

# BALANCE AND CONFLICT: ENVIRONMENTAL CHALLENGES FACING THE WESTERN UNITED STATES

*Editor's note:* The following is an edited transcript of a panel discussion presided over by the Honorable Raymond C. Fisher, U.S. Circuit Judge. The moderator is James Fallows, economist and journalist. Panelists are John A. Baden, Foundation for Research on Economics and the Environment; Joel E. Cohen, Rockefeller University; Eric Redman, Heller, Ehrman, White & McAuliffe; Barbara Reeves, Southern California Edison Company; Lois C. Schiffer, Georgetown University Law Center; Barton H. Thompson, Jr., Stanford University School of Law.

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## INTRODUCTION

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**Judge Fisher:** It is my honor and privilege to preside over a very interesting program about the environment: "Balance and Conflict: Environmental Challenges Facing the Western United States." When we put this program together, we tried to give some meaning to the concept of "the environment." "Environment" is an overly broad and overly inclusive term with different meanings to different people. In late 2000, I had the temerity to suggest that by the time of this conference, perhaps we would want to talk about global warming and the energy crisis. And everybody said, "Oh, global warming, that's old news, and the energy crisis will all be taken care of by the summer of 2001." So with that great prescience, we set about to assemble a highly expert group of people who really know what the environmental issues are. Because this is a technical and all-encompassing subject, we are going to start the program with a panel discussion, which includes people from different disciplines with different perspectives on what is subsumed under the generalized heading of "environment."

To understand how pressing this subject is, you need only look at the newspapers to see stories nearly every day about some aspect of the environment. What we hope to do today is identify some of those issues that are not quite so obvious, that do not quite so readily come to mind.

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I would like to thank my co-chair Jeff Willis, who is a lawyer representative and a partner in Snell & Wilmer in Tucson, Arizona, for his great help in putting this program together.

And with that, I am going to turn the program over to Jim Fallows.

**Mr. Fallows:** Thank you very much, Judge Fisher. Thank you all for coming this morning. I think this can be an exciting next few minutes we have ahead.

I would like to set up for a moment the terms of our discussion for our panel. Thirty years ago during the time of the first Earth Day celebration, we were reminded time and again that the environment involves everything. Everything is connected to it. I submit to you that for no group of people will that truism be more practically real or have more impact on their work than those in the political and legal system of the United States in the generation ahead, as they try to reckon with all these tangled issues involving environmental policy.

There are plenty of difficult non-environmental issues that the judiciary deals with. We might think, for example, of the death penalty cases, emerging stem cell issues, political redistricting fights, and other political fights. Those involve deeply held divisions of opinion. They involve complicated questions of fact, but, in most of the cases, the number of participants and the number of various views is finite or at least comprehensible.

By contrast, when it comes to environmental issues, the range of conflicting factual areas to be explored concerning different stakeholders and different long-term policies is much larger, much more complicated. And your role in trying to find peaceful ways to adjudicate disputes that otherwise might lead to violence will be more severely tested in this realm than in many others.

Let me make a few procedural points. First, although this is the rubric for the entire conference, I should say if you ever find yourself thinking that we are talking about a specific case, you are wrong. We're not. We're just a speaking panel. We're talking about issues that you might think are touching on a case, but they're not. Our goal, in fact, is not only to convey some specific information that may be useful as a backdrop to environmental issues, but also to expose different ways of thinking about the issues. We have at least five or six different schools of thought represented here. We'll try to explore the tensions among them.

First, I'm going to spend a few minutes setting up a kind of thought experiment, an environmental challenge that I think

brings together almost all of the complicated issues that we can find in any environmental case. Next I'm going to ask each of our panelists to talk about that question. And then I will ask the panel to draw implications so that we might learn how to deal with other environmental issues. The thought experiment I have in mind here is the case of the salmon of the Pacific Northwest, a situation that may be familiar to many of you. Let's think about it for a moment a little more systematically, because I think it is the paradigmatic environmental case for our time. At a surface level, this might seem to be a fairly straightforward issue. We have increasing numbers of people in the Pacific Northwest, and we have decreasing numbers of fish. The fish are important to the people of that region in a variety of ways. They have aesthetic importance to the Pacific Northwest. They have recreational value to people who like to fish for them. They have important commercial value to the fishing industry. They have a legal and heritage value to the Native American tribes in the Pacific Northwest. And, of course, they also have legal protection, much of which flows through the Endangered Species Act.

There has been ongoing discussion for decades, especially in the last couple of years, about ways to keep the declining numbers of fish from declining any further so there are more salmon for people to enjoy in these various ways. There has been an ongoing controversy about the dams on the Columbia and Snake Rivers, controversies about farmers and grazing and how they can better protect these spawning areas. There have been certain kinds of reductions on fishing, but only within certain limits.

Other subjects have not really been addressed. For example, on certain mornings you can open up the Seattle papers and hear about the latest controversy over this or that endangered salmon species, and then you can go buy specimens of that same salmon at the Pike Street Market for very little money. And so there is a loggerhead where the argument is becoming increasingly polarized without much apparent effect, even though in the last year or two, salmon runs have been increasing.

What makes the issue worth deeper study is that, in the following ways, it really is connected to all the big environmental issues we have to deal with. I'm going to tick off briefly a number of deeper themes you can draw from the salmon case. First, it's connected to some of the deepest natural trends of the non-human world: the salmon, the changeability of the natural role. The salmon, after all, have not been coming to the Pacific Northwest for millions of years, but rather for somewhere between seven and ten thousand years. Before that, the ice age blocked the streams, and

the glacial sedimentation made it too milky for them to spawn there. Even now, variations in ocean temperature over a decade of cycles seem to be the main determinant in their abundance in the north-south range. There is even a kind of program variability within the salmon that transcends human intervention, in which most salmon, as we know, are programmed to come back to the same stream where they spawned, but a certain small fraction of them is programmed to go someplace else. That is why salmon are able to pioneer new areas, fostering deep natural trends.

Second, we have long trends in the human impact on the earth that involve the salmon. The Native American role in the Pacific Northwest seemed to really kick in about five thousand years ago, about the time the salmon were returning. And from that time until about five hundred years ago, there was quite a significant human taking of the salmon population in certain areas, although it was sustainable overall. But then, starting about five hundred years ago, until 150 years ago, the human presence in the Pacific Northwest diminished mainly because of diseases introduced by white settlers. When Lewis and Clark came to the Pacific Northwest, the salmon runs they saw were probably the largest that had ever existed in natural history because the human impact had been waning as a result of disease and other factors. Then, of course, in the last 150 years, the rise of human impact in the Northwest had another effect. Many fish scientists claim that the crucial technical development in the history of the salmon was not the dam but, rather, the tin can. Industrial salmon farming kicked in when salmon were able to be canned and shipped around the world.

Third, we have the recent history of man's impact on the Pacific Northwest: that is, the last 150 years of extractive industry; logging; the last one hundred years of grazing; and the last eighty years of development as it was considered by senators like Warren Magnuson, including the dams of the Columbia and Snake Rivers that opened up the interior of the Northwest to industry.

Fourth, we have a number of ongoing and potentially irresolvable economic and rights issues. We have a certain finite amount of water which has to be used for many diverse purposes. The salmon want it to breed and spawn. The farmers want it to irrigate. The power companies want it to run their generators. Recreational users want it for recreation. They can't all have as much as they want. Somehow, these conflicts have to be resolved. The fish themselves are a kind of scarce resource. The fisheries operators want them for commerce, and the preservationists want them to exist for their natural abundance.

Fifth, we have some conflicting and quasi-absolute legal guidelines. The Endangered Species Act, subject only to the interventions of the God Squad, has certain absolutist-type rules about what must be done to protect endangered species. At the same time, there are treaty obligations to the Native American tribes of the Northwest guaranteeing them certain absolute-style rights, including the right to take a certain number of fish. To the best of my knowledge, there has never been a judicial determination as to which of those two sources of federal law would prevail in the event of a conflict.

Sixth, we have scientific uncertainty and polarization. Scientists complain if they are placed in one camp or another, and there's no common ground about even a seemingly simple question, such as "What is a species of salmon?"

And finally, seventh, we have a kind of ongoing political incoherence to this issue that makes it very difficult to determine how to resolve it.

If I can just give you one little data point here. I was living in Seattle two or three years ago when there was a ballot initiative about eliminating or restricting gill net fishing. The alliance that defeated that ballot initiative consisted of the commercial fishermen, as you would expect, and the preservationist groups, as you would not expect, because they both thought, for various reasons, that this would diminish the pressure for other changes.

So this is the constellation of issues involved in the salmon controversy, which I contend can be linked to almost any other big environmental challenge we will face. To talk about what is most significant and the main implications that can be drawn for our dealings with environmental questions in general, each of our panelists will give a précis of what he or she thinks is the most important lesson. I don't mean to overdetermine what the panelists will say, but this is my ulterior hope about what they will say.

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## PART I

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First, we're going to hear from Joel Cohen, who is going to give us his scientific big picture. Then Eric Redman is going to talk about this political incoherence I mentioned. Next, Lois Schiffer will address some of the legal enforcement questions from her experience. There are more panelists, but I am going to leave them in suspense about the order in which they are going to be called.

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Mr. Cohen: I'd like to show you some family snapshots, three of them. It's the history of the United States as seen through the eyes of the United States Census Bureau. I think it bears on the questions that Jim has raised. In 1790, the U.S. counted 3.9 million people, roughly the population of Kentucky today. By 2000, the U.S. count grew 72-fold to about 281 million people. The first reported count for the region known as the West was in 1850, and there was then about one-fifth of a million people. Today, there are 63.2 million people here. That is an increase of 316-fold, between 1850 and 2000.

The two numbers I'd like you to put in your head, please, are these: the U.S., over 210 years, grew 72-fold; the West, in 150 years, grew 316-fold. On this graph (Figure 1), each horizontal line represents an equal increment of 50 million people.

Now I will plot exactly the same data—these are census data—on another slide (Figure 2), but, instead of making it show equal increments of numbers of people, it's going to show equal multiples. On this slide, with the same data, each line represents a 10-fold increase from one hundred thousand people to a million; from 1 million to 10 million; 10 million to 100 million; 100 million to, God forbid, a billion.

The nice thing about that kind of a plot—it's called a logarithmic scale—is that if a population grows at a constant rate, like an interest-bearing account with a fixed interest rate, you get a straight line. You can see here that not one of these

### United States Population by Regions

Data: U.S. Census Bureau  
Source of figure: Joel E. Cohen

Figure 1

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### United States Population by Regions

Data: U.S. Census Bureau  
Source of figure: Joel E. Cohen

Figure 2

lines is straight. The United States has been growing at a decreasing rate since it was founded. That means that the percent increase per year has been decreasing as the population has gotten bigger. By looking at the data this way, you can better separate the four regions of the United States. When the Constitution was written, the U.S. population was equally divided between the Northeast and the South. The Northeast and the South continued growing in concert until about the end of World War II, when the South started growing faster than the Northeast.

The Midwest was largely empty of Europeans at the birth of the Republic, and began to be settled around 1800. The first census reports from the Midwest were taken in 1800, and the growth rate was much, much faster than that of the Northeast. Eventually, the Midwest caught up and then slowed down and started growing at about the same rate as the Northeast. The news relevant to this meeting is that the West, which was not counted until 1850, has grown and continues to grow faster than any of the other regions of the United States. In the last fifty years, the U.S. population increased by 86 percent. The Northeast population increased by 36 percent; the Midwest, 45 percent; the South, 112 percent. Now 112 percent means a doubling and a little more. The West grew 213 percent—that means tripling—to 63 million. So the absolute numbers have grown.

In addition, population has been increasingly concentrated in cities. It is increasingly difficult to move away when you see the smoke from your neighbor's house. Side effects of human activity, what economists call externalities, become harder to avoid when you have 316 times as many people living in the same space. The recent changes in population have been most rapid in the West, and the institutions, laws, and human behavior have not yet adapted to those changes. That is what I see as a basic aspect, not the whole problem, but a basic aspect of the problem.

Now what about solutions? It's my conviction that solutions come from enlightened action by people, and I hope this next slide (Figure 3) shocks you because it certainly shocked me. I did not anticipate it. This is a graph of high school dropouts among 18- to 24-year-olds in the United States. It shows the United States' dropout rate in 1970 dropping steadily from 17 percent down to around 12 or 13 percent. The South dropped much more dramatically. The Northeast dropped. The Midwest dropped. The bad news is that, in the West, there has been a steady, three-decades-long rise in the percentage of our youth who are not graduating from high school.

Who is going to solve the problems of the environment?

### High school dropouts among U. S. 18-24 year olds

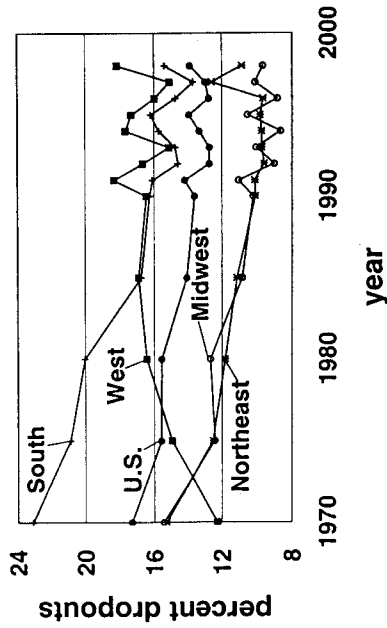


Figure 3

**Mr. Fallows:** We would like to use Joel's question as a segue to Eric Redman's talk. Joel has talked about these continuing demographic pressures which require, and call for, some political solution. He will tell us about the politics and the way we address those issues in public.

**Mr. Redman:** First, let me say, it's a great joy and pleasure to be here, not as the lawyer representative but as a speaker. I was delighted to be invited and see my former law partners, Ray Fisher and Betty Fletcher, but what is most exciting for me is seeing my camp counselor from the 1950s, H. Russel Holland, sitting right here in the front row. That was at Hidden Valley Camp, Boys' Tent Five, and I want you to know that I am the only person who represented clients on the Exxon-Valdez case who was not permitted to take part in the litigation because Russ was afraid I would reveal what the "H" stands for, so I won't.

I have a couple of general observations to make before getting to some specifics. The salmon in the Pacific Northwest is a great public policy issue. I think it's the great public policy issue in the Pacific Northwest, and what makes it a good one for study is that, like so many public policy issues in this era, it seems to me that it suffers terribly from a lack of a starting point, a lack of an agreed objective, a lack of even a declared objective. If you think about it, it's impossible to manage any effort except toward the accomplishment of some objective. There is no such thing as a strategy except how to achieve an objective. And what we really have in the Northwest is hundreds and hundreds of measures that are being proposed, but they're all in search of a defined objective. It's confused thinking. It's a little bit as if someone were running around saying, "Let's build a space vehicle." But there is no agreement on where the space vehicle is supposed to go, whether it's supposed to be manned or unmanned, and so forth. My good friend Jim Litchfield says, "If you want to put a man on the moon, you need to design the effort like a NASA effort. If you want to build a quilt, make a quilt, then you design the effort like a quilting bee—that is how you get a quilt." In the Northwest we're really trying to restore an endangered species. What we're really trying to save is fish. It really is more like the moon shot, a NASA moon shot, but the way we are organized is like a quilting bee.

The salmon, on one level, are like so many other fish. If you look around the world there are no fish that have been commercially fished for and have become depleted that have ever recovered without stopping commercial fishing. Not one. And

conversely, there has never been one that was depleted commercially that, where you stopped the commercial fishing, it hasn't recovered. As it happens, most fish are commercially depleted right now, as we all know. In the case of the salmon, half of the decline of the salmon in the Northwest preceded the construction of the first dams. Ninety percent of the salmon rivers and streams in the Pacific Northwest do not have dams. Their decline curves are just the same. Dams are definitely not good for the fish, but there is a bigger problem at work here. The first conference on the decline of the Columbia River salmon was held in Portland in the 1860s, and the first book about it was published in 1885. The first dam was built in 1936.

Pacific salmon are unlike other fish in a way we forget about, and I think it completely confuses our public policy; that is, they only get to spawn once and they die as soon as they spawn. So the salmon that any of you ate last night or the salmon you are going to eat today never had a chance to reproduce. You don't know that when you eat a piece of halibut, you don't know that when you eat a piece of venison, but you know it when you eat a piece of salmon. So if they are wild animals and we are really trying to recover them as wild animals, we have to admit right off the bat that killing them before they reproduce is not consistent with recovering them. They are also unlike all the other species protected by the Endangered Species Act, I think, and those animals that we often hear about, because we have for many, many decades enhanced them with hatchery-produced fish, unnaturally produced fish, to augment them as a resource.

So there is this fundamental confusion. Is this fish a wild animal that is to be protected from humans so that it can live out its natural life cycle unmolested by man? Is it a baby harp seal which, in a 1980s analogy, got me into so much trouble? Or is it a resource that is to be harvested? Are we to turn our rivers into meat production factories or save this wild fish? The two are not necessarily consistent. In fact, they are probably inconsistent.

We have, in the environmental movement in the Northwest, people who are really active in trying to help the salmon. There are, however, some environmental groups that oppose the net ban. That issue was an initiative in Washington State last year. You have different points of view or different interests being pursued. Some people generally want to protect the fish as a wild animal; I put myself in that category. It's somewhat like the bald eagle. You know, many people believe it is a magnificent animal and should not be killed. Some people want to use the fish in the way that the spotted owl

was used as a means of controlling development, perhaps even turning back development in some respects to control environmental protection in the Northwest and only incidentally protect any endangered species that is useful for that effort.

Then, finally, when some people speak of protecting the fish, they are really talking about protecting the fishery. How do we keep on fishing? You will note that in no other part of the country are the environmental groups and the fishermen on the same side—only in the Northwest, because when we talk about "save the salmon," it can mean so many different things to different people. My suggestion is to go with the bumper sticker that says, "Save the salmon. Don't eat it."

**Mr. Fallows:** Thank you, Eric. We will turn a couple of these questions to Lois Schiffer. Joel Cohen highlighted the background human pressures, and there was a recent, very dramatic report by Robert Ladke of the Environmental Protection Agency essentially saying that efforts to restore salmon runs were pointless as long as there are upward population trends in the Pacific Northwest. Eric Redman is saying that, given the incoherence of today's goals, the laws we have enforced are not even sensible. Through the Justice Department, you have been enforcing these laws over the last several years, so give us your perspective on whether that effort was worthwhile and how we should think about this issue.

**Ms. Schiffer:** I am not only going to talk about enforcing the laws, but also about implementing them because, in many cases, the government was the defendant—not the person actually bringing the enforcement action.

I want to start, though, with one other point, and that is we always thought that the salmon issue in the Pacific Northwest was the most difficult environmental issue. People should not come away thinking all solutions to all of our environmental problems are hopeless. Many of them really can be solved and are not quite as complicated. A case in point: Lisa Abbotts, one of the mediators who is part of the Ninth Circuit media-office, has just resolved a major environmental matter. That approach really shows that you should not go away thinking that every environmental matter is so impossible that nothing can be solved.

But what we really looked at is the following: What is the set of laws that comes into play, and can they be made to work together? Some of this was accomplished by enforcement and some by decisions of government agencies at the federal and state levels. And how could they get cooperation among themselves to come up with decisions? I might add that, at the

Justice Department, we represented all federal agencies. We had many within-the-government discussions among federal agencies that didn't see eye to eye, but by the time we got to court, we had to have a single position.

The set of laws at stake is vast. For example, the Endangered Species Act has been mentioned. I think of this protection partly as a decision that we have already made as a country—namely, that we want to protect endangered species, including the salmon and the bald eagles. And, at least for now, that is not a decision that we are going to revisit.

There are also many implementation issues. We have the National Environmental Policy Act, a very good and longstanding environmental statute that requires the federal government to gather environmental information and to look at impacts that an action might have, to look at the alternatives to the action, and to look at what socioeconomic elements might come out of a decision. The real core of the National Environmental Policy Act process is to look at implications and alternatives that involve the public in the process so that we have a real vehicle for ensuring that the many competing interests are taken into account before a decision is made.

There are significant Indian treaty rights in the West. We heard a very eloquent discussion from Professor Wilkinson about some of the cases stemming from the treaties, including the Boldt decision and its progeny, which continue to be implemented and raise complicated questions and which are very much at stake in decisions made about salmon. The fish are important to the Indians to carry out their treaty rights, not only as a religious and symbolic matter, but also as a commercial matter. The Indian tribes in the Pacific Northwest have said they are also interested in restoring what they viewed as a commercial operation of catching fish. I should add that I don't feel comfortable speaking for the tribes—but what I can do is give you what I understand their point of view to be. I think they speak very eloquently for themselves.

Then there are enormous legal issues related to management of the public lands in the West, and they are vast. Just focus on national forests. The concern has been that by cutting down trees in the forest, particularly near rivers and streams, we have taken away some of the shade that protects the spawning areas for salmon. If you cut them down, two things happen. First, you change the temperature of the water so it is less attractive for the salmon to come, and they are less likely to have successful procreation and reproduction. Second, because a lot of silt and other runoff runs into the water, you're changing the environmental conditions in the water. So



Columbia River area Native Americans fish for salmon with spears at Celilo Falls, Oregon, ca. 1910. (MSCUA, University of Washington, NA 745)

how the forests are managed and planned for throughout the Pacific Northwest, particularly the public forests, comes into play in decisions about what we are going to do about salmon.

But that is only the forest lands. There are also other public lands, including lands managed by the Bureau of Land Management; those lands have a different set of authorities for how they are managed and a different planning process.

There are also serious questions related to the Clean Water Act. The Clean Water Act requires that wetlands get a certain degree of protection. The act contains requirements about water quality, and some of those requirements about water quality are not only federal questions, but also questions of how the states implement the water quality standards. And a lot of those issues are just at the beginning stages of being worked out. They have not really been resolved yet because of the history of the Clean Water Act. So we are operating in a situation where every time a decision is made about what you are going to do about salmon, there are questions of water quality, particularly related to temperature and the silt that comes into the water.

There are also water allocation rules that we all know are complicated in the West; that's the simplest version I can give

of it. In general, it is a state-by-state matter. In the West it turns on "first in time, first in right." That means that farmers have a lot of claims to use of water. There have been questions of whether they have met their rights and their obligations for using that water. We had enforcement cases brought by the federal government where we thought that farmers were improperly diverting water and using more than they were entitled to or, at times, that they were not entitled to.

In any event, there remains a question of how you are going to implement the water rights that come into play. Then we have to consider whether this is the water allocation we really want to have. Do we want to have people being able to buy water? And if we are going to have people buy water from other people and, in particular, the federal government, how do we need to change the laws to be sure that those uses can stick? Not every state's laws permit water to be used in an effective way.

Next, consider the laws that relate to power and dam operations. There is a wonderful chart that shows all the dams throughout these states. There are at least 150 of them. We focus on the big ones, but there are many. They are managed by the Bonneville Power Administration, the Army Corps of Engineers, or the Bureau of Reclamation. They have different requirements, so that brings another complicated layer of legal requirements to bear in this field.

As we were thinking about enforcement, we also thought about the fact that when federal agencies make decisions—and this is likely true of the state agencies, too—those decisions might be challenged on the basis that they are arbitrary and capricious. So an additional set of legal standards comes to light.

Finally, I will mention that because a lot of the controversy arises in a context where people do or do not like the outcome in important issues, there is the important question of whether courts are going to look at whether preliminary injunctive relief is appropriate.

So a very complicated legal structure comes into play here. I may have left out some piece of it, but there is enough for everyone to see that the legal structure has a lot to say about resolutions of these disputes. As a country, we have made a lot of decisions in the environmental arena; that is, we have an Endangered Species Act and we have the Clean Water Act, but how those decisions are implemented is not so easy.

A final piece I would add is that, at the moment, all of this is being played out in a context of enormous distrust by everyone: distrust of agencies toward each other; distrust of states toward the federal government; distrust of the tribes; distrust of the industrial groups; and distrust by the environmental groups.

**Mr. Fallows:** Thank you. We have, I think, an enhanced appreciation of the complexity of the legal structure that goes with the underlying economic and political structure.

One question that is on the table, which we'll come back to later on, is this: As you have pointed out, we have decided to protect the salmon under the Endangered Species Act, but there are other things we are deciding to do, too, that are in conflict with that approach, including the treaty rights. So we will see about how those conflicts are resolved.

I'd like to turn now to John Baden. He's been a pioneer in the application of free-market economic analysis to the legal and scientific issues that we have been discussing so far. What we are discussing are things of economic value and other kinds of value to different participants: water rights, commercial rights to fish, the economic value of non-commercial rights to fish. I'd love to hear Mr. Baden's perspective of how the way to value things differently might be clarified.

**Mr. Baden:** Thanks so much. Let me just make a few general comments. For those of you who have not been here before, let me tell you just how much fun it is to be an adult here. It's just wonderful. I live on a ranch that's roughly an hour toward Bozeman from here. You almost surely went by it driving from the airport to Big Sky. Driving up here this morning was really such a treat. I used to log up the Gallatin thirty years ago. I made that same drive daily, and it was great fun to do that today with my laptop rather than a chainsaw. Again, this is just a great place to be, especially when it's not forty below zero.

When we talk about salmon, one of the things that becomes just crashingly obvious is that it illustrates, probably as well as anything else, a central feature of every environmental issue that I have ever looked at, and I've been doing this for more than thirty years. Every single environmental issue has two characteristics: first, it's going to be scientifically, technically complex; and second, every environmental issue I've ever looked at—be it wolf reintroduction or management of wild horses and burros, salmon, logging, everything—carries very, very heavy emotional baggage. So when you have the conjunction of scientific complexity and scientific uncertainty plus high emotional loadings, we have the ingredients for error, acrimony, and political posturing. This conjunction is inherent to the topic.

Let me make sort of an aside comment. I have lived here since the late '60s, but I have taught at other places, such as the University of Washington, where I was a founder of the Environmental Management MBA Program. My family has been in agriculture for a very long time; perhaps it is a genetic

defect. Even though I was living in the great city of Seattle, I had to get back to the land. So I went out into the Yakima Valley and bought a dairy farm. Now, if I had my choices of running a dairy farm or being in a federal pen, I would consider it very carefully, but I would probably opt for the pen. I did not want to own a dairy farm. I wanted to convert it into an orchard, which I did. I had the following situation:

We have a ranch in Montana where we have water rights dating to 1866. We have an orchard in the Yakima Valley where we have water rights dating to 1892. Both were privately developed. The dam that diverts water to our ranch is only four feet high. I've taken a canoe over it. The dam on the Sunny Side Ditch—which comes out of the Yakima River—is slightly higher. I don't think you could take a canoe over it. The point is, this irrigation was developed only if it made sense to develop it.

It wasn't until 1902, when the federal government became involved through the creation of the Bureau of Reclamation, that this mischief with the salmon really started to get serious, because only with the creation of federal dams, beginning in 1905—with one in each congressional district—did we start this assault on the habitat of the salmon. So there is a really important lesson here: Government is used very clearly as an engine to generate resources and transfer resources from one group to another, and, very often, these governmental actions have terribly adverse environmental and ecological consequences.

If you look at logging on U.S. Forest Service land in the Rocky Mountain states from 1970 to about 1985, the U.S. Treasury recouped about seventeen-and-a-half cents for every dollar it spent in administration. This was, basically, a welfare and a jobs program. It was politically driven. Government was used as an engine to plunder—not only to plunder the tax base, but also to destroy some very important ecological resources. At any rate, there is a very important public choice lesson there. The take-home lesson from all of this is simple: When someone essentially asserts that there should be a governmental program to foster economic development, look very, very carefully at the downstream negative ecological consequences of those proposals.

One of the things that we find is that as education increases and as wealth increases, people become green. What we are seeing in this region is a transformation of activities. Essentially, this entire region used to be populated by people who earned their living by moving stuff: wheat, minerals, wood, and commodities. That transfer is now toward people who manipulate symbols. And as we move the economy forward, as it becomes ever more technologically sophisticated, we

have a shift of power and wealth from those who move stuff to those who move symbols. And those who move symbols, of course, are going to be far more environmentally conscious, more environmentally sensitive. So we have a cultural conflict going on throughout the region, and this can get very, very nasty.

**Mr. Fallows:** Can you give me one sentence in response to this difficult question: Given that public development programs like the dams already exist, would a different pricing system be useful, in addition to enforcement, to abate the harm to the salmon? One sentence.

**Mr. Baden:** Yes.

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## PART II

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**Mr. Fallows:** All right. We go now to Buzz Thompson, our next speaker. We've heard from Joel Cohen about the long-term human pressures. We've heard from Eric Redman about the incoherent political perspective. We've heard from Lois Schiffer about the complexities of the legal situation. We've heard from John Baden about some of the acrimony and the cultural shifts. He also alluded to the uncertainty of some of the actual science. For example, there's a tremendous battle about what is a species of salmon. Now the Chinook salmon, as a species, is not endangered, but specific runs are. Buzz Thompson, you have done a tremendous amount of work in terms of interaction of legal and economic and governmental thinking for resolving these sorts of issues. What answer, what hope can you give us as we think about giving more coherence to this whole situation?

**Mr. Thompson:** One of the things that makes the Pacific Northwest salmon dispute such an interesting case example is that it really illustrates, I think, the difficulty that the next generation of environmental issues is going to pose. We are moving from a period of preservation, where the environmental movement was really focused on trying to preserve what resources we still had, into an era of restoration, where we are trying to take resources that we have overused or overdeveloped, like the Columbia River system, like the lower Colorado River, like the Sacramento-San Joaquin Delta in Northern California, and move backwards to try to restore something of the natural ecosystem that once existed. And these are going

to be extremely difficult problems to resolve. One of the reasons that they are going to be difficult to resolve is that our current laws are really not totally up to the task.

First of all, our laws are, in many ways, very unrealistic. I think the Endangered Species Act is an example of a relatively unrealistic law. On the surface, what the Endangered Species Act tells us is that we are supposed to preserve "species," whatever they may be—and I'll come back to that concept in a moment—no matter what the cost. That is what, as the Supreme Court told us in *TVA v. Hill*, the Endangered Species Act is all about; but the truth of the matter is we have never been prepared to ignore cost.

The Pacific Northwest is an excellent example of that. If we really want to make sure we are preserving the salmon of the Pacific Northwest, we would not permit any fishing of those particular salmon. We would remove, at a minimum, the lower four dams on the Snake River. We are not willing, though, to make those types of investments. The cost inevitably is going to come into play. So, although our laws tell us that we are doing one thing, our actions tell a totally different story.

Second, our laws act as if science is clearer than it actually is and assume that there is something known as a species, a subspecies, or a distinct population of a species, that allow us to determine when a particular species is jeopardized or not. The truth of the matter is that those legal concepts do not translate well to the language that scientists like Joel Cohen speak.

A third problem with our laws is that there are politically driven gaps in our major laws. For example, the Clean Water Act speaks quite clearly to point sources of pollution. When you get to non-point sources of pollution, such as those involved in the Columbia River basin, agricultural runoff—which today is the major source of pollution of our rivers in the western United States—the Clean Water Act takes a step back and does not provide the same type of teeth that it does with respect to point pollution. That's because Congress has always been afraid to take on the agricultural lobby in the area of environmental laws.

So, again, our laws are unrealistic. They do not take into account realistic science. They have politically driven gaps. All of that means that the laws don't work very well. A second possibility for restoring our ecosystems is the economics that John Baden talks about. Economics has a role to play here, but the truth of the matter is we're not going to be able to solve these problems purely through economic systems. Non-profit organizations do not have the money to go in and buy back the amount of water that we need to restore those ecosystems, and I do not think that Congress has the

will to appropriate the funds that would be necessary to go in and deal with these issues from a purely economic standpoint. So what are we left with? We are left with a major negotiation that is comparable to the most difficult international negotiations that exist, and the only way we're going to be able to solve those problems is to sit down and talk about them and try and work them out. They are hard, but, over time, we can do it.

**Mr. Fallows:** On that encouraging note, let me turn now to Barbara Reeves. Buzz Thompson was talking about how to think about the environmental problems of the future. One of those problems is the power issue in the West. It is related to the salmon issue because it is involves crucial water rights and other environmental issues, too. I wonder if Barbara Reeves from Southern California Edison could tell us what lessons—useful, otherwise, things to do, things not to do—we can gain for the power controversy and the environmental issues of the future from these ongoing salmon and water controversies.

**Ms. Reeves:** The first problem we have to recognize is that preserving all these critters and plants is very nice, but who's going to do it and at what cost? And what do we do about keeping the lights on? For example, many of you may not know that a utility has what is called a universal duty to serve. When you are a utility, you must serve all customers in your area. Earlier this year, for example, as the utilities in California needed more electricity, they turned to the Bonneville Power Administration and sought to purchase more electricity from Bonneville. To accomplish this, Bonneville released water to generate more hydro power earlier than usual in the season. At the time, this was fine for the people who needed the electricity, but what is it going to do to the salmon later in the season when the water levels are lower than usual and when the water, depending on the runoff, may not be adequate? This was also a year, you may recall, in which the snowpack in the Sierras and in much of the Pacific Northwest was 40 percent less than normal, and there is not much anybody can do about that; but what it means is that we have less water sitting there ready to be used to generate power.

Now we run into this on a collision course when people want their electricity and, as Buzz said, we have to determine how to pay for it. At present, we hear the cry of "not in my back yard." It is also accompanied by, "Just don't increase taxes or rates while you're increasing this electric power." So how do we reconcile it?

The U.S. Fish and Wildlife Service has decided that one way to reconcile the issue is to recognize we may not get the

money from legislatures, but rather from private industry. Southern California Edison has, in the last two years, encouraged the following scenario: A town like Big Sky decides that its 33 kv line needs to be upgraded to 115 kv. To do that, a utility comes along and upgrades this line, so we have new infrastructure. In the process of doing that, the U.S. Fish and Wildlife Service will require environmental impact statements. One of the areas they require you to cover is growth-inducing impacts. If you build this line, will it encourage more growth, more human growth and population growth? If so, says Fish and Wildlife, then the utility is responsible for that. You can draw these questions from the range of the probable. Obviously, if Big Sky's population is not growing solely because it does not have reliable electric power, then improving that power or improving a water supply or any other infrastructure could, most likely, result in increased population.

On the other hand, it could be that it is more speculative; perhaps the population will not come just because the power is improved. It may be that the population has already come. And what impact will those indirect effects have? Will it injure the salmon? Because the more people who come, the more power they need and the faster you release the water out of the dams in the Northwest.

Therefore, a project in Southern California or Montana is suddenly looking to the impact it may have on the rivers of the Pacific Northwest if they, in fact, are purchasing their power from that area.

The issue really comes down to who is going to pay? In recent years, with the reluctance of both state and federal governments to appropriate the money, citizens have turned to utilities with the *Field of Dreams* slogan, "If you build it, they will come." Therefore, you as the utility are responsible not only for assessing it, but also for trying to take these losses into account.

Finally, I will throw out a statistic because I cannot let the professor here be the only one to do so. In California, we have at present 565 state and federally listed species that are protected under the Endangered Species Act or a state equivalent of that. Only 10 percent of those species have protected habitat at this point, and we live at a time when there is an increasing desire by people to protect the habitat of these species, both plant and animal. Yet at the same time we live with people who want reliable power. In our company's case, the lines cover thousands of miles of desert, mountains, and forest where these critters and plants are happily living and going to be impacted. How we go forward and resolve that dilemma is another issue.

**Mr. Fallows:** That leads nicely to a question I want to ask. Before I give you a chance to respond to each other, I have a context I am going to propose for you six panelists, reviving those old competitive juices from the law school days and applying for law review, etc. Let's take an example we've been using: the problem with the drought in the Pacific Northwest this year. There is an absolute conflict about how to use those resources with less water. Bonneville needs to spill some of it to generate power that California wants and the Northwest wants. The farmers want it during a drought year for irrigation. The fish need it for spawning. The Endangered Species Act says the salmon have to have the waters because they must be protected. And the Indians, by treaty, have a right to this water and to the fish it sustains. They can't all have their way. At least one, probably several of them, have to lose.

Stipulating that we are not talking about any specific case, what way can you suggest to the judges gathered here to be able to think about these conflicts? Who has the best concise, unified field theory that can allow judges to say, "Okay. We have these absolute conflicts. Somebody has to lose. How will we resolve it?"

**Ms. Schiffer:** Apply the law.

**Mr. Fallows:** Who thinks that will solve the problem?

**Mr. Cohen:** Well, like most absolute conflicts, this one is specious. The farmers are the principal diverters of water. What happens to that water? Most of it goes into an open canal, and a significant percentage of it evaporates before it gets to the farmer's field. A great deal of it is sprinkled in open-air sprinklers on the farmer's field. It does the plant no good. The fraction of water that gets to the root of the plant at the time when the plant needs it is less than 1 percent. So the question is as follows: Is there an inalienable right to use a technology that makes sense at a time of abundance of water and information poverty?

In a new situation, when we have high information about when the plant needs water, we have computers to control it, and we have other people making demands on the water. None of these demands should be viewed as non-negotiable because there are alternatives for many of them. The same thing goes with the power. We do not use the water for power very efficiently. There are alternatives that can be considered. There is wind, there is sun, there is geothermal. Why are we hooked into thinking that the way it's done today is the only way?

**Mr. Fallows:** To push here, in practical terms then, your guidance to judges is to master the scientific aspects of each one of these issues that comes up as a conflict? Would that be your guidance to the judges?

**Mr. Cohen:** Judges should not take as a given the position given by any advocate for their solution.

**Mr. Thompson:** I want to respond to Joel by saying that I am a very strong supporter of conservation, but I think there is a mistake that is frequently made: the assumption that the water that is not actually used by the crops, by our farmers, is lost entirely to use.

The truth of the matter is, other than the amount of water that is lost to evaporation, that turns out to be a very small percentage in the western United States. Most of that water is either going to find its way back into a river system, or it is going to find its way to a ground water aquifer where it is then used by other farmers or others. So I think we overstate sometimes how much opportunity there actually is for conservation.

**Mr. Cohen:** If it finds its way back enriched with nitrogen, phosphorous, potassium from fertilizers? Let's get serious.

**Mr. Fallows:** This illustrates some of the difficulty judges will have in using this as a standard.

**Mr. Thompson:** In terms of how to solve the allocation of water, the first question that the legal system really should be thinking about is that initial allocation of water. What you start out doing is figuring out what the environment needs, which is obviously a very, very difficult question. And then after that, you use those systems that exist, such as the prior appropriation system, to allocate the remaining water. Then you permit the market to reallocate the water over time. I think we spend too much time trying to figure out exactly what the relevant economic values of the water and various uses are. We can, if we just allocate the water initially, then let the market reallocate it.

**Mr. Fallows:** Allocate to whom initially?

**Mr. Thompson:** You have a prior appropriation system which is set up to solve the question of that initial allocation of water among the hydroelectric facilities, among the farmers, and among other users. The one type of use you have to recognize and protect at the very outset is the environment,

because you don't have environmental users out there who can go and effectively utilize the market.

**Mr. Fallows:** Barbara? So you have a candidate, then, for us?

**Ms. Reeves:** Economics. Let's talk about economics for a minute. We hear discussions about the alternative sources of electricity and renewable sources, which are fine. The question is what are we willing to pay for? Wind, solar, and geothermal, given today's technology, are not always as inexpensive as we would like, or as reliable. There are days when the wind doesn't blow. There are hours when the sun doesn't shine, so you can't rely on the source. The state of technology is such that they are still relatively expensive sources of power. Nuclear power and coal, unfortunately for people interested in the environment, happen to be much less expensive—very inexpensive, in fact.

What are we willing to pay for, and who decides that? Is that going to be a legislative issue or is it going to be an issue that will somehow come up in the courts because a law is being interpreted? What do we do with those issues that can't be placed into monetary terms? In other words, what do we do to protect an endangered species that has no economic value but has some sort of other value that we cannot put a dollar on?

**Mr. Fallows:** Are you entering a contestant in the contest of how judges should resolve these problems, these perhaps inconsistent claims?

**Ms. Reeves:** I think they should look to market economics.

**Ms. Schiffer:** It does seem to me that one thing we are conflating here is the long term and the short term. And when you are talking about what a judge is going to have to decide, in certain ways the judge really has to look at the short term. The kinds of suggestions that Joel is making, which are very thoughtful, are much more in the vein of long-term solutions. You really cannot go to a judge and say, "Actually, the current water allocation system makes no sense, and so, Judge, could you please reinvent it?"

On the other hand, