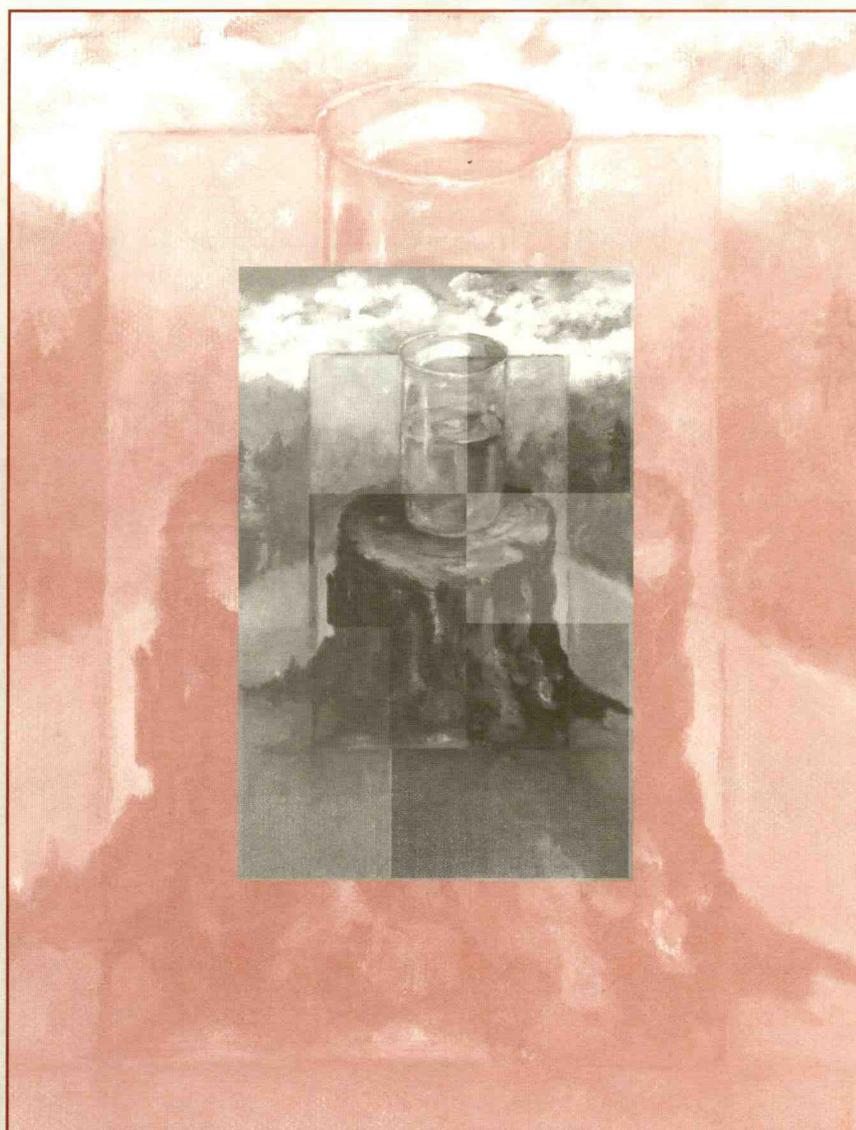


re-THINKING NATURAL reSOURCES



1995 STARKER LECTURES

Oregon State University — College of Forestry

There is no
way of
looking at
the forest
except by the
light of our
own reason,
and this light
determines
the particular
kind of forest
then seen.

JOSEPH CHILTON PIERCE
CRACK IN THE COSMIC EGG

re-
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NATURAL
reSOURCES

1995 STARKER LECTURES

ACKNOWLEDGMENTS

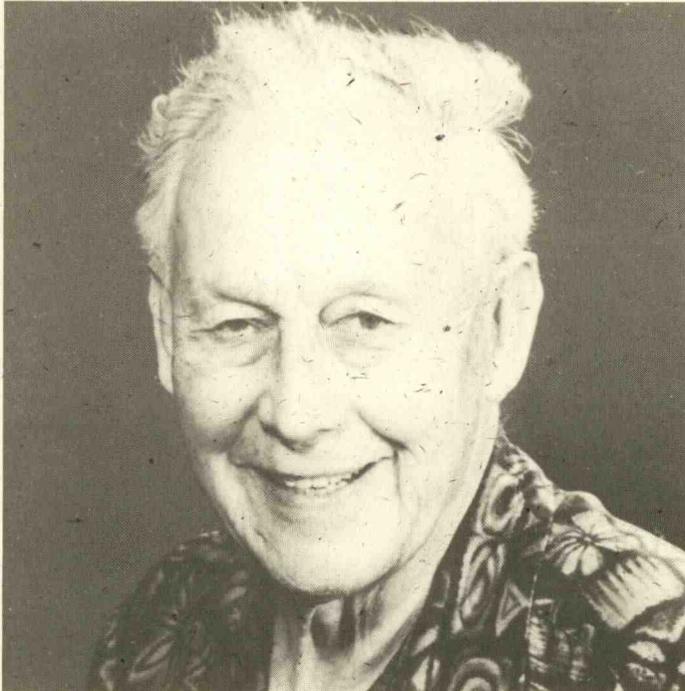
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DEDICATION



The Starker Lecture Series is sponsored by the Starker family and dedicated to the memory of T.J. and Bruce Starker. As leaders of modern forest management, T.J. and Bruce Starker were visionaries for sustainable forestry in Oregon.

T.J. Starker

Thurman, known to all as T.J., was born in Kansas and lived his youth in Burlington, Iowa. He moved with his family to Portland in 1907 and began working in and studying forestry, graduating in the first class of foresters at Oregon Agricultural College in 1910. He then studied two years for an M.S. degree in forestry at the University of Michigan and returned to Oregon to work for the USDA Forest Service. Subsequent employment with the forest products industry and a variety of summer jobs, while he was teaching forestry at O.A.C./O.S.C., gave T.J. broad and thorough experience in all aspects of forestry.

T.J. began purchasing second growth Douglas-fir land in 1936—the beginnings of Starker Forests. Through his work experiences and teaching forest management, T.J. has had a major influence on sound forestry and community development in Oregon.



T.J. & Bruce Starker

Bruce Starker

Bruce Starker studied for a forestry degree from O.S.C. in 1940 and an M.S. in forestry in 1941. After service with the Coast Guard, Bruce joined his father, T.J., in acquiring and managing Oregon forest land, always with an eye for sound reforestation, management, and conservation for multiple benefits and values. He worked with university, state, and federal forestry agencies, as well as with private industry, to advance reforestation, management, and equitable taxation to encourage private forest management. Bruce continued the family tradition of active community service in many ways, including civic activities, regional forestry work, and contributing to writing the Oregon Forest Practices Act.

With advances in knowledge, technology, and public environmental issues, forestry practices in the Starker Forests has changed, but the constant value of tending the land remains unchanged. The sound, progressive forestry and community spirit of T.J. and Bruce Starker continue today.

We, at Oregon State University, College of Forestry, family and friends, are pleased to be honored with this lecture series.

Starker family: Bond, Betty Starker Cameron, & Barte



FOREWORD



The wisest and best use of our precious natural resources represents an age-old question. But, even though the question is old, our modern world offers an increasingly complex array of possible answers.

This year's Starker Lecture theme, "Rethinking Natural Resources," offers a unique look at the question and some of the answers. Our speakers come from a variety of backgrounds and offer diverse thoughts about important natural resource issues.

Terry Tempest Williams is the naturalist-in-residence at the Utah Museum of Natural History in Salt Lake City, Utah, although she is probably best known as a writer and speaker. She cares deeply for the special places of the American West, and she conveys an intensely personal view of the natural world, the way we treat it, and how it affects our lives. Ms. Williams articulates a passion that strikes a resonant chord in many people who love the beauty of the world around them.

William Perry Pendley is the president and chief legal officer of the Mountain States Legal Foundation in Denver, Colorado. An attorney who has argued before the United States Supreme Court, Mr. Pendley is particularly interested in the protection of private property rights. His message focuses on changes in legal, political, and public views of environmental issues.

Hal Salwasser was the director of the Boone and Crockett Wildlife Conservation Program at the University of Montana, but at the time of this writing he was taking on a new job as regional forester for the Northern Region of the Forest Service in Missoula, Montana. From his perspective as a wildlife biologist, Dr. Salwasser presents a conceptual and operational view of ecosystem management and encourages us to think about how it may change our natural systems.

Steve Mealey is the project manager for the Upper Columbia River Basin Environmental Impact Statement Project in Boise, Idaho. He was originally a political scientist, but worked his way into the resource through a forestry degree. Mr. Mealey is particularly concerned that ecosystem management must make ecosystems livable for people, which means a concern for factors such as local partnerships, private property rights, and careful consideration of costs and benefits.

Organizing this lecture series required a major effort on the part of the Starker Lecture Committee. I thank John Garland, Sandie Arbogast, Terry Brown, Becky Johnson, and Robin Rose for the dedication and creativity that turned disparate ideas into a coherent theme and an outstanding group of speakers. It is truly a collaborative effort that accounts for the fine tradition of the Starker Lecture Series.

Bo Shelby
Professor of Forest Resources

AN EROTICS OF PLACE



TERRY TEMPEST WILLIAMS

Naturalist-in-Residence
Utah Museum of Natural History
Salt Lake City, Utah

Good afternoon, and thank you for this invitation. It is a pleasure and privilege to be part of this distinguished 1995 Starker Lecture Series.

I must tell you, when I saw the flier, the beautiful flier that Sandie Arbogast put together with the stump and the glass of water, half empty, half full, I thought that it was a wonderful evocative image of how we perceive the land. Rethinking our relationship toward natural resources.

And then when I saw the range of thought being presented, today considering "An Erotics of Place" and the next lecture with Mr. William Perry Pendley, "War on the West: A Call to Action," I thought that you have chosen a full range indeed.

I'm sorry that I won't be here to hear Mr. Pendley. Question him severely, will you?

I honor Oregon State University's commitment, the College of Forestry's commitment, the Starker family's commitment to discussing and expanding our thinking as to what a school of forestry is willing to consider. But this is your history and tradition, to explore the edges of traditional concepts of forestry.

I was looking at the list of those who've lectured in previous years. The list includes Maggie Shannon, Jack Ward Thomas,

Sally Fairfax, Mark Reisner, Charles Wilkinson, heroes of mine. I'm mindful of these speakers who have stood before you, of the innovations that they have presented of mind and imagination and policy. It is my hope that the notion of the erotic can be entered into that registry of ideas.

We've had the most provocative and wonderful afternoon: faculty and students sitting around the tables and discussing natural resource issues and ideologies. What comes through to me over and over again is that nothing is simple, nothing is easy, but that, within these complexities of management (and it's foreign for me to even say that word), within the management philosophies which are brought here, discussed here, dreamed here, I can see an "ethic of place" arising. That ethic is the land ethic that Aldo Leopold charged us with, an extension of community to include all life forms: plants, animals, rocks, rivers, and human beings.

It was interesting listening to the discussion surrounding lunch today about the McDonald Dunn Forest. Fascinating. I had no concept of what was being done here.

It was also interesting listening to Dave Lysne explaining community relations, people who move here unaware that the forest behind them is a teaching forest, if you will, to come face to face with as a neighborhood, as a community, with university objectives.

I was fascinated to learn that, through the years, the 10 management goals that Susan Stafford addressed have shifted. In the past, the number one priority was economic gain, yield from the cuts. Today, however, economic gain is priority six, and sustainability of ecosystems has risen to the top alongside the mandate for research.

I find this indicative, both metaphorically and practically, of where we are with our thinking about forests, deserts, oceans, our waters, and our relationship to the natural world.

These ideas excite me, and so I feel as though I've been gifted by this afternoon. They intrigue me, and they make me aware once again of the diversity of our perspectives and how important it is to listen to one another.

I thank the Starker family and the faculty of this college, Bo Shelby and Sandie Arbogast, in particular, for this invitation.

I'm mindful of Wallace Stegner, that he stated in *The American West Is Living Space* that it's in the towns of the West that the spirit of the West will be held, towns with universities and colleges, towns like Corvallis, Oregon. So it's wonderful to be here for the first time.

This afternoon I would like to ask some questions. What is it we value in the natural world, in the land? And how do we speak about these things? Acre feet? Board feet? Kilowatts? Animal unit months? British thermal units?

How do we interpret forests, deserts, rivers, oceans? And what does it mean to have a full and honest relationship with nature?

I was struck by a simple and wise column written by Jonathan Nicholas in yesterday's *Oregonian* (October 18, 1995) about Markham Gulch, a 100-acre woods adjacent to Portland, minutes from the city. May I read this to you?

"Some years back a handful of people fell in love here. They fell in love with the grandeur of the Douglas-firs, the leap of bigleaf maples, the sentinel cedars and hemlocks that droop and dance with the wind. They fell in love with the licorice ferns and maidenhairs, lady ferns and brackens, foxgloves and fairy bells, French cup and fern flower and Johnny-jump-up and water pimpernel and salmonberry and salal and Oregon ash and Indian plum and Pacific yew and the hundreds of other species that crowd like refugees into the singular redux."

The names of things. Yesterday my friend Sandy Lopez and I walked in that gulch and everything changed. And I was able to thank Mr. Nicholas for that piece of writing that is on the front page of the local section. We don't often get that kind of poetry, that kind of biological literacy in the pages of our newspapers in this country.

And he said, "Yes, to list the names of plants in our forests is to remember them, to honor them, in the same way we list the names on the Vietnam Memorial."

Emily Dickinson writes, "Life is a spell so exquisite, everything conspires to break it." How can we not respond?

A woman who is a raptor rehabilitator was asked, "What is the most challenging aspect of your work with injured birds: hawks, owls, kestrels,

falcons?" She replied, "The most difficult task the birds demand is that we learn to be equal to them, to feel our way into an intelligence that is different from our own."

From my perspective, it appears that the eyes of traditional land management policy have not seen, perhaps have not looked upon the land and its creatures in this way. Habitat has been lost. Habitat is still at risk. Economics has been the primary lens we have looked through and relied on as a culture.

This morning I spoke with Ted Strong, a friend, a Yakama elder who runs, as you know, the Columbia River Inter-Tribal Fish Commission. I asked him about his personal life and his public life. How, as a member of the Yakama Nation, does he balance the public policies he is engaged in with traditional beliefs? How does he leave the Columbia River Gorge and travel to Washington where politics reign? How does he keep himself whole?

And he said, "We must try and find nobility in our practices on the land."

And then he talked about the tree outside his office, how, each time he looks at that tree, he sees his family tree. The leaves grow, they shimmer, they shed, they emerge once again in spring. He is mindful of his time here, that it is a generational stance, a cyclic stance, seeing the world whole.

And then on his wall he has a picture of his uncle fishing on the Columbia, and next to that picture is a picture his father took when he was a child at Celilo Falls. "I remember Celilo Falls," he says, "and it's not hard for me to go back into that memory bank and feel the mist, the smells, to remember..." And then he says, "This is my standard by which I find nobility in this work."

I think about Glen Canyon, I think about Glen Canyon Dam, the Columbia River, Bonneville Dam, Black Mesa, Peabody Coal, the clearcuts, the strip mines. We see evidence of economic priority in the name of our species, in the name of ourselves, all around us.

And none of us is pure. All of us are complicit in our fractured relationship with the land.

I met a man named William Maxwell, an extraordinary writer, 87 years old, in Vermont this summer. He was editor of the *New Yorker Magazine* for years, an essayist, a brilliant short-story writer.

We were walking in the woods, and noticed a small feather. Blue. I bent down and picked it up, and he said, "Oh, bluebirds; it's been so long since I've seen them."

I asked him, "In the midst of all these changes, do you feel hopeful?"

He stopped. I'll never forget this. He just stopped, he looked quietly in both directions, and he said, "I wanted to make sure there were no children around. No, I do not feel hopeful, but I remain optimistic." He writes:

"Granted that one has to live in one's age or give up all contact with life, nevertheless, one puts this book aside not with nostalgia but with a kind of horror at what has happened.

"There was perhaps no stopping it one thinks, and at the same time as one thinks that, one thinks that it should never have been allowed to happen, that our grandparents would not have put up with it, with the terrible heart-breaking impoverishment that is not confined to a single village in a remote valley of the Cotswolds or to any one country.

"It is all but general. Everywhere. Every country. Every community. And very few of us know at firsthand anything else. Like a fatal disease, it has now gotten into the bloodstream."

Bloodstream. Bloodlines. There is a woman who is a tailor. She lives in Green River, Utah, and makes her livelihood performing alterations, taking a few inches here, letting out a few inches there, basting in hems, then finishing them with a feather stitch.

While hiking in the San Rafael Swell, this woman was raped. Thrown down face first on the sand. She never saw the face of her assailant. What she knew was this: that, in that act of violence, she lost her voice. She was unable to cry for help. He left her violated and raw.

The woman returned home and told no one of her experience. Instead, she grabbed a large spool of red thread, a pair of scissors and returned to the swell.

The woman cut pieces of thread and placed them delicately on the desert; six inches, three inches, 12 inches. They appeared as a loose-stitched seam upon the land. She saw them as bloodlines, remembering the fetishes of Zuni she had held that draw the heart down.

She recalled rabbit, lizard, and rattlesnake. She continued to cut lines in memory of animals she had known, seen, and spent time with in these red rock canyons: deer, mountain lion, flicker, and raven.

And on one occasion she recalled watching a black bear amble down Crack Canyon. For this creature she left a line of red thread three feet long.

She cut one-inch threads for frogs and left them inside potholes to wriggle in the rain when the basins would inevitably fill.

Time and space shift. It is fall. The woman is now walking along the banks of the Colorado River. She takes her spool of red thread, ties one end to a juniper and then begins walking with the river, following each bend, each curve, her red thread trailing behind her for miles, stitching together what she has lost.

It is now spring. The woman is standing in the deep heat of the desert beside a large boulder known by locals as the birthing rock. Tiny feet the size of her index finger are etched on stone. Ten toes of hope point to figures of woman bearing down, legs spread with the heads of children coming forth. She recognized them as two beings seen as one, repeatedly.

The woman picks up an obsidian chip that has been worked by ancient hands. The flanked edge is razor sharp. She holds it between her fingers like a pencil, opens her left hand and traces her own lifeline from beginning to end. The crescent moon below her thumb turns red. She places her palm on the boulder and screams.

In the midst of the politics before us, I think of the woman in the San Rafael Swell and her spool of red thread, basting memories back into the land.

Once again I hear Emily Dickinson's voice, "Life is a spell so exquisite, everything conspires to break it." How can we not respond? Each in our own place. Each in our own way.

I come to Oregon, and I am mindful of the many people who are working to protect the salmon, the ancient forests, and all that is wild. The political landscape here is not easy: the salvage bill that was not vetoed, the work on the rivers is endless.

And I think about my own state of Utah, and where we have been as citizens for the past year, trying to do something about this dreadful bill that is before Congress, the "Utah Public Lands Management Act of 1995." At least our Utah delegation has the integrity not to call it a wilderness bill.

The citizens' proposal, HR 1500, asks for 5.7 million acres of wilderness; the delegations' bill, 1.8 million acres with the release of 1.4 million acres back into the land for economic gain, and with provisions that absolutely undermine the Wilderness Act of 1964 as we know it. The construction of dams, communication towers, and gas pipelines would also be allowed.

When 32 biologists, representing every institute of higher learning in the state of Utah, produced a report inches thick, said this is the reason why wilderness matters, this is the reason why these corridors make a difference to the five national parks that we have here, and handed this document to Congressman Jim Hansen, he said simply, "Biology has nothing to do with wilderness." It is not an easy political landscape anywhere.

How do we speak in this context? I can tell you that citizens frustrated by the political process in Utah formed their own citizens' hearings at the Indian Walk-in Center. Instead of three minutes with the clock running while our delegation repeatedly said, "Sit down please," or "Please control yourselves," or "Please don't speak with passion," or "We will not have any philosophies discussed, only acreage" (you start to realize, no time, no philosophy, only acreage, why we have the problems that we have), we established our own rules.

The citizens said, "We will conduct our own hearings," and people spoke from their hearts for as long as they wished. We were there until two o'clock in the morning.

Then citizen representatives testified at regional hearings that were brought to the state by the subcommittee of the House with Congressman Jim Hansen at the helm, Maurice Hinchey from New York on one side, and Bruce Vento from Minnesota on the other.

I hope you don't mind a personal story. I was given the opportunity to testify at the hearing. I tried to write something as rational and linear as possible, trying to speak a language that was credible and appropriate to that situation.

As I began speaking, I saw Congressman Hansen's eyes gloss over. He yawned, and I saw him take out his paper and start reading something else. In desperation, I broke from the text, and I said, "Congressman Hansen, I live in Utah. I have lived here all my life. I am a woman devoted to landscape and language. Never have I felt more inadequate as a writer. I cannot find the words. Is there anything I can say to you that might open your heart and allow for another alternative to be presented?"

He leaned forward and said, "Excuse me, Ms. Williams, there is something about your voice I cannot hear."

I don't think he was talking about turning up the microphone.

What do we do, each of us in our own place, in our own time?

Barry Lopez writes, "We need a pause the like of which we've never had in Western civilization. We need to halt at watershed junctures like this one involving the disposition of Utah's public lands and ask not just what is fair, just and reasonable, but what is enduringly wise."

And Rick Bass, "You cannot convert the fragile stickiness of herons into timber or oil and gas. You cannot turn the whistle of wind across ancient orange sands into dollar bills or boats or security. You cannot cut a road into red rock across a sand creek and convert that loss into gain. This is and has always been a myth of mankind of all countries, both savage and civilized. There is a point reached in all cultures, a point of saturation, where each blade cut weakens a place and the miracle of regeneration does not one day occur."

Our relationship to the land is imperfect. Our relationship to God is imperfect. Our relationship to each other is imperfect. But we can return to that place of greater intention. Celilo Falls, to remember our wild hearts, Glen Canyon, what we carry in our DNA, what can never be dammed, dredged, or cut.

What is it that we wish for? To be whole. To be complete. "Our troubles," E.O. Wilson writes, "arise from the fact that we do not know what we are and cannot agree on what we want to be."

Humanity is part of nature, a species that evolved among other species. The more closely we identify ourselves with the rest of life, the more quickly we will be able to discover the source of human sensibility and acquire knowledge on which an enduring ethic, a sense of preferred direction can be built.

Tony, one of the students in our seminar this afternoon, talked about a shared sense of meaning. Is that possible?

Scott Momaday reminds us of these things: "What is it that awakens in my soul when I walk in the desert, when I catch the scent of rain, when I see the sun and moon rise and set on all of the colors of the earth, when I approach the heart of wilderness?"

"What is it that stirs within me when I enter upon sacred ground? For indeed something does move and enliven me and my spirit. Something that defines my very being in the world. I realize my humanity in proportion as I perceive my reflection in the landscape that enfolds me.

"It has always been so. The equation of man and earth is ancient and sacred. It is the cornerstone of religion. It is the great metaphor of belief, of wonder and holy regard, of profound reverence and deepest delight.

"As my eyes search the prairie I feel the summer in the spring. That is to say, I am alive. I feel the pulse of the living earth. My being extends to all horizons. I am one with creation. I have a rightful place in the infinite design of the universe. I drift easily in the current of my life and in the current of all life.

"For the earth is alive and possessed of spirit. To know this is the proof of my belonging. My existence is appropriate to earth, sky, sun and moon, to no season am I a stranger, to no animal or tree. I am at home in the world."

What are we afraid of? Body. Earth. What might it mean to make love with the land? But this is taboo. We don't speak of these things. Eros. Nature. Even our own. Love is not only shared pleasure, it is also shared pain.

It was interesting talking to Jim Sedell today, a fisheries biologist here in the college. One tenth of one percent of native salmon remain (if I got those figures right). He spoke about grief. How can we not feel grief with the knowledge that we hold? Can we love enough to grieve? Can we grieve enough to put our love into action? This is the "active soul" that Henry David Thoreau speaks of.

When Ted Strong talks to his staff and one of the staff members says, "How can we keep going? The numbers are so low...only 400 plus salmon for ceremonial purposes," Ted Strong replies, "The salmon haven't given up. How can we?"

Biologist Tim Clark says, "At the heart of good biology is a central core of imagination. It is the basis for responsible science, and it has everything to do with intimacy. Spending time outside."

But we forget because we spend so much time inside, inside offices, inside board rooms, inside universities, inside hearings, inside eating power breakfasts, power lunches, dinners, and drinks. To protect what we love outside, we are inside. Scheming, talking, telephoning, writing, granting, faxes, memos, memos, memos, to them, to us. Inside to protect what we love on the outside.

There is no defense against an open heart and a supple body in dialogue with wildness. Internal strength is an absorption of the external landscape.

We are informed by beauty, raw and sensual. Through an erotics of place, our sensitivity becomes our sensibility.

If we ignore our connection to the land and disregard and deny our relationship to the pansexual nature of earth, we will render ourselves impotent as a species. No passion, no hope of survival.

Edward Abbey writes, "Nature may be indifferent to our love, but never unfaithful." I believe we are passionate people, who are in the process of redefining our relationship to the land and it is essential that we do so.

And I believe that out of an erotics of place a politics of place is emerging, not radical but conservative. A politics rooted in empathy. We call to the land, and the land calls back.

What has happened to our desires, to our impulse to live, to be vulnerable, to be open, to engage, to indulge in an erotics of place? Our view of the erotic has become so narrow we relegate it to the pornographic.

To be in relation with everything around us, above us, below us, earth, sky, blood, bones, flesh is to see the world whole, even holy.

But the world we frequently surrender to defies our participation and seduces us into believing that our only place in nature is as spectator, onlooker, observer. A society of individuals who only observe a landscape from behind the lens of a camera or the window of an automobile without entering in perhaps is no different than the person who obtains sexual gratification from looking at the sexual actions or organs of another.

Erotism, being in relation, calls the inner life into play. No longer numb, we feel the magnetic pull of our bodies toward something stronger, more vital than simply ourselves. Arousal becomes our dance with longing. We form a secret partnership with possibility.

Earth, water, fire, air. We remember our elemental nature. Earth, body; Body, earth. No separation.

“Without a philosophy of wildness and the recognition of its inherent spiritual values, we will descend further from heaven’s door if we forget how much the natural world means to us.” E.O. Wilson.

The poet Mary Oliver writes, “There is only one question: How to love this world.”

An Unspoken Hunger. “It is an unspoken hunger we deflect with knives. One avocado between us cut neatly in half, twisted, then separated from the large wooden pit. With the green fleshy boats in hand, we slice vertical strips from one end to the other. Vegetable planks.

“We smother the avocado with salsa, hot chiles at noon in the desert. We look at each other and smile. Eating avocados with sharp silver blades. Risky. The blood of our tongues repeatedly.”

Desert Quartet. "Water. At first I think it is the small leather pouch someone has dropped along the trail. I bend down, pick it up, and only then recognize it for what it is. A frog. Dead and dried.

"I have a leather thong in my pack which I take out and thread through the frog's mouth and out through its throat. The skin is thin, which makes a quick puncture possible. I then slide the frog to the center of the thong, tie a knot with both ends and create a necklace which I wear.

"I grew up with frogs. My brothers and cousins hurled them against canyon walls as we hiked the trail to Rainbow Bridge when Lake Powell was rising behind Glen Canyon Dam.

"I hated what they did and told them so. But my cries only encouraged them, excited them, until I became the wall they would throw the frogs against.

"I didn't know what to do. Stand still and soften their blow by trying to catch each frog in my hands like a cradle, or turn and run, hoping they would miss me altogether.

"I tried to believe that somehow the frogs would sail through the air in safety, landing perfectly poised on a bed of moss.

"But, inevitably, the tiny canyon frogs, about the size of a ripe plum, quickly became entombed in the fists of adolescents and would die on impact hitting my body, the boys' playing field.

"I would turn and walk down to the creek and wash the splattered remains off of me. I would enter the water, sit down in the current, and release the frog bodies downstream with my tears.

"I never forgave. Years later my impulse to bathe with frogs is still the same.

"Havasu. It is only an hour or so past dawn. The creek is cold and clear. I take off my skin of clothes and leave them on the bank. I shiver. How long has it been since I have allowed myself to lie on my back and float?

"The dried frog floats with me. A slight tug around my neck makes me believe it's still alive, swimming in the current. Travertine terraces spill over

with turquoise water, and we are held in place by a liquid hand that cools and calms the desert.

“I dissolve. I am water. Only my face is exposed, like an aberration over ripples. Playing with water. Do I dare? My legs open. The rushing water turns my body and touches me with a fast finger that does not tire. I receive without apology.

“Time. Nothing to rush. Only to feel. I feel time in me. It is endless pleasure in the current. No control. No thought. Simply here.

“My left hand reaches for the frog dangling from my neck floating above my belly, and I hold it between my breasts like a withered heart. Beating inside me, inside the river.

“We are moving downstream. Water. Water music. Blue notes. White notes. My body mixes with the body of water. Like jazz, the current's like jazz. I too am free to improvise.

“I grip stones in shallow water. There is moss behind my fingernails.

“I leave the creek and walk up to my clothes. I am already dry. My skirt and blouse slip on effortlessly. I twist my hair and secure it with a stick.

“The frog is still with me. Do I imagine beads of turquoise have replaced the sunken and hollow eyes?

“We walk. Canyons within canyons. The sun threatens to annihilate us. I recall all the oven doors I have opened to a blast of heat that burned my face. My eyes narrow. Each turn takes us deeper into the Grand Canyon, my frog and I.

“We are witnesses to this opening of time. Vertical and horizontal at once. Between these crossbars of geology is a silent sermon on how the world was formed. Seas advanced and retreated. Dunes now stand in stone. Volcanoes erupted and lava has cooled. Garnets shimmer and separate schists from granite. It is sculpture time to be touched, even tasted. Our mineral content preserved in the desert. This is the Rio Colorado.

“We are water. We are swept away. Desire begins in wetness. My fingers curl around this little frog. Like me, it was born out of longing. Wet, not

dry. We can always return to our place of origin. Water. Water music. We are baptized by immersion. Nothing less will replenish or restore our capacity to love. It is endless if we believe in water.

“We are approaching a cliff. Red monkey flowers bloom. White throated swifts and violet green swallows crisscross above. My throat is parched. There is a large pool below. My fear of heights is overcome by my desire to merge.

“I dive into the water, deeper and deeper. My eyes open, and I see a slender passageway. I wonder if I have enough breath to venture down. Down.

“I take the risk and swim through the limestone corridor where the water is milky, and I can barely focus through the shimmering sediments of sand until it opens into a clear, green room.

“The frog fetish floats to the surface. I rise, too, and grab a few breaths held in the top story of this strange cavern. I bump my head on the jagged ceiling. The green room turns red. Red, my own blood, my own heart beating. My fingers touch the crown of my head and streak the wall.

“Down. Down. I sink back into the current which carries me out of the underwater maze to the pool. I rise once again, feeling a scream inside me surfacing as I do scream, breathe, tread water, get my bearings. The outside world is green, is blue, is red, is hot, so hot. I swim to a limestone ledge, climb out and lie on my stomach, breathing. The rock is steaming. The frog is under me, beating. Heart beating. I am dry. I long to be wet. I am bleeding. Back on my knees, I immerse my head in the pool once more to ease the cut and look below. Half in, half out. Amphibious. I am drawn to both earth and water.

“The frog breaks free from the leather thong. I try to grab its body but miss and watch it slowly spiral to the depths.

“Before leaving, I drink from a nearby spring and hold a mouthful. I hear frogs. A chorus of frogs. Their voices rising like bubbles from what seems to be the green room, muffled at first, they become clear.

“I run back to the edge of the pool and listen. Throwing back my head, I burst into laughter, spraying myself with water.



“It is rain.

“It is frogs.

“It is hearts breaking against the bodies of those we love.”

Thank you.

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QUESTIONS AND ANSWERS

Question: I was wondering how your community of faith has responded to your writing about the erotic?

Williams: I don't think they've heard them so—I think that's true. I gave a copy of *Desert Quartet* to my father, and he opened it, he closed it, and he has not mentioned it since.

Question: You almost went flying with me and Project Lighthawk, but someone else took my place because I was busy. You talked about grief, and something I've had to deal with in flying around the world is watching something else go away. I wanted to know what really deep thing you look towards to deal with that grief, the thing you look for. You said you asked the same question of Ted Strong, how do you keep going?

Williams: I think it's about love and maintaining our relationship to nature. Yesterday Sandy and I, just being in Markham Gulch, hands on trunks of trees, seeing the dappled light on leaves. As long as we can stay

close to that, I think we remember where the source of our power lies. It is a generational stance. It is a lifetime of work.

It's not one moment or one person or even one place, but—but the continuum, the spiral. I think each of us takes our turn within our own communities.

We were talking in the symposium about these political issues that come up. How do we separate ourselves from that? We say, "But I'm not political." But how can we not engage in a responsive citizenry?

I think that's such a dangerous thing we're seeing in our country right now. We've become so cynical, we honestly believe our actions don't matter, don't count. And perhaps we have good reason to believe that.

But if we believe in democracy, deep democracy, public lands democracy, then I think we have no choice but to step forward. And—and each of us takes our rotation, then we step back into the line, so to speak, and no one person gets too tired or too overwhelmed or even too sad.

I think about Abbey, our mentors. You know, "part-time lover, part-time activist." Floating down rivers on our backs. The joy is there and the grief is there and they're inseparable. One informs the other.

It's what Jim Sedell was saying. Do I love enough to feel the grief? Do I feel the grief deeply enough to put my love into action? That keeps us going. We all just can't have a bad day at once.

Question: I'm wondering if you have an answer to the paradox that the increasing population leads to a couple of things. More and more children growing up without a sense of wildness in urban landscapes, with no knowledge of what those things bring. Or the alternative in rural communities with wilderness. I see a paradox. I can't figure a way out of that paradox.

Williams: The paradox is so exquisite. I think that's why I love Great Salt Lake. It's this body of water in the desert that no one can drink. You go to be refreshed and you're repulsed.

I think the land teaches us over and over and over again about paradox, that we are paradox, that we love the land and we're destroying it. How do we live with ourselves with that knowledge?

I think about the Navajo children, their sense of sun traveling across the sky is of an ark. I think about the children in Spanish Harlem. When I was working with them at the Museum of Natural History in New York City, their sense of the sun was of a light switch on and off.

Both had humility in terms of their landscape for very different reasons. I think our experiences are so varied. Loving the wilderness. I don't know. I have no answers.

I am plagued by paradox. I write, and that exposes people to these sacred places, but I have to believe that an informed citizenry is of better use than an uninformed one.

And maybe that's why we go into realms of education. I don't know. I have no answers.

But I think that something is emerging, and that our philosophies are changing as we think about community in different ways, compassionate intelligence, how we regard trees.

Question: What are the most important things that you remember, that you gained from Wallace Stegner?

Williams: Certainly he's left us his words, and I think about phrases of his, don't you?... "a geography of hope," "a society to match the scenery," "something will have gone out of us if we ever let the last remaining wilderness go...."

Personally, I think about Wally. He played tennis with my grandfather, and so he was kin. I remember meeting him when I was dusting books at Sam Weller's bookstore, and he was always so kind and dignified.

I think he had a sense of the West as community, and yet he was always the outsider looking in. And so I always felt his wise vulnerability, wanting to belong, deeply belonging, but always seeing himself on the edge.

I loved him because he understood Mormon culture. And I hope you don't mind if I tell you this story. He and Mary were coming to Salt Lake City.

There was an organization, Project 2000. They were honoring him as Utah's native son.

I was driving them back to the airport after the next day, and we were driving down South Temple. "Oh," he exclaims as we turned the corner on 13th South, "There's East High School. I remember playing tennis there."

We drove by the university, "Oh, there's the English department." We were driving further west, "Oh, Mary, there's where we went and had milk shakes. Let's stop." And she replies, "No, Wally. We're going to miss our plane!"

And then he would say, "Oh, roll down the windows. Smell the sage," as we were approaching the airport. You know, it was this personal traveling narrative all the way. "There's the temple," "Here's where *Recapitulation* was set," "Oh, look, they've taken down the Temple Motor Lodge."

We got to the airport and were carrying in their various pieces of luggage. As I walked him to the gate, I remember saying, "Thank you so much for coming."

He turned to me, his eyes dead center, and he said, "Thank you so much for staying."

He knew. So I think his gift, one of many I think he's given us, is a sense of place, what is possible.

Question: Being in the classroom, I thought it might be fitting if you could give us an assignment.

Williams: I have never fulfilled an assignment in my life, so....

Question: If you could suggest a practice, say, on a daily basis for a year to gain this appreciation of being connected to the land. Give us something to practice maybe.

Williams: I think you've given it to us by simply asking the question.

Perhaps we could close with some words from Mardy Murie, who's 93 as we speak, living in Moose, Wyoming:

"There may be people who feel no need for nature. They are fortunate, perhaps. But for those of us who feel otherwise, who feel something is missing unless we can hike across land disturbed only by our footsteps or see creatures roaming freely as they have always done, we are sure there should be wilderness. Species other than man have rights, too. Having finished all the requisites of our proud, materialistic civilization, our neon-lit society, does nature, which is the basis for our existence, have the right to live on? Do we have enough reverence for life to concede to wilderness this right?"

Thank you.



WAR ON THE WEST: A CALL TO ACTION

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A New Day in America

What a difference a year makes! A little over a year ago, after I delivered a speech in Portland, Maine, I was approached by a man who introduced himself as a former marine running for Congress as a property-rights advocate. I must admit that, at the time, I gave him little hope for victory. Yet today he represents the First District of Maine in the U.S. House of Representatives.

Similarly, two-thirds of a continent away, in the panhandle of Idaho, an advocate for the wise use of Idaho's rich natural resources and private property rights was on her way to victory in the First District of Idaho. During her campaign—which drew national attention—she was joined by a little known Congressman from Georgia. Remarked Newt Gingrich to Helen Chenoweth, "Everywhere I go in this country, people are talking about property rights." And so they were, which is one reason for the stunning changes in the elections of 1994.

Recently I attended a convention at which Charlie Cook, a highly regarded advisor to Democratic politicians, spoke on the remarkable results of last November's election. To him, the best indication of the dramatic change that took place is the fact that on the congressional map on his wall he can now chart two separate paths one can travel across the country without ever leaving Republican congressional districts.

My favorite indicator of the change is something that happened last December. For more than two decades, following every congressional election, Harvard University would conduct an "orientation" session in Cambridge. For all of those years, newly elected officials would go, lemming like, to Massachusetts to be reeducated. Not in 1994. For the first time, Harvard had to cancel its program because no one wanted to come. Instead, they all wanted to attend an orientation session sponsored by Jack Kemp's Empower America and The Heritage Foundation.

I was honored to be a part of the program presented. Along with Congressman Billy Tauzin of Louisiana, I delivered a talk on property rights. We had a great place on the program. We were preceded by former Secretary of Education Bill Bennett and followed by Rush Limbaugh. Afterwards, I was photographed standing between these two great men. We got the photograph the other day and my wife, Lis, said to me, "My gosh, Perry, you look like Jack Sprat." I prefer to think of myself as looking like the quarterback between two pulling guards, but I probably look like the place kicker.

One of the most active participants at the conference was newly elected Congressman J.D. Hayworth of Arizona. During his run for Congress, J.D. was presented with a T-shirt from a donor that read, "If two kids can have sex in the back seat of a car, why does the spotted owl need 50,000 acres?" He took the shirt with him on a trip to Washington, D.C., where he went out jogging. While he was running down The Mall, he saw President Clinton and his entourage approaching. Realizing that he was wearing the spotted owl shirt, he puffed out his enormous chest and turned in the President's direction as he passed. At first President Clinton began to smile, but then, realizing that it was politically incorrect to do so, he turned solemn and looked the other way. J.D. rushed back to his hotel room where he wrote to the donor who sent him the shirt, "I went to Washington. I saw the President. I ran your message by him."

The New Environmental Message

There is a new environmental message in this country, although it is now very clear either that President Clinton hasn't heard it, or believes that he can ignore it. Clinton's most recent actions in the West, including his invitation to a United Nations delegation to visit Wyoming to evaluate Western timber, tourism, mining, and wildlife policies, and the Administration's increasing stridency on Congress' efforts to ease up on environmental overkill,

demonstrate that Clinton is beholden to powerful environmental groups.

Yet the vast majority of the American people is increasingly disenchanted with and distrustful of this billion-dollar-a-year juggernaut. It has not always been so. A couple of years ago I was in New Hampshire to join with a grassroots group fighting the National Park Service's efforts to designate the Pemigewasset River as a "wild and scenic river." By the way, the people of New Hampshire don't call it the Pemigewasset, they refer to it simply as "the Pemi." You know New Englanders are very economical in their use of the language. Remember the skier Steve Koch—the first American to win an Olympic medal in the cross-country event—who was from Vermont? He was asked if he had lived in New England all of his life. His response, "Not yet."

Following my remarks at the rally, a group of the grassroots leaders and I went out to dinner. During our discussion, one of the primary opponents of the Park Service's efforts turned to me and said, "Perry, you know what the problem with the Wild and Scenic Rivers Act is? It was never meant for Eastern rivers. It was only meant for Western rivers." Suspicions confirmed. Isn't it amazing how a person's perspective changes when the rifle spins around and it's them looking down the barrel of the gun? Or, as Winston Churchill once remarked, "Nothing focuses a person's attention like being shot at and missed."

Well, people all over the country are being shot at today. It was one thing when the Endangered Species Act only applied to a bunch of loggers in the Pacific Northwest, when it was only used for activities on federal land in the West. That is no longer the case. When the Endangered Species Act was passed by Congress, it was talking about 100 species. Today, there are more than 900 listed, which affects every state in the country.

Perhaps the best example of the impact on private property, and the response of those affected, took place in August of 1994 in Texas, where 95% of the land is owned by private citizens. After Secretary of the Interior Babbitt designated 33 counties around Austin as critical habitat for the golden cheeked warbler, more than 5,000 angry Texans gathered together on August 27, 1994, at the state capitol to "Take Back Texas!" That rally, and the grassroots campaign that thereafter spread throughout the Lone Star State, is the reason why then Governor Ann Richards is today advertising "Doritos."

What is the reason for the dramatic change in the public perception regarding environmental and property rights issues? There are three.

The Death of Chicken Little

The first is that the American people are beginning to question the fundamental assumptions of the environmental movement. This began to happen in the winter of 1993-1994. Remember that winter? It was so cold in Washington, D.C., that the federal government had to close its offices. For several days the Republic was safe.

About that time I was on a talk show with Stan Soloman of WIBC in Indianapolis, Indiana. I told Stan that I wished I could be a fly on the wall of Vice President Gore's office to hear all the abuse he was taking from his friends over the brutal winter weather at the height of "global warming." Soloman said, "If you were a fly on the wall of Gore's office, you'd be the smartest creature in the room."

Which reminds me, Jay Leno recently compared Gore and former Vice President Dan Quayle. "If Quayle looks like a deer caught in the headlights of a car," said Leno, "then Gore looks like a deer hit by the car."

About that time, in January 1994, *Time* magazine ran an article about the cold weather under a picture of a nearly frozen-over Niagara Falls and the headline stated, "The Ice Age Cometh?" In response to the question, "Whatever happened to global warming?," the article declared that, "[H]uman-induced warming is still largely theoretical, while ice ages are an established part of the planet's history."

People don't have to shovel too much global warming off their sidewalk before they begin to doubt the sky-is-falling radicals who demand that we all but destroy our civilization in order to "save the planet." People are beginning to realize they have been deceived, lied to, tricked. They have. As Dr. Steven Schneider, one of Gore's advisers, declares, "We scientists have to pick out scary scenarios and frighten the American people into action. Each one of us has to choose the right balance between being honest and being effective." That's the scientific method? No wonder the cataclysmic predictions of environmental extremists no longer produce a rush to judgment.

The End of Environmental "Ecotopia"

The second reason for the falling public support for environmental groups is the fact that the American people don't like the vision environmentalists have of the future. For years folks believed that environmentalists sought a world in which, as my friend Bruce Vincent says, "Orphan rabbits would be raised

by wolves in a sea of old-growth forest from sea to shining sea." Sort of like the lamb will lie down with the lion, but won't be getting much sleep.

The American public's eyes were opened in the summer of 1994, when the forests of the American West began to burn. Nearly two million acres of woodlands went up in flames and 37 brave fire fighters were killed in the process, more than in decades. The American people asked a reasonable question, "Why is the forest burning?" The response, "Because it is sick. Because the trees are diseased, dying, or dead, and now nature is taking its course, as it has for hundreds of years before the white man came West." Remarkably, environmental groups said the fires were a good thing, they were "nature's way," and we should let them burn. Most Americans did not think they were a good thing. Nor did the tiny communities that were threatened with fiery devastation.

The Clinton Administration's response to this issue is instructive. One high-ranking official has declared that the fires that swept through the West are more natural than the homes in which Westerners live. How's that for a vision of the future?

It isn't just the vision environmentalists have for the West. There is a dark vision for all Americans, in which we must be satisfied with less, in which government has more and more power, in which property rights are, as one former Environmental Protection Agency official called it, "a quaint anachronism," and in which more and more land is off limits to people. Vice President Al Gore's views are a good example.

Recently, nationally syndicated columnist Tony Snow published a side-by-side comparison between the writings of the Unabomber and Al Gore. At the end of the column he switched two of the quotes and then asked his readers, "Could you tell?" I must admit, I couldn't. No wonder the American people are repelled by the vision environmentalists have of our future.

People are discovering that the battle is not about the quality of the human environment, but about power and control. As Denis Hayes, one of the founders of Earth Day, said at a secret environmental conference, "We must change America's laws and its culture." Or, as Al Gore said in his book *Earth in the Balance*, he and other environmental extremists seek to achieve "a wrenching transformation of society."

No Longer Feel Good and Free

The third reason for a national change in attitude on environmental issues is the fact that the American people now realize that environmental policy is no longer feel good and free. For years environmental policy was both feel good and free. Who could be against anything that is feel good and free, as long as it is consistent with the laws of God? Environmental policy is now neither.

Former U.S. Senator Russell Long of Louisiana, once Chairman of the Senate Finance Committee, said that tax policy was, "Don't tax me. Don't tax thee. Let's tax the fellow behind the tree." That was environmental policy. Environmental policy was free for everyone except the poor landowner who was discovered to have some endangered species upon his land, or whose property was coveted as a "wetland" or "viewshed" or "pristine habitat." Yet today, environmental policy is no longer free. It is no longer free because of the guarantee of the Fifth Amendment of the Constitution that "private property" may not be put to "public use" without "just compensation."

In 1992, the U.S. Supreme Court held that when the state of South Carolina told David Lucas that he could own and pay taxes on his beachfront property, but could not build there, it had committed an unconstitutional "taking" for which it had to pay Mr. Lucas "just compensation." The deciding moment in oral arguments occurred when Justice O'Connor asked the attorney for the state of South Carolina, "What is the nuisance you are trying to prevent?" because outlawing a nuisance is not a "taking." Said the attorney, "It is the possibility that a hurricane will come along, pick up David Lucas' house, and throw it into someone else's house." Well, you don't get on the Supreme Court unless you are smart and quick, and Justice O'Connor is both. "Under that theory, couldn't you require all homes up and down the beach to be torn down?" she asked. At that point the South Carolina attorney entered what we in U.S. Marine Corps aviation called the "dead man spiral."

In an interesting postscript to this important decision, South Carolina, after buying the property from David Lucas, sold it to the highest bidder for development purposes. Said the new attorney for South Carolina, "It is beachfront property. The highest and best use is development."

In 1994, the Supreme Court decided yet another vitally important property-rights case that began in a suburb of Portland, Oregon. Florence Dolan sought to make use of her property. The city told her she could get a permit to do so only if she gave the city all land within the 100-year floodplain and a 15-foot strip for a bike path, and if she built the bike path. The Supreme Court ruled that that was a "taking," too, holding that, even though the city was seeking to achieve something that it considered to be an environmental benefit, "There is no excuse for doing it any other way than the constitutional way...."

These decisions mean that the cost of environmental policy will no longer be placed on the backs of property owners, but is a cost that must be borne by the American public. Environmental policy is no longer "free." The American people, during these tight budget times, will have to decide if they really want to save snails and flies or dry "wetlands," or if there might not be something better to do with their money.

Environmental policy is no longer feel good, because the American people are learning that people are being hurt by so-called environmental policy. At long last the media is starting to tell the rest of the story—our side of the story.

The watershed event in that regard was the "20/20" television story regarding homeowners in Winchester, California. As reported by Barbara Wa-wa, I mean Barbara Walters. Clearly I grew up listening to "Saturday Night Live." Fortunately, I grew up, they didn't. (Following the 1994 election, Bill Bennett responded to newly elected Vice President Al Gore's remarks that he and Clinton were "the children of modern America" with, "Yes, you are now please grow up and leave us alone.")

Walters reported on how armed U.S. Fish and Wildlife Service officials knocked on the doors of homeowners in southern California. The federal officials told the homeowners that they could not "disc" or plow around their homes because their homes were "occupied" by the kangaroo rat. When some people raised fears that if they did not cut the debris around their homes their homes would burn down, the federal officials said if they did cut the debris they would go to jail.

Sure enough the fires came and the homeowners who had obeyed the law lost their homes, and the homeowners who violated the law saved their homes. Concluded Barbara Walters, "Maybe this well intentioned Act has gone too far." Added Hugh Downs, her co-anchor, "Yes, Barbara, maybe next time it will be your home."

Bruce Vincent, Libby, Montana, logger, said about the "20/20" program, "We effectively torch 80,000 homes in the Pacific Northwest over the northern spotted owl, and no one blinks an eye. But let 80 homes burn down in southern California and the law has gone too far."

In my book, *It Takes a Hero: The Grassroots Battle against Environmental Oppression*, I tell the stories of 57 people from 32 states and the District of Columbia who have gone from being innocent bystanders, to victims, to heroic activists, because they have learned that environmental policy gone wild isn't just bad for people, it is bad for the environment. My favorite reaction to *It Takes a Hero* was that of a highly educated neighbor who belongs to several environmental organizations. Said she, "I didn't think I would like it, but I did. When I see what environmental policy is doing to people, even though I have always considered myself an environmentalist, I have to say, 'I'm not one of them.'"

Today, all across America, as more and more people discover what environmental extremist policies are doing to real people, people just like us, they are saying, "I'm not one of them."

At the Forefront of the Environmental Battle

Mountain States Legal Foundation, which I am proud to represent today, does only one thing: it represents those who cannot afford to represent themselves in fighting back against oppressive policy that violates constitutional freedoms and threatens the strength and vitality of this country. Let me share with you some of the stories of the men and women we are representing.

We are representing John Shuler, of Dupuyer, Montana, sued for \$4,000 for protecting his life and his property from grizzly bears. Late one September night, John Shuler heard the unmistakable sound of grizzly bears eating his sheep. He dashed from his house clad only in his shorts and socks, but he remembered his gun. Seeing three of them in his sheep pen, he fired into the air, and they dashed off into the night. Thinking the danger was over, he returned to his house, at which time he was confronted by the mother of all bears, or at least the mother of these three. When the bear roared up on its hind legs, John Shuler thought he would be killed. As a result, he killed the bear.

I must point out that the Fish and Wildlife Service asserted that when a grizzly bear rears upon its hind legs, it is not the sign of an imminent attack, but only what the government likes to call a "scoping operation." As a result, asserts the government, that is the worst time to shoot. Moreover, when the bear comes down on all fours and charges, that, too, is a bad time to shoot because it may be a false charge.

In the administrative hearing, we claimed self defense on John Shuler's behalf. Remarkably, the judge ruled that the grizzly bear was entitled to the same legal standard as used in a criminal case. He also ruled that Mr. Shuler could not claim self defense because, by going into his own yard with a gun, he provoked the grizzly bear by entering upon what the judge called "the zone of imminent danger."

We are representing Dennis and Nile Gerbaz of Carbondale, Colorado. When the Roaring Fork River left its banks in the spring of 1985, as a result of a federal water project, it flooded the land of the Brothers Gerbaz. Their request that the federal government either take action or issue a permit to allow them to reclaim their land from the flood waters was denied. Fearing the continued loss of their land and possible jeopardy to life and after consulting with legal counsel, they restored the river to its historic channel. As a result, they were sued by the Environmental Protection Agency, which asserts essentially that their lands had become artificial wetlands that could not be dewatered without a permit. The EPA is seeking fines of nearly \$200 million from the Brothers Gerbaz.

We represent a New Mexico businessman, who for years had disposed of waters produced from oil and gas operations on land he owned. He was served with a "cease and desist order" by the Environmental Protection Agency. The EPA had concluded, thus reversing its earlier position, that the sinkhole into which the man released the waters were "waters of the United States." Remarkably enough, two federal courts have ruled that the man cannot challenge the EPA's finding of jurisdiction over his land without violating the cease and desist order and thereby becoming liable for \$25,000-a-day fines and jail time. The U.S. Court of Appeals for the Tenth Circuit held that, although our public policy argument that such a policy presented a Hobson's Choice made sense, the Court did not want to undercut the enforcement authority of the EPA.

We are representing Bruce Vincent and his fellow residents of northwestern Montana and northern Idaho, people facing economic ruin and cata-

clysmic fires because of decisions of the U.S. Forest Service to cut back allowable timber harvests by 43% to achieve a 1% increase in grizzly bear habitat. The irony here is that the forest is diseased, dying, or dead and stands ready to burn. When the fires the locals fear come, they will destroy not just the economic underpinnings of the community, not just the forest in which they recreate, but also the habitat of the grizzly bear.

We are representing property owners in the Upper Peninsula of Michigan whose right to use the lake that abuts their property has been usurped by the U.S. Forest Service because of a nearby wilderness area. This notwithstanding the guarantee in the Michigan Wilderness Act that "valid existing rights" will be protected, the Forest Service took the remarkable position that "valid existing rights" do not include our clients' water rights.

We are representing an owner of timberland in Texas whose property was destroyed by the failure of the U.S. Forest Service to prevent the southern pine beetle from sweeping off of a federal wilderness onto private property. Government lawyers took the position that, because the Wilderness Act of 1964 was passed after the statute that permits citizens to sue federal officials for negligent action, the Wilderness Act repealed the earlier provision.

In Idaho, we are representing a rancher who had one of his newborn calves killed and half eaten by a wolf imported from Canada by Secretary Babbitt. The rancher had a local veterinarian and a federal official examine the calf's remains. They both concluded that the calf had been born alive, had nursed, that its lungs were fully inflated and its hooves were hardened and covered with debris. Remarkably enough, the U.S. Fish and Wildlife Service asserts that the calf was born dead which is the only reason the wolf ate it. We have filed a "takings" action against the federal government.

We are representing the Wyoming Sheriffs Association in a challenge to the Brady Act. Our lawsuit is not about the right to own and bear arms as contained in the Second Amendment, but about whether or not Congress can commandeer local sheriffs and assign them duties and responsibilities. This is a key test of the issue of federalism as contained in the U.S. Constitution.

There are more, of course, but these examples are enough to reveal the breadth and importance of the cases Mountain States Legal Foundation has undertaken in defense of property rights and the guarantees of the

Constitution. There is one final example, an example that illustrates that when environmental extremists assert that they are not against everything, but only the "bad" things, they are not being forthright.

On the Big Island of Hawaii, local residents, faced with rolling blackouts that yielded personal and business hardship and economic uncertainty, sought to develop geothermal power. They did not want to depend on oil from Indonesia or coal from Australia, but wanted to develop local geothermal energy, a clean, efficient, home-grown resource that would yield jobs, taxes, and revenues. Remarkably enough, environmentalists who have assured us that they favor such alternative forms of energy sued to stop the project by claiming that if geothermal power were developed it would anger the fire goddess Pele.

A Look to the Future

Much has changed recently regarding environmental issues and property rights. However, much remains to be done. The Clinton Administration is still in charge, and Babbitt is pressing forward aggressively with regulations. Just as important, Janet Reno's Justice Department has advised environmental groups that it welcomes citizen lawsuits and is seeking to quietly and quickly settle those lawsuits to the detriment of those who use federal lands for such uses as timber harvesting.

More recently, President Clinton himself has demonstrated that he has decided to cast his lot with environmental groups. The President's recent actions in the West—his efforts to stop a mine in Montana and his officials' decision to bring in United Nations' officials to determine our future—reveal that Clinton believes the one constituent group he must please and appease is the nation's environmental groups.

Although Congress has changed, it has its plate full and will not be able to turn to such matters as the Endangered Species Act and wetlands policy and property rights for some time. The one hope is in the area of appropriations. Unless and until federal bureaucrats are denied the funds to make their mischief, we will continue to suffer under unreasonable and excessive regulations. Meanwhile, there are still Senators and Members of Congress who are very favorably inclined to the environmental agenda, including many who are now in positions of responsibility. A good example is U.S. Senator Chafee of

Rhode Island, now Chairman of the Environment and Public Works Committee. He likes the ESA perhaps because Rhode Island is too small to have endangered species habitat.

At the Supreme Court, while the Court's decision in *Lopez v. United States* breathes new life into a once moribund Tenth Amendment, the Court's decision in *Sweet Home Chapter of Communities for a Great Oregon et al. v. Babbitt et al.* that the Endangered Species Act applies to the two-thirds of the country that is privately owned is devastating.

Finally, we have yet to convince many of our friends. P.J. O'Rourke, the very humorous, conservative, free-market writer (He is the one who said at the height of the health care debate, "If you think health care is expensive now, wait until it's free.") has a book out called *All the Trouble in the World*. In that book he skewers environmentalists and debunks all of their crazy ideas. He calls Al Gore, "a totalitarian twinkie with the intellectual ability of a King Charles Spaniel," for example.

Yet in his discussion of the West, he sounds like a radical environmentalist, saying we've destroyed Western forests and grazing lands. If this is the view of someone we might regard as our friend, we have our work cut out for us, and we do! Let me close by suggesting things we can do.

What You Can Do—A Lot

First, we must save the children from the nonsense they are learning in schools about environmental issues. We must get into the schools. We can still save the children because, unlike radical environmentalists, children are optimistic about the future and they believe in technology.

As to the future, that great environmental thinker, Ted Danson, says we only have 10 years left to save the planet. Kids don't buy into such sky-is-falling nonsense. Although Al Gore says of technology, "We are not that clever, we never have been" (speak for yourself Mr. Vice President), children love technology. If you don't believe me, ask yourself why your VCR flashes "12:00"? The answer, the kid hasn't been through to fix it.

Second, we must spread the word within our community of the contribution our activities make to the community, economically and socially. Unfortunately, too many people don't really understand what makes their community run.

In the Pacific Northwest, when timber families pay their bills, they include slips of paper which read, "This bill paid with timber dollars." Two years ago, 48% of Oregonians believed that no jobs should be lost to the northern spotted owl. That number is now 64%, a change attributable almost solely to grassroots, people-to-people contact beginning with that slip of paper.

Third, we who are employers must ensure that our employees are part of the solution, not part of the problem. Are our employees informed on the issues critical to the survival of our company or industry? They should be the best advocates in the community for you. At the very least, our employees must be made aware of the cost of environmental regulations and must know that jobs are at stake.

Fourth, we must talk with the media. We must write letters to the editor, meet with editorial boards, complain to reporters and their editors about unfair, slanted, biased, or inaccurate reporting. We must get on radio and television talk shows, and we must find new media opportunities to get our message out and across to the American people. If we don't, who will?

Fifth, as one of the heroes in *It Takes a Hero*, Bruce Vincent, says, "The world is run by those who show up." We must show up! We must be there at public meetings. We must ensure that our voices are heard and our views recognized. All of us must work together, must join with one another to combat the mighty forces arrayed against us.

Such efforts have already been effective. The property rights movement, for example, helped to change the face of the U.S. Congress during the 1994 congressional elections. This is another example. Earlier this year, I had the honor and privilege of arguing a case before the U.S. Supreme Court, a case we won! During oral arguments, I took a question from Justice Breyer, the newest member of the Court. As he was speaking, I couldn't help but think that there but for the grace of God sat Bruce Babbitt. President Clinton had decided to nominate Babbitt to the Court, but when the news leaked out all hell broke loose and the nomination was doomed. The reason was that the grassroots movement had, in the words of the highly regarded environmental writer Alston Chase, turned Babbitt into a "gargoyle."

Sixth, we must help our friends. All of us must ensure that the organizations and associations which are working to preserve economic and personal liberty are able to continue—organizations such as the one meeting here.

tonight. One way you could help Mountain States Legal Foundation is to purchase for only \$25 a copy of my new book, *War on the West: Government Tyranny on America's Great Frontier*.

Never Give Up—Never Give In

Last summer we honored the 50th anniversary of the end of World War II—what we all know as “Victory in Japan Day.” Remembering that time, I could not help but reflect on the great speeches of Winston Churchill, who, in some of the darkest days in history, spoke courageously and inspirationally of what the free world needed to do.

My favorite speech of his was the one he gave at his boyhood school of Harrow when he returned, in October 1941, to address the young boys who sat in the seats he once occupied. After a full afternoon of speeches, he stepped to the microphone, looked out over the young audience, and said, “Never give in. Never, never, never, never, never. In things, great or small, large or petty, never give in except to conviction, honor and good sense.”

Ladies and gentlemen, never give in, never give up. God bless you and good luck.

QUESTIONS AND ANSWERS

Question: Is Jim Watt still with your organization?

Pendley: No. He helped found the organization in 1977 and was its first president. In 1980 he went to Washington, D.C. to become Secretary of the Interior. He hasn't been back since.

Question: Earlier you talked about how, once united, people can do anything and then you followed that up with numerous errors of the federal government. I'd like to talk about what you said about the wolf and the calf. It seems as though one side said the calf was still born and the other said no. How is it that you assume the federal government was wrong?

Pendley: We have a local veterinarian and a federal official who examined the carcass right after the incident. The Fish and Wildlife Service has a per-

spective to protect, and their perspective is that, if we bring wolves in here, the wolves won't eat livestock. In fact the Fish and Wildlife Service testified in court when we sought a preliminary injunction to prevent wolves from being brought into Wyoming, Montana, and Idaho. The Service testified that wolves prefer to eat wild animals rather than livestock. So I think the Fish and Wildlife Service has an agenda.

Question: So, if I can continue on, the local vet has no stake in the outcome?

Pendley: No, he does not.

Question: What role, if any, do you see for federal land in the West? For example, would you support the sale of national parks and national forests? Should we perhaps, as is currently underway, give the Tongass National Forest back to Alaska, or give the BLM lands back to the states? How would your thinking develop along these ideas?

Pendley: I think we have the best parks in the world. I think our national parks are the crown jewels of the federal lands system. I have visited a whole bunch of them and I loved my experiences there. I am troubled by the fact that the National Park Service is trying to keep people out of the parks, that it doesn't want parks to serve the original intent, but I love the parks. I think that they are going to have to remain in federal ownership.

The real question is, for what purpose do we manage the lands? And a good example is Libby, Montana, in Lincoln County, in extreme northwestern Montana, where 78% of the county is owned by the U.S. government. It's mostly forest. And it's an excellent forest, both for habitat and for harvesting the timber. They can do both there. But right now they have not been harvesting.

Reeves Brown, a friend of mine from Colorado, talks about the difference between being interested in an issue and being affected. He says that the chicken is interested in your breakfast, but the pig is affected. The people of Libby are not just interested in timber policies, they are affected by them. Their ability to have a living, to support themselves, and to provide for their community depends upon the use of federal lands. People from outside Libby may be interested in what happens there, but they are not affected. I think we need to achieve a balance and understand that there are people in Libby, Montana, who need to use these lands. I think it has to be done.

effectively, with good stewardship and the like, and I support the continued federal management of lands. But they have to recognize that there are people and they have needs.

Question: You speak of property rights. What are some of your impressions of what property responsibilities are to go along with those rights?

Pendley: Under the common law one landowner cannot use his or her property in such a way that it adversely affects a neighbor. If you own a tract of land and I come in next to you, and all of a sudden I create a terrible mess, and it starts seeping off onto your land, the common law has always been that you would have the right to sue me for creating a nuisance. Those are certainly the rights. As they say in the first year of law school, my right to wildly swing my arms around ends at the beginning of your nose. And those are the responsibilities.

Question: I was wondering about your opinion of the position that, when we destroy the natural environment, we ultimately place humans in danger as well. Do you deny the existence of danger?

Pendley: No. Theoretically we can construct a situation where there would be a danger, the destruction of a planet, the dumping of bad things into a water body or an aquifer such that people are drinking the bad stuff that's in the water. Absolutely. Misuse of nature and poor stewardship actions can have a negative effect on people. But these are not the issues in which we are involved in the West.

The people of Libby, Montana, said, "Let us cut down these trees. Let us revegetate. Let us treat the forest as a crop. Let us protect the forest, have good forest health." And those on the other side said, "No. Let's let nature sweep through here. Let's let the fires go through. Let's let nature resume. Let's let the grizzly bear come back. It's too bad what happens to your people."

In Libby, for example, the federal government wants to bring back the grizzly bear. And the people came in and said, "We are here right now. What do we do about our presence when the grizzly bear comes?" And the Fish and Wildlife Service people said that they should do what people do on Kodiak Island, "Just have your kids wear a bell. And if a bear is ever a bad

bear, we'll come in and take out the bad bear." The people of Libby joke, "You know how to tell a good bear from a bad bear? Well, the bad bear has bells in its poop."

Let me show the contrast with the approach of the National Park Service to grizzly bears. The National Park Service had wolves in cages in Yellowstone. The Park Service recently decided to release a couple of those wolves early. Why did they want to release the wolves early? Because a grizzly bear had been spotted in the area, and a park service spokesperson said, "From a basically human point of view we think it's a bad idea to have park service employees carrying raw meat to the wolves when a grizzly bear is in the area." And I totally agree. I would only ask the same sort of concern for human life for the people of Libby.

Question: I don't have a question, I have a comment. Your entire presentation today has given us several stories which are designed to elicit emotional response, and in some respects that's certainly the way many people operate. Our speaker last week touched many of us on an emotional level. But there's something else going on here. And that is, you tap a background as a lawyer, which I do appreciate. I have been amply assisted by lawyers. But your practice is premised on the fact that you draw a dichotomy between them and us, between the others with whom you have a confrontation or a disagreement or us who think another way. And I would submit that there are other ways for us to solve the environmental challenges that face us before they go to court. We can draw together as people, as communities, to work through these issues. We do not have to draw the us-them dichotomy. Thank you.

Pendley: I agree. That's what my friends in Libby, Montana, wanted. That's what the people in Quincy, California, wanted. That's what the people in Colorado wanted. And they sat down with the people from various local environmental organizations and came to an agreement. And then they were sued by the national environmental organizations. Local environmental groups cannot bring to the table a guarantee that, if a local community tears its heart out, puts it on the table, says this is the best that we can do, they will not be sued by the national organizations. That's the compromise problem. I don't know of anyone who wants to be in court today.

All of my clients hate to come to me. That's the last thing in the world that they want to do. And that's the last thing that I want, because it's so questionable whether or not they will win. But every time we make an

agreement with a local environmental group, a national environmental group says, "We don't want that agreement. We are going to sue." And this has happened time after time.

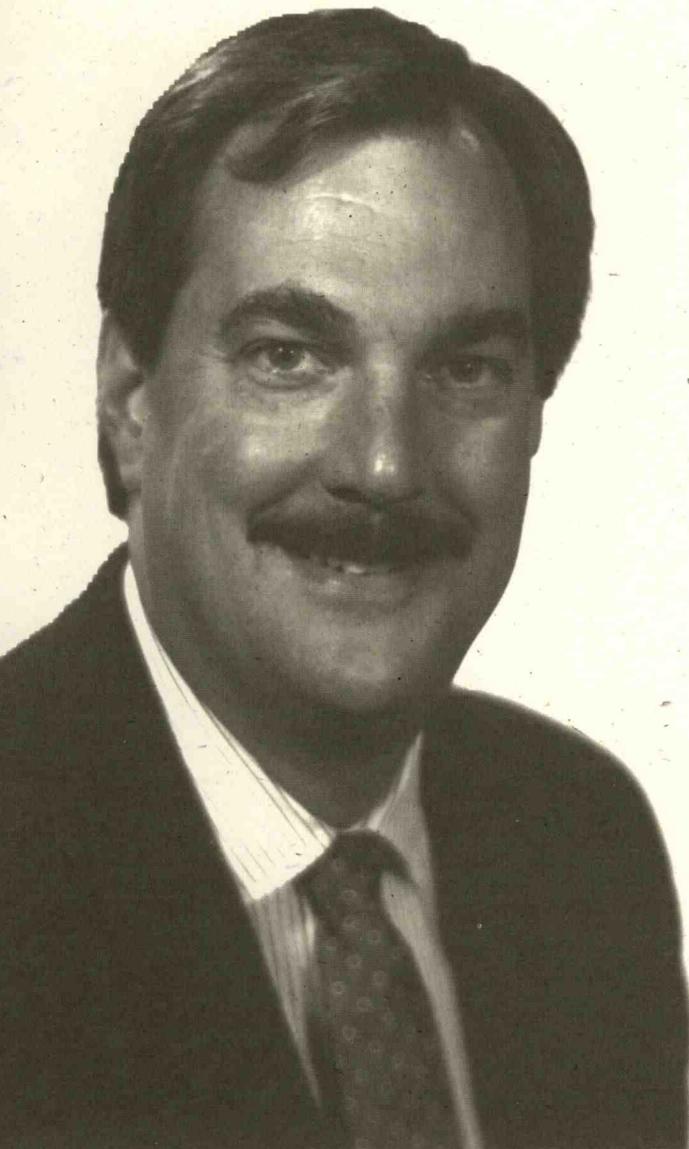
It happened with Secretary of the Interior, Bruce Babbitt. Bruce Babbitt told the environmentalists and the cowboys in Colorado to sit down and work out their problems together. And they sat down together at what they called the Colorado Roundtable, and they hammered out agreements. And the cowboys were mad, and the environmentalists were mad. And the cowboys weren't happy, and the environmentalists weren't happy. But they said, "OK, this is it. We can compromise and agree to this." And then Babbitt releases his Range Reform and turns his back on 24 specific areas of agreement reached between local environmentalists and the Colorado cowboys. This is why there's tremendous frustration about the us versus them thinking.



ECOSYSTEM MANAGEMENT: BROADENING PERSPECTIVES ON RELATIONSHIPS AMONG PEOPLE, LAND, AND RESOURCES

HAL SALWASSER

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Opening Remarks

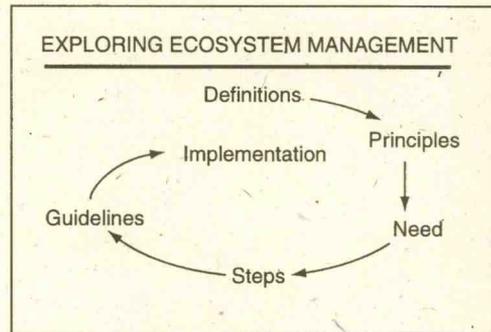
It's a pleasure to be here again on the campus of Oregon State University. I had an opportunity to spend some time out here during the late 1980s and early 1990s. This was during the early stages of the spotted owl wars, and later as we took some of Jerry Franklin's forestry ideas and rolled them into what eventually became the ecological base for the ecosystem management policies of the U.S. Forest Service.

I would like to share with you today some thoughts on the ecosystem management concept. You may have encountered some of what I have to say before, and some of it may differ from what you might have perceived ecosystem management to be, based on your local experience. I'm going to give a fairly comprehensive overview, and won't go into a lot of detail on particular points. My goal is to build enough common ground of understanding to enable us to talk about some of the tougher issues we face.

Ecosystem management is a concept. It's a process, the goals of which are not precisely clear until it is actually put into practice in a particular place by the people who live in that place, or by the people who are influenced or affected by what goes on in that

place. Some of the basic principles of ecosystem management are still evolving, and “evolving” is the operative word. We’re in the midst of trying to figure out what it means to manage an ecosystem adequately (see Figure 1).

Figure 1.
The process of ecosystem management, in which basic principles continue to evolve.



Defining Ecosystem Management

To begin with some definitions, I encourage you to look both for similarities and for differences among various aspects of these definitions. Allen Savory’s (1988) definition doesn’t even refer to ecosystem management. Rather, he defines holistic resource management—“a goal-driven approach that treats people and their environment as one whole [ecosystem]...and seeks quality of life, production of desired resources, and landscape conditions that can sustain the above indefinitely.” This definition articulates some of the principal aspects of ecosystem management.

Conservation biology has informed numerous debates on resource management in the last decade, and Ed Grumbine (1994), one of the leading thinkers in this field, considers that ecosystem management “integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long term.” Thus, native ecosystem integrity is the primary goal in Grumbine’s definition.

In contrast, Hanna Cortner and a team of graduate students at the University of Arizona have taken a synthesis view of ecosystem management. They identify ecosystem management as “a management philosophy which focuses on desired states, rather than system outputs, and which recognizes the need to protect or restore critical ecological components, functions, and structures to sustain resources in perpetuity” (Moote et al. 1994).

The final definition we'll consider here was introduced by the U.S. Forest Service (1994). According to this definition, ecosystem management is "the integration of ecological, economic, and social factors...to maintain and enhance the quality of the environment to best meet current and future needs."

Thus, the spectrum of thought on ecosystem management ranges from a focus on native ecosystems to a more human-centered focus. Some of the common threads include concepts of both present and future, and attention to environmental, economic, and social concerns.

We'll no doubt continue to struggle for the next few years to refine a common definition of ecosystem management. Regardless of how people define it, however, it is clear that ecosystem management is about linkages—linkages between people and environments, linkages among different aspects of the environment, and linkages among the social, biological, and physical environment. This is a good start, because ecosystems, as we know them, are about linkages.

Principles of Ecosystem Management

The principles of ecosystem management are as diverse as are the definitions. Two years ago this fall, the Keystone Center, a consensus organization in Colorado, convened a group of people in Virginia to synthesize what, at that time, were some of the major ideas behind the idea of managing ecosystems. The Keystone Synthesis, which resulted from the Keystone Forum on Ecosystem Management, emphasized that ecosystem management has to be driven by clear goals, goals that address economic, social, and ecological issues (The Keystone Center 1993). In addition to clarity of goals, the Forum advocated the following:

- Clarity of scales (e.g., space and time) regarding issues. Some issues are small geographic area-type issues, and others, for example, native fish in the Columbia River Basin, encompass large areas.
- Participation of stakeholders. This requires a different level of participation than we have had historically in natural resource management. In this case professionals, by and large, no longer make decisions for the citizenry.

- Basis in ecological, economic, and social sciences. Although ecosystem management is based in science, it is not science driven.
- Emphasis on ecological implications: complexity, dynamics, and diversity. This emphasis represents a change from the way in which many of us have been trained. For example, my training was in wildlife biology, yet I had the same type of training as do foresters and fisheries biologists. That training requires that we simplify the system, and regulate in order to achieve a sustained yield flow of the desired crop. In my case, this crop was trophy mule deer, but it could have been board feet, water, or recreation visitor days. The point is that we have to deal with complexity, dynamics, and diversity, rather than simplification and regulation.
- Consideration of socio-economic implications: community and cultural values. These implications go beyond economic considerations, and address the need for sensitivity to community and social goals.
- Monitoring change and adaptation.

Canadian Scott Slocombe (1993) has also synthesized some of the key principles of ecosystem management. These principles include consideration of ecosystems as: interactive systems; holistic, comprehensive, and transdisciplinary; dynamic, with feedback mechanisms; having natural delineations; and exhibiting multiple scales and levels of organization. In Slocombe's view, people are integral to the system and need to support goal-oriented, active management; stakeholder participation; interactive management with research and planning; an ethics of well being, integrity, quality, and sustainability within limits.

Finally, Hanna Cortner's team of graduate students simplified the principles to include the following:

- Socially defined goals and objectives
- Integrated, holistic science
- Broad spatial and temporal scales
- Collaborative decision building
- Adaptable institutions

Goals of Ecosystem Management

In addition to definition and principles, we need to consider the goals of ecosystem management. Ed Grumbine (1994) takes a conservation biology approach, and suggests that the goals of ecosystem management are to:

- Sustain viable populations of all native species in situ
- Represent all native ecosystem types, with variations in protected areas
- Maintain evolutionary, ecological processes
- Manage for the evolutionary potential of species and ecosystems over long periods
- Accommodate human use within these constraints

For Scott Slocombe (1993) the goals are quite simple: "Ecosystem management is a framework and research agenda to facilitate joint achievement of environmental protection and economic development through modified planning, management, policy, and decision-making activities." And according to the U.S. Forest Service (1994), the goals of ecosystem management are "to produce healthy ecosystems, vital communities, and a desirable quality of life."

Ecosystem management essentially reflects Aldo Leopold's sentiment, expressed in *A Sand County Almanac* (1949), that conservation is a state of harmony between people and land. Yet harmony is an elusive goal. And it gets harder to define as populations increase. Nonetheless, that's what ecosystem management aims to do, to address ways to meet human needs while sustaining desired conditions of environmental quality and the capacity of people to meet their needs in the future. This idea is not new. John Muir (1895) noted that: "It is impossible in the nature of things to stop at preservation. The forest must be and will be not only preserved but used, and the experience of all civilized countries that have faced solving the question shows that over and above all expenses of management and trained officers the forests, like perennial fountains, may be made to yield a sure harvest of timber while at the same time all their far-reaching beneficent uses may be maintained unimpaired."

This quote is 100 years old. The ecosystem management idea has been around for a long time. Our contemporary struggle is with the notion that we can sustain land and resources for a wide variety of uses and values.

The Need for Ecosystem Management

Why is it important to move toward more holistic, more dynamic, and potentially more confusing ways of resource management? One of the major reasons is the many people who are impacting the land. The human population is increasing, and that increases the pressure on the land, as well as competition for access to natural resources and space. In addition, some of the issues we face are large scale in nature, and thus not amenable to solution by single landowners or single agencies. And some of the issues are long term in nature as well. They can't be "fixed" in a couple of years. Because many of the issues are interconnected, when we take action in one place, the results appear in another. For example, by not cutting trees in Oregon to save the spotted owl, more trees were cut in red-cockaded woodpecker habitat in Georgia.

We never have enough information to fully manage systems. Thus, we need to develop mechanisms for taking action in the face of insufficient information. The gap between people who are "well off" and those who are not is growing. And the notion of sustainable development requires us to devise ways to integrate environmental, economic, and social objectives. In the West we face a decision-making gridlock over public resources and intensifying conflict over the shared use of resources. These are just some of the reasons that I perceive we have felt compelled to move toward an ecosystem approach to management.

Most of us are now familiar with the graph depicting the dramatic increase in growth of the human population during the last 300 years. This growth has occurred while the size of the planet has remained the same. Therefore, on a per capita basis, access to space and resources has declined by well over 90%. Whereas each person once had "x" amount of earth in which to find the sources of their livelihood, today each person has "x"/11. Little wonder that competition among people for access to space and resources is intense—and that humans, who seem to be "winning the battle" over other species, are eliminating other species from the planet. There is simply no more room for them. The most well-known manifestation of this trend is the present crisis in biodiversity.

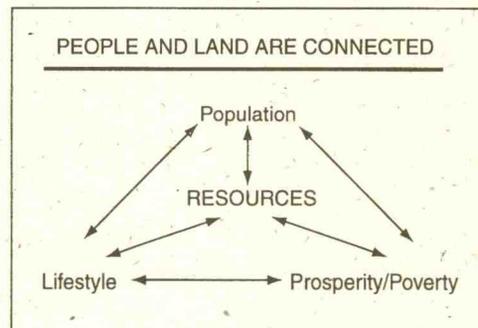
In a 1994 article in the *State of the World*, Sandra Postel tries to capture some of the key points regarding the human population in relation to resources. As she reports, we've doubled in size over the last 40 years. Our global economic throughput has grown by five times. And the gap between the people who command most of the wealth and the people who command the least has doubled.

Of particular relevance to those of us in natural resources, Postel (1994) notes that round wood harvest from the world's forests has also doubled during this period. The use of fuel from the world's forests is even greater than that for industrial purposes. Water use has tripled, oil production has grown by six times, and both may double or triple again in the next 30 years.

In the West we pay most attention to such issues as forests and wood supply and water. Yet probably the major prospect we face as a global community is the expected result of the electrification of India and China as they move into the Industrial Age and improve their material standard of living through increased use of fossil fuels. Increased use of fuel, livestock grazing, logging, agriculture, and pollution are just some of the pressures of the human population on the land (Figure 2).

Figure 2.

Connections between humans and natural resources. Increases in human activity, such as the use of fuel, livestock grazing, logging, agriculture, and pollution, create pressure on the land.



The human population is going to put increased pressure on crop lands, fisheries, and forests in the future. The projections are that we will increase the harvest of fish from the oceans, that we'll increase the amount of land put into irrigated crops and into pastures, and that the lands that go into crops and pastures will be derived largely from forests. Therefore, the projected loss in global forests approximately equals the gain in crop land and pasture. What's important in this, however, is that the movement to meet increasing human needs is not going to keep up with the

growing population. By 2010, on a per capita basis, fish catch will decline by about 10%; irrigated land by 12%; crops and rangelands by 20%; and forests by 30%. At the same time, we are going to be asking the world's forests to produce more wood and fuel.

Richard Haynes and Dave Brooks reviewed statistics from international reports and note that we have experienced an average 2% increase in industrial round wood production from the world's forests during the last 40 years. This increase is projected to continue into the foreseeable future. Meanwhile, the use of wood from forests as fuel will continue to grow as well. Thus, the global forest base is shrinking as land is converted to agricultural uses, while the withdrawal of wood from those remaining forests is increasing globally.

In the United States, during the last 15 years, we've emerged from a long period of fairly stable timber production from forests, with production accelerating in the last 15 years. This increased production is largely in response to increased housing starts and technology that allows wood to be used once again as a fuel source in our economy. These uses are also projected to increase.

One, if not the primary forest policy question that we should be facing from an ecosystem or environmental standpoint involves the following: The United States uses one third of all the industrial wood produced in the world every year. We produce about one fourth of world production. This means that we are a net importer, and that we're exporting our demand for wood. In addition, we're exporting environmental destruction in many cases, because the countries that produce the wood we use don't have the same environmental standards as we do. Is this an ethical thing to do, given that we're stockpiling wood in the forests of the United States, where the growth of wood has exceeded mortality and removals for the last four decades? The United States has the biological capacity to be more than self-sufficient in wood, but we choose, for a variety of reasons, not to be.

Does this kind of environmental policy make sense? I think not. We're not struggling to find which extreme we need to support, whether the issue is earth first or people first. These positions are articulated well by some sectors of our society. An ecosystem approach to management, developing resource management schemes that are more environmentally sensitive, is not about satisfying either of these extremes. The goal is to make adjustments that will lead to a better balance between our need to provide the resources that we use, and to maintain the desired quality of environment and community in which to live.

Implementing Ecosystem Management

The General Accounting Office released a report last summer (General Accounting Office 1994) in which they identified four steps to ecosystem management. However, I believe that the statement of the problems, issues, or goals that drive an ecosystem approach is important enough to warrant that it be highlighted as a distinct step in the process. Thus, I've added this statement to the General Accounting Office recommendations as the first step in a five-step framework for ecosystem management. Brian Eddington, who chaired the GAO report, acknowledges that he assumed that the problem statement was part of the "delineating ecosystems" part of the process. My addition is in sync with the intention of the report.

Step 1

State the problem(s), issue(s), or goal(s). The statement of problem(s), issue(s), or goal(s) needs to be integrated. Both short- and long-term goals will almost always be considered, as will goals that differ in scale, e.g., small-scale goals such as the protection of a native plant population in a meadow, and large-scale goals such as the viability of spotted owl populations. Further, ecosystem management goals always entail a dimension of blending three aspects of the process: ecological (environmental), economic (financial), and social (cultural). Goals imply the need to address procedural or organizational issues, because, in many cases, issues transcend boundaries or jurisdictions of the places involved in addressing the issues. Essentially the problem(s), issue(s), or goal(s) frame the ecosystem management process.

A clear articulation of goals is an essential part of the ecosystem management process. The goals statement is similar to the purpose and needs statement of environmental assessments. The key role of the problem statement is to keep the focus of analysis and decision-making on what needs action or new direction. This is necessary because it's not possible to deal with the entire system and all its complexities.

In focusing, the question becomes: What are the desired ranges of conditions and environmental, economic, and social trends? What are the existing conditions that need to be changed? In the northern Rockies, the existing conditions that need to be addressed include endangered species, high fuel loads, and communities undergoing economic transition.

Implications regarding scale usually tell us that we need to look at a broad landscape, or even inter-regionally. For example, when we decided to protect old-growth forests in the Pacific Northwest, we perhaps should have considered the implications on timber harvest in the southern part of the United States and the northern Rockies, as well as the economic and environmental consequences of that decision in Oregon, Washington, and California.

Step 2

Delineate the ecosystems that will be involved in addressing the problem. The process of delineating ecosystems is goal driven. Yet ecosystems per se don't have goals or needs. The goals are derived from the statement of problems, issues, or opportunities. The ecosystems we delineate, i.e., where we draw the lines for what goes into the analysis, depend on problems, issues, and goals to be addressed, and relevant biological, physical, social, economic, and political factors that bound the area within which the desired conditions can be addressed by stakeholders.

In ecosystem management there is no one set of lines that will satisfy all needs or serve all purposes. This is confusing for many who are not involved in the process. There is no map that represents the ecosystem boundaries for all analyses. The problems or issues or goals vary from place to place. They also change over time, and vary as a result of the geographic scale in which they are considered. For example, the issues I have to address in the northern Rockies inside the places adjoining "wilderness" areas differ from issues in places that are next to the boundaries of cities or residential areas. There's a hierarchy of ecosystems at different geographic scales, some small and some large, and we need to be comfortable with the notion that large areas are all aggregations of small areas, and that small areas are subsets of larger areas.

Step 3

Understand the capabilities and trade-offs in the ecosystems identified. Understanding ecosystem capabilities is important, in part because what we are learning about ecosystems is taking us in a different direction than that taken with traditional approaches to resource management. We know that ecosystems have biological and physical limits. And we know that we can exceed those limits only through heroic action. We can, for example, make a tall grass prairie produce corn. But we can't do this without exceeding the natural limits of the prairie. We have to bring in genetically superior strains

of a grass called corn, and add fossil fuel energy in the form of plows and fertilizers. We might also have to add a few pesticides. If we do this year after year, then we can probably alter the place that would normally produce a tall grass prairie so that it continues to produce corn.

In a wildland system, however, we probably don't want to go to such heroic efforts. Thus, we need to understand the biological and physical limits of the system. In this way we won't try to change places by investing year after year to maintain what we're trying to produce.

We also know that ecosystems are complex in structure, function, and composition—and that much of this complexity is hidden from our view and our understanding. Some of the complexity occurs in soils, some in water—that's in the soils, and some in parasites inside the bodies of the large organisms.

Ecosystems are dynamic in space and time. We can put a line on a map, and say that forever more inside this line is a place called "Yellowstone National Park." But we cannot put a line on a map and say that forever more inside this line there will be an old-growth forest or a meadow. Old-growth forests and meadows change over time.

Ecosystems are also open to flows of energy and cycling of materials. There are no closed systems. Energy and materials are transferred back and forth over the boundaries that we might put on an ecosystem conceptually. The parts and processes of ecosystems are interconnected and interdependent, and they are only partially predictable within a range of variability. Thus, we can predict fairly well what's likely to occur in an ecosystem in a year, or even in five years. But within a range of 50 years, no one knows what will occur. Ecosystems are full of surprises, and as our knowledge about ecosystems increases our perceptions will change.

Given all this, it's understandable that we are not able to regulate ecosystems in a way that produces a highly predictable flow of outputs year after year. This is the way we understand the places we call ecosystems to function. The question arises: What can we sustain? Relative to specific goals—desired services and future conditions—for particular places, we can sustain productivity; renewability and resilience; and such general characteristics as species composition and age classes. But we aren't able to sustain specific

configurations of these things. This means that we aren't able to sustain the species or community composition, distribution, abundance, or patterns as they are at a given time. The conditions are constantly changing.

The human health metaphor is used frequently to explain environmental health or ecosystem health. The danger, however, is that we might begin to think that we can define one set of criteria that tells us we have a healthy ecosystem under all circumstances. This is similar to looking at the human body and asking: What are the basic vital signs to measure to indicate whether or not a body is healthy? If the body is breathing, the heart is still beating, and the temperature is within normal range, the body can be said to be healthy. But even healthy bodies get sick once in a while. All organisms go through disease phases, and it's probably OK that some bodies can hike to the top of Mt. Rainier without extra oxygen and other bodies can't. The major point here is that there are ranges of variation that we need to learn to deal with comfortably. A healthy ecosystem inside the Bob Marshall Wilderness Area is very different than a healthy ecosystem in downtown Corvallis, yet both are ecosystems, and both are expected to do particular kinds of things.

It all depends on what kinds of things we want these places to do. We can talk about ecosystem health in terms of air quality, stable soils, water quality, productive and diverse plants and animals, and intact natural processes. Yet there's no one-size-fits-all statement that adequately defines a healthy ecosystem.

Step 4

Make choices informed by assessment and scientific analysis. Garrett Hardin's (1985) admonition about understanding the implications of our actions is insightful. As he notes, it's true that everything is connected to everything else, but that's not what's important. What's important is to understand the implications of the connections—that we can't do only one thing in an ecosystem. If we push in one place, something else pops out. Take an action here, and it has an unexpected consequence over there. So the critical question about ecological thinking, the one that we need to integrate into our thinking about ecosystem management is: And then what? We think we've figured something out, and then what? Where's it likely to happen? When? Why? Is there anything we can do about it? Can we live with it? This question is crucial to getting past the trivial statement that all things are related. It means you can't do only one thing in an ecosystem.

Step 5

Take action and learn from the outcomes of the action. Adapt the process, and repeat. The fifth step is adaptive management that starts with the "plan" as the management version of a hypothesis. We integrate goals and knowledge and technology to develop a plan, inventory conditions, and evaluate trade-offs. We then get a budget to act upon the plan; take action; monitor and measure responses; consider the new information; make adjustments; and repeat the process. However, this model has several weak spots, and it's important to understand them because of the role of the model in ecosystem management. One of the weak spots is that we do not often state our management objectives in terms that we can test quantitatively. We need to state objectives clearly. An additional concern involves what we measure, to what level of precision, and how often. If we're going to manage forests for some desired ecosystem condition, and we acknowledge that people live in these ecosystems, then we need to determine what we are going to use for social and economic indicators in conjunction with what we have used traditionally, e.g., air quality, water quality, board feet yield, and species composition. Monitoring under these conditions is difficult at best.

Another factor in making ecosystem management work is that we've got to come up with a new bundle of incentives. We've used the government regulatory approach to get people to do what we want. We perfected it in the 1970s and 1980s. But we're near the limit of what can be accomplished with a regulatory approach today. The rest of society operates more in the market system of "willing seller, willing buyer" for benefits or services. We need to push ecosystem management in this direction. A "market basket" of incentives, especially for managing systems on private lands, needs to include: information, assistance, recognition, relief from regulations, economic benefits where they can be clearly provided, and the use of a regulatory or penalty approach as a last resort.

With regard to vital signs, some interesting ideas are coming out of the social assessment work of the Columbia Basin Project. One idea is the use of social indicators for desired conditions of ecosystem health, individual and family, as well as community and economic well-being indicators for use in conjunction with environmental indicators. The goal is to come up with indicators that are meaningful, affordable, and indicative of a course of action in achieving and maintaining ecosystem health.

Managing Different Kinds of Ecosystems

Different kinds of ecosystems serve different purposes. The task is to blend them all into the landscape. We need to have some places that emphasize nonhuman parts of the environment. Because some species and some ecological processes are extremely sensitive to human impacts, we need to impact these places as little as possible. These places might be called "native ecosystems." At the other extreme, we need to have some places where people live and carry out daily activities, where virtually everything we do is oriented toward maintaining the kind of economies and communities in which people want to live. These are "residential ecosystems," and Corvallis is an example. Between these extremes are places that are oriented neither all toward nature nor all toward people. These places are the "multibenefit ecosystems" and the ecosystems that are geared toward the production of resources, or "resource production ecosystems."

Native ecosystems are similar to the back country areas of national parks, as well as to wilderness areas and nature preserves. In these places, the passive values of nature are much more important than are any particular uses of resources. Management prescriptions need to emphasize natural processes in these areas. Yet, this does not mean that these areas are not to be actively managed. If the area is small, we may have to use active management to mimic such natural processes as fire. The diversity of these areas is quite variable. And net productivity is likely to be low. These are generally the places that have had minimal human-caused disturbance, and they generally represent older successional stages.

Multibenefit ecosystems are located primarily, but not exclusively on federal lands. Some state and private lands where economic incentives are adequate will also shift toward management as multibenefit ecosystems. This management will focus on multiple values, as well as multiple uses. Prescriptions will be extensive rather than intensive, and will be oriented toward sustaining the multiple benefits. These places will probably be quite diverse at the stand and landscape scale, because they represent multiple values and a mix of ecological stages and patterns.

Management of multiple use lands will entail greater emphasis on multiple values. For example, consider a piece of private land on the Rocky Mountain front, a landscape that I worked in over the past few years. The Boone and Crockett Club's Theodore Roosevelt Memorial Ranch is a

multibenefit production area which winters 400-500 elk, 3,000 mule deer, six grizzly bears in the spring, a couple of wolves on the west end each summer, and a mother herd of 140 cows. Operation of the ranch is economically viable, and provides substantial benefits for the environment and for recreation.

Resource production ecosystems will become increasingly important. Management efforts will intensify in some places to produce the materials that people need to sustain their livelihoods in order to free up other lands for native ecosystem and multibenefit purposes. Representative production ecosystems include tree farms, corn fields, downhill ski areas, and open pit mines. These kinds of places are an integral part of ecosystem management. Management of these systems needs to be intense to ensure efficient production with minimal undesired environmental effects. They will probably have low diversity and high net productivity, most of which will go into the desired crop. Thus, the U.S. today is meeting most of its needs for wood from intensively managed private forests. This allows other forests to serve other purposes. As an example of a production ecosystem, a private forest parcel on the Olympic Peninsula is in its third rotation in 100 years. The old cedar stumps from around the turn of the century are still visible. And down in the bracken fern one can see the 24-inch stumps of the crop harvested about 10 years ago. The new crop of trees, 20 feet in height, is now about 10 years old.

Finally, residential ecosystems are embedded in our landscapes. They need to meet our individual, family, and community needs. The central task of ecosystem management planning is to blend these places. In the wildlands it's a matter of blending the areas that are intended to protect native ecosystem values with areas that produce resources efficiently and the places in between. It's not an "either/or" situation. It's a matter of deciding how to allocate places and how to blend them in a landscape so that we are able to meet our needs.

Conclusion

The concept of ecosystem management did not appear overnight, divorced from any other resource management concept. It has been developed as part of an evolutionary process that would not have occurred without the conservation investment of the last 100 years. At the outset we had to regulate the

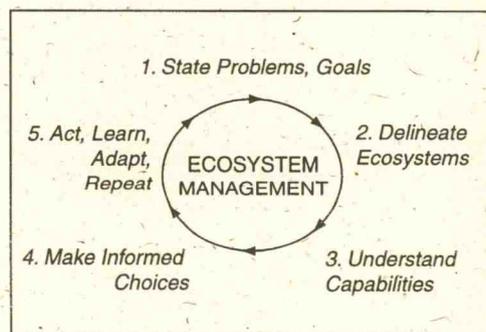
use of resources, and then develop scientific management principles so that we could sustain the yields of resources. This was broadened into the multiple use approach, with a later shift in attention to the protection of endangered species and wilderness. In the end we have developed a more holistic disclosure of environmental effects, and the movement to integrate plans.

Each of these approaches has been an integral part of our struggle to provide the natural resources that we need from the landscapes that we want to be pleasing to observe, to have high environmental quality, and to provide a variety of amenities. Ecosystem management will not be the last approach developed in this evolution. And the name we use for this approach now may not survive much longer. We need to keep in mind the focus and the principles on which this approach is based.

The five-step process based on the General Accounting Office recommendations requires a statement of problems or goals, delineation of places that reflect these goals, analysis to understand the capabilities of the system, and a process by which to make choices—choices that are informed by our science and driven by our values. In the end, an adaptive management framework is adopted to enable us to learn as we take action (Figure 3).

Figure 3.

An adaptive management framework for ecosystem management. Because it is adaptive, this framework enables us to learn as we take action.



We might consider the fire triangle as a representation of the ecosystem management process. In the fire triangle, if heat or oxygen or fuel is taken away, the fire goes out. If we're going to work to sustain ecosystems with humans as an integral part of systems, we need to recognize that the sides of our triangle are economic feasibility, political and social desirability, and ecological soundness. Without any one of these, the ecosystem is not sustainable. Ecosystem management depends on economy, community, and ecology. These are the three components that were woven into the definitions we considered at the beginning. They factor heavily into ecosystem management principles.

On a regional scale, ecosystem management will find places for wilderness areas, and places for tree farms. It will incorporate places like Corvallis and Eugene and Missoula. And it will provide for places with a mix of benefits. One of the greatest impediments to this, however, is the tendency of people in our affluent culture to use resources that are not produced in the places where impacts occur. This is the "not in my backyard" tendency. Alternatively, it's been referred to as PUGIA, or "Pull Up the Gangplank, I'm Aboard." Another serious impediment is the problem of insufficient information, and the unwillingness of some people in our society to act in the face of this kind of uncertainty. Further, unclear property rights and the tendency of people to abuse common resources also impede the process.

We are impeded by overlapping laws and regulations. We must deal with weak coordination and institutional cultures, the reduced ability of government agencies to communicate and coordinate with private and public sectors. Our incentives continue to be biased toward short-term financial returns. And, despite the rhetoric, government also is tending toward increased centralization and stronger jurisdictional boundaries erected by regulatory agencies. Finally, extreme polarization and the unwillingness of people to sit down and search for common ground are social problems that I hope the Seventh American Forest Congress and upcoming roundtables will help to rectify. Thus, even though our goal is ecosystem management, the trip won't be an easy one.

Thank you for your attention.

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QUESTIONS AND ANSWERS

Question: One of the things I found missing from your list of what we know about ecosystems and ecosystem management, and maybe that's because we don't know very much about it, is the resiliency of ecosystems to recover from disturbances, both human and natural. What comes to mind for me is the eruption of Mt. St. Helens, and the recovery from that. What appeared to be a devastating impact to that ecosystem and to the Toutle River Valley has since recovered. Some of that recovery was natural and some was human-powered. Would you say something about that?

Salwasser: Well, that's a great point. We tend to get surprised all the time, and that degree of resiliency would certainly fall into the category emphasizing that ecosystems are only partially predictable. We have much to learn. I did not mean to imply that these are the things we have figured out. These are things we do not know, and that cause us to operate a little differently than we used to.

Question: I'm wondering how the notion of an ever-changing ecosystem balances with conservation biologists' idea of having indicators for species.

Salwasser: I'm struggling to figure out how to answer that. Having indicators is going to be important because we can't measure everything. We can't even measure all the vertebrates or vascular plants, and that's only 5% of biological diversity. We have to have some things that we can select to measure. But we also need some geographic and temporal scales in which we've applied these measurements in order to allow for the "noise" that's always going to be present.

For example, species aren't going to be in the same place every year, nor will they be present in the same abundances. If we're going to adopt criteria for distribution and abundance relative to an objective such as viability of populations, we need to do our measurements over areas that are large enough to

compensate for the noise (i.e., the fact that the animals are not going to show up at the same place or in the same abundances year after year).

I don't know what conservation biologists would propose in this particular case. Our measurements and indicators need to reflect that ecosystems are dynamic and that we're only able to maintain general structure and characteristics. The Endangered Species Act is a policy statement of the American people, represented by the Congress and the Administration, to the effect that we would prefer that nothing go extinct on our watch. That's impossible, of course. We can't confine those organisms that we choose to attend to, to try to maintain in distributions and abundances that are healthy enough that they don't disappear as a result of the things that we do. As an example, the government is in court now because it did not specify critical habitat for grizzly bears on the basis of some arguments from conservation biology—and that's an essential thing to do. But if we had identified the critical habitat on the basis of what we knew 10 years ago, we'd have left out about a third of the area the bears actually inhabit today.

There has to be some flexibility, and there has to be some provision for implementing an act such as the Endangered Species Act or for measuring an indicator of the species that takes into account the fact that they are going to move around on us. I can't do any better than give you that as an answer.

Question: I'm wondering about dealing with social goals. You have to have a significant number of people buy into ecological concepts. Do we have to have an educational process for this?

Salwasser: That's a great question. First, ecosystem management doesn't have any lofty social goals. It states on principle that it will try to address social and economic goals, as well as environmental goals. These goals come out of the process through which people interact with one another to try to set objectives or state desired future conditions for an area.

Ecosystem management is a statement that we will try to get beyond just dealing with environmental stuff, and will deal with social and economic stuff at the same time, because they are connected. Frankly, the laws and regulations that we're operating under right now came from a different paradigm than that provided by ecosystem management. They did not come from the notion that we're going to try to find integrated solutions. They

came from the notion that we could deal with everything at once, and that it would all work out in the end.

The top-down nature that we tend to see in regulatory agencies is probably operating legitimately on old principles and on what they perceive their mandate to be—to maintain water quality, to care for endangered species, to maintain air quality. But people at the ground level, on the receiving end in communities, are trying to figure out how to blend all this stuff in a way that makes sense, that they can afford to do, and that meets their local needs.

That's where the tension develops, and I think that eventually we're either going to back away from the ecosystem management concept that we're going to integrate our solutions, and continue to have a polarized free-for-all, or we're going to rewrite the environmental and procedural laws to encourage more of the integration and to discourage the functionalism and polarization. But it's kind of scary when you look at the politics of the next few years, and try to figure out what's going to happen if anybody opens those laws up.

Question: I just want to comment and maybe ask you a question more about the issue of goals that you were talking about in your diagram of adaptive management. You indicated that goal identification is a real important issue, and suggested that we weren't setting goals in quantitative terms. I think it's an important issue. We also need to have goals that are stable enough that you can go far enough through the process before they need to be changed so that you have some rational basis for adapting the process. What progress do you think we're going to have in terms of stating goals in quantitative terms, and then having them be stable for a long enough period to make needed changes?

Salwasser: Well, I think we've got a lot more control over the first part of your question than of the second part. We can state our goals more quantitatively. As an example, my wife is a public school educator. She showed me a statement of goals that they were using in their school, and I could not believe how quantitative they were, e.g., that 70% of the sixth-grade students would be able to read at "x" standard.

We can state goals similar to this for forests, given that we have the scientific information that we need to inform the process. But keeping goals stable is something that is not as much under our control. At least in the public sector. This is because of precedents that are set on what you do when

you get new information in the decision-making process. And we get new information all the time. We want new information, but we've now got environmental documents that have cycled three times in two years because new information came into the process. You can get caught up in a cycle in which your goal (or your statement of objectives) doesn't even last long enough to take an action on the ground. It's a problem. I don't—can't stand up here and tell you the answer to that, other than to say that I think we can do a better job of stating our objectives more explicitly.

Question: Assume that the things that you have talked about have operated effectively for 25 years so that, in 2020, what role do you see the federal lands playing in the resource production and multibenefit ecosystems? And how much effort will be required in the native ecosystem category?

Salwasser: In the year 2020, a lot more of the public lands will be in production than we envision right now. Human population growth and the changing values about immigration are changing the demographics of the U.S. population right now such that I don't think we can predict the consequence in 2020 when the second generation of people coming in are aspiring for jobs and their own style of life. I would guess that we'll see a slight addition to the native ecosystem percentage on the public lands, but I can't see it going nearly as far nationwide as it has gone in the Pacific Northwest, for example.

I would envision that there will be a continued reliance on the public lands to produce natural resources at levels at which they now exist, and possibly higher. And if the politics, special-interest politics, get too squirrely, we might even see some decommissioning of public lands. We're going to face enormous population pressures by 2020. People haven't comprehended what they are going to do. And we're not going to be able to rely on the rest of the world to be our breadbasket of resources because the economies of southeast Asia are going to take preferential access to a lot of the places we think we have access to now.

Question: You mentioned the importance and value of social indicators of ecosystem health and family welfare, family wage jobs. It seems that a lot of these kinds of things are not just part of the ecosystem as I gathered previously. How do we integrate changes in land management versus other kinds of social work?

Salwasser: You're right on from what we understand right now. Some of the social indicators aren't as directly tied in to what happens in resource production, for example, as they are to other social and economic trends. So I wouldn't argue that point with you. How we integrate those into decision-making about what we do with the land, however, we don't know yet. We haven't tried to do it. The Interior Columbia Basin Ecosystem Management Project is one of the first attempts I've seen to take that on up front. Quite a different approach than what I understand the FEMAT process used, which was to try to figure out the biological parts first, and then mitigate the social and environmental impacts to the degree possible.

The Columbia Basin Project is trying to integrate social goals up front, and we haven't gone through the process of taking that scientific information and translating it into decisions at the subregional or community scale. I'm assuming that the process will continue to work. In the next year we will get the first opportunity to try to struggle with that, and, until we do, I don't know exactly how it's going to work out. But I think it's going to be very useful to see desired condition statements get set on the table for social, economic, and environmental concerns all at the same time. We're going to learn as we go, obviously, and we need to be open to the possibility that it may turn out to be too complicated and we have to back up.

Question: I want to ask you about the difference in being a regional forester after a career as a staff specialist.

Salwasser: I'm a lot more humble than I was. Being confronted with the reality of "Can you really make this stuff work?" is really something. I spent my whole career as a staff person in ecology and policy sorts of things, and then was a professor for a while, and I was full of what I thought were good ideas, most of which were borrowed from other people. But now I'm responsible for more things than I have ever been responsible for, and I have virtually no control over the outcomes on most of them. It's an interesting experience.

One of the things that I'm really pleased about—I was at the University of Montana for two years, and I kept hearing all these stories about a demoralized agency and people who had simply given up—that's not all I found when I came back. I spent the first couple of months this summer on the job, going out to districts, and interacting with people in communities and our U.S. Forest Service people. I was amazed at the level of enthusiasm and

continued support in communities in Montana and Idaho, where I had been led to believe that everybody was out to get the "feds." Things are not nearly as bad, at least in the northern Rockies, as the newspapers would lead you to believe. So that gives me a lot of hope.

There's still an energetic, dedicated work force of professionals, and they are still putting a lot of energy into maintaining strong community relationships. They are absolutely critical to the success of any resource management program, whether using the ecosystem approach or some other approach. Without the trust that comes from strong relationships in the communities in which people live, it won't work. Pinchot figured that out too.

Question: About the lack of control, what do you anticipate will be the impact of the 104th Congress on the management of systems?

Salwasser: Not much. I think that what's going on is positioning for the next one. There's an election year coming up. Things get really weird during election years. I don't think any major substantive legislation on the Endangered Species Act or the National Forest Act is going to clear through the next session.

Question: The 105th will...(inaudible).

Salwasser: The 105th will be where the action is. That's my intuition. What I see going on in all these hearings and all the rhetoric is getting ready for the next round. They are having an impact on the budget, however. That's going down.

Question: Do you support ecosystem management by landscape and watershed groups on federal land?

Salwasser: Yes. Pay attention to what's going on in community-based conservation projects. The Applegate here is one example, now an adaptive management area, but there are some similar projects in the Southwest where lands are largely under private control. And other projects back East, where community people have sort of banded together and tackled these issues of cross-boundary effects. The Northern Forest Land Study is another example in New England, where hardly any of the land base is public.

Ecosystem management is not, and should not be driven by federal agencies, even in the West where federal agencies are responsible for so much of the land. Ecosystem management has got to be driven by people who live in the landscape or perceive that they're so affected by it that they are willing to spend some energy on it.

Thank you.



PERSONAL REFLECTIONS ON THE INTERIOR COLUMBIA BASIN ECOSYSTEM MANAGEMENT PROJECT



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Introduction

I want to say that I am a son of Oregon, born in Waldport. My family homesteaded in the Willamette Valley not long after the Civil War. Logger friends used to talk about how they were Oregon natives, and I would say, "Well, I was born in Waldport—can't get much further West than that." I have web toes, a genetic heritage, and I graduated from high school in Sweet Home. These roots are very important to me.

I'm accompanied this evening by my father, Bob Mealey. I'm sure many of you know him—he is a graduate of the 1936 class of Forestry here at Oregon State. There were 12 in your class, Dad, I think you said, and you told me your favorite professor was T.J. Starker. So if you would please stand up and let everyone say hello. (Applause.)

I'm delighted to be here, even though I am a Duck. My spirit and commitment to Oregon State go back to the days in the late 1950s when Swede Holbrook, Ron Robbins, Bill Toole, Tex Whiteman, and Tony Vlastelica almost pulled off the championship at the Western Regionals in the final

NOTE: Figures in this paper have been adapted from color slides. Although the reproductions do not allow for the same degree of interpretation as do the originals, they are included to provide an indication of the nature of change in the Columbia Basin.

game against Bill Russell and his team from the University of San Francisco. How many of you remember that? Well, I remember as a little kid being glued to my radio, and I also remember when Terry Baker and his team had great days in football.

Even though I graduated from Oregon, Oregon State has been very close to my heart. I began to see the error of my ways when my father asked, "What the hell are you going to do with that political science degree?" I was never able to explain that successfully, so I found my roots, and it's debatable whether or not I made good, but, in any case, I did find my roots, and I'm proud of that.

The outline for my comments tonight was developed about a month ago in deer hunting camp, which I shared with my father and my son, a veterinarian at Texas A and M, in Oregon's High Cascades. We had several stormy days there to deliberate these major issues. My text tonight looks somewhat more sophisticated than the brand label of an empty whiskey bottle, where it had its origin.

The Interior Columbia Basin Ecosystem Management Project

The Project I'm going to talk about, and previous assignments, have taken me many different places. At one time I was a big-game-hunting and river outfitter and guide in Salmon, Idaho, after I returned from the military and before I went back to school at the University of Idaho. Salmon is not far from Challis, Idaho. These are small towns, as you might expect, in the eastern part of the state, mountainous towns, small-sized communities. Therefore, last winter, on the 28th of January, when we were thinking about how to do scoping, initiating public involvement for the EIS project, in a short time during winter, we decided to use a satellite downlink network into some 30 towns in Idaho and Montana to introduce the proposed action. As it turned out, the 28th of January coincided with an important event in the biopolitics of the Northwest. This event was the Pacific Rivers Council litigation and related injunction that threatened to foreclose management activities on eight national forests; six in Idaho and two in Oregon. That legal action had great potential impacts on the towns of Challis and Salmon. It would have closed down all of the mining operations and would have sent 90% of the working folks home.

The forest supervisor called me and said, "Steve, I don't think it's wise for you to come here right now with your fancy satellite technology to talk about ecosystem management to the people of Challis, Idaho." Having lived about 40 miles away in Salmon in the late 1960s, I recognized the wisdom of that, and we excluded Salmon and Challis from the downlink. But I went back about three weeks later when the coast had cleared a little and some things about ecosystem management and the Pacific Rivers Council litigation were a little more clear (i.e., the mines would not be shut down). I went back to personally conduct the scoping meeting, and it wasn't friendly. Those were three of the toughest hours I've spent in my life. When it ended, a gentleman came up to me and looked me in the eye and said, "Mr. Mealey, if my grandchildren miss a meal because of your ecosystem management project, I'll come looking for you." He wasn't laughing, and I wasn't either.

I didn't take that as a threat, but rather as an expression of frustration and fear of small-community residents, emotions resulting from their perceived lack of control over external forces and events capable of causing serious adverse effects locally. There have been several recently in the Northwest and the inland West. I've already mentioned that the Pacific Rivers Council injunction could have ended 700 plus projects on eight national forests. The judge in Hawaii initially indicated his intent to enjoin those projects. He found that activities were not coordinated among all the forests in a way that gave him confidence that adequate attention would be paid to the needs of anadromous fish.

Wolf reintroduction was also very much on folk's minds in Challis. Not so much that wolves had been reintroduced, but, when the bureaucrats had come around with public scoping, the people said, "What good will our input do? You have your minds made up." They also asked, "What in the world is this Interior Columbia Basin Ecosystem Management Project?" and, by the way, "Who cares about a few people here in a small town, when everybody knows that most of Idaho's population lives around Boise and works for Hewlett Packard and Micron, and sees our country only as a place for recreation?"

Well, you know, these events are playing out against an understandably threatening and broader situation for natural resource-based communities. One recent observer of natural resource politics referred to the current situation as "government by lawsuit," and that means simply that if you can't get what you want administratively, then you can get it by litigation.

One indication that this is true is the nearly 10-fold increase in administrative appeals and litigation over Forest Service activities and decisions since 1985. And those numbers range somewhere between 200 in 1985 and 2,000 today. This may not be exact, but it's in that general range.

Now, what's really important is not so much the number, but the kind of litigation that is occurring. Significantly, plaintiffs currently appear to be seeking control of land use over the largest possible geographic areas. Litigation has been based principally on wide-ranging vertebrate species, and that fits nicely if your strategy is to control large areas of land. So we've seen litigation on northern spotted owls, California owls, goshawks, red cockaded woodpeckers, marbled murrelets, grizzly bear, salmon, and bull trout, and all this litigation is currently unresolved.

I don't want to impugn the motives of the litigants, to suggest that their only motive has been land control. But clearly plaintiffs have sought changed management over large tracts of land as temporary and permanent relief. Now, if large area control is the objective, then this approach is much more efficient than is the traditional approach of challenging individual projects. These issues of broad or large scale, such as viability and biodiversity, have been difficult to defend—as owl and salmon litigation indicates. They've involved issues or decisions of broad scale, and our defense has not been strong. Simply put, traditional planning has not looked hard at ecological and social and economic linkages across jurisdictional boundaries.

When we talk about broad scale, we generally mean broad scale in time. Population viability means a high probability that a species will persist for over a century. Broad scale in space means that the effects of actions are considered over hundreds of thousands of acres. These scales depart significantly from those used in the traditional planning approach, which has considered, at best, time in decades, and space in terms of tens of thousands of acres.

These issues have been difficult to defend simply because the Bureau of Land Management (BLM) and U.S. Forest Service plans have included no broadscale dimension, at least no clear dimension that's been sufficient to consistently prevail in litigation involving issues of broad scale.

Nationally and regionally the consequences of our past record have generally been great. Nationally, timber sold from the national forests has

declined more than 70% since 1985, from about 11 billion board feet per year to about three, mostly as a result of spotted-owl-related litigation.

In Idaho, timber sold from the national forests has declined by about half in the same period, from about 700 million board feet per year to about 350 million, because of grizzly bear standards and guidelines, anadromous fish management requirements, and water quality and roadless area considerations. These are all issues of broad scale.

By one count, Idaho has lost some 30 mills and 850 jobs, whereas Oregon and Washington have lost 360 mills and 33,000 jobs since 1980. Many of these losses are attributable to issues of broad scale, although we certainly know that many factors, including technological advances, have changed employment patterns.

Idaho, rural Idaho in particular, is highly vulnerable to this kind of change. Rural areas cover 90% of Idaho. These areas are home to 40% of the human population. All communities, urban and rural, are poised differently to react to changes in economic and social conditions. Smaller towns certainly lack the infrastructure and other resources that large urban areas have to adapt quickly and smoothly to significant changes.

Maintenance of an infrastructure is difficult. Two-thirds of rural Idaho is federally owned, and, although this provides residents opportunities for recreation, it makes them especially vulnerable to changes in federal policy.

Fourteen counties in Idaho lost employment in the last decade, much of it because of changes in natural resource-based industries. Perhaps most significantly for Idaho, the impact has been especially great because the Gross State Product has been more dependent on national forest-based industry than that of any other state.

So, in this setting, I often think of that gentleman from Challis, worried about his grandchildren, and skeptical of big government, in general, and of this Interior Columbia Basin Ecosystem Management Project, in particular. Clearly, the current situation puts him and many others at risk.

Issues of broad scale are real problems that demand real solutions. One problem is perception of the greatest risk. Ecosystem management could be a

possible solution. Yet, if we do ecosystem management, are we further threatening the future of the gentleman from Challis?

The current absence of defensible solutions to problems of broad ecological scale in BLM and U.S. Forest Service plans clearly places people at greatest risk. Chief Jack Ward Thomas, in a March '95 speech on forest health to the North American Wildlife and Natural Resources Conference, addressed the current gridlock situation and the compelling need to effectively consider issues of broad scale. He said, "As Chief of the Forest Service, I can no longer abide the agency being mired in the quagmire of controversy and suffering in paralysis borne out of the fear of controversy and the threat of challenge to every action. I was taught long ago and far away that conservation was wise use and that conservationists were leaders. We intend to be conservation leaders."

Accordingly, under the Chief's and BLM Director's leadership, the Forest Service and the BLM last year began the Interior Columbia Basin Ecosystem Management Project to develop a comprehensive Scientific Assessment of "broad and mid-scale" ecological conditions and scientifically sound, ecosystem-based management plans, based on the assessment, that meet human needs and demands while maintaining the health and integrity and productivity of ecosystems. It is one project with three pieces; a Scientific Assessment and two EISs, one for the east side of Oregon and Washington, the other for the Upper Basin, which is where I'm from, with two EIS teams acting as partners in important tasks.

There are two critical motivations for the Project; one is defensive and one is affirmative. The defensive one is to increase the probabilities of preventing, or prevailing in, litigation over issues of broad scale. And the affirmative reason is to provide improved options for resolving compelling broad-scale ecosystem problems, including those of forest ecosystem health, shrub and grassland ecosystem health, riparian and aquatic ecosystem health, and human needs and dilemmas.

This now brings me to the end of the background, and to the meat of my comments, which have mostly to do with how people have reacted to the Project, beyond that gentleman from Challis. Perhaps the beginning point would be Washington Congressman Nethercutt's initial view, expressed essentially as "give them half-a-million bucks and a moving van" (my words). Well, frankly, that was the beginning point in deliberations at the congressional level, which ultimately involved House and Senate conferees. Their conclusion

was perhaps more positive than Congressman Nethercutt's early reaction, but they clearly posted a caution sign, an "amber light" if you will, to broad-scale ecosystem planning and management as we have proposed it.

The Congress, in Section 314 of the 1996 Interior Appropriations Bill, H.R. 1977 (which, by the way, the President has promised to veto), appears to have affirmed the assessment effort and at least draft EISs, but with major changes in the analysis and decision process to emphasize local control over efficiency of implementation. Specifically, Section 314 says no final EISs, no records of decision, and no preferred alternatives in the draft EISs. Implementation of the DEISs would occur locally through individual Forest Service and BLM plan amendments.

This congressional action appeared to be a response to those who have concerns or perceive risks to resources and people from the Project, especially its decision-making aspect, and who thereby oppose it. These individuals and groups are suspicious of the federal government or ecosystem management, or both. Some examples of the documented concerns about the Project are the following:

- (1) Loss of local control. Some perceive the influences of local concerns to be diminished when planning and decision-making are done at the broad scale and could be subject to review and undue influence at the national level.
- (2) Master switch. This argument suggests that the larger the area in planning, and the more resources and people included in the Project, the higher the risk that activities in all areas affected by such planning could be stopped at one time by one appeal or one lawsuit.
- (3) Threats to private property and takings. These issues relate to fears and concerns that the Project puts private property, and, by inference or implication at least, water rights at greater risk, especially as related to threatened and endangered species.
- (4) Unnecessary cost. This concern suggests that the agencies have created a redundant layer of costly planning, with no prospects for efficiencies or savings in future planning.

(5) Authority. This is a concern whether or not the agencies have the authority to do planning at the broad scale.

Although all of these issues are potential barriers to ecosystem management, in my judgment they boil down to two issues: a lack of trust and a lack of understanding. In this context, I want to have a special word about permittees and contractors on the national forests and on BLM lands.

Simply put, agency permittees and contractors have played a pivotal role in registering concerns about the Project. They have registered grave concerns about future opportunities for grazing and timber harvest as a result of ecosystem management.

County commissioners initially posted serious concerns about effects on local communities and economies: "Will ecosystem management be done to us or with us?" When he introduced me, Bo Shelby talked about my time in Washington. For some of that time I helped Chief Robertson write speeches. One story he liked to tell in particular was about a firm that developed the greatest dog food in the history of the world. It was the most nutritionally balanced, greatest diet that dogs would ever need. But the company went broke in a month. The CEO talked to his managers and asked, "What in the world is the problem?" The response was: "The dogs don't like it."

As good as ecosystem management may be, without understanding, acceptance, and support by those potentially most affected, ecosystem management, at least at the broad scale, will be increasingly difficult to accomplish. The place of people in ecosystem management does not appear to be well understood by many western stakeholders, and that causes great fear and resistance.

Unless these barriers of lack of trust and understanding are overcome, it's my opinion that broad-scale ecosystem planning and management to solve issues of broad scale that put local communities at risk don't have much of a future. I don't see this as an unsolvable problem. Rather, I think a few simple clarifying principles that address these barriers are clearly needed. I'd like to offer three: (1) To clarify the issue of whom resources are for, resources are for people; (2) If resources are for people, then they must be cared for and sustained; (3) Tough issues are best resolved through partnerships.

Now, let me discuss each in more detail. As I've said, prevailing and dominating uncertainty persists, especially in the minds of front-line, resource-dependent industries and communities, about the relationship between ecosystem management and people. Many perceive that ecosystem management excludes people or that human needs and desires are only secondary considerations at best. It's my opinion that it's past time for a clear and unequivocal message to those with doubts: natural resources and ecosystems are for people, and, in this sense, people come first.

Ecosystem management is only one means, and a good one, for providing resources to people. The backbone of federal laws that define America's use and conservation of natural resources, from the Multiple Use Sustained Yield Act to the Endangered Species Act and the Wilderness Act, affirms the principle that natural resources are for the "use and enjoyment of the American people."

Federal law does not specifically exclude the sometimes competing biocentric view that natural resources have primary value, independent of their instrumental value to humans. But it does not acknowledge such value. It strongly affirms the anthropocentric view, which values natural resources primarily in terms of their capacity to satisfy human wants and needs. Federal agency leaders and managers cannot afford to cloud the issue, thus further jeopardizing ecosystem management.

Ecosystem management must be presented, not as an end to be "revered," but rather as one useful means to provide things for people. If this point were made frequently and reinforced in practice, some of the uncertainty currently creating barriers to successful ecosystem management may decrease. My personal view is that national forests and grasslands, in particular, should be used and enjoyed in the context of multiple use, by people, to meet their material and spiritual needs. Use and enjoyment of resources should be the clear end or intent of management. I believe that healthy, sustainable ecosystems have meaning principally insofar as they are healthy and sustainable for human use and enjoyment.

In the context of the first principle, the second must also apply: natural resources must be cared for and sustained. Human use of land and resources must be sustained. This requires healthy sustainable ecosystems. Accordingly, natural resource management on all classes of land, state and private included,

should be aimed at maintaining and restoring healthy, functioning ecosystems as a means to sustain human use and enjoyment.

A means to do this is ecosystem management: a method that considers fundamental ecological processes and dependent elements. As Aldo Leopold once put this, simply and beautifully: We need to practice the art of intelligent tinkering so that all of the "cogs and wheels" are preserved. An important corollary to the second principle is "Do No Harm." The first rule of human medicine must apply to ecosystem management and associated restoration. When we're finished, the patient must not have been harmed. In the end, I'm certain that Leopold considered people part of the "cogs and wheels." We need not belabor the point much. It's useless to exploit natural resources until, figuratively, "the well goes dry." When thirst is compelling, one more trip to a "dry well" is heartbreaking.

To put this on an ethical basis: if use of natural resources is a human right, then there must be an accompanying, necessary, reciprocal human obligation and duty of good land stewardship "to keep water in the well." Ecosystem management and sustainability are important bywords of such stewardship.

I realize that most of my comments have addressed public land considerations, and that there are equally important and volatile private/state land dimensions of these important natural resource issues. As a society, Americans have long addressed questions about when private property rights infringe on public goods, and when the public good infringes on private property rights.

There are seldom clear and satisfactory answers to these tough questions, as the "takings" issue demonstrates. I hope it's not too simplistic or idealistic to suggest a guideline for resolving these difficult issues related to natural resources: that advocates of either private property rights or the public interest should do so with deep care for, and understanding of both points of view. Before lines are drawn in the dirt by one group of advocates or another, competing interests should be understood with compassion and empathy, not enmity. Perhaps, then, fewer lines would be drawn.

Finally, and most fundamentally, where trust and understanding are lacking, the first line of resolution should be partnerships and a commitment to

sharing, as opposed to prolonged conflict in litigation. This is my third principle: issue resolution through partnerships in a spirit of sharing, but it has different meaning for the many different entities potentially involved.

Federal agencies such as the Forest Service and the BLM should be solid partners with their special use permittees and contractors. Contractors, permittees, and the agencies have a shared and common responsibility to facilitate the public's use and enjoyment of federal land. Full partnership should be a cornerstone of this joint responsibility to facilitate harmonious and efficient public use and enjoyment. Such partnership has often been lacking in the past and especially now, as evidenced by the case at hand where permittees and contractors have worked hard to refine, or at least to limit ecosystem management as they see it in this Project.

Perhaps a beginning point for a renewed partnership could be a formally shared set of common values. I suggest the following values, related to the principles discussed, to facilitate better partnership. The first is a joint recognition that the greatest worth of federal public land is increased long-term benefits to people. The second is that care of the land, and restoration and maintenance of its sustainability, is good and worthwhile insofar as it increases the material and spiritual benefits to people. And, third, beneficial actions in partnerships are reciprocal acts of helpful assistance. Nonbeneficial actions should be avoided without first seeking resolution in the spirit of cooperation and sharing. I think that similar agreements in principle with local, state, and county governments may also be helpful.

The Memorandum of Understanding which we have with the Eastside Coalition of Counties was helpful in this Project. The Eastside Coalition of Counties moved from uncertainty about the Project to support, when we were able to formalize our commitment to "doing it with them rather than, possibly, to them."

For nonfederal lands, partnership opportunities between regulators and the regulated appear more elusive, but certainly no less important. Regulators and the regulated are interdependent and ultimately neither can survive without the understanding, acceptance, and support of the other. However elusive the opportunities, I offer that the following might underpin future cooperation: regulators must understand and have empathy for the regulated and their private property rights, with a flexible view of "the public good." I see no room here for arrogant bureaucrats, who see issues only through their pipe of reality, to regulate. And for the regulated, I

believe that they must understand and have empathy for the regulators and their obligation to protect the public good, with a flexible view of private property rights.

This “walk in the other person’s shoes” approach suggests stepping out of one’s own selfish, self-interested position, for at least a brief time, to solve a shared problem from a potential adversary’s perspective. This could mean more potentially “friendly” options, and at least increased opportunities for defining shared or common ground, to find workable responses to tough natural resources problems.

Now, in summary, I’ve stated three basic principles that I think can increase trust and understanding related to ecosystem management. First, resources are for people. Second, resources must be cared for and sustained, and ecosystem management is a desirable way to do it. And, finally, stakeholders must be partners in resolving major issues. This list is neither exhaustive nor complete, but I believe that, if these or similar principles are articulated and implemented in future ecosystem management projects, the probability for successful completion will be increased.

Project Update

I’d like to give you a brief update on the Project. I want to share some findings from the Scientific Assessment and some progress with the Upper Columbia River Basin EIS.

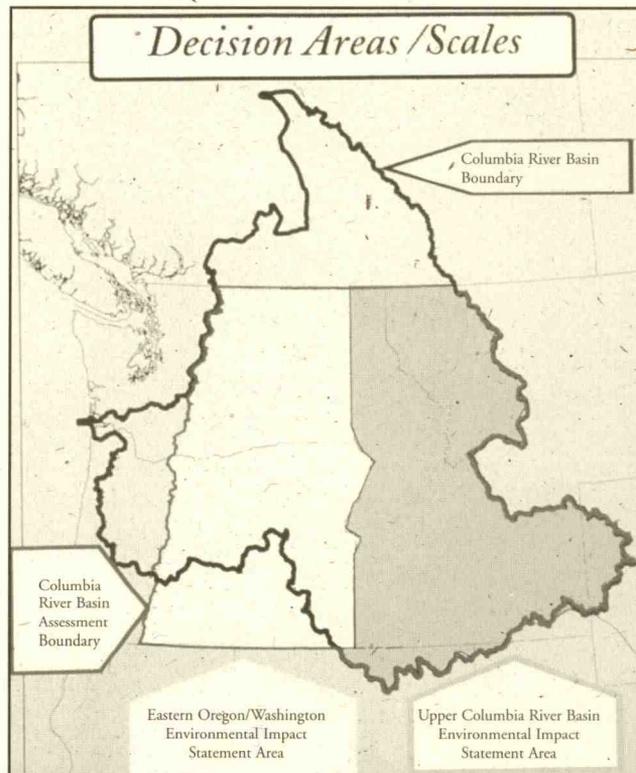
I’m only going to give you a very narrow snapshot, and focus on forest health. You won’t hear balance. I just want to give an example of some of the science results and how we are translating the assessment results into problems for resolution in the EIS.

In July 1993, the President asked the Chief of the Forest Service and the BLM Director to develop a scientifically sound, ecosystem-based strategy for the eastside forests. Eastside forests are those located in the eastern portions of Oregon and Washington. The relationship between the Project and the resolution of the westside problem, initially framed as the “old-growth/spotted owl” issue and, later, largely as a result of Judge Dwyer’s decisions, as broader, ecosystem-level problems of the westside, is critical.

Simply, when President Clinton traveled to Oregon in April 1993 to help resolve the "spotted owl" problem, the Oregon Natural Resources Council and the Natural Resources Defense Council requested that he consider all of Oregon and Washington in the resolution. Apparently, some people were concerned that timber harvest might be increased on the eastside to compensate for likely reductions on the westside.

About that same time, Rich Everett, from Yakima, and other scientists released the Eastside Forest Health Study, which indicated that there were, in fact, some tough problems with the forests of the eastside. It was, then, an appropriate time to respond to concerns and do a broad study of the eastside forests. In July 1994, the Project was expanded to include the Upper Basin in Idaho and western Montana (see Figure 1).

Figure 1.
The Interior Columbia Basin Ecosystem Management Project encompasses approximately 144 million acres, mostly in eastern Oregon, eastern Washington, Idaho, and western Montana.



Initially, I had nightmares about planning at the scale indicated. What kinds of problems should be addressed, and how should they be answered for an area of 144 million acres?

The Project comprises three parts, the science team assessment covering the whole basin, and two EIS team assessments, one in Walla Walla and one in Boise, covering Idaho, western Montana, and portions of northern Nevada and Utah. The cost of the Project will likely approach \$30 million, divided about equally between the Science Assessment and the two EIS assessments.

I want to talk very briefly about the planning process. Doc Quimby at Montana State told us, as we began to refine our thesis topics, "If you don't ask the right question, it's unlikely you'll get the right answer." His admonishment contains wisdom for any pursuit, and, in particular; this Project.

Chapter One of our EIS concerns the Purpose and Need. When I was a forest supervisor, I usually read every word of each Purpose and Need statement, because that's where we state the problems to be addressed. If you don't get the questions right, it's unlikely you'll get the right answer. This becomes especially important with ecosystem management at the scale at which we are working. It took some time for us to define the two real needs: to restore and maintain long-term ecosystem health and integrity, and, equally important, to support the economic and/or social needs of people, cultures, and communities. These are equal needs; every alternative has to satisfy both.

I would like for you to think with me for a moment about how we deal with ecosystem health, at least as ecosystem health diagnosticians. If you'll allow me to use the medical analogy, when you have illness symptoms and walk into a doctor's office, you expect a diagnostician to have some tools to help understand your symptoms and aid a conclusion and prescription. It would seem reasonable to expect the same rigor of ecosystem doctors, if you will, or ecosystem diagnosticians. The assessment includes a discussion of ecological integrity, an important diagnostic tool. In general, ecological integrity refers to the relationships between ecological processes and dependent elements, and the trend of those relationships, linking past and current conditions.

One way to begin ecosystem diagnosis, considering ecological integrity, is to focus on fundamental ecological processes. In forests, such an independent variable is the carbon cycle, the principal way that energy flows and materials cycle through forest ecosystems.

Addressing the carbon cycle doesn't mean that you don't care about wildlife or other dependent elements. It simply means that you consider, first, the way most of the energy and materials move through the ecosystem as a "vital sign," before you consider elements, such as wildlife, that depend on it.

I'd like to further explain this relationship with an anecdote. When I was Forest Supervisor of the Boise National Forest, I had a call asking that the Boise National Forest participate in a study of the habitat fragmentation effects of clearcutting on Neotropical migratory birds. I was slow to respond because I was frustrated with the question. I asked the caller if he was aware that in the last five years some 500,000 acres of tall forest cover (bird habitat) had been removed from the Boise through uncharacteristic stand-replacing wildfire. That fact probably had a lot more to do with the loss of habitat for Neotropical migratory birds than did any clearcutting activity.

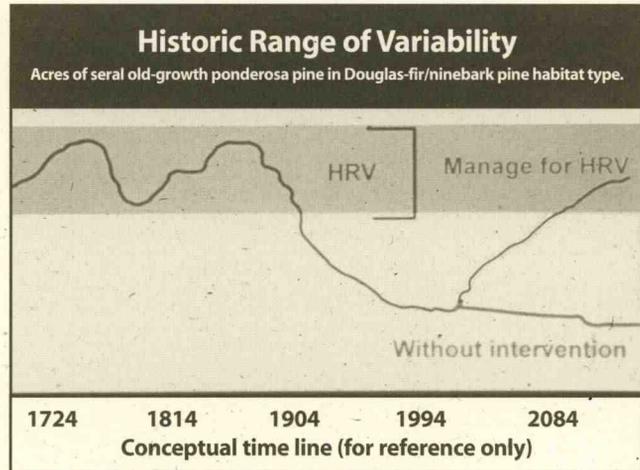
That's a way of to illustrate the point of being worried about major ecological processes. How does the carbon cycle function today compared with how it did in the past? What are the implications for dependent elements, such as species viability and biodiversity?

On the Boise National Forest, carbon is cycling differently now than it did in the past, and forest-dependent birds are adversely affected. This is a way of organizing the "vital" ecological signs. A medical doctor takes the patient's pulse and blood pressure. The ecosystem doctor might ask questions about the carbon cycle or other ecological processes as independent variables, and then inquire about such ecological elements as wildlife, as dependent variables. Inferences are then possible about the degree of ecological integrity that exists.

Another diagnostic tool is "historic range of variability" (HRV), which helps us to understand how things worked in the past. There are very few ecologists any more who would talk much about "equilibrium theory" or "balance of nature." The only thing that I think most of us recognize as constant in ecosystems is change, i.e., change within some reasonably predictable boundaries. The number of acres of old-growth forest in the Boise River Basin was reasonably stable within a predictable range for some 300 years, until about the turn of the century. Then there was a dramatic change, and the pattern of that change continues to the present with serious

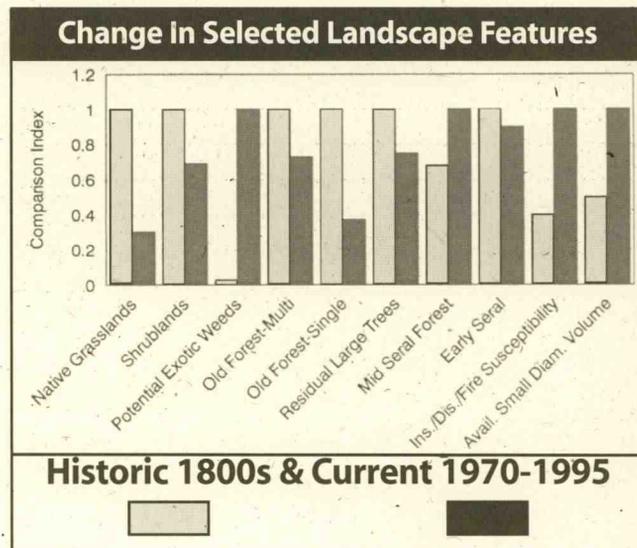
effects. This presents us with choices. The point is, HRV doesn't imply a decision, but it certainly helps us to understand current conditions in light of the past (see Figure 2).

Figure 2.
"Historic Range of Variability," a tool for diagnosing ecological health, provides comparisons between past and current conditions.



Let me share with you briefly some results of the Scientific Assessment which Tom Quigley, the Science Team leader, sent to me a couple of days ago (Figure 3). It shows a comparison of current conditions with historic conditions, i.e., conditions that existed in the 1800s.

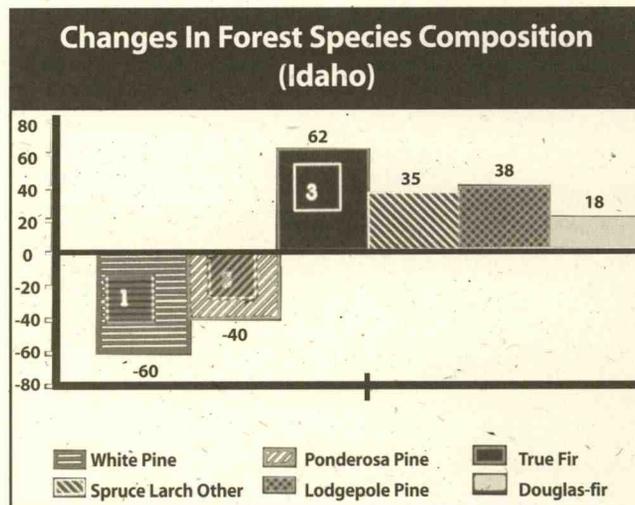
Figure 3.
 Differences between past and present conditions, especially related to exotic weeds, forest structure, and insects, disease, and fire susceptibility, in the project area.



We now have far less native grasslands than we had historically. We also have far less shrublands than we had historically. We have a huge increase in exotic weeds, a significant loss in old, multilayered forest, and a great loss of old, single-story forest. There is an extremely high risk of damage from insects, disease, and fire compared with the past, and increasing numbers of small diameter trees. All of these conditions indicate significant changes in the integrity of our ecosystems.

Another symptom, or "vital sign" of change, is how carbon is now stored in our forests. This little snapshot of species composition and density in Idaho's forests (Figure 4) shows that since 1952 Idaho's forests have changed from species that were mostly adapted to fire to species that are not. All of this would be fine if fire had been removed from the ecosystem. Western white pine has declined by 60%, ponderosa pine by 40%, and grand fir and white fir have increased 62% with other increases in Douglas-fir.

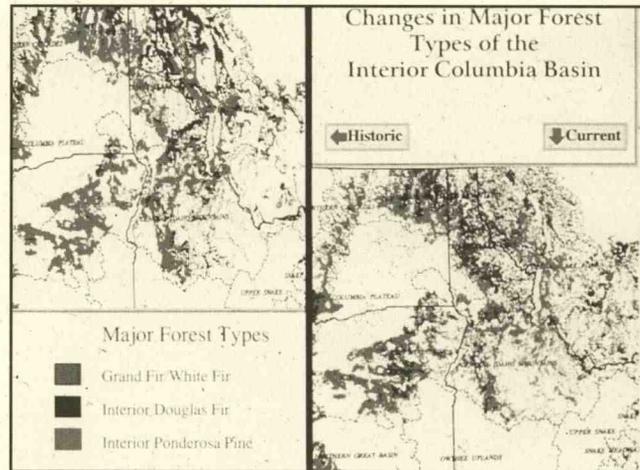
Figure 4.
Percent change in species composition in Idaho's forests between 1952 and 1987, with a decrease in fire-adapted pine species and an increase in nonfire-adapted fir species.



The real message is this: forests have changed dramatically in relation to disturbance regimes. Fire has always been a dominant characteristic of such ecosystems as those in the inland West, limited by water. Forest species were adapted to that disturbance. They no longer are to the degree that they once were.

This situation has serious implications when change is occurring on such a scale. A visual impression of that condition is shown in Figure 5.

Figure 5.
A comparison of pine-
dominated forests of the
past with today's "true" fir
forests.



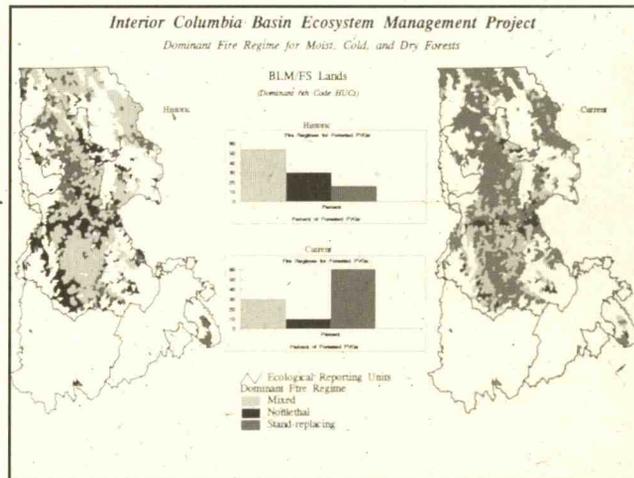
Historically large areas were covered by ponderosa pine. Yet ponderosa pine has been replaced by grand fir and white fir at a huge scale, and this has major implications for the ecosystem.

You may ask, "So what?" What does this mean in terms of risks of damage from insects, disease, and wildfire? Where do we have very high or high fuel loading, and, on the same acre, high insect and disease risks? Forty-five percent of all forested lands, or some 20 million acres are at high and increasing risk. These are some of the implications of change on the broad scale. Now we can see that the forest health problem is more than a "shill" for "getting the cut out." It is a condition with very real implications, some very real ecological problems and consequences.

Perhaps the most dramatic piece of information I can share is this: historically, about 10-15% of the area burned in stand-replacing fires. Most areas were affected by mixed-fire regimes, and nonlethal fire was prevalent. But the dominant fire regimes for the moist, cold and dry forests have changed (Figure 6). Currently, stand-replacing fire is becoming the rule, and non-lethal fire and mixed fire have reduced roles. The kinds of uncharacteristic fires we've seen most recently on the Boise and Wenatchee National Forests are probably not anomalies. They're likely forewarnings of things to come, and that has huge implications for water quality, and for threatened and endangered species.

We talked in the seminar earlier today about biological reserves. We're analyzing an alternative that includes a broad reserve system. We will ask the

Figure 6.
Fire regimes in the Upper
Columbia Basin project area
reflect changes in forest tree
species composition.



questions, “What are the consequences of establishing reserve systems, including keeping existing roadless areas roadless, to provide for ecological integrity?” “What are the effects of reserves in situations where forests and disturbance regimes have changed dramatically and are outside HRV, when pristine conditions are desired over time?”

I’m not suggesting an answer to these questions now, but I do believe that we have the ability to assess the effects of such conditions on a broad scale in light of changing conditions. And, just to make sure we’re considering more than trees, we have integrated ecological risks in computer analyses by overlaying areas at risk of stand-replacing fires onto areas with high road density and strongholds for fisheries. This allows us to begin to ask “what if” questions about risks and priorities at the broad scale for all resources.

My intent in reviewing this information is to give you some sense of the process, how we ask questions, the ways in which we shape questions, the level at which we address questions, and the kinds of answers we would propose in the alternatives. For the dry forests we would attempt to restore and maintain the landscape structure, community composition, and so on, consistent with the way natural disturbance regimes might have worked as we understand these forests. Our objective would be to restore the historic disturbance regime: high-frequency, low-intensity fire, or its silvicultural equivalent.

Some people might say, “There is no silviculture equivalent to that kind of fire,” but I would argue that we can simulate those conditions, at least at a

level that can resolve the more unacceptable problems or risks. We would also have an objective that would restore the forests to a condition that would be open and parklike, dominated by seral species, recognizing that we want to restore the fire-adapted species, including mature and old ponderosa pine and western larch.

Does that mean wholesale change in the composition and density of our forests? If that's the decision, that's what it means. And, in that sense, if the decision is made to adopt an alternative that takes an aggressive approach to restoration ecology through active management, the conclusion would be that ecosystem management means more management, not less, and more timber harvest, not less, but different. Although clearcutting in these ecosystems would be inappropriate, selective harvest that would leave the fire-adapted trees and remove those that aren't, would be appropriate.

Our intent is to focus on broad-scale objectives necessary and sufficient to resolve problems, without getting into many detailed standards that would most likely be wrong for any particular site on the ground. In summary, if there's one overall key message from the Project I can share today, it is that in many places there exist compelling needs to manage our forests and rangelands, to restore ecosystems for people and their use and enjoyment.

Conservation Leadership

I want to close by reflecting briefly on conservation leadership. By my definition, leadership has two critical dimensions: one is vision, and the other is the ability to implement that vision.

The vision of the Interior Columbia Basin Ecosystem Management Project was clear—to develop a broad-scale, scientifically sound, ecosystem-based strategy for managing Forest Service and BLM lands. I think we've done reasonably well in technically developing scientific assessments and EISs.

Anticipating and identifying the social and political barriers to the Project, and responding effectively have been more difficult. As I understand leadership, success in this aspect is as necessary as is success in the technical aspect. Although more elusive, building understanding, acceptance, and support for complex projects like this will always be critical. To the extent that we're successful in this, and in other projects, we'll be able to call ourselves conserva-

tion leaders. This will always be the fundamental challenge of making natural resources work in a democracy. Two years ago, Jack Ward Thomas was here, as a Starker lecturer and as new Chief of the Forest Service, to advocate "a better way," he said, to break through the gridlock and polarization of difficult natural resources issues. This Project is part of the Chief's vision of that "better way." The Chief was right. The marriage of better science, a land ethic, and responsive, sensible management options is a better way. But, still, barriers of low trust and understanding remain. I believe that the Interior Columbia Basin Ecosystem Management Project will provide the basis for a new management mandate in the inland West, but only in the spirit and context of partnership and sharing. This extends to the man in Challis, and the permittees, contractors, state and county governments, and other stakeholders or interest groups who have a constructive interest in providing sustainable resources for people, in the spirit of partnership and natural resources sharing.

Many years ago, Teddy Roosevelt wrote these words: "Eastern people, and especially eastern sportsmen, need to keep steadily in mind the fact that westerners who live in the neighborhood of the forest preserves are the men whom in the last resort will determine whether or not these preserves are to be permanent. They cannot in the long run be kept as forest and game reservations unless the settlers roundabout believe in them and heartily support them, and the rights of these settlers must be carefully safeguarded, and they must be shown that the movement is really in their interest. The eastern sportsman who fails to recognize these facts can do little but harm, by advocacy of forest reserves."

This insight appears to me as valid today as it was more than 75 years ago when it was first spoken. Unless people who are directly affected by ecosystem management, especially those who depend on national forests and BLM lands for their livelihoods, understand, accept, and support it, the effort will ultimately fail.

Conversely, if people see that ecosystem management is only a means for providing sustainable resources for their use and enjoyment, and that of others, it will likely succeed. We must all now work as never before to establish and nurture partnerships which help make that a reality: a reality that makes us all partners in conservation leadership.

Thank you.



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