the nation and something of a superstar among tribal foresters. He is of Isleta/Laguna Pueblo decent and grew up on the Isleta Pueblo reservation, only minutes south of his Albuquerque office.

"Our main goal is to help tribes develop the technical expertise they need to manage their own forests," he explains. "The money required to run programs would still come down through the federal system, as part of the government's trust responsibility, but a majority of the decisions and the work should be the tribes' responsibility."

Mr. Waconda concedes he does not know if the strategy will work. "Many tribes see the government's Self-Determination policy as a way for Washington to back away from its trust obligation," he explained. "But the more economically viable tribes seem less concerned, while other tribes are simply too small to go it alone. It's a mixed bag."

Interestingly, none of the 13 forested reservations in Mr. Waconda's area appear anxious to jump ship, and it isn't because they distrust the government. Quite the opposite is true. "I think for the most part they trust us," Mr. Waconda says. "Most of our foresters are too young to possess any of the old Division prejudices. Every tribe values its natural resources a bit differently, and the differences are often quite subtle. We try to cater to these differences, as any good business would."

The Division's contractual relationships vary from the turnkey operation Mr. Waconda's staff provides for several Albuquerque area tribes, to agreements that progressively dilute the government's role. Some tribes "contract" with the Division, dividing the workload in ways that create parallel lines of responsibility. Other tribes "compact," meaning they develop and administer their own programs, with the Division providing technical assistance on request. In all three relationships, final authority over harvest plans rests with the Bureau of Indian Affairs, which also makes certain tribes abide by federal environmental laws, including the Endangered Species Act.

No two tribal forestry programs are the same. Some are spectacular successes, while others are struggling under the weight of events seemingly beyond their control. The most widely acclaimed programs are driven by state-of-the-art technology, with strong support from tribal members. Wisconsin's Menominees

have been harvesting their timber for more than a hundred years, and recently they won the Presidential Award for Sustained Development, presented by Vice President Gore. Southwest Washington's Yakamas developed a land classification system that allows them to make money growing, managing, protecting *and harvesting* old growth forests—something the Forest Service no longer considers on its adjacent holdings. Northern California's Hupas used advanced computer modeling techniques to perfect an integrated forest plan that protects 20 pairs of spotted owls and ceremonial dance sites, they also employ 65 in a tribal logging, log merchandising and forestry operation, *and* make annual dividend payments to tribal members. And in Northwest Montana, Confederated Salish and Kootenai foresters are pioneering an uneven-aged management program designed to add new age classes at each harvesting cycle. Prescribed fire is being used to control unwanted vegetation, creating open spaces where native ponderosa pine can regenerate naturally. The tribes are also using harvesting techniques that simulate disturbance patterns associated with historic wildfire frequency and intensity, adding still more structural diversity to old-growth pine forests that hold the genetic keys to a bright future.

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Navajo Nation Tribal Forester, Alex Becenti, left, stands beneath a century-old ponderosa pine near the Arizona-New Mexico border. Tribal members who oppose harvesting call these "grandfather trees." This site was selectively logged in 1983 and has reseeded itself naturally.

Quinault Indian Nation

The future also seems secure for western Washington's Quinault Nation, thanks to an ambitious land acquisition program funded from several sources, including timber harvesting revenue. Large-scale logging began here in 1922, but it wasn't until the early 1970s that the Nation demanded change in what had been a rough-hewn program emphasizing logging and natural regeneration. Using grants from the nonprofit Ford Foundation and the federal Economic Development Administration, the Quinault started from scratch, mapping and inventorying their forest for the first time.

"This is some of the richest timber-growing land in North America," declares Dawn Fullerton, the Quinault Indian Nation's 27-year-old forest manager.

But there are still challenges. The Nation owns just 28 percent of the land inside its reservation boundaries. The remaining 208,150 acres belong to more than 2,000 allottees, mainly the seven coastal tribes whose ancestors acquired the land in the early 1900s, before the federal government gave up on the idea it could turn Indians into farmers. But there are other owners too—timber companies, speculators and other Indians whose holdings further fragment the Quinault forest, making timber management difficult.

"We are buying land to re-establish the land base as fast as our means allow," Mrs. Fullerton reports. "It is hard to develop a coherent integrated forest plan when you have to deal with more than 2,000 landowners. Some allotments have more than 300 owners with undivided interests. Getting them to agree on a management plan can be very difficult."

The Quinault tribal forest spans 56,702 acres, including an 11,000 acre parcel acquired in 1989 from the Olympic National Forest in a move aimed at correcting an error in an 1855 boundary survey. Mrs. Fullerton says the Nation is harvesting in the parcel, but the presence of marbled murrelets may prevent further harvest on 4,500 acres within the unit. "It would be upsetting if we could not move forward," she says, noting the Nation plans to use the harvest revenue to buy more land.

The Quinault clearcut their forests because the dominant tree species - red cedar, western hemlock and Douglas-fir - respond best to even-age management. Selective harvesting is impractical because, in wet soils, residual trees are often blown down by high coastal winds.

About 2,100 harvested acres are manually replanted every year on Quinault tribal and allotment land. The job requires about 300,000 seedlings, mainly Douglas-fir, red cedar, western hemlock and lodgepole pine. Because it rains so much here, natural regeneration also occurs easily. Thinning is essential in both replanted and naturally reoccurring stands because they otherwise grow so dense sunlight cannot penetrate them, slowing tree growth. Brush and slash—the aftermath of past logging operations—poses a similar problem. Thousands of acres currently lie fallow because seedlings are unable to top dense underbrush that quickly invades harvest sites. Restoring the productivity of these acres is a major thrust of the Quinault forestry program. Hand fertilization, slash burning and broadcast burning help reduce brush competition while improving seedling survival rates. The Nation has also started a seed orchard where it produces fast growing, site-specific, disease-resistant seeds, which are grown into seedlings by contract nurseries before out-planting in tribal and allotment forests.

Maine's Penobscot Nation

Three thousand miles east, Maine's Penobscot Nation has placed its management priorities in a different arena. The six million board feet of timber harvested annually from tribal forests is a by-product of Penobscot cultural concern for protecting—and creating—deer and moose habitat.

The Penobscot forest—some 115,000 acres—consists of several large parcels, most of them a day's drive distant from the tribe's island headquarters on the Penobscot River at Old Town. Its 60,000-acre trust holding was created in the

early 1980s with federal funds allocated as part of the Maine Indian Lands Settlement Act. Concurrently, the Nation has purchased another 55,000 acres of timberland, which it owns outright. Previous owners harvested the entire forest at least once, probably twice. The resulting mix of hardwoods and softwoods is much too dense to produce the grasses and forbs deer and moose prefer. Fortunately, area lumber mills pay top dollar for maple, yellow birch and spruce trees that reproduce nicely in small patch cuts and selective thinnings that open the forest canopy to sunlight long enough to increase browse production. Also, area pulp mills are also regular buyers of lower quality fir and beech trees the Penobscots are trying to remove from their forests.

"Ours is a pretty straight-forward program," reports Russell Roy, the tribes' forest manager for the past 14 years. "We have a stable working relationship with the Bureau of Indian Affairs and, when we ask, we get good technical help from both the Division of Forestry and the U.S. Forest Service. Annual harvest revenues are sufficient to pay for our staff foresters and biologists and still return a nice profit to the tribe."

Caught in the Downdraft

Elsewhere in Indian Country, life is not so simple. The Jicarilla and Mescalero Apache tribes have been caught in the downdraft created by the collapse of the sawmilling industry in Arizona and New Mexico. The industry, which drew most of its timber from national forests in the Southwest, has all but vanished in the wake of timber sale appeals and endangered species listings, leaving the tribes with few markets for their logs. The Jicarillas sell their logs to Rio Grande Timber, the only mill left in the region. Meanwhile, the Mescaleros are building a new small log mill next to their older mill. But the entire operation may now be in jeopardy because their only pulpwood buyer, 420 miles distant, recently went out of business.

The near-term economic situation appears more hopeful for the Jicarillas, thanks to a carefully nurtured trophy-hunting program that has hunters standing in line to buy $5,000 permits. An Indian-guided hunt can cost $10,000 or more. The success of this and other business ventures has enabled the tribe to fund an ambitious land acquisition program. Since the early 1980s about 112,000 acres of timber and range land have been purchased from neighboring ranchers, rekindling an old debate about whether the tribe ought to replace a sawmill that burned down many years ago. Recent investments in inventory, planning, thinning and reforestation have made the Jicarilla forestry program one of the most admired in the region. Over the last five years, the tribe has poured more than $700,000 of harvest revenue into upgraded facilities, replacing "temporary" structures the Division erected twenty years ago. And in what may be the ultimate vote of confidence, tribal wildlife biologists recently asked Division foresters to prepare a harvest plan for the tribe's fenced elk reserve.

"We are pursuing three long-term objectives here," explains Division agency forest manager, Marvin Olson. "First, maintain a healthy and sustainable commercial forest. Second, generate an economic return for the tribe. Third, maintain or enhance big game habitat."

Where Jicarillas are concerned, Mr. Olson is outspoken to a fault, and his often-sharp opinions are legendary in the Division. "We are an under-funded backwater program within the BIA," he declares, noting the fact the Division's $40 million annual budget amounts to about 2.2 percent of the total BIA budget. "I wish we could be the Indian Forest Service, totally out of the BIA. Perhaps then the forestry program would receive the funding and attention it needs and deserves. I am certain we could provide tribes with better quality services. Were it not for the financial backing of tribes, our current program would not exist. The federal government's piece-meal commitment to Indian forestry ought to embarrass the whole country."

Jim Petersen

Amanullah Arbab, Navajo Nation reforestation and disease control manager, holds a packet of 90-day-old pinyon seedlings. Mr. Arbab built the tribe's widely admired operation from scratch, but litigation and the subsequent loss of timber harvest revenue have pushed the nursery to the brink. It survives by growing native plants for nearby mining company reclamation projects. Since 1977, the nursery has grown more than five million seedlings for Navajo forests.

A Tough Place To Work

In southern New Mexico, where pine forests melt into desert sand, the Mescalero Apache's struggle with a different version of the same problem. Here, dead and dying forests and increasingly deadly fires are unwelcome features on a landscape that has been used and abused for most of this century. The situation is every bit as perilous as it is in the sickest of the Intermountain region's overly dense national forests. The fact that Mescaleros depend on the 70 jobs their mill provides adds to the pressure on Division foresters. The tribe has sued the Bureau before for not cutting enough timber. In the past decade, there have been four forest managers. "It's a tough place to work," concedes Albuquerque area forester, John Waconda. "Mescaleros are adamant about the government's trust responsibility. They've tested our mettle several times."

But where forestry is concerned, the tribe has also given the Division wide decision-making authority, something David Koch has come to appreciate. Mr. Koch is in charge of forest development and inventory and planning on the Mescalero Reservation. "The tribe expects us to improve the health and economic value of their forest," he

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A log truck rolls across the scales at the Mescalero Apache sawmill near Tinnie, New Mexico. The collapse of the Southwest's federal timber sale program is undermining the tribe's forestry and milling operation. Their pulpwood buyer—420 miles distant—has gone out of business, leaving them without a purchaser for low quality timber they are removing from their overstocked forests.

explains. "How we do it is left to us."

The Division's objective is straightforward: restore the health of Mescalero forests by first reducing stand density and disease levels, then promoting seral species composition, including ponderosa pine. Historically, ponderosa was far more prevalent than it is now, owing to the fact it had adapted to frequent, low intensity fire. Although there is visible progress in Mescalero forests, Mr.Koch and his colleagues recently hit an economic roadblock that may undermine their progress, at least temporarily. The tribe's sawmill lost its pulpwood buyer—another casualty of the Southwest's imploding timber industry. As a result, timberstand improvement and disease control work may have to be slowed until a new pulpwood buyer can be found. Fortunately, the tribe's golf resort and gaming operation near Ruidoso has become a haven for Texas fat cats, and reservation big game hunts are also increasing popularity, as is the tribe's ski resort. But the prosperity of these ventures has not caused the tribe to reconsider its long-term investments in forestry. The three-way connection between forestry, harvesting and employment is clearly understood, as is the fact that the eventual recovery of big pine forests depends on the success of the Division's forest restoration program.

A Very Difficult Situation

Hope fades at Window Rock, Arizona, headquarters for the Navajo Nation. Tribal forestry and tribal culture have collided head-on in the midst of a reservation the size of West Virginia. Navajos are suing Navajos in a first of its kind lawsuit filed by tribe members who oppose harvesting. They have aligned themselves with Santa Fe environmentalists in litigation challenging the tribe's forest plan. In the three years since the suit was filed almost no timber has been harvested. Since 1992, annual revenues from harvesting have fallen from $4.2 million to zero.

The Navajos run their own forestry program, though the Division still provides technical services from its office next door to the tribe's forestry office. Where one organization's responsibility ends and the other begins is difficult to tell, which has added to the strain on both offices. "It would be an understatement to say that we are up to our teeth in pressure," says tribal forester, Alex Becenti, himself a Navajo. "We are trying to make the best of a very difficult situation."

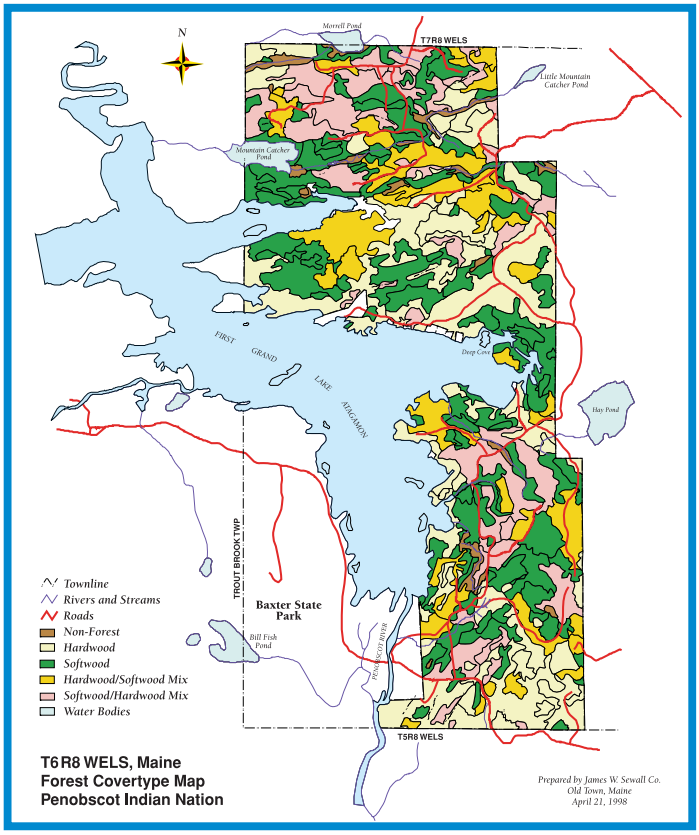
Mr. Becenti is new to his post and is understandably mum about the lawsuit. But his Navajo predecessor, Robert Billie, is not. "This lawsuit is an inevitable consequence of Self-Determination," he explains. "We have empowered tribal members who never would have dreamed of challenging the Division now think nothing of challenging Navajo Forestry. Environmentalists saw an opportunity to step in, and they took it."

It is hard to put one's finger on the pulse of this conflict. Some say the liquidation of old growth ponderosa was forestry's undoing, but others think the once vast forestry operation moved too far, too fast for most Navajos. Suspicion replaced trust. It did not help that more

than 80 percent of the reservation's population lives beyond the forest, and is unconcerned about the tribe's now idle sawmill, or the fact that it employed about 400 Navajos. "Now the mill is a pigeon roost," declares Frankie Thompson, who works in the tribe's inventory and planning department.

At its zenith, the mill and adjacent particle board plant processed 40 million board feet of Navajo timber annually. But the mill was designed to provide employment, not process logs efficiently. It closed owing the tribe millions of dollars for logs it had processed but not paid for. Modernizing the mill will cost an estimated $14 million, which may be more than the tribe is willing to pay given the fact that coal, oil and natural gas leases are its biggest revenue producers, by far.

Meanwhile, Mr. Becenti hopes to get the tribe's new forest plan approved sometime this year. It must please the tribe, a federal judge and the government. In the end, the harvest level is expected to fall from 40 to less than 20 million board feet, but under the circumstances anything would be helpful. The timber program hasn't generated any revenue since 1995, and the tribe's state-of-the-art reforestation program is surviving on mining company contracts and growing native plants for reclamation sites. With environmentalists firmly in control, the near-term outlook is bleak. "They told us they intend to take us to court, no matter how good our plan is," Mr. Becenti concedes. "We still hope to succeed."



James W. Sewall Co., Old Town, Maine

A forest covertype map of a Maine tract owned by the Penobscot Indian Nation. Most of the tribe's holdings are a mix of hardwood and softwood tree species. The tribe's management plan places a priority on conserving and creating moose habitat.

A Very Rocky Road

Litigation aside, the problem Navajos are facing is no different than the problem facing other tribes. Put simply, the road to Self-Governance is very rocky, especially for tribes trying to cope with the enormity of integrated forest planning. Most tribes lack the professional skills required to develop and administer such complex plans. Others lack the millions in up-front capital needed to purchase essential computer hardware and software. The Division is supposed to be helping with training, equipment and technology transfer, but it doesn't have the money either. "It is very frustrating," says Arch Wells, Acting Chief of the Division of Forestry. "The 1990 National Indian Forest Management Act makes the Division responsible for providing tribes with the technical and administrative support they need to complete their integrated forest plans, but we're still waiting for the funding."

The waiting should have ended in 1994, when Congress ratified the Tribal Self-Governance Act, reaffirming the federal government's tribal trust responsibility. In its aftermath, most federal agencies began implementing their own self-governance policies, further strengthening the Indian hand where trust responsibility is concerned. Among them, the Division's parent agency, the U.S. Department of the Interior. Interior Field Solicitor, Priscilla Wilfahrt, also confirmed the governvment's trust responsibility in *The Reality of the United States' Role As Trustee for Indians*, a briefing paper she wrote earlier this year.

"The development of a formal agency policy regarding Native Americans is a significant step in the implementation of the government-wide trust responsibility," she wrote. Ms. Wilfahrt's paper deals mainly with the 1994 Act, which she predicts will "require a great deal of judicial contemplation." But she also touches on the underlying cause of the Division's fiscal and political woes.

"The current policy of 'reinventing government,' combined with the forecasts for the fiscal welfare of the United States, leave no conclusion but that government will continue to shrink," she observed. "That means that there will be fewer and fewer federal resources to administer a growing trust resource. For example, many of the tribes in the Minneapolis and Aberdeen areas are using gaming revenues to acquire lands, which they are requesting be placed in trust status, thus increasing the Bureau of Indian Affairs' administrative burden at the same time Bureau staff members are diminishing."

Clearly, Mr. Wells and the Division face a tough situation —cursed one day for trying to exercise too much control over sovereign nations, cursed the next day for abandoning their trust obligations. But he is determined to make the best of it, dividing his time between, "trying to figure out how to get more money from Congress and how to down-size an organization that is already too small to fulfill its mission."

How or when Congress will finally address the Division's baseline funding needs is anyone's guess. Meanwhile, tribes that can afford it are investing their money in new industries including gaming, banking, telecommunications, electronics, clothing, resorts, food processing and trophy hunting and fishing. But for the nation's largest and most remote reservations, future prosperity lies in profitably managing their natural resources, especially timber. For now at least, these tribes remain wards of a government that recog-nizes their independence, but shows no sign of wanting to return what is treasured most in Indian Country: the land.

Indian Forest Policy Rooted In Federal Ambivalence

By Alan Newell
Historical Research Associates
Missoula, Montana

National Archives

Indians enrolled in the Civilian Conservation Corps plant pine seedlings at the Choctaw Agency in Mississippi. The Roosevelt Administration authorized enrollment of 14,000 Indians when it created the CCC program in 1933. Unlike other CCC inductees, Indians stayed on their reservations, where they worked mainly on erosion control. This photograph was taken in the late 1930s.

Indian forestry occupies a unique and often contradictory place in the history of tribal communities. Since the mid-nineteenth century, federal policymakers have viewed those tribes fortunate enough to have merchantable forests as well-positioned to reap the benefits of integration into a national economy. Treaty commissioners who established reservations for tribes during the 1850's considered the forest an important resource for both tribal and non-tribal communities. Yet, while federal agents and employees of the Bureau of Indian Affairs encouraged the use of the forest resource, Congress and sometimes the judiciary have often acted to stifle forest development. The reason for this contradictory federal approach is rooted in an ambivalent federal Indian policy.

For much of the nineteenth and twentieth centuries, federal policy toward native communities has sought to make them self-sufficient. The reservation system initiated in the 1850's had this goal in mind. But, the inflexibility in a system that envisioned all Indians as Jeffersonian yeoman farmers ironically hampered tribal members by denying them participation in the emerging local economy. This was the case in 1872, when the U.S. Supreme Court ruled in *U.S. v. Cook* that Indians on the Tulalip Reservation in Washington did not own their timber and, thus, could not cut and sell it. [See Footnote 1] The only way that timber could be removed from a reservation, according to the court, was if it was harvested incidentally to prepare the land for agriculture. The *Cook* decision shows how the goal of self-sufficiency was often obscured by the dictate of means, in this case the requirement that all Indians become farmers.

Congress reluctantly realized that not all Indian reservations were susceptible and Congress gradually implemented measures to conserve the nations dwindling resources. The Branch of Forestry within the Bureau of Indian Affairs emerged in 1910 as a byproduct of one of the most notorious debates of the period over the nature and control of the conservation movement as espoused by Chief of the Forest Service Gifford Pinchot and Secretary of the Interior Richard Ballinger.

Congress laid the cornerstone of Indian forestry with the Act of June 25, 1910 that not only created the Branch of Forestry but also authorized the sale of mature, as well as "dead and down" timber from reservation forests. But Congress in 1910 refused to address the legacy of a failed allotment policy or the possibility that reservation resources, including forests, should be *tribal*, rather than *individual*, resources. By failing to fundamentally reconsider how Indian communities might achieve economic self-sufficiency, Congress initiated a pattern of patchwork funding and statutory reform for Indian forestry. Even after federal Indian policy shifted during the 1930's with the Indian Reorganization Act (1934), a new emphasis on tribal political reconstruction, Congress seldom provided adequate funds to support the management of Indian forests on a sustainable basis. The fragmentation of many reservations a legacy of allot-ment and homesteading), as well as Congress' impatience with its role as trustee, (Termination) only accentuated the difficulties that BIA and tribal foresters faced in managing the reservation forest.

Congress' historic vacillation with Indian policy also incorporated a heavy dose of paternalism. The federal government, in its role of trustee, usually decided how tribal forest and other resources would be used without consultation with the affected tribe. The government's trust relationship with

tribal governments often placed BIA foresters in an awkward position. On the one hand they felt obliged to manage the tribal forest on a technically sound, sustained yield basis. Yet, these forests represented a *private* not a *public* re-source that was intended to support a diversified tribal economy. The specific wishes of tribal leaders and allottees only served to complicate the management mandate. Lee Muck, Director of Forestry, in 1938 captured the essence of the BIA forester's dilemma when he observed that it was difficult to "coordinate the sustained yield management of forests and range resources with the economic and social development of the Indians (in fact, it) is more difficult and time consuming than is the administration of most federal lands". These management demands often meant that tribal governments were not fully integrated into the decision making process.

Tribal governments gained a stronger voice in the management of the Indian forest beginning in the 1960s. BIA foresters generally encouraged this greater participation and saw it as a way to forge an alliance that could advocate more effectively for congressional support for the forestry program. Passage of the Self-Determination Act of 1975, Congressional review of federal Indian policy during the mid-1970s and the formation of pan-tribal groups such as the Intertribal Timber Council in 1976 all contributed to greater legislative awareness of the importance of Indian forests. Identification of the deficiencies in the tribal forestry program prompted Congress to provide additional funding for forest development and management planning beginning in the late 1970s.

Congress appropriated more money in 1985 to address the management planning needs on the nation's reservations. Legislative support for the program continued into the late 1980s and culminated in passage of the National Indian Forest Resources Management Act in 1990. This watershed legislation signaled the emergence of a coordinated and articulate voice for Indian forestry. Unfortunately, the bill's passage coincided with the federal government's efforts at fiscal austerity. As a result, the specific funding requirement initially identified in the bill was stripped before final passage and, in its place, Congress inserted the vague intent to appropriate "such sums as may be necessary to carry out the purposes of this title".

National Archives

Greasing a log chute on the Flathead Indian Reservation in Montana in 1920.

Inadequate funding continues to plague the tribal forestry program. This, coupled with increased pressure on tribes to assume full control of their forestry program, suggests an uncertain future for Indian forestry. Timber harvest operations will continue on reservation forests, as will efforts to develop tribal enterprises. However, increasingly, these enterprises will be forced to adjust their social goals of providing tribal members with income, jobs and training with the economic realities of a world market. Moreover, other tribal interests in the forest (recreation, food-gathering, spiritual), all of which play important, historical roles in tribal cultural identity, will undoubtedly compete with more cash-oriented uses of the forest.

The role of the federal government in Indian forestry will require adjustment. However, President Clinton's recent policy memorandum, reinforcing the tribal trust responsibility held by all federal agencies, makes it unlikely the nature of this trusteeship will change in the near term. [See Footnote 2] But as the Branch of Forestry is downsized, whatever persuasive power it held in Congress will surely be diminished. Increasingly, the responsibility for ensuring that the United States acts as a responsible trustee will fall on the tribes and tribal organizations such as the Intertribal Timber Council. Even with this effort, it is uncertain if the necessary funding will be forthcoming, absent the presence of a strong internal federal agency to advocate for its interest.

1. Indian reservations are federal lands held in trust for the benefit of Indian tribes. The various policies applied to America's native tribes, however, have created a mosaic of ownership on many reservations. Some reservation lands were allotted to tribal members and, thorough heirship, devolved to numerous individual tribal members. Other reservations were opened to non-Indian entry and Indian lands eventually passed to non-Indian owners. This fragmented ownership pattern continues to plague reservation forest managers seeking to combine forested allotments into rational timber management units.

2. The trust responsibility that the federal government owes to the nation's Indian tribes is rooted in the decisions of Justice John Marshall in several landmark cases in the 1830s involving the Cherokee Nation in Georgia. In Cherokee Nation v. Georgia, Justice Marshall found that tribes existed as "domestic dependent nations" within the United States. This status established a ward/guardian relationship between the tribes and the United States. Various treaties, the creation of reservations and statutory mandates imposed by Congress have defined the trust responsibility. In an April 29, 1994 memorandum, President Clinton emphasized the federal government's acknowledgment of its trust responsibility when he directed all federal agencies to evaluate their functions in relationship to their impacts on tribal communities. The President also directed that federal agencies interact with tribes on the basis of a government-to-government relationship.

Milestones in Shifting Federal Indian Policy

National Archives

Horsepower logged Menominee Reservation forests in Wisconsin in the early 1900s. The tribe has been managing its forests for more than a century, and recently won the Presidential Award for Sustained Development, presented by Vice President Al Gore.

Since the middle of the nineteenth century, there have been four clearly defined periods of United States Indian policy. Beginning with the Fort Laramie treaties in 1851, the federal government began establishing reservations that would separate tribes from encroaching non-Indian settlement. Federal policymakers saw these reservations as enclaves where Native Americans could learn the "arts of civilization" that would prepare their entry into EuroAmerican society. Included within the reservation concept was a program for allotting 80 acre parcels of land to tribal members with the expectation that such individual ownership would accelerate acculturation. The reservation policy eventually led to fragmentation and land alienation in many tribal communities. Before the policy ended in the mid-1920s, some critics estimated that Native Americans had lost more than 86 million acres of their tribal estate.

President Franklin Roosevelt's "New Deal" programs of the 1930s also ushered in a new era for Native Americans. Passage of the Indian Reorganization Act in 1934 signaled a shift in emphasis from the individual tribal member to the tribe as a political and cultural unit. Through the IRA, tribes reorganized as governmental bodies and began reacquiring lands that they had lost during the previous 100 years.

The ultimate goal of many Congressional critics of federal Indian policy did not change with the "Indian New Deal." Beginning in the late 1940s, various western congressmen looked to the increasing vitality of tribes as a means to end federal supervision over and responsibility for Native Americans. "Termination policy" dominated the relationship between tribes and federal and state governments during the 1950s. It led to the ultimate withdrawal of federal supervision over the Klamath Reservation in Oregon and the Menominee Reservation in Wisconsin. Numerous other tribes were identified for termination, often based on the availability of natural resources such as tribal forests. However, by the mid-1950s, tribal and state opposition to termination forced Congress to reject its application to most reservations.

In the wake of the failure of termination, the executive branch adopted a policy of tribal "Self-Determination." President Lyndon Johnson clearly favored this policy. But, it was the administration of Richard Nixon that focused national attention on the goal and ultimately led to passage of the Self-Determination Act of 1975. Under this policy federal agencies and Congress have encouraged tribes to assume responsibility for many of the programs once staffed by federal employees. Self-determination has fostered the growth of tribal governments and institutions, ranging from forestry to the courts.

It also has led to a stronger and more vocal tribal presence in the jurisdictional interplay of state, federal and tribal governments.

Promises To Keep: Paradigms and Problems With Coordinated Resource Management In Indian Country

By Gary Morishima, Ph.D.
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Conner Creek Falls on the Yakama Indian Reservation in western Washington

For countless generations, the economic and spiritual well being of Indian people has been tied to the land, air, water and all things that walk, fly, swim or grow roots. In many ways, culture is maintained by traditions, practices and rituals that bind the health of the individual to the community and the community to the Earth. The full extent of this linkage—of Indian dependence on plants and animals for medicines, food, shelter, transportation and commerce—has not been fully understood or appreciated by the Bureau of Indian Affairs (BIA), though the agency has been responsible for managing tribal natural resources for more than 150 years.

New forestry, ecosystem management and biocentrism exemplify our society's admission that it can no longer manage natural resources in isolation, either from one another or from their impacts on human communities. In Indian country, "coordinated management plans" are supposed to guide use and protection of tribal natural resources. But few such plans currently exist. On many reservations, forest plans have been around for years, mainly because forestry is the only functional resource division that has existed in the BIA for more than a few years. But these plans focus principally on silvicultural and timber harvest activities related to commodity production and income generation. The need to incorporate them in an over-arching framework for multiple resource management is now firmly established in both law and policy.

When Congress passed the National Indian Forest Resources Management Act in 1990 (NIFRMA, Title III of P.L. 101-630), it required the development of integrated (coordinated) plans by defining forest management plans within the context of tribal integrated resource management plans:

"(5) forest management plan means the principal document, approved by the Secretary, reflecting and consistent with a tribal integrated resource management plan, which provides for the regulation of the detailed, multiple-use operation of Indian forest land by methods assuring that such lands remain in a continuously productive state while meeting the objectives of the tribe" SEC 304(5)

In Section 305, NIFRMA sets forth objectives much broader than timber production:

(5) the retention of Indian forest land in its natural state when an Indian tribe determines that the recreational, cultural, aesthetic or traditional values of the Indian forest land represent the highest and best use of the land;

(6) the management and protection of forest resources to retain the beneficial effects to Indian forest lands of regulating water run-off and minimizing soil erosion;

(7) the maintenance and improvement of timber productivity, grazing, wildlife, fisheries, recreation, aesthetic, cultural and other traditional values.

These requirements for coordinated planning are codified in federal regulations at 25 C.F.R. 163,11(b), which reads in pertinent part:

"Forest management planning for Indian forest land shall be carried out through participation in the development and implementation of integrated resource management plans, which provide coordination for the comprehensive management of all natural resources on Indian land. If the integrated resource management planning process has not been initiated, or is not ongoing or completed, a stand-alone forest management plan will be prepared."

As matters of policy, management plans are pivotal to the ability of tribes

to establish management direction for the use of trust resources under the Secretarial Order entitled "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" signed by Interior Secretary Bruce Babbitt and Commerce Secretary William Daley on June 5, 1997.

The Departments acknowledge that Indian tribes value, and exercise responsibilities for, management of Indian lands and tribal trust resources. In keeping with the federal policy of promoting tribal self-government, the Departments shall respect the exercise of tribal sovereignty over the management of Indian lands, and tribal trust resources. Accordingly, the Departments shall give deference to tribal conservation and management plans for trust resources that: (a) govern activities on Indian lands, including, for the purposes of this section, tribally-owned fee lands, and (b) address the conservation needs of listed species. The Departments shall conduct government-to-government consultations to discuss the extent to which tribal resource management plans for tribal trust resources outside Indian lands can be incorporated into actions to address the conservation needs of listed species. Principle 3(B).

Despite the need for tribes to take a holistic view of resource management, coordinated plans have been slow to develop. There are four problems impeding progress:

- **Coordinated management has been a low priority**
- **The organizational structure is disfunctional**
- **There are information deficiencies**
- **Allotments and other special problems**

Multiple resource management planning has not been a high priority within the BIA: Federal appropriations for Indian forestry have always lagged far behind the budgets available to private industry or those provided to federal agencies like the U.S. Forest Service. Very little funding is available for management planning for lands other than commercial timberlands. Because BIA funding is so limited, agency management skills have been concentrated almost exclusively on timber production. The skills needed to support coordinated management— ecologists, geologists, botanists, archaeologists, hydrologists, fisheries and wildlife biologists, soil scientists, range conservationists and engineers, to name a few—are in woefully short supply.

In its 1993 report, the Indian Forest Management Assessment Team (IFMAT) identified an annual need for $187 million to bring Indian funding for coordinated resource management to a par with funding available to National Forests. *The Forestry Program Funding & Position Analysis* published by the BIA in April, 1997 reinforced these findings, indicating that multiple use management was being funded at less than half the level of need. Concluding that additional resources were necessary *"to effectively meet the requirements for today's resource management expectations of the tribes, the public and the courts."*

The lack of emphasis on coordinated planning is due in part to inadequate federal appropriations and in part to the lack of a cohesive, integrated resource management program within the BIA. Common understanding of management goals and objectives, is of course, a major focus for coordinated planning, but this cannot occur without adequate budgets and organizational infrastructure. No single division within the BIA is in charge of coordinated planning, instead, staffs are left to fend for themselves. Relationships and communication between staff responsible for forestry, minerals, water, agriculture, fish, wildlife, range and cultural resources are tenuous at best.

This unhappy situation is further complicated by functional separations of tribal and BIA forestry programs. At most locations, tribal funds support multi-disciplinary management activities and tribal employees form the vast majority of natural resource professionals who are trained in disciplines other than forestry. Thus, in addition to trying to overcome the confusion and misunderstanding caused by specialized jargon that frequently characterizes interdisciplinary processes, participants in coordinated resource planning efforts must contend with structural organi-

This is my land, from the time of the first moon till the time of the last sun. It was given to my people. Wha-neh Wha-neh, the great giver of life made me out of the earth of this land. He said, "You are the land, and the land is you." I take good care of this land, for I am part of it. I take good care of the animals, for they are my brothers and sisters. I take care of the streams and rivers, for they clean my land...I am forever grateful for this beautiful and bountiful earth. God gave it to me. This is my land.

Clarence Pickernell
Quinault Indian Nation

Jim Petersen

Quinault Indian Nation Douglas-fir overlooking the Pacific Ocean, north of Taholah, Washington

Bud Miller, BIA

Ponderosa pine overlook on the Spokane Indian Reservation in eastern Washington

zational barriers that can inhibit effective communication among foresters and other natural resource professionals. The problem of obtaining ready access to the specialized expertise needed to undertake coordinated resource management planning is exacerbated by low pay scales and high workloads of tribal staff. Tribal employees are often required to function without adequate budgetary support, without a solid foundation of resource information and without the full opportunity to experience professional peer interactions, which are essential for effective participation in coordinated management efforts.

In most instances, coordinated management is hampered by the inadequacy of basic information on the resource base. Although continuous forest inventory and stand-level inventory data are frequently available for forested reservations, comparable information for other resources are generally unavailable or inadequate. Even forest inventory data are rarely suitable for much beyond the limited purpose of developing silvicultural prescriptions and scheduling timber harvest. Little effort is dedicated to the collection of information that would be valuable for management of other resources. Communication must be improved among the various disciplines that require access to resource data to develop systems capable of efficiently collecting the suite of information required to support coordinated planning. Since coordinated management on reservations cannot occur within a vacuum, efforts must be undertaken to ensure that procedures and impact models are consistent with those used by other jurisdictions to permit landscape scale assessments.

Another problem confronting coordinated management is the difficulty of gaining recognition and respect for traditional knowledge. Much wisdom and understanding of the workings of natural systems has been gained over countless generations of observation and experimentation. However, the validity of this type of information has often been challenged by resource professionals due to the lack of academic credentials and supporting research, which are acknowledged in scientific circles.

A significant problem confronting coordinated resource planning is the extreme sensitivity of some of the information. Tribes are often reluctant to disclose the location and use of culturally important resources and sites. They are understandably and legitimately concerned with the security of this information and the difficulty of providing adequate protection against unauthorized use and access. Problems of awareness are heightened by the personal nature of much of this information; even within a tribal community, the importance of some resources and sites are closely held within close-knit family units and are not widely known. This creates a serious dilemma, for without full knowledge of the existence and significance of resources and places to tribal communities and individuals, managers must either act in ignorance or resort to the uncertain advice of designated cultural committees or staff.

Coordinated management planning on many reservations is further hindered by complex land ownership patterns resulting from the General Allotment Act of 1887. The purpose of this Act was to break up tribal

communities by allotting small parcels of land to individuals in an attempt to transform them into property-owning farmers and ranchers. Under the provisions of the Allotment Act, lands that were not given to individuals were open to homesteading, eventually causing over 100 million acres to leave Indian ownership. Today, coordinated management on many Indian reservations must contend with a crazy patchwork quilt of checkerboard ownership patterns, where fee, tribal and individually held lands are commingled across the landscape. Nationwide, approximately ten million acres of trust land is owned by individual allottees in 80–160 acre parcels. The objectives of these allottees may, and often do, not coincide with tribal objectives for coordinated management. To complicate matters further, ownership of many allotments is held as undivided property interests, often as a mixture of fee and trust status as a result of processes of inheritance.

Coordinated management of Indian resources also raises troublesome issues relating to the administration of the federal trust responsibility within the context of tribal self determination. Although Indian lands and resources are private assets, title is often held in trust by the United States. The United States has a fiduciary obligation, a trust responsibility, to ensure that the assets of the trust are prudently managed. While self determination, the right of tribes to establish their own objectives and plans, is the official policy of the United States, there is a potential for the United States as trustee to constrain or even usurp tribal prerogatives in establishing objec-tives for management. For example, if the BIA sold timber over the objections of the tribe that owned it.

Many formidable obstacles must be overcome before coordinated management becomes a reality in Indian Country. Like many communities, Indian tribes are struggling with the need to reconcile traditional ways and values within the context of total resource management. Competing social forces—economic development, job formation, preservation, and conservation—all exist within tribal communities, just as they do everywhere else in America.

Jim Petersen

Looking across a clearcut into a stand of 50-year-old Douglas-fir growing on the Quinault Indian Nation. In this timber-rich region, it only takes about 50 years to grow a ready-for-harvest forest.

Coordinated or ecosystem management is the new forestry paradigm. But it is not new in Indian Country. Tribes have been engaged in it for thousands of years, honoring the inter-relationship they believe exists between all natural resources. Technology—computers and Geographic Information Systems—makes it possible for modern-day forest managers to apply these ancient principles within the context of coordinated resource management plans.

IFMAT recognized the striking potential for Indian forests and forestry to serve as models of sustainability others might want to emulate. Why? Because in many ways, tribal communities are social microcosms wherein multiple decisions must be made within the context of a larger plan that simultaneously utilizes, preserves, and protects the vitality of the resources in order to avoid governmental and economic crises.

"The more we learn, the more we see that scientific and technological approaches taken in the past have not been adequate to protect the landscape. Drawing from an expanding scientific knowledge base, managers are now promoting new ways of caring for the land which echo traditional ways. Tribes should be able, if anyone can, to use the knowledge that has always been theirs to manage their own lands." IFMAT, p V-44/45.

At a few reservations, including Yakama, Menominee, White Mountain, and Warm Springs, tribal approaches to landscape management have already impressed many who are now struggling with ecosystem concepts. But at most others, coordinated management planning remains an elusive goal.

Non-Indians have a fondness for the written word, for laws, regulations, and plans. If it's not on paper, it doesn't count. But that's usually not the Indian way. A coordinated management plan is more than a piece of paper. It's an attitude. To respect and honor the earth, its plants, and creatures, in thought and action. To adapt and change. To use the best that science and technology have to offer and discard the rest. To know that all things are interconnected, yet to have the will and the courage to make tough choices, understanding that the future of their children and their children after them lies in the balance. That's really what it's all about.

Whether Indian tribes will eventually record their world views in coordinated management plans is yet to be determined. But the spirit and conviction of tribal beliefs and values run strong and deep; the will to survive as Indians will endure as a promise to generations yet unborn.

Coordinated management must not be allowed to become just an administrative exercise. To have meaning and purpose, it must be more than a piece of paper or a dream. In Indian country, it is; it's reality. It is being practiced everyday through counsel and legend, through tradition and ceremony, through observation and practice, whether reduced to paper or not. "*You are the land, and the land is you.*" Coordinated management is just a new word for a time-proven, ageless philosophy, a path from the past to the future, simply a way of life.

By Don Motanic
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Intertribal Timber Council
Portland, Oregon

A bee at work atop a thistle growing in a harvest opening near Ronan, Montana

The National Indian Forest Resources Management Act: What Was and What Will Be

Before white settlement began in America, the rules, roles and relationships linking Indians to their forests were not governed by legal codes. They were parts of a way of life that dominated the North American landscape for thousands of years.

Some parts of this way of life are still very much alive in Indian Country, but until recently, these institutions and traditions were not recognized in U.S. law. Now they are, thanks to ratification of the National Indian Forest Resources Management Act (NIFRMA) on Nov. 29, 1990. It was long overdue.

What was

Before NIFRMA was signed into law, three statutes guided the Bureau of Indian Affairs in its management of the 17.1 million acres of Indian forestlands. Two were enacted in 1910 and a third in 1934. Together, they covered two pages and included two short paragraphs concerning tribal timber. A third paragraph described the need for sustained yield management.

Such limited law is insufficient to guide the federal management of a forest resource from which annual modern day harvests regularly exceed 800 million board feet. Its shortcomings were compounded by the fact that the federal government, through the Bureau of Indian Affairs, was managing Indian forest resources as a trustee, and as such is obliged to meet strict fiduciary standards.

NIFRMA acknowledges the federal trust responsibility for forests, requires management plans that accommodate a broad array of tribal forestland uses and recognizes the need for integrated resource management plans. The BIA role in completing these plans is monitored through annual compliance reports to Congress and through national independent assessments conducted every ten years.

The Act also codified tribal financial contributions to the management of their forests, established trespass enforcement mechanisms that recognize both tribal and federal laws, and streamlined the handling of timber receipts. A comprehensive Native American forestry education and outreach program was also authorized, as was a technical assistance program for Alaska Native Claims Act Corporate lands.

Indian Forest Management Assessment Team Report

The Act also mandates an independent assessment of Indian forest lands every ten years. To fulfill this requirement, the BIA and the Intertribal Timber Council (ITC) developed an assessment plan and selected a panel of respected forest scientists to conduct the first assessment. Panel members included Dr. John Gordon, Dr. John Sessions, Dr. Jerry Franklin, Dr. Norman Johnson, Dr. David Patton, Dr. Jim Sidell and Ed Williston, a forest products manufacturing and marketing specialist.

Among the tasks assigned the IFMAT (Indian Forest Management Assessment) team: conduct an analysis of management practices, comparing them with similar practices in federal and private forests; survey the health, productivity and condition of Indian forests; evaluate forestry staffing patterns of the BIA and tribes; evaluate timber sale administration procedures; review the potential for reducing or eliminating relevant administrative procedures, rules and policies of the BIA, consistent with federal trust responsibility; review the adequacy of Indian forest management plans, including their compatibility with tribal integrated resource management plans; determine the feasibility and desirability of establishing minimum standards that could be used to determine if BIA forestry programs fulfill the federal government's trust responsibility; and make recommendations concerning reforms and funding levels necessary to bring Indian forest land management programs to a state-of-the-art level.

In the 18 months leading to IFMAT's December 1993 report, the team visited 33 reservations, surveyed attitudes about forestry in tribal communities and analyzed an enormous amount of data concerning forestry, harvesting and funding levels. The team's final report included more than 70 findings and 50 recommendations. Among the major findings: there was a difference in forest perspectives held by Indians and BIA forestry staff; there was a significant disparity between the funding level for coordinated resource management in Indian forests ($4.14/acre), and the funding level for national forests ($11.69/acre); and there were stress points in the BIA-tribal relationship, especially involving technical assistance and trust oversight.

ITC Develops an Action Plan

After the IFMAT report was issued, the Intertribal Timber Council developed an action plan designed to focus congressional—and public—attention on the team's findings and recommendations.

Nationally, the Council would assist the U.S. Senate in its conduct of an oversight review of the status of NIFRMA. Regionally, it would help develop and conduct timber sale administration workshops on the Warm Springs, Fort Apache and Menominee Indian reservations.

On September 20, 1995, the Senate Indian Affair Committee revisited the National Indian Forest Resources Management Act with an oversight hearing conducted by Arizona Senator, John McCain, NIFRMA's sponsor. The IFMAT report was formally entered into the hearing record, and team chairman, Dr. John Gordon, discussed the group's findings and recommendations, warning that many innovative tribal forestry programs might lose opportunities for flexibility for lack of adequate federal funding. Representatives of individual tribes and the Intertribal Timber Council also testified, documenting continuing inadequacies in federal funding for the BIA forestry program. Senator McCain was clearly disturbed by what he heard, leveling sharp criticism at the Department of Interior for its failure—after five years—to issue NIFRMA regulations. Less than two months later, on October 5, final regulations were published.

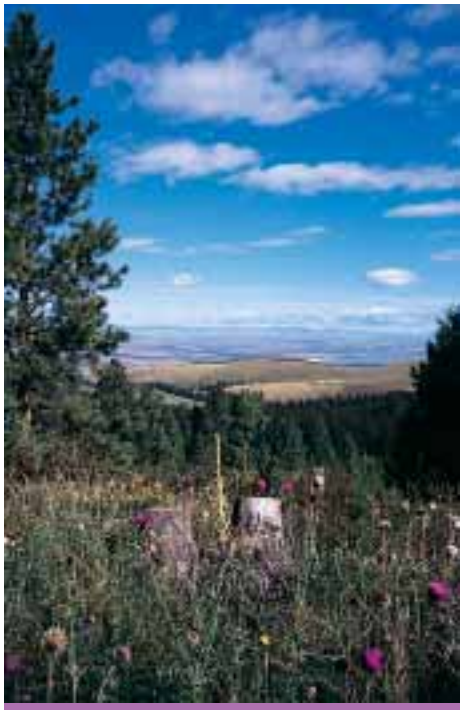
New Programs Established

Subsequent to the hearings, ITC unveiled a series of programs designed to capitalize on IFMAT recommendations. Among them: to support a national prescribed fire initiative aimed at restoring fire to tribal forests, woodlands and rangelands. The plan helped the BIA gain authorization to spend up to $10.5 million on prescribed burns in FY 1998.

Locally, the Council conducted telephone and workshop surveys to see how member tribes were implementing IFMAT recommendations. Larger forestry programs (more than 10,000 acres) reported they were making major investments in upgrading forest roads—from $17.2 million in 1991 to $35 million in 1996. The Hoopa Valley Tribe reported it had increased its road investment from $48 to $72 per thousand board feet of timber harvested. New, larger culverts were installed and roads were surfaced to protect watersheds.

The survey also revealed many forestry programs were integrating staff management functions, including forest protection, timber sale preparation and administration. Tribes were also integrating federal and tribal staffs through cooperative agreements (Colville), tribal Self-Determination contracts (most forestry programs nation-wide) and self-governance compacts. The number of tribes compacting forestry increased from five in 1991 to 48 in 1998. Many tribes reported using the IFMAT report to support overall tribal reorganization and integrated resource management plans. The Warm Springs Tribe is using IFMAT to supplement its "Bridge Report."

The survey also revealed that smaller forestry programs needed a local natural resource intern program to help educate tribal members who wanted to become resource managers. Such a program has now been developed with the help of intertribal organizations, the Natural Resource Advisory Board and Haskell Indian Nations University at Lawrence, Kansas. The program funds up to 20 positions annually, providing students with an opportunity to earn undergraduate and advanced degrees, while also gaining valuable field experience.



Overlooking western Montana's Mission Valley from Salish-Kootenai timberland.

"...Indian tribes are here to stay. We will not sell our land or shear down our forests during wavering economic times and relocate our operations elsewhere. Our ancestors - our culture - is committed to the land upon which we live.

We have become new pathfinders searching for ways to revitalize our environment and thus our communities.

When our work is done, our greatest honor is not in what we celebrate in ourselves today. The greatest honor lingers in the future when our grandchildren will stop and say, "Our elders, our grandmothers and grandfathers,did do it right." They will enjoy the success of our lifetime in their future."

Jaime A. Pinkham, Nez Perce Tribe President, Intertribal Timber Council Senate Committee on Indian Affairs Oversight Hearing on the National Indian Forest Resources Management Act September 20, 1995

What will be

Almost eight years after Congress ratified NIFRMA, and almost five years after the scientific assessment team made its recommendations, tribes are still looking for ways to reduce bureaucratic barriers that are impeding progress in development and implementation of coordinated resource management programs. The IFMAT report documented the shortcomings of assisting tribal forestry, the stresses that impact the BIA/tribal forestry relationship, and the funding gap that distances tribal forestry from forestry as it is practiced on other federal lands across the nation.

Meanwhile, tribal forestry programs are moving ahead on their own, nearly matching the federal government dollar for dollar. According to *The Journal of Forestry*, [Nov. 1997] the Yakama Indian Nation funds two-thirds of its forestry program with timber receipts. These long-term investments, and the rich cultural heritage they embody, seem certain to pay big dividends, not just in terms of improved forest productivity, but also in terms of the quality and integrity tribes can bring to forestry, wherever it is prac-ticed. Eventually, a bridge will be built between the past and the future — between what was in Indian Country and what will be. The only question is, "Will the federal government honor its legally-binding trust obligation by helping tribes complete the bridge?"

Quality Inventory and Planning Data Essential to Tribal Forest Plans, Sovereignty

By Greg Blomstrom
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Bud Miller, BIA

Beargrass on the Yakama Indian Reservation

Contemporary forest landowners and managers all recognize the critical importance of sound, current timber inventory and planning data. It has not always been this way, especially in Indian Country.

When the Bureau of Indian Affairs was established in 1849, no thought was given to forestry. In fact, sustained yield management was not required in tribal forests until Congress ratified the Act of June 18, 1934. But it would be another 56 years before Congress saw fit to make approved forest plans a legal requirement. It did so with ratification of the 1990 National Indian Forest Resources Management Act.

Today, the Bureau of Indian Affairs is the federal government's representative in a government-to-government relationship involving more than 56 million acres of land the federal government holds in trust for Indian tribes. The Bureau's Branch of Forest Resources Planning maintains a vast forest inventory data base developed over several decades, and it is used daily by tribal and BIA forest land managers. When the IFMAT team released its *Assessment of Indian Forests and Forest Management in the United States* in 1993, it had high praise for the integrity of this data base.

"The BIA's continuous forest inventory (CFI) system for planning and policy analysis stands out compared with that of other agencies," the team wrote.

CFI plots were first established in 1957, on the Spokane and Menominee reservations. But the system now extends to 58 reservations across the country and includes more than 22,800 permanent plots scattered across 8.9 million acres of tribal forest land. Most of these plots are remeasured every ten years.

Sustained yield calculations are far more complex and costly today than they were in 1934 when sustained yield was mandated. Forest inventories are required to be statistically accurate, not by region or state, but by reservation or ownership. It is very important to Indian owners that management decisions be based on their forest's data, not that of their neighbor.

The National Indian Forest Resources Management Act requires forest management plans to be consistent with integrated resource management plans developed by tribes. But sadly, as IFMAT discovered, "The recent BIA policy calling for development of integrated resource management plans for each reservation, developed at the urging of tribes, has not been successfully implemented." The Bureau recently published a handbook describing the plan integration process, but because funding is scarce, little else has been done.

In 1992, about 60 percent of all tribal commercial forestland—some 3.6 million acres—were covered by a current forest management plan, but by 1997 the percentage had fallen to 40, even though about 6.8 million acres had current plans. Several factors are contributing to this disparity: tribes are buying more forestland, there are more reservations and—of greatest significance—forest management plans are now required for woodlands. The table on page 30 tracks forest plan completions from 1992–1997.

Tribes have long relied on the Bureau for assistance in forest planning and inventory analysis. Unfortunately, IFMAT found that, "In comparison either with the support given harvest scheduling by the Forest Service, or the support given by the BIA to forest inventory, the technical support for harvest scheduling is embarrassingly small." (IFMAT reported federal funding for tribal inventory and planning averages 26 cents per acre, compared with $5 per acre on national forests.)

Until recently, most inventory information collected from tribal CFI plots was based solely on measuring standard tree characteristics, including diameter and height of previously measured trees, and similar information on new trees in the plot. Most

of the data gathered was on trees five inches or larger in diameter.

This is changing, but only gradually when compared to what is happening inside the Forest Service, where funding for computers and advanced software programs is more readily available. Few tribes can afford these tools—sophisticated growth and yield models, visualization programs that show how stands look before and after treatment, harvest scheduling tools and automated mapping software—but those that can are using them to classify their inventory plots by soil type, silvicultural style and habitat type.

With advanced technologies at their fingertips, and improved on-the-ground data collection, these tribes are also able to peer much further into the future than they once could. Basic twenty-year management plans are giving way to sophisticated planning that looks 100 or more years into the future.

Self-governance tribes are stepping to the forefront in inventory and planning on their reservations, developing growth and harvest models as sophisticated as those used in national forests by the U.S. Forest Service. But less than 20 percent of the 77 reservations with current forest plans are using sophisticated growth and harvest models. The other 80 percent still calculate their annual allowable harvest by hand, relying on 20-year-old inventory methods. Meanwhile, the BIA's $1.5 contribution to inventory and planning remains unchanged in five years.

Although tribal dollars now account for more than 40 percent of the entire Indian forestry budget, there is a limit to what they can and should be expected to contribute, particularly with respect to unfunded federal mandates tribes have not agreed to. A recent Bureau report, *Unfunded Environmental Mandate Study, BIA, 1994* found that the forestry program had an unfunded annual mandate totaling $8.2 million—money needed to meet requirements associated with several federal laws. This includes the National Environmental Policy Act, the Archeological Resources Protection Act and the Endangered Species Act.

While these mandates may seem well intended, they have become a significant forest planning burden, for both tribes and the Bureau as trustee. Tribes are well aware that approved forest plans help insure the sovereignty of tribal government, specifically as it relates to utilization of tribal forest resources. The federal government is similarly obligated, because the only way it can grant sovereignty, while simultaneously fulfilling its trust responsibility, is via an approved forest plan. Thus tribal-directed forest plans, and the planning and inventory data that supports these plans, are critical elements in Indian Country forestry.

Bud Miller, BIA

Ponderosa pine on the Warm Springs Indian Reservation in central Oregon

For lack of stable and adequate federal funding, Indian forestry is in jeopardy, and with it, tribal sovereignty. Over the past decade, there have been modest increases in the overall Indian budget, but the money has not gone to resource programs. Moreover, appropriations have not kept pace with regulatory mandates or the cost of technology. As a result, inventory and planning data is being collected less frequently with less accuracy, and forest plan revisions are not being made in a timely manner. There is a documented need for $5.7 million per year to maintain CFI, and develop forest plans—far more than the $5 million the federal government has allocated over the past ten years. If something is not done soon, Indian forestry's technological and scientific gains will be lost, and with it tribal and federal investments in programs designed to benefit both tribes and tribal forests.

Perhaps Senators Inouye and McCain described the situation best in a joint letter to the Committee on the Budget in 1992. "Without question...Indians, the population group that suffers the worst conditions of unemployment, poor health, inadequate education and other social and economic conditions, are the people who, over the past decade, have also suffered the deepest cuts in Federal spending for programs designed for their benefit."

Comparison of Completed Plans and Acreage Available for Forest Management Planning

Fiscal Year	Thousands of Acres	Percent Current
1992	4,464	58%
1993	5,382	85%
1994	5,497	71%
1995	5,432	63%
1996	17,069	48%
1997	17,104	40%

The number of tribes with current forest plans increased between 1992 and 1997, but the number of approved plans has declined by percentage, mainly because the federal government now requires forest plans for tribal woodlands.

Bud Miller, BIA

Log trucking on the Colville Indian Reservation in eastern Washington

Tribal Forest Planning Unique and Challenging

Tribal forest planners face a unique set of challenges. Consider these likenesses and differences between tribal, corporate and public shareholders. (Tribal shareholders are Indians belonging to a particular tribe. Corporate shareholders own shares of stock in publicly-traded forest products companies and public shareholders are the citizen owners of federal, state or municipal forestlands)

Tribal and corporate shareholders expect direct cash dividends from management, while public forest managers need only break even.

Tribal shareholders may live on and use the property. Corporate shareholders cannot live on the property, or use its resources, but may have periodic access. Public shareholders can use the resources but cannot live on the property.

Tribal shareholders receive indirect benefits from their natural resources, including hunting, gathering, fishing and clean water. Corporate shareholders receive no indirect benefits. Public shareholders receive some indirect benefits.

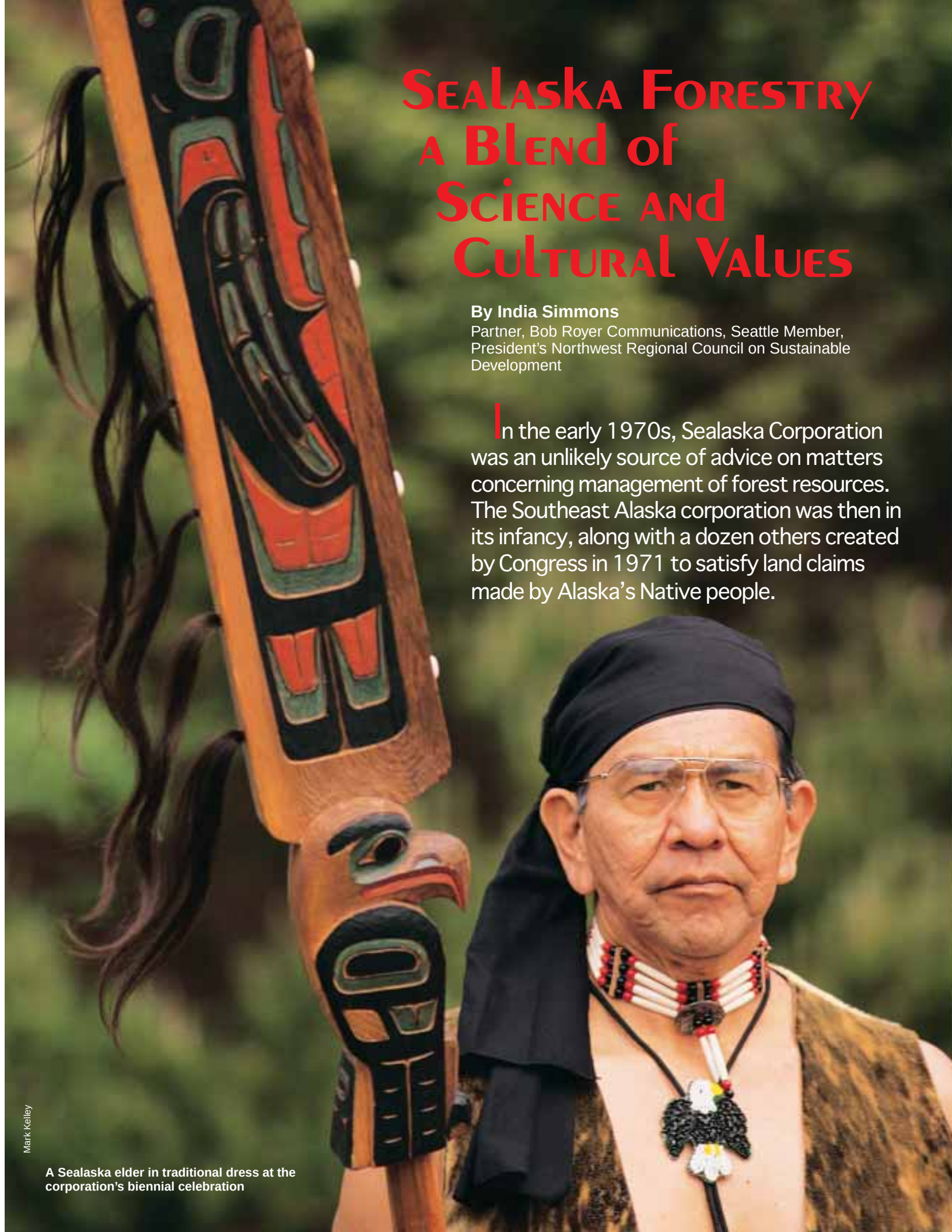
Where long-term forest planning is concerned, the corporate outlook is subject to constant revision, based on market and regulatory factors. Public forest plans are usually reviewed every ten years but are constantly battered by litigation and political forces. On tribal forests, the long-term outlook traditionally spans seven generations [more than 150 years], but is limited by federal funding shortages and congressional indifference.

Tribal shareholders are directly affected by forest management decisions, but corporate shareholders are not. Nor are public shareholders, save for those living in federally-dependent timber communities who may be economically harmed by reductions in harvest levels.

Sealaska Forestry a Blend of Science and Cultural Values

By India Simmons
Partner, Bob Royer Communications, Seattle Member, President's Northwest Regional Council on Sustainable Development

In the early 1970s, Sealaska Corporation was an unlikely source of advice on matters concerning management of forest resources. The Southeast Alaska corporation was then in its infancy, along with a dozen others created by Congress in 1971 to satisfy land claims made by Alaska's Native people.



Mark Kelley

A Sealaska elder in traditional dress at the corporation's biennial celebration

Under terms of Alaska Native Claims Settlement Act, Sealaska and its 16,000 shareholders won the right to select more than 300,000 acres of land. This makes the corporation the largest private landowner in Southeast Alaska, the panhandle of America's largest state. Commercial forests blanketed more than half the land base Sealaska selected. Today, these forests produce a harvest of between 75 and 100 million board feet of timber annually, sufficient to employ an average of 500 loggers, truckers and stevedores.

Sealaska's forests differ significantly from other Pacific Northwest forests. The corporation had to spend several years researching harvest and reforestation regimes to determine which ones would work best. Now, 26 years later, the corporation is a recognized leader in Alaska in developing new research and technology leading to improvements in forestry, fish and wildlife habitat management and environmental protection. "We are proud of our accomplishments and the results of our management program," says Richard P. Harris, Sealaska Corporation senior vice president.

Sealaska's stream monitoring research program is attracting the attention of agencies and land managers from the lower 48 states. In particular, the corporation has been answering questions about its large-scale aerial photography program, used to monitor the effectiveness of buffer zones that protect coastal streams where they pass through harvest areas. Riparian buffer zones are important in Alaska, not just because they satisfy requirement of state and federal environmental laws and regulations, but also because Sealaska's shareholders regard fish and wildlife resources as irreplaceable.

"Stewardship means taking responsibility for our timber, our lands, our wildlife and our shareholders," says Sealaska President and CEO, Robert W. Loescher. "Our culture and our heritage require that we are responsible for our practices. Our heritage requires that we are responsible to the next generation."

Alaska law requires 60-foot buffers on both sides of coastal streams to protect water quality and salmon habitat. Trees in buffer zones help stabilize stream banks, while nutrient-

Richard Grotefendt, Grotefendt Photogrammetric Services, North Bend, Washington

Sealaska Corporation uses stereoscopic photography in its streamside monitoring program. Using two 70 mm cameras mounted on opposite ends of a 40-foot boom, Richard Grotefendt shot the bottom left and right-hand photographs. When viewed through a device called an "AP190 Analytical Plotter" the photographs appear as a three-dimensional view of the landscape. The analytical plotter can accurately measure anything visible in the photographs, including tree height. To replicate the effect the photographs produce, place a card between the left and right images, now allow your left and right eyes to focus on the respective images. Relax your eyes and the trees should appear to rise out of the forest. The top photograph is an enlargement of the smaller left-hand photo. The black specks in the stream [top center] are salmon. There is a bald eagle in flight [left of top center]. Mr. Grotefendt took these photographs on Sealaska land at the mouth of Deer Creek, east of Hydaburg, on Prince of Wales Island in southeast Alaska. Their image areas are 1,000 by 1,000 feet

rich woody debris—in the form of fallen trees—interrupts the water flow, creating pools and other physical features that provide hiding and rearing habitat for fish.

Mr. Harris recalls Sealaska wanting to find a watershed-scale method for accurately measuring the effectiveness of its buffer zones. The corporation initiated a standard in-stream monitoring program in 1992, while simultaneously searching for a way to more accurately account for the diverse range of forest conditions found in watersheds and along stream banks on Sealaska lands. An alternative was found in—of all things—whale studies.

Scientists interested in cataloging whale populations needed a way to measure whales without actually capturing them. Aerial photography gave them some idea of the whales' size, but taking photos with two cameras at once gave them a "stereoscopic" view, a three-dimensional image allowing highly accurate measurements. To turn the cameras from whales to trees, Sealaska worked with a pioneer in the technology, Richard Grotenfendt of Grotenfendt Photogrammetric Services.

Using in-channel fish habitat survey data developed by fisheries scientist Douglas Martin, Mr. Grotenfendt mounted 70 mm cameras on each end of a 40-foot boom. When viewed through an AP190 Analytical Plotter, the dual images give a three-dimensional effect that makes landscapes appear as scale models. Using the plotter, Mr. Grotenfendt found he could accurately measure anything visible in the photograph, including trees, which can be measured within a few inches of actual height.

Sealaska's Mr. Harris saw the Forest Service use the technology as a timber cruising tool, and he quickly envisioned its further use in measuring buffer zones and everything in them. After completing a promising pilot program, the corporation began photographing buffer zones in 1996. To date, more than ten miles of streams have been photographed, and more than six miles have been analyzed completely. Matching photographs to Mr. Martin's ground surveys Sealaska is cataloging conditions in old growth areas and buffer zones within harvest areas.

Mark Kelley

Sitka black-tailed deer in Sealaska forest. The corporation recently won a $400,000 grant to study the effects of thinning and brush control on tree growth and deer habitat.

David Perry

Sealaska employee replants a harvest site

The technology is not cheap. Mr. Harris estimates the combined cost of photography and analysis at $10,000 per mile. But he and others at Sealaska believe the cost is justified by resulting data showing that Alaska's forest practice standards are effective in protecting fish habitat and water quality.

Sealaska is also involved in research aimed at improving tree growth and wildlife habitat quality in its forests. This year the corporation received a $400,000 grant from the Alaska Science and Technology Foundation to investigate how tree thinning and brush control affect tree growth and Sitka black-tailed deer habitat.

Sealaska's forest management program is also breaking with conventional Southeast Alaska wisdom. The traditional view in coastal Alaska is that natural regeneration is adequate to ensure new forests, but the corporation believes replanting can significantly improve the health and growth of young forests, enabling them to overtop fast-growing brush that otherwise retards tree growth. This year about 25,000 seedlings will be planted, but more than 150,000 are scheduled for planting next year.

The corporation is also taking an aggressive approach to thinning young second growth stands to improve the quality of both trees and wildlife habitat. Thinning, pruning and planting an estimated 2,000 acres takes more than 30,000 hours and costs Sealaska about $600,000 a year. About 60 people are involved in the work.

In an effort to stay well ahead of state environmental standards, Sealaska is also doing the unusual. For example, in its log sort yard operation, it is converting from petroleum-based hydraulic and chain saw fluids to biodegradable vegetable-based lubricants. Though costly, the transition is consistent with environmental standards Sealaska has set for itself.

"It's challenging finding the right balance between the objectives of achieving economic benefit and protecting the land for future generations," says Sealaska CEO Loescher. "We've only been at this for two decades and there were certainly initial growing pains, but our dedication to the tenets of stewardship and sustainability continue to guide us."

Oil Fueled Formation of Native Corporations

Sealaska Corporation is Alaska's major player in the timber industry, but it was America's desire for oil that led to the formation of the corporation and other Alaska Native regional corporations.

Throughout this century, Alaska's Native people presented the federal government with numerous requests for protection of their land rights. Though attempts were made to settle the issue, the situation did not come to a head until the State of Alaska, major oil companies and congressional representatives from other states became interested in using the vast oils reserves discovered on Alaska's North Slope.

Mark Kelley

Sealaska employee cradling a Sitka spruce seedling ready for planting

Native land claims threatened to hold up construction of the trans-Alaska oil pipeline. To settle the claims, Congress in 1971 passed the Alaska Native Claims Settlement Act, granting 44 million acres and $1 billion to 13 regional corporations, village corporations and individual shareholders. Shareholders were U.S. citizens with one-fourth or more Alaska Indian, Eskimo or Aleut blood.

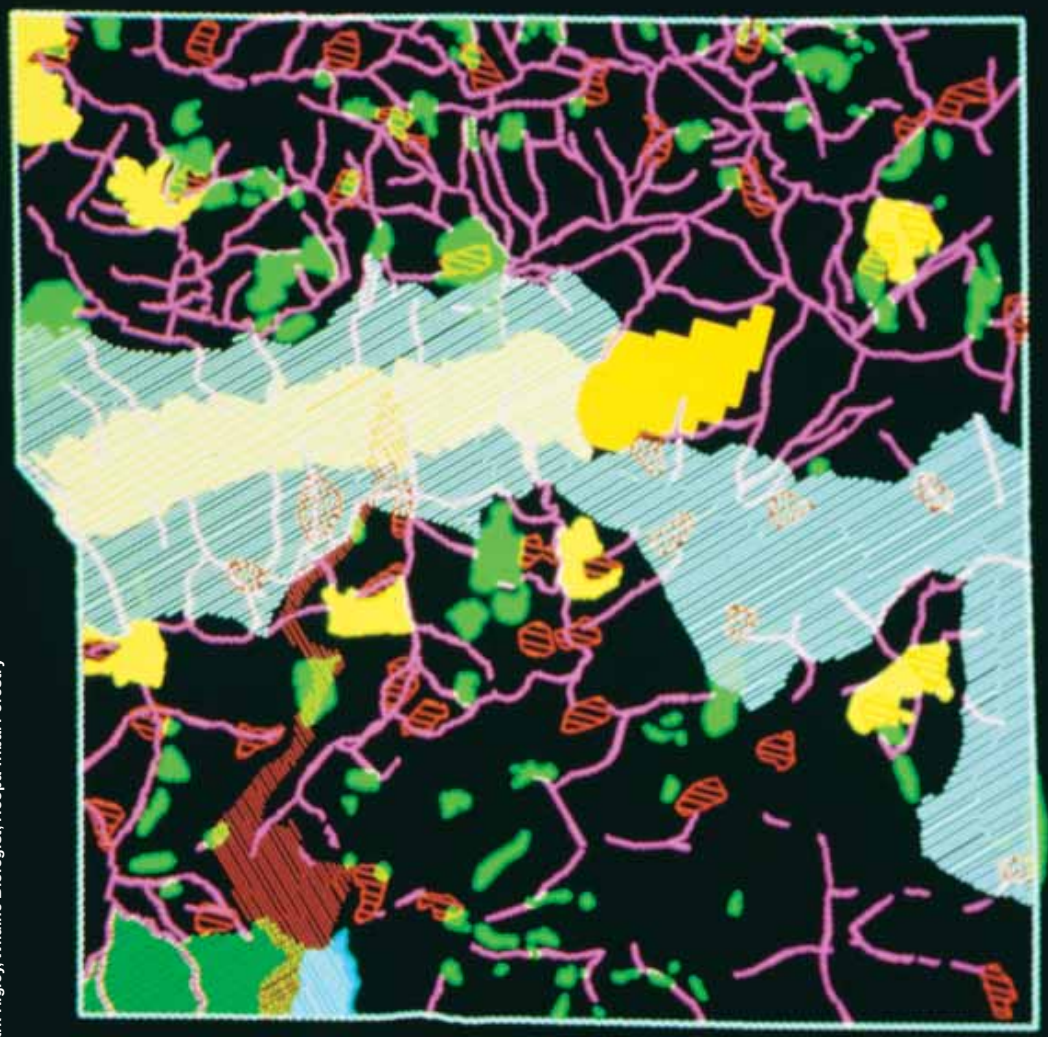
Sealaska Corporation, based in Juneau, has more shareholders than any other Alaska Native corporation. Sealaska's 16,000 shareholders include Tlingit, Haida and Tsimshian Natives whose ancestry is rooted in Southeast Alaska. Almost half the shareholders live in the region, ten percent live elsewhere in Alaska and the remainder live out of state.

Today, Sealaska is the fifth largest Alaska-owned, Alaska-based corporation and Southeast Alaska's largest private landowner. Present and future holdings include 530 square miles of the 42,000 square mile Southeast Alaska region. Timber management, harvesting and marketing are mainstays of its current business operation, but the corporation's investment portfolio also provides an important revenue source. Counting corporate spending, payroll and shareholder dividends, Sealaska contributes $40 million annually to the Southeast Alaska economy. It has also begun to diversify its holdings. SEACAL, a wholly owned subsidiary, is developing a calcium carbonate mine at Calder, on Alaska's Prince of Wales Island. More recently, the corporation purchased a precision plastics operation based in Washington State.

Indian Country Program Reports and BIA Forest Statistics

Forest planners on northern California's Hoopa Valley Indian Reservation use maps like this as harvest planning tools. The black-colored areas are commercially available, meaning there are no restrictions that would limit the harvest. The other colors depict areas where harvesting is limited or prohibited to protect wildlife, cultural or scenic resources. This particular map spans 21,000 of approximately 88,000 acres of forestland owned by the Hupas. It was prepared using aerial and ground level data. The technology needed to do this kind of mapping is not expensive, but the data collection process is often labor intensive. For example, four technicians spent 18 months mapping the spotted owl activity centers depicted by small, dark red, vertical-hatched polygons. The Hupas map 27 different land and resource allocations, though this map shows only nine of them. Not all of the nation's forest-owning tribes can afford to do this kind of mapping, considered essential to the forest planning process.

Indian Country Program Reports and BIA Forest Statistics begin on the next page.



J. Mark Higley, Wildlife Biologist, Hoopa Tribal Forestry

Map Key

Mushroom management areas: small solid lime-green polygons

Spotted owl activity centers: small, dark red vertical-hatched polygons

Wildlife corridors: purple-pink linear features

Traditional species activity centers: brilliant yellow polygons

Bald Hill urban area: small lemon-yellow polygon in upper center of map

Valley and Trinity Gorge view-shed: large area with blue 45-degree hatches

Wild and scenic river corridor: light yellow 45-degree hatched area inside view-shed

DeNoTo Trail cultural area: dark red 45-degree hatched polygon in southeast quarter

Tish Tang Wilderness area: lime-green 45-degree hatched polygon in southeast corner

Tribes Provide More Than 40 Percent of BIA Division of Forestry Budget

By Arch Wells Acting Chief, Division of Forestry Bureau of Indian Affairs Washington, D.C.

More than 40 percent of the funding required to maintain the federally mandated Indian Forestry Program comes from Indian tribes. **(Fig. 1)** Were it not for these increasingly important contributions, the current forestry program could not have been maintained over the past decade.

Excluding the fire program, the Division's $77.1 million budget for 1996 included a $31.9 million contribution from tribes whose forestland is held in trust by the federal government. Their contributions included reinvestments of harvest revenue, in-kind capital equipment and facilities contributions and outright cash injections from other sources, including the proceeds of Indian gaming operations.

Although tribes have repeatedly demonstrated a willingness to contribute their dollars to this *federal program*, the federal contribution has not even kept pace with inflation. There have been some increases involving non-recurring expenses and special projects, but the Divisionís administrative budget has declined 37 percent since 1992, and its basic operations budget is down 17 percent. **(Fig. 2)**

Between 1993 and 1996, the Division's permanent work force was reduced by more than 23 percent. Although tribal program staffing increased by about seven percent during the same three-year period, the increase is insufficient to overcome Division losses. The combined Division/Tribal program is clearly less viable than it was in 1993. Meanwhile, the work load is increasing, a direct result of the fact that forested acres under Tribal/Agency jurisdiction increased from 15.9 million in 1992 to 17.1 million in 1996.

More vexing than workload-related problems is the fact the Division/Tribal forestry relationship is far more complex today than it was ten years ago. New federal laws and policies that empower Indian tribes may strengthen tribal forestry programs, but they do not absolve the government of trust responsibilities for which Congress *and the courts* have held the Division accountable. Although the Division has made steady progress in strengthening its historically strained relationship with tribes, the continuing absence of stronger, more stable federal commitment threatens to undermine a new partnership that holds great promise.

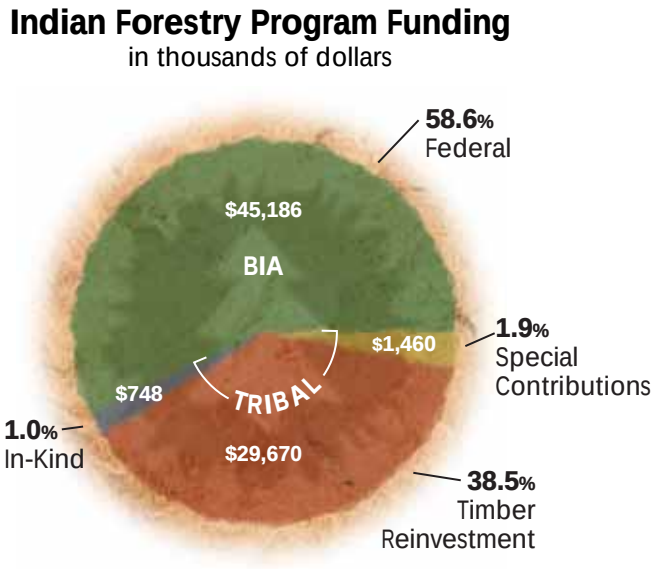


Figure 1. More than 40% of the funding required to maintain the federally mandated Indian Forestry Program actually comes from Indian tribes, mainly in the form of reinvested timber harvest revenue. Although tribal forestlands are held in trust by the U.S. Government, the federal contribution to the overall forestry program no longer keeps pace with inflation. (Program Funding and Position Analysis, BIA, FY , 1996)

Federal Funding for the Indian Forestry Program – in thousands of dollars

Year	Recurring	Non-Recurring	Special	Administration	TOTAL
1992	24,388	11,145	2,065	3,578	41,176
1993	28,914	12,594	2,342	3,373	47,223
1994	25,475	12,001	2,039	3,214	42,729
1995	25,355	15,536	2,386	3,305	46,582
1996	20,513	15,548	2,858	2,256	41,175

Figure 2. Federal funding for Division of Forestry declined between 1992 and 1996. The administrative budget, covering staffing and overhead costs for the Washington, D.C. office and 12 BIA areas offices, declined 37 %, and the budget for recurring expenses, including tribe/agency operations and related area operations declined 17 %. But the budget for non-recurring expenses, including the President's Northwest Forest Plan Jobs-In-the-woods initiative, increased 29 %, and the special expenses budget for pest control and Endangered Species Act costs increased 28 %. (Program Funding and Position Analysis, BIA, FY, 1996)

Funding Shortage Continues Slowing Progress in Forest Development

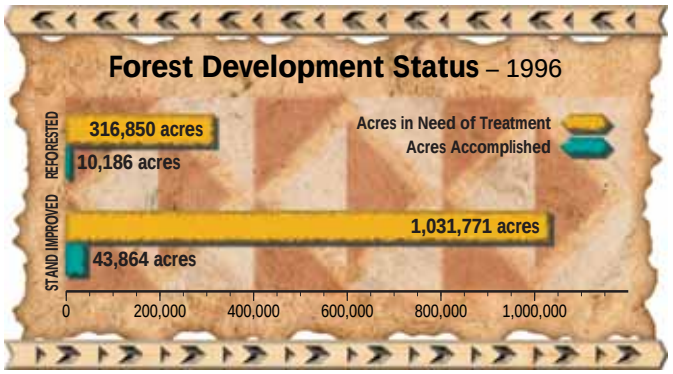
By Arch Wells Acting Chief, Division of Forestry Bureau of Indian Affairs Washington, D.C.

Forest development funding has increased modestly since 1992, but a 1996 comparison of acres treated with acres still requiring treatment **(Fig. 3)** reveals a significant unmet need. Of 316, 850 acres needing reforestation, only 10,186 were treated in 1996. That same year, 43,864 acres needing timber stand improvement were treated, out of 1,031,771 acres needing such treatment.

Forest development covers a range of silvicultural treatments associated with reforestation of harvested areas, or improvement of existing timber stands. Reforestation—replanting, seed cone collection, growth monitoring and other related activities—helps insure adequate restocking after harvest or loses caused by natural disturbances, including wildfires, insects, diseases, ice storms or wind. Timber stand improvements—pre-commercial thinning, growth monitoring and the use of prescribed fire or herbicides to control unwanted vegetation—help sustain forest productivity.

Forest development investments—from federal and tribal sources—have both near and long-term significance. In the near term, such investments help protect the quality and viability of commercially valuable timber crops. In the long term, they help insure the health and productivity of sustainable forest ecosystems.

There was forest development progress between 1992 and 1996, as **Fig. 4** reveals, but a substantial reforestation backlog remains, and there is still almost a million acres requiring timber stand improvement. **Fig. 5** presents an area-by-area perspective for each of the 12 BIA areas in the U.S. Of about 1.35 million acres needing forest development work, only four percent—about 54,000 acres—received any treatment in any one year. The problem: a funding shortage.



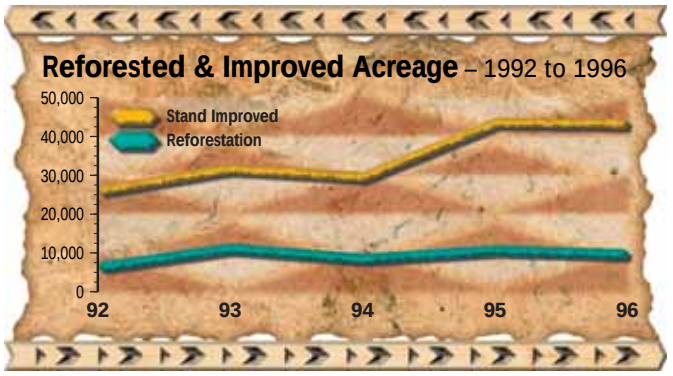


Figure 3 and **Figure 4**: reveal that there were significant unmet needs in reforestation and timber stand improvement. Fig. 3 compares needs and accomplishments for 1996, while Fig. 4 tracks reforestation and timber stand improvement progress from 1992 through 1996. Despite a modest budget increase during the period, a substantial reforestation backlog remains, and almost one million acres still require timber stand improvement action. (Program Funding and Position Analysis, BIA, FY, 1996)

Forestry Development Progress by Area Office (in thousands of acres)

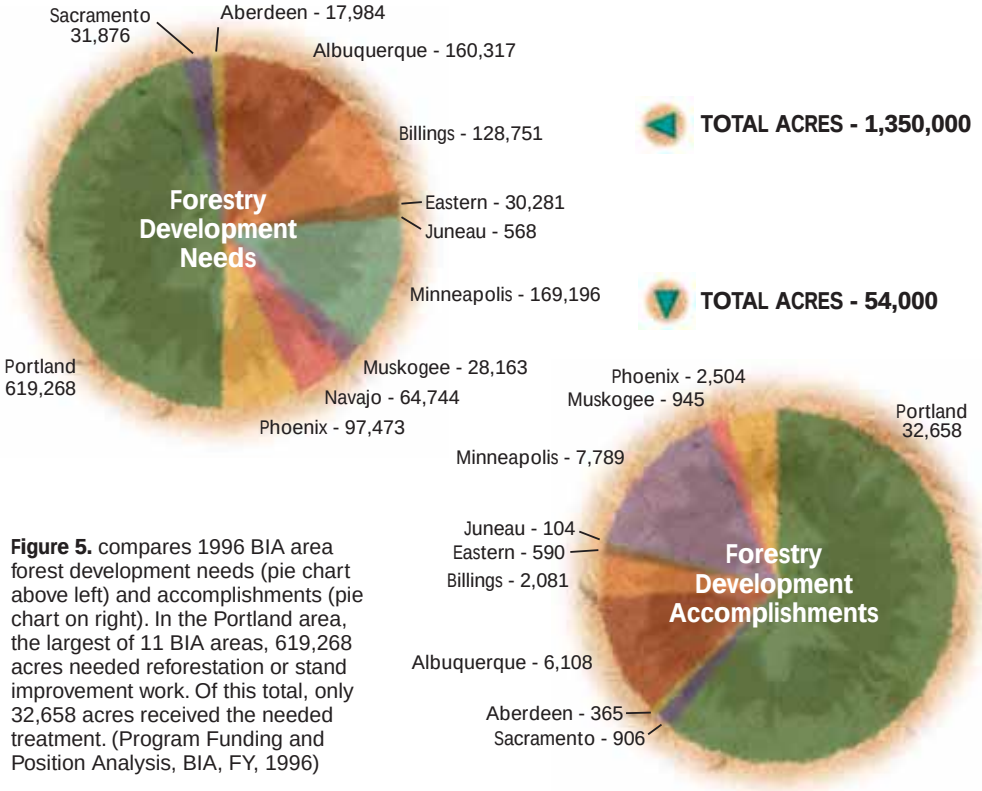


Figure 5. compares 1996 BIA area forest development needs (pie chart above left) and accomplishments (pie chart on right). In the Portland area, the largest of 11 BIA areas, 619,268 acres needed reforestation or stand improvement work. Of this total, only 32,658 acres received the needed treatment. (Program Funding and Position Analysis, BIA, FY, 1996)

Tribal Governments See Economic Development As Key to Preserving Cultural Values

By Meri Heilman,
Chair and CEO
Makah Forest Enterprise
Neah Bay, Washington
and Gary Sims, Ph.D.
Forester, BIA, Portland Area Office
Portland, Oregon

From the roar of heavy road construction equipment, to the howl of chainsaws; from the splash of logs hitting water, to the whine of technologically-advanced sawmills; Indian tribes in the United States are investing their dollars in an ever widening variety of forest-related businesses, including sawmills and log rafting operations.

But thousands of tribal members also work in forest-related businesses of a different kind, ranging from mushroom picking to the gathering of herbs used in ancient medicines, which—for Indians—remain an important cultural link to the past.

The fact that tribal forests are able to serve the needs of such diverse business interests underscores a basic difference between Indian forestry and forestry as it is practiced on federal, state and industrial ownerships. Tribes *do* take a more holistic approach to management, meaning they account for all of the parts of the forest, including timber, water, wildlife and cultural and spiritual values. Science-based forestry is very important, but it is not the only thing that is important.

Tribes approach their business ventures in much the same manner. Long before the term "holistic" became popular in academic circles, tribal leaders were implementing business development strategies based on their own, centuries-old, holistic approach. By carefully integrating natural, economic and human resources, tribes have developed able work forces and profitable businesses, fulfilling economic needs while honoring traditional cultural and spiritual values.

One of the highest priorities—perhaps *the highest priority*—in tribal economic development is retention of young people. Minus good paying jobs, and career opportunities, the exodus of tribal youth will continue. Young, growing families are a tribe's bridge between yesterday and tomorrow. Without them, there is a real danger traditional cultural and spiritual values will be lost. These concerns make the tribal quest for economic strength all the more demanding. The chosen businesses must be profitable, and they must compliment the tribes' cultural values.

The ability to charter or create businesses on reservations is a sovereign power held by tribal governments. Different business models are used, depending on tribal need. It can be a department of the tribal government, a subsidiary of a larger tribal business enterprise; a stand-alone operation; or a federally-chartered tribal business.

To help insure the success of tribal businesses, and to help hone the financial and decision-making skills of tribal business managers, the Intertribal Timber Council and the Bureau of Indian Affairs have worked with other government agencies and universities to develop short courses and workshops. Among the topics: business formation, including market assessment for forest products; business investment analysis, including evaluation of potential businesses; business financial analysis, to help tribes assess the profitability of their business ventures; and total quality management workshops, taught on-site at tribal sawmills, to help workers develop and maintain quality control programs.

Two ingredients are central to all ITC-sponsored training programs. First, students must have the full and active support of their tribe or tribal business. This insures that the skills learned will be used and further developed. Second, there is a realization that classical financial, economic, and business analyses have their limits in tribal evaluation of potential businesses. Consideration is also given to the place the business will occupy in tribal society and to how it will interface with tribal employees. The process is much more deliberative than that followed by chambers of commerce whose only interest may be in bringing new jobs to their communities. Tribes see job formation as the first step in retaining a skilled Indian work force, which is central to preserving cultural values.

Because successful modern-day businesses do not function in a vacuum, ITC and the BIA have also co-sponsored workshops and seminars that give tribal leaders the opportunity to share their ideas and concerns. *Executive Leadership of Political, Social and Cultural Forces in Tribal Natural Resources Management* brought together political, business, cultural and natural resource managers to discuss challenges and opportunities. *Tribal Enterprise Roundtables* brought together tribal political, business and cultural leaders to share individual and tribal experiences and successes in economic development. *Indian Timber Symposia*, an Intertribal Timber Council presentation, featured plenary sessions and workshops devoted to forest resources-based development.

These programs have helped tribes lay the groundwork for success in economic development, proving that it is possible to develop forest products businesses based on the application of holistic principles, not just in the forest, but in the business itself. Interest in these kinds of training programs remains high, but there is no money to continue them.

Bud Miller, BIA

(At left) Landing crew trims knots off logs on Yakama Indian Reservation timber sale.

(Below) A track-mounted timber processor works its way up a 45-degree slope on the Colville Indian reservation in Washington State.

(Bottom) KwaTaqNuk Resort on Montana's Flathead Lake is a Confederated Salish and Kootenai tribal enterprise. Many tribes are diversifying their business interests in an effort to increase tribal income and employment opportunities. KwaTaqNuk, at Polson, includes a marina and art gallery plus conference and gaming facilities.

Jim Erickson

Jim Petersen

Long Overlooked Indian Woodlands Prized for Cultural and Spiritual Values

By Ron Miller BIA Woodlands Forester Phoenix, Arizona and Bill Downes, Forester Division of Forestry Washington, D.C.

Indian woodlands span 8.6 million acres, mainly in the American Southwest. Long overlooked, these forgotten forests include some of the most unique ecosystems, and highly prized cultural resources, in all of Indian Country.

By definition, woodlands are less than ten percent forested, but this definition belies their beauty, as well as their economic and environmental importance to tribes that have lived in these often harsh environs for thousands of years.

Woodlands are likely the most prominent landscape feature in the entire Southwest. Pinyon-juniper and mesquite stands account for 88 percent of Indian woodland resources. Aspen stands in the Northern Rocky Mountains, oaks in California, the sabal palms in Southern Florida are also important woodland resources, as are woodland riparian ecosystems, which provide exceptional fish and wildlife habitat.

For many Indians, cultural use of woodlands exceeds their commercial value. Among the uses: food from pinyon pine nuts, mesquite seed pods and acorns; heat from pinyon, mesquite, juniper and oak fuelwood; waterproofing and medicinal ointment from pinyon pitch; fencing from juniper poles; and traditional Navajo hogan construction, also from juniper poles.

Woodlands management falls under the purview of the Division of Forestry Woodland Management Program, first funded by Congress in fiscal 1990. The program receives about $500,000 a year— a minuscule sum compared to other federal resource management programs, but an amount sufficient to fund 95 well focused projects involving resource utilization, inventory and planning, reforestation, restoration, manufacturing and marketing.

Jim Petersen

Navajo woodlands west of Window Rock, Arizona. Tribal members gather fuel wood, corral fence poles and other cultural resources here.

The cultural significance of the woodland resources, combined with the loss of some culturally significant plant and tree species, has raised sustainability concerns. The BIA is working with tribes to develop integrated management plans that meet the needs of people who live in these woodland ecosystems. Here are some examples of tribal woodland management programs started with BIA help.

In Arizona, the BIA and Hopi Tribe are developing an integrated resource management plan for the 197,098 acres of pinyon-juniper woodlands on their reservation. The primary objective: protection of woodland spiritual and cultural values, while providing tribal members with the opportunity to harvest subsistence amounts of fuelwood and fencing material. A pre-planning questionnaire distributed to Hopi households is the basis for the plan. More than 90% of respondents reported they heat their homes with wood. An equal number identified cultural uses for pinyon or juniper. When asked to rank 23 potential problems facing their woodlands, Hopi's ranked spiritual concerns first, second and third.

In New Mexico, the Santa Ana Pueblo native plants nursery enterprise is selling wild plants harvested from tribal woodlands, as part of a plan to reduce stand density. The tribe has also leased a shredder, which is used to eliminate non-native salt cedar and Russian olive, creating open spaces where native plants can again grow. In a related development, the tribe is working with native plants that have been inoculated with mychorrhizae to increase plant survival rates. These plants are sold by the nursery enterprise.

In Utah, the Northern Ute Indian Tribe used woodland funding to start a business that harvests and sells pinyon/juniper fuelwood, mine props, rails,

grape stakes, house logs, dimension lumber, and other roundwood products. The business generates income for the tribe, plus a means of controlling fuelwood harvesting on the reservation. The tribe has also established a woodland demonstration unit, where data is gathered that will help woodland managers decide how best to utilize and protect tribal woodlands.

In California and Arizona, the Colorado River Indian Tribes created the 1,042-acre 'Ahakhav Tribal Preserve in an aquatic, riparian and upland ecosystem that had been significantly altered by introduced exotic plants and upstream flood control projects. Each year, exotic plants are cleared from 50 to 100 acres. Native plants, including mesquite, cottonwood and willow are then outplanted from the tribes native plant nursery. Drip irrigation helps the roots push downward into the water table, and an extensive monitoring system is used to measure plant survival and growth. The tribe has constructed a visitor center that offers recreational and environmental education programs. More than 2,000 people have used it, including tribal and community members, schools, nonprofit organizations, Boy Scouts and senior citizen groups.

In North and South Dakota, the BIA and the U.S. Forest Service are assisting tribes in collecting data needed to develop woodland resource management plans. New continuous forest inventory plots have been established and measured, and satellite imagery from the Bureau's Geographic Data Service Center is being used to map woodland areas.

Though these projects—and others like them—help insure the future vitality of woodland ecosystems, much work remains to be done. *Native American Woodland Resources: A National Overview*, a joint BIA/tribal study completed in 1988, detailed the funding requirements for projects spanning the nation's Indian woodlands. Now, ten years later, only one-sixth of the annual need is being met.

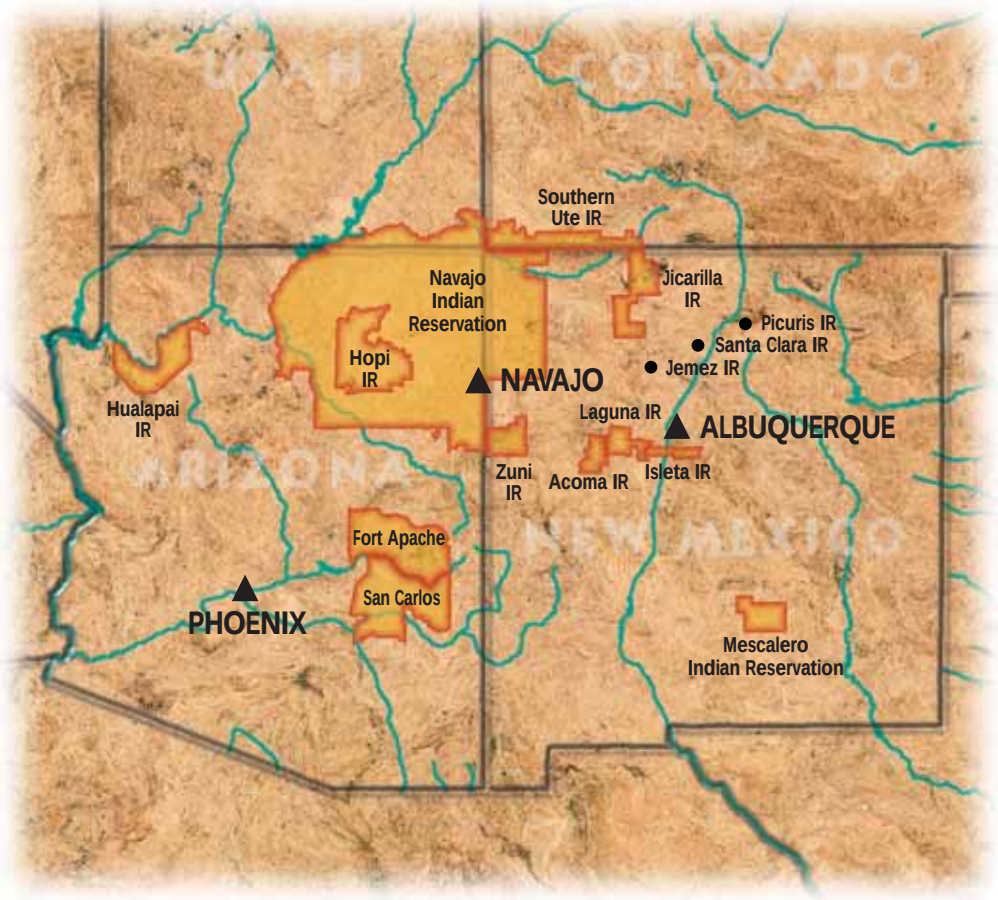


Figure 6: About 73% of all tribal woodlands are located in the Southwest. About 48%—some 4 million acres—is owned by the Navajo Indian Nation, and another 25%—about 2.1 million acres—is owned by tribes in the BIA Phoenix area.

John Waconda, BIA

Pinyon pine and juniper, harvested from tribal woodlands, is the only heat source for thousands of Indian homes in the Southwest.

Tribal Timber Harvest is Concentrated in the West

By Mark Petruncio, Consulting Silviculturistand John Vitello, Assistant Forest Manager,Yakima Agency Branch of Forestry Toppenish, Washington

Tribes have been caring for and utilizing their natural resources for centuries. Their traditions, and the values they represent, are very much a part of forestry in Indian Country today. As a result, models of sustainable forestry operations can be observed on the 240 forested reservations located in Indian Country.

The calculated annual allowable cut for all tribal forests in the U.S. is 810 million board feet. More than half of this allowable annual cut is from the West region **(Fig. 12)** where tribes own some of the most productive commercial timberland.

The actual harvested volume, for fiscal years 1992 to 1996, averaged 706 million board feet per year. Nearly 62 percent of this harvest occurred in the West region **(Fig. 13)** Timber sales in the West also generated almost 86 percent of the total $154 million that was returned to tribal forest owners during this same period **(Fig. 14)**.

Indian forestry programs are guided by tribal resource professionals and Bureau of Indian Affairs (BIA) foresters. There are twelve BIA area offices across the nation to assist tribal forestry operations. For purposes of this report, forested reservations are grouped in four regions: Alaska, East, Southwest and West. **(Fig. 7)** Most of the 240 forested reservations are located in the East and West regions. **(Fig. 8)** However, the Southwest holds more tribal forestland **(Fig. 9)** and woodland **(Fig. 11)** area than any other region, while the West has most of the commercial timberland owned by tribes. **(Fig. 10)** As these statistics suggest, Indian forestry is big business, producing significant financial returns to tribes. However, these businesses are different than non-Indian timber businesses because the forests and woodlands that tribes own are also their homes. Because Indians live more intimately with the economic and environmental consequences of forest management, it is essential that tribal forestry operations always strike a balance between economic, environmental and social considerations. As such, Indian forestry can serve as a global model for active and responsible forestry.

Figure 7

Arnie Browning

Falling big timber on the Warm Springs Indian Reservation in central Oregon

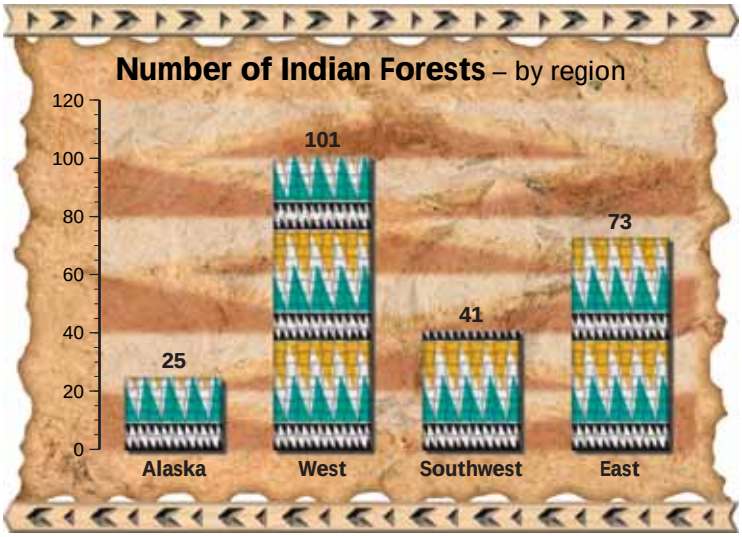


Figure 8: Number of Indian Forests by Region. Alaska, 10.4% of total; West, 42.1%; Southwest, 17.1%; and East, 30.4%.

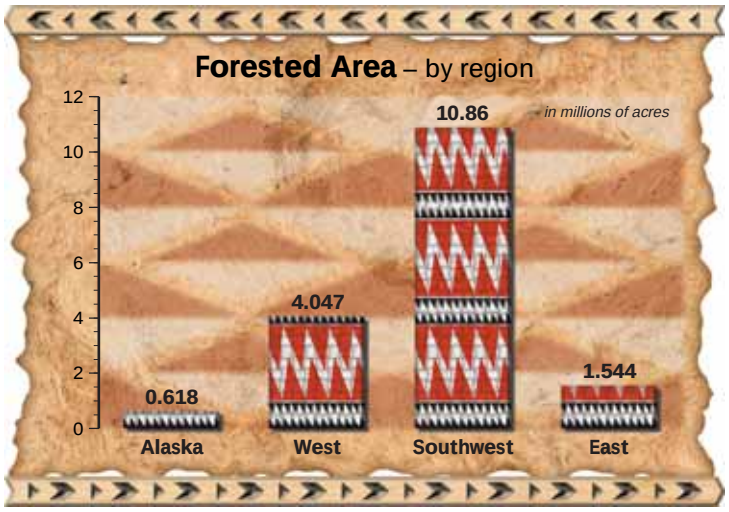


Figure 9: Forested Area (millions of acres) by Region—63.6 % of total tribal forest acres in the U.S. are located in the Southwest, 23.7 % are in the West, 9 % are in the East and 3.6 % are in Alaska.

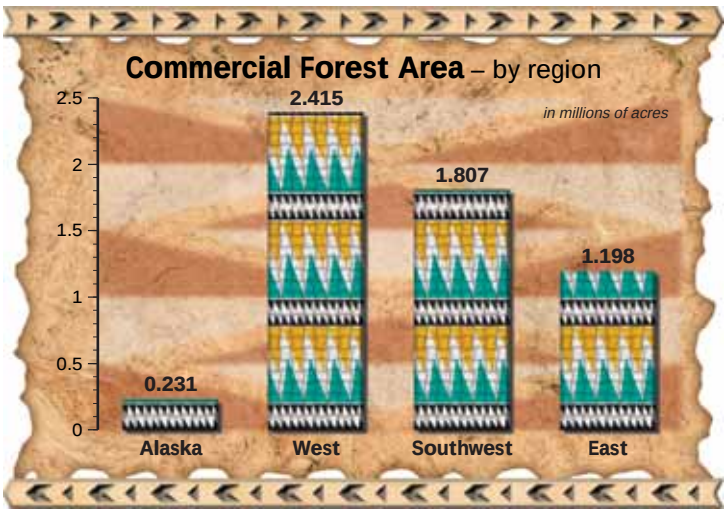


Figure 10: Commercial Timber Area (millions of acres) by Region—42.7 % of commercial forest acres are located in the West, 32 % are in the Southwest, 21.2 % are in the East and 4.1% are in Alaska.

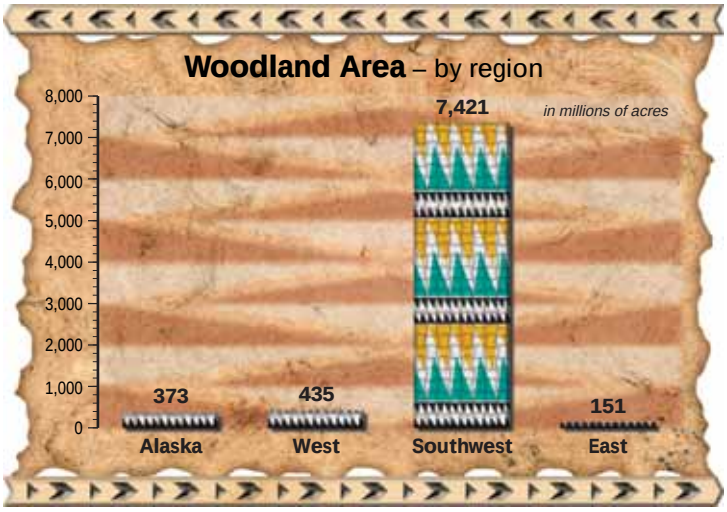


Figure 11: Woodland Area (millions of acres) by Region—88.6 % of all Indian-owned woodlands are in the Southwest, 5.2 % are in the West, 4.5% are in Alaska and 1.8 % are in the East.

Figure 12: Annual Allowable Cut (millions of board feet) by Region—53.8 % of total AAC is in the West, 29.3% is in the East; 14.9 % is in the Southwest and 2 % is in Alaska.

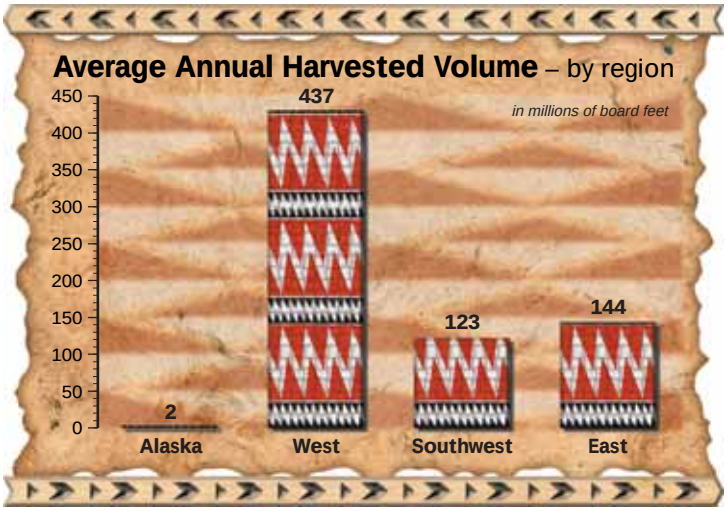


Figure13: Average Annual Harvested Volume (millions of board feet) FY 1992 through FY 1996, by Region – 61.8 % of the harvest occurred in the West, 20.4% was in the East, 17.5% was in the Southwest and 0.3% was in Alaska.

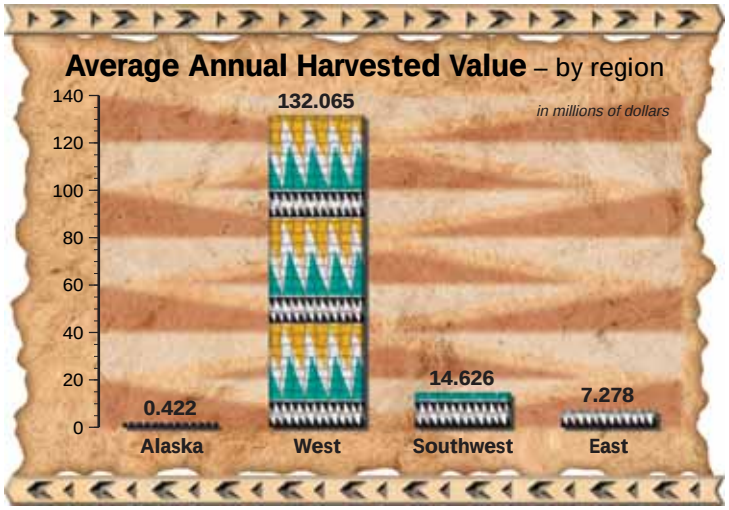


Figure 14: Average Annual Harvested Value (millions of dollars) FY 1992 through FY 1996 by Region—85.5% of total harvest value was recorded in the West, 9.5% was in the Southwest, 4.7% was in the East and 0.3% was in Alaska.

Indian Country On The Forefront In New Approaches To Wildland Fire

By Steve Haglund Director, National Interagency Fire Center Bureau Of Indian Affairs Boise, Idaho

Indian wildland fire crews and overhead team members remain the backbone of the national wildland fire suppression effort. Since 1992, Indians have accounted for about 21 percent of all firefighters working major wildfires in the U.S. And the number of Indian crews is on the rise, a result of increased federal appropriations beginning in 1995. Crew training standards have also been upgraded.

Wildland fire fighting remains a multi-agency task, involving the highly coordinated efforts of Division of Forestry, Indian tribes, the U.S. Forest Service, the Bureau of Land Management, the National Park Service, the U.S. Fish & Wildlife Service and thousands of local firefighting organizations.

However, *the manner* in which wildfires are approached is changing in response to the 1995 Federal Fire Policy and Review Report, which highlighted the long overlooked, but often positive ecological role fire plays in maintaining healthy, naturally resilient forests. The 1993 *Assessment of Indian Forests and Forest Management in the United States* was used as a basis to win congressional approval for use of FY 1998 fire operation funds for a series of prescribed burns and mechanical treatments designed to reduce hazardous natural fuel buildups in forests where wildfires have been suppressed for almost a century.

As part of these new initiatives, the Bureau of Indian Affairs is now linked to every Geographic Area Coordination Center in the country, as well as all national wildfire coordinating and advisory teams. Agency/tribal wildland fire coordination and cooperation are improving, as is the level of interagency management. Tribal and Bureau fire and forest management staff members continue to serve on interagency incident command and burned area emergency rehabilitation teams. In a series of separate but related events, tribes are continuing to contract all or portions of wildland fire management programs under Self-Determination and Indian Forest Management Act authority and are compacting fire programs under Self-Governance authority.

Although tribes remain deeply committed to wildfire firefighting and fire training, there is a separate, but no less important desire to return fire to tribal forest ecosystems. There are, of course, areas where woody debris accumulations are too great to permit safe use of "prescribed fire," but where the risk is low, the benefits of low-intensity burning is well documented. Fire ecologists and tribal foresters view prescribed fire as a useful tool for reducing moderate natural fuel accumulations, or changing species composition, vegetation structure or density. Taken together, these fire-related benefits will help restore natural diversity, eventually improving the health of at-risk forests, woodlands and rangelands.

Currently, prescribed fire is being used to treat about 55,000 tribal forest acres annually, less than 20 percent of the 300,000 acres that could benefit from periodic controlled fire. Another 1.5 million acres, many close to communities, are considered unsuitable for prescribed burning because of air quality concerns, or because excess natural fuel accumulations prevent safe use of fire.

Federal and state air quality standards pose a special challenge for prescribed fire users, but by limiting fire to debris that burns quickly, and by burning when weather conditions permit smoke to escape into the upper atmosphere, related particulate emissions can be held to a minimum.

Salish-Kootenai Tribal Forestry

Salish-Kootenai pine stand: (**Top**) Small fir trees take up space, preventing desired pine from reseeding itself. (**Middle**) May 1995 prescribed fire kills fire-sensitive fir. (**Bottom**) July 1996, fire has removed fir, creating future growing space for pine.

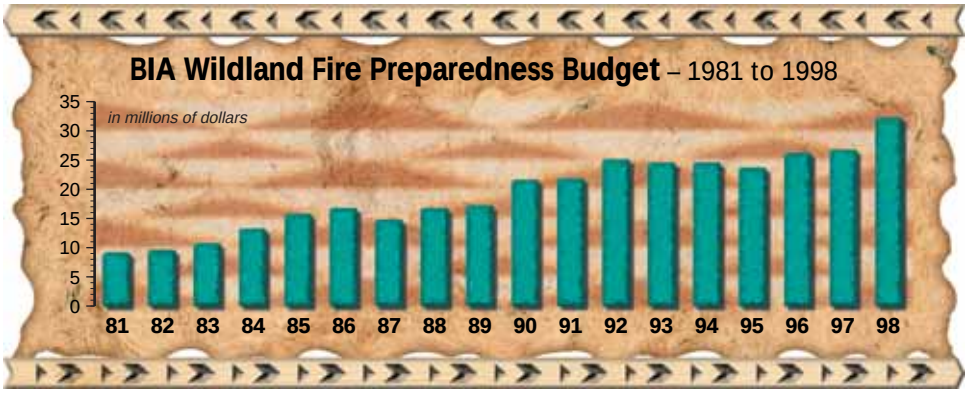


Figure 15: Since 1981, the BIA's Forestry Preparedness Budget has been trending upward, thanks to increasing congressional awareness of the role prescribed fire can play in restoring forest health and productivity. This budget is one of few good news funding stories in the Division of Forestry. (National Interagency Fire Center, BIA, Boise, Idaho)

More Funding Needed To Treat Diseased Tribal Forests

By Tom Corse Silviculturist and Reforestaton Supervisor Confederated Salish & Kootenai Tribes Ronan, Montana

Indian Country includes some of the most productive forest land in the United States. But even these forests are vulner-able to attacks by a wide variety of insects and diseases. Resulting mortality and growth losses can undermine harvesting revenues, a major income producer for many tribes.

Insect and disease problems vary in type and severity by geographic area. In eastern forests, defoliators and root rot problems are widespread. Dwarf mistletoe is a big problem in the Southwest, and in the Inland West spruce budworm and mistletoe are major problems.

Many of these outbreaks can be traced to changes in forest species composition and structure. This is especially true in the West, where the so-called "forest health crisis" has reached epidemic proportions in some tribal forests.

Strange as it may seem, these sick forests suffer from *a lack of* fire. Before white settlement began, western forests were dominated by fire-resistant pine species. Frequent, low intensity wildfires, and Indian fires, kept these forests open, creating ideal growing conditions for naturally regenerating pine stands. Major insect and disease outbreaks were rare. But as Indians were moved onto reservations, and wildfire suppression became commonplace, subtle changes began to occur. Fire-sensitive fir invaded fire-resistant pine stands, gradually crowding them out. In the absence of fire, forest density increased, as did competition for sunlight, moisture and soil nutrients. Resulting natural stress has made these forests more vulnerable to insects, disease and wildfire.

To help restore the health of their diseased forests, tribes are implementing a variety of ecosystem-based strategies designed to treat two underlying problems: stand density and an over-abundance of fire-sensitive tree species. Several silvicultural tools, including harvesting, prescribed fire and biological and chemical agents are being used to open up overly dense forests, stimulating natural regeneration and growth among tree species that resist fire, insects and disease.

Although these treatments work well, necessary federal pest control funding has declined from a 1992 high of $683,000 to just $330,000 in 1996. Additional funding is needed to treat diseased forests before they fall victim to catastrophic wildfire. In the absence of such funding, many tribal forest resources—fish and wildlife habitat, historic and cultural sites and revenue-producing timber—will be lost, as will the opportunity for Indians to complete the federally-mandated transition to ecosystem-based forestry.

Salish-Kootenai Tribal Forestry

Larch mistletoe is a significant pest in western tribal forests

Pest Management Funding – by area

Area	1992	1993	1994	1995	1996
Albuquerque	$114,000	$171,000	$198,000	$311,000	$143,000
Anadarko	0	18,000	0	0	0
Billings/Abr.	17,000	50,000	0	0	0
Eastern	300,000	0	0	41,000	0
Juneau	0	0	0	0	0
Minneapolis	0	7,000	0	2,000	0
Muskogee	0	0	0	12,000	0
Navajo	0	0	0	0	0
Phoenix	32,000	35,000	20,000	22,000	18,000
Portland	220,000	227,000	161,000	127,000	153,000
Sacramento	0	0	0	42,000	16,000
TOTAL	$683,000	$508,000	$379,000	$557,000	$330,000

Figure 16: Pest management funding has declined significantly since 1992. (BIA, Division of Forestry)

Alaska Native Forestry

Funding and Manpower Shortages Slow Alaska's Native Forestry Program

By Chris Maisch
Forestry Program Director
Tanana Chiefs Conference
Fairbanks, Alaska

Funding and manpower shortages are big problems for the BIA's Division of Forestry and Tribal Forestry Programs in Alaska. Although progress is being made in several important areas—including timber stand improvement, reforestation and fire protection— much work remains undone, a result of the fact there are simply not enough people to do all of the work that needs to be done. In the entire state, only two and one-half Bureau of Indian Affairs staff positions are dedicated to forestry. Equally troubling, most federally mandated forestry programs are staffed by a single full-time professional.

To make matters worse, the collapse of the Asian economy has throttled tribes and Native corporations that earn most of their income from the sale of valuable Sitka and white spruce. Tribes and Corporations that might otherwise invest more of their own money in federally-deficient programs are now unable to do so, further undermining progress in forestry.

Suffice to say, Division and Tribal foresters face a daunting task where trust lands in Alaska are concerned. The two organizations share responsibility for providing forest management services on Alaska Native lands, which include more than 14,000 separate allotments, plus Southeast Alaska's Annette Island Indian Reservation.

Since 1988, most of these services—including forest inventory and planning, forest development and timber sale administration—have been taken over by tribal consortiums and individual tribal organizations under contracting provisions authorized under the 1975 Indian Self-Determination Act. Village and regional corporations, formed under the 1971 Alaska Native Claims Settlement Act, are also eligible for technical assistance, including many of the same forestry services available on trust lands, but their program—authorized by Congress when it ratified the 1990 National Indian Forest Resources Management Act—has never been funded.

Services provided to eligible tribes and allotees vary widely and mirror the biological and structural diversity of Alaska's forests. For example, in coastal southeast Alaska's lush spruce forests, timber is an important component of the Alaska Native economy. The Tlingit Haida Central Council, a primary Self-governance contractor in the region administers timber sales, tracks forest growth and reforestation and manages a pre-commercial thinning program for recently harvested allotments. The thinning work, which is designed to stimulate growth in high value spruce and cedar stands, is done by Native crews trained and managed by the Tanana Chiefs Conference, Inc., another Self-Governance contractor, based at Fairbanks. Crews work the southeastern region in the spring, then move back into the Interior in early July.

Elsewhere in Alaska, in the vast southcentral region, the Chugachmiut tribal consortium works closely with the BIA, providing several forest-related services, most notably pre-suppression fire management, fire training and timber sale management. The region has been hit hard by a spruce bark beetle infestation, adding even more pressure to already short-handed, underfunded staffs. Many allotments on the Kenai Peninsula have experienced greater than 90% mortality in spruce forests.

In Interior Alaska, forest management services are provided by several organizations, including the Bureau of Indian Affairs, The Native Village of Fort Yukon, Tanana Tribal Council and Tanana Chiefs Conference, Inc.

The Tanana Chief's Conference services more than 2,700 allotment parcels. Using a geographic information system, foresters monitor a wide variety of activities, including forest inventory and management planning. GIS technology is especially valuable during fire season, when it can be used to quickly locate allotments in the path of fire, speeding crew response time. The hoped for the addition of a Type I Hotshot crew this spring would significantly strengthen the program.

Tanana Chiefs also provide timber sale and forest development services, including reforestation. Harvest activity depends on export log prices, which have been depressed by Asia's economic woes. Most of the allotments served are in remote areas accessible only during winter months when ice bridges and winter roads provide links to rail and trucking centers. The replanting work is done during the summer months. One-year-old white spruce seedlings are planted by trained crews recruited from nearby villages. Crew members can plant about 800 seedlings a day and earn up to 25 cents per seedling for their work. On the best growing sites, another crop of sawtimber-size trees will be ready for harvest in 80 to 100 years.

Each Alaska region has unique forest management needs. Despite low staffing and funding levels, Tribal and Bureau forestry programs have become efficient and effective service providers for allottees and Alaska Native Corporations throughout the state.

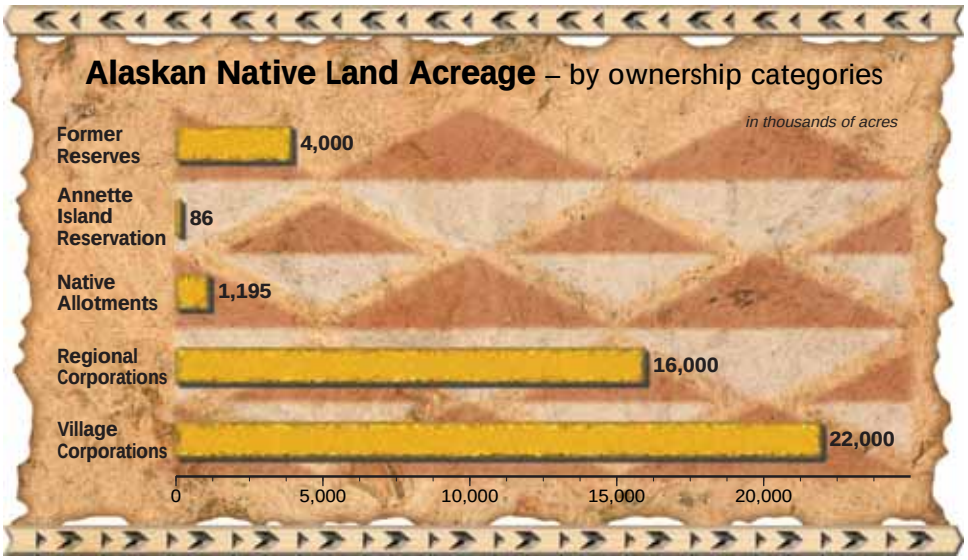


Figure 17: Alaska Natives own about 44 million acres of land. More than 86% (38 million acres) belongs to native village corporations and regional corporations. (Chris Maisch, Tanana Chiefs Conference, Inc.)

Tanana Chiefs Conference

Winter logging (**Top**) in Alaska's Interior is tough on men and equipment. Daytime temperatures hover in the minus 60-degree range, and daylight lasts about 3.5 hours. Timber is trucked from remote tribal trust lands to "the outside world" via snow roads and ice bridges. (**Bottom**) Chris Maisch, a forester with Tanana Chiefs Conference, Inc., stands in a recently thinned white birch grove on a Native allotment near Wasilla.

Haskell Indian Nations University Offers Holistic Education in Natural Resources

Gail Sloan Natural Resources Liaison and Bill Welton Natural Resources Instructor
Haskell Indian Nations University
Lawrence, Kansas

The natural resources program at Haskell Indian Nations University prepares its students to manage tribal natural resources without sacrificing traditional beliefs and practices. The program, a partnership involving Haskell, the Bureau of Indian Affairs and the U.S. Forest Service, combines holistic resource education with a placement service that provides students with summer jobs and, ultimately, professional-level employment. Emphasis is on four-year and graduate-level degrees leading to research-based work experience with tribes or government agencies involved in managing tribal natural resources.

The Haskell program evolved from two events beginning with the administration's 1987 decision to expand its associate degree program to better prepare students for transfer to bachelor of science programs. Concurrently, a federal resource agency personnel recruiter asked Haskell's biology faculty for help contacting students who might be interested in summer jobs in the Northwest. Of the 50 students who signed up, 25 failed to report to work. Students who did report either had no comprehension of what they were supposed to do, or did not have money for clothing or transportation. From this experience, and a survey of several tribes, it was learned that few Indian students had professional-level degrees in forestry or related areas, and most students who were interested were not prepared for actual employment.

The following year, Haskell invited a group of resource professionals to help develop a sound academic program capable of promoting real-life job training for students. The group included BIA and Forest Service managers, a Society of American Foresters staff member, and two university resource program chairpersons. Working together, they identified these obstacles facing Indian students interested in natural resource careers: inadequate academic preparation, lack of cultural support from higher education, weaknesses in Indian student recruitment, lack of summer work experience or knowledge of cooperative educational opportunities, and lack of necessary financial resources. (A separate SAF report revealed Indians accounted for only 15 of 3,500 students graduating each year with forestry-related degrees awarded by SAF accredited universities.)

As a first step toward overcoming the obstacles facing Indian students, Haskell established an advisory board representing three inter-tribal resource organizations and several federal resource agencies. With their help, a multi-agency work-study program was developed that provides summer jobs for freshman and sophomore students who are academically eligible and want to

Jim Petersen

Kari Finley is a 1995 graduate of Haskell Indian Nations University, where she earned a two-year liberal arts degree. Now she is a junior in environmental studies at Salish-Kootenai College at Pablo, Montana. She expects to graduate next year, and hopes to be hired by the Confederated Salish and Kootenai forestry department. Haskell helped her find summer employment with the U.S. Forest Service. She is from Arlee, less than an hour south of Pablo.

learn more about natural resources, including forestry, land management, soils and hydrology.

Successful students who want more experience may also apply for a cooperative education position during or after their sophomore year. The program provides tuition and fees during the regular academic year, plus summer employment. Students are frequently offered full-time employment following completion of their degree requirements. Thus far, Haskell has graduated 28 co-op students. Sixteen have transferred to other universities, and another 12 have completed bachelor's degrees in natural resource fields. All are working in professional level positions for tribes and agencies.

Academic preparation is the key to the success of the Haskell program. Early on, the staff recognized it was dealing with nontraditional students facing obstacles that often blocked the path to success. But as is often the case, students facing the biggest obstacles often do very well because they understand and appreciate the value of a college education. Many Indian students are additionally motivated by the fact their tribe's resources are managed by non-Indians, because no one in their tribe has a degree in natural resources. Among these students, there is a strong desire to graduate, then return home to help manage their tribe's natural resources.

Another key to the success of the Haskell program is its mentoring and role-modeling program. Haskell alumni who have completed their four-year degrees are asked to advise and mentor students transferring to their alma maters.

By maintaining their cultural identities, and accepting the challenges and opportunities offered by today's society, Haskell students—and graduates—help bridge traditional and modern cultures. Many return to their tribes or to local BIA offices, where they put their education to work helping manage their natural resource heritage.Others go on to work for other local, state and federal agencies involved in resource planning and management. Either way, Haskell graduates often become their tribe's most valuable resources.

For more information about Haskell Indian Nations University, please call the Natural Resource Liaison at (785) 749-8427.

"...a cadre of well-qualified Indian professionals managing Indian forestlands."

By Scott Gasperin
Director of Forestry
Nez Perce Tribe
Lapwai, Idaho

Where forestry education is concerned, the nation's Indian tribes have made a significant financial commitment to preparing themselves for eventually assuming full management control over tribal forestlands currently held in trust by the federal government.

The commitment to education is spelled out in a long-range document called Vision 2000, which was approved several years ago by the Intertribal Timber Council, a consortium of 70 Indian tribes and Alaska Native Corporations that own and manage forestland. The document covers a variety of ITC-related activities, including education.

The education vision is both blunt and revealing: *"By the year 2000, there will be a cadre of well-qualified Indian professionals managing Indian forest lands."*

To meet this ambitious goal, ITC directors established three educational objectives for its education committee. (1) Evaluate ways to encourage increased contact by Indian natural resource professionals with Indian youth. (2) Where possible, use existing tribal programs as models for similar regional or national efforts. (3) Work with other organizations to explore ways to increase Indian youth awareness of career opportunities in natural resources.

Jim Petersen

Erica Bradley is one of four BIA forestry interns in the U.S. She works in the Albuquerque Area Office, and is a sophomore forestry student at Northern Arizona University. Ms. Bradley is Mescalero Apache.

Recently, ITC entered an educational partnership with Project Learning Tree. The groups will co-sponsor two and three-day facilitator training sessions with an Indian Country focus. Once trained, these facilitators will form local teams that will work with school districts to bring forestry education programs into classrooms.

Through its Truman D. Picard Educational Scholarship program, ITC also grants scholarships to Indian students interested in furthering their education in the natural resource sciences. Since 1988, 49 scholarships have been awarded, including ten for $1,500 each in the past two years. This year, eight $1,500 scholarships will be awarded. Scholarship funds come from a variety of sources, including interest on ITC investments, registration fees from council-sponsored training sessions, and a raffle conducted annually at the National Indian Timber Symposium.

Additionally, the BIA Division of Forestry funds intern and co-operative education programs for Indians who want to pursue careers in natural resources. Since 1981, thirty-seven intern candidates and 12 co-op students have completed their course work and are employed as natural resource professionals in tribal, state or federal agencies.

Several tribes also fund their own cooperative education programs, providing academic and work experience for members interested in pursuing careers in natural resources. A complete accounting of these programs is not yet available, but a survey is underway.

Summary Statistics

Tribal-Owned Forestland by BIA Area Office
in percentage of acres

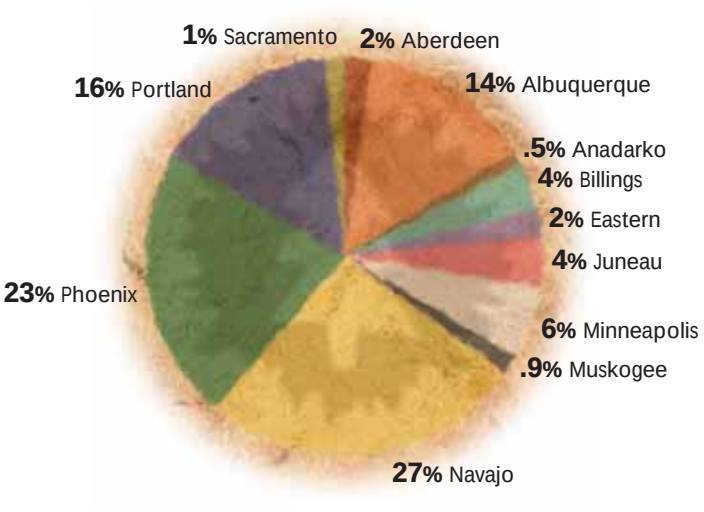


Figure 18: quantifies forest acres by BIA area office. A single reservation— the Navajo Indian Nation—has its own area office and holds more than 4.5 million acres of forestland. The Portland and Phoenix area offices provide assistance to another 53 tribes that together own another 6.6 million acres of forestland. The three areas—Navajo, Portland and Phoenix—account for about 66% of all tribal-owned forestland in the U.S. (Program Funding and Position Analysis, BIA, FY, 1996)

Indian Forestry Budget – 1984 to 1998

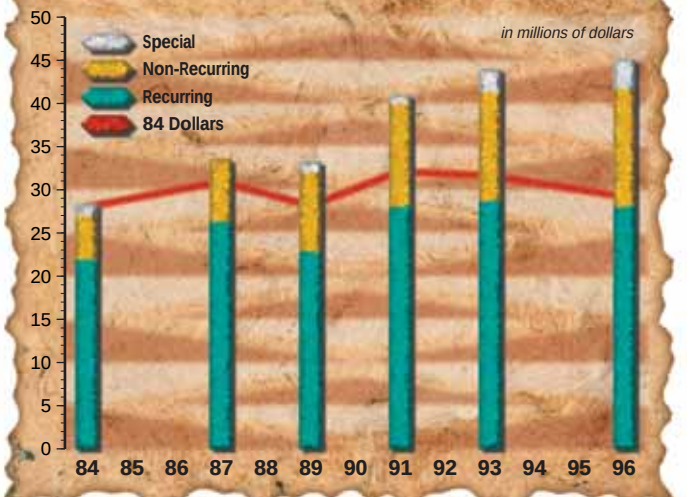


Figure 19: tracks the Indian forestry budget from 1984 through 1996. Measured in 1984 dollars, the Division of Forestry core operating budget is declining, further undermining the Division's ability to fulfill its tribal trust responsibility. In 1996, tribes contributed $31 million to the federal Indian forestry program, more than 41% of the entire program budget for that year. (Program Funding and Position Analysis, BIA, FY, 1996)

Forestry Program Statistics Regional Summary – 1996

Region	Protected Area	Forested Reservations	Forested Area	Commercially Timbered Reservations	Commercially Timbered Area	Commercially Timbered AAC	Woodland Area	Permanent Staff
	million acres	*number*	*million acres*	*number*	*million acres*	*million board ft.*	*million acres*	*number*
Aberdeen	6,148	13	396	6	72	3	170	33
Albuquerque	4,582	24	2,371	15	485	37	1,287	108
Anadarko	584	23	92	1	4	1	88	8
Billings	6,384	7	739	6	197	20	101	60
Eastern	434	16	272	12	191	28	22	39
Juneau	995	25	618	25	231	16	373	18
Minneapolis	1,470	28	1,019	28	908	206	0	89
Muskogee	504	6	161	4	95	2	41	8
Navajo	17,170	1	4,574	1	428	20	4,036	39
Phoenix	12,573	16	3,915	4	894	64	2,098	294
Portland	4,856	37	2,732	37	2,020	396	115	397
Sacramento	381	44	180	12	126	17	49	60
TOTAL	**56,081**	**240**	**17,069**	**151**	**5,651**	**810**	**8,380**	**1,153**

Figure 20: summarizes the forestry program statistics by category as of September 1996. (Program Funding and Position Analysis, BIA, FY, 1996)

Forestry Program Activities Regional Summary – fiscal years 1992 to 1996

Region	Fiscal Year	Wildfire Area	Prescribed Fire	T.S.I.	Reforested Area	Pest Mgmt.	Inventory Mgmt.	Harvest Volume	Harvest Value
		million acres	*million acres*	*million acres*	*million acres*	*million dollars*	*million dollars*	*million board feet*	*million dollars*
Aberdeen	92	22,568	30	236	230	0	0	3	93
	93	8,360	0	100	400	0	8	0	0
	94	15,744	21	0	100	0	22	1	43
	95	10,496	0	0	258	0	48	0	1
	96	14,635	0	130	235	0	0	0	13
sub total →		**71,803**	**51**	**466**	**1,223**	**0**	**78**	**4**	**150**
Albuquerque	92	1,352	24,205	3,677	773	114	123	32	1,677
	93	2,712	1,335	4,100	1,100	171	177	7	1,996
	94	15,154	11,740	4,700	1,400	198	162	41	4,456
	95	5,509	11,585	6,970	1,355	311	141	47	4,317
	96	39,472	22,321	4,700	1,408	143	178	44	3,153
sub total →		**64,199**	**71,186**	**24,147**	**6,036**	**937**	**781**	**171**	**15,599**
Anadarko	92	0	0	0	0	0	11	0	44
	93	0	0	0	100	18	50	0	49
	94	0	0	0	0	0	29	3	48
	95	0	0	0	0	0	42	0	16
	96	0	0	0	0	0	13	1	123
sub total →		**0**	**0**	**0**	**100**	**18**	**145**	**4**	**280**
Billings	92	14,010	0	2,634	489	17	79	15	750
	93	3,549	0	2,100	400	50	128	27	1,182
	94	80,374	15	1,000	300	0	80	19	2,024
	95	10,421	20	1,081	633	0	94	17	1,417
	96	41,156	0	1,266	815	0	65	13	1,707
sub total →		**149,510**	**35**	**8,081**	**2,637**	**67**	**446**	**91**	**7,080**
Eastern	92	139	8,831	1,933	92	300	165	19	823
	93	138	6,961	1,700	100	0	48	17	1,114
	94	341	5,475	1,700	300	0	45	16	1,011
	95	50	13	582	69	41	71	16	1,474
	96	197	8,101	530	60	0	72	17	1,122
sub total →		**865**	**29,381**	**6,445**	**621**	**341**	**401**	**85**	**5,544**
Juneau	92	241	0	0	0	0	68	8	1,780
	93	297	0	100	0	0	124	0	122
	94	350	0	0	0	0	109	1	60
	95	106	0	193	0	0	101	0	44
	96	0	0	104	0	0	77	0	106
sub total →		**994**	**0**	**397**	**0**	**0**	**479**	**9**	**2,112**
Minneapolis	92	272	116	1,854	1,072	0	471	112	4,533
	93	423	101	2,900	2,300	7	235	121	6,237
	94	17,208	100	2,600	1,100	0	120	129	6,705
	95	5,634	0	10,020	1,528	2	206	143	6,459
	96	2,997	260	5,947	1,842	0	290	121	5,805
sub total →		**26,534**	**577**	**23,321**	**7,842**	**9**	**1,322**	**626**	**29,739**
Muskogee	92	0	0	312	82	0	4	1	219
	93	0	0	0	1	0	60	2	72
	94	0	0	0	700	0	97	1	198
	95	0	0	388	524	12	87	1	261
	96	0	0	399	546	0	58	1	78
sub total →		**0**	**0**	**1,099**	**1,853**	**12**	**306**	**6**	**828**
Navajo	92	69	0	3,465	309	0	76	31	4,230
	93	229	0	2,100	300	0	106	24	4,051
	94	866	0	2,900	0	0	65	2	23
	95	1,120	0	1,123	154	0	40	2	22
	96	6,824	0	0	0	0	59	0	0
sub total →		**9,108**	**0**	**9,588**	**763**	**0**	**346**	**59**	**8,326**
Phoenix	92	13,844	31,787	4,209	107	32	60	92	9,417
	93	26,693	53,445	3,400	300	35	117	74	11,465
	94	18,826	10,756	3,900	300	20	105	90	11,868
	95	38,171	49,926	2,033	267	22	169	61	7,276
	96	18,343	13,938	2,420	84	18	115	70	9,177
sub total →		**115,877**	**159,852**	**15,962**	**1,058**	**127**	**566**	**387**	**49,203**
Portland	92	65,709	5,174	7,904	3,433	220	392	575	172,394
	93	2,041	8,957	15,500	5,900	227	343	334	99,728
	94	74,786	3,899	13,000	4,700	161	529	358	129,210
	95	760	11,708	21,473	6,413	127	402	359	115,802
	96	144,066	11,688	27,813	4,845	153	480	369	105,369
sub total →		**287,362**	**41,426**	**85,690**	**25,291**	**888**	**2,146**	**1,995**	**622,503**
Sacramento	92	3,040	880	124	31	0	65	24	7,241
	93	5,787	517	100	100	0	108	28	4,199
	94	3,792	390	100	0	42	141	15	6,642
	95	4,319	431	448	253	16	80	12	6,275
	96	2,885	18	555	351	58	143	14	6,233
sub total →		**19,823**	**2,236**	**1,327**	**735**	**116**	**537**	**93**	**30,590**
Sub Totals	92	121,244	71,023	26,348	6,618	683	1,514	912	203,201
	93	50,229	71,316	32,100	11,600	508	1,504	635	130,215
	94	227,441	32,396	30,000	8,900	379	1,504	676	162,286
	95	76,586	73,683	44,311	11,454	557	1,504	659	143,365
	96	270,575	56,326	43,864	10,186	330	1,537	650	132,886
TOTAL →		**746,075**	**304,744**	**176,623**	**48,758**	**2,457**	**7,563**	**3,532**	**771,953**

Figure 21: summarizes forestry program activity by region from fiscal year 1992 through fiscal year 1996 (Program Funding and Position Analysis, BIA, for FY, 1992 through FY, 1996)

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The Evergreen Foundation is a national, non-profit forestry research and education organization, dedicated to the advancement of science-based forestry. The Foundation publishes ***Evergreen***, a bimonthly journal designed to keep our members, and others, abreast of issues and events impacting forestry, forest communities and the forest products industry.

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In its research and publishing activities, the Foundation works closely with forest ecologists, silviculturists, soils scientists, geologists, botanists, hydrologists, fish and wildlife biologists, archeologists, anthropologists, historians, economists, forest landowners and state and federal agencies responsible for protecting the nation's forest resources. Before publication, select committees review all manuscripts for accuracy. Interviewees also review their statements for accuracy and completeness. Statistical information is verified using federally maintained forest databases in place since the 1940s.

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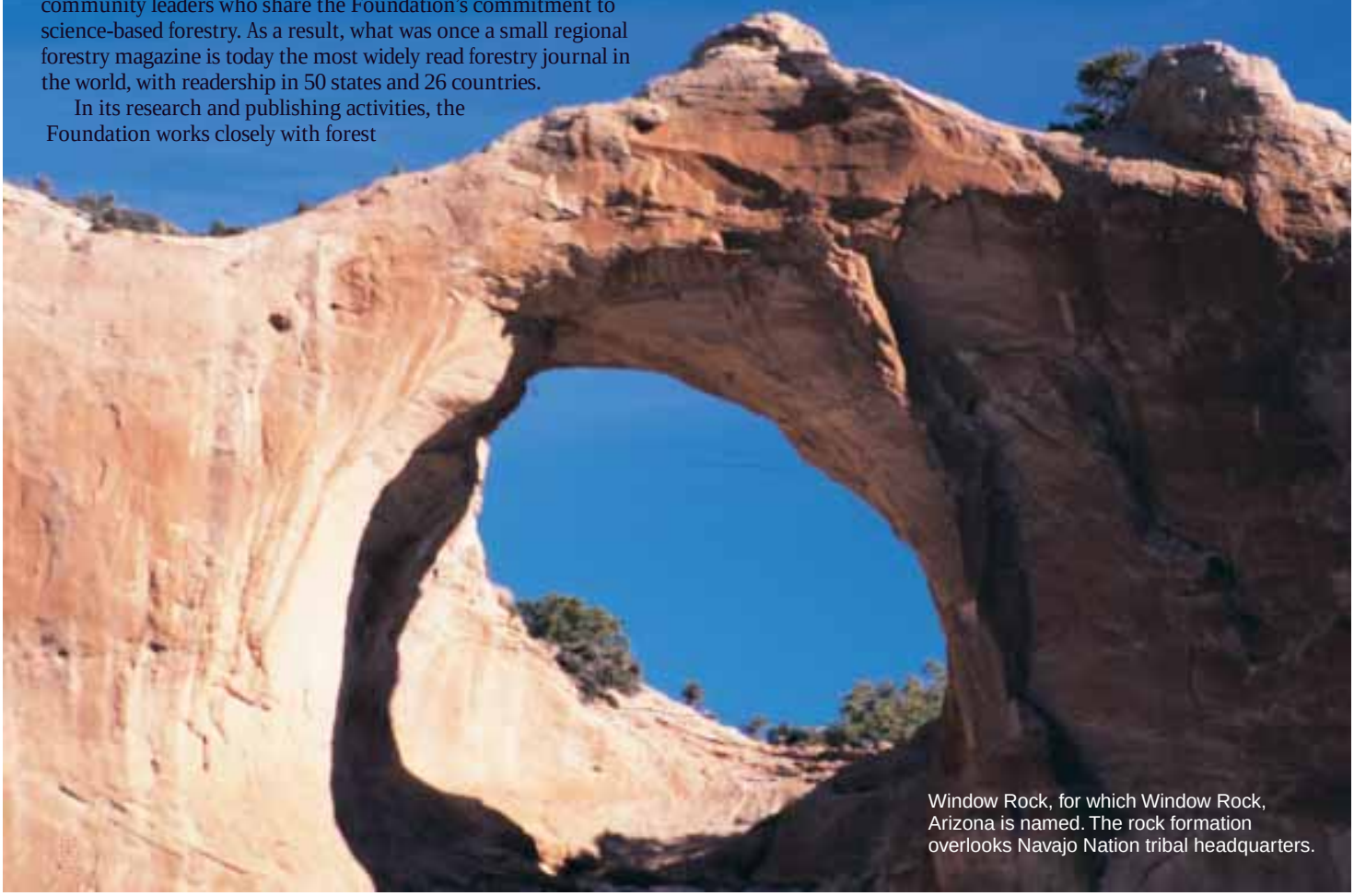

Jim Petersen

Window Rock, for which Window Rock, Arizona is named. The rock formation overlooks Navajo Nation tribal headquarters.

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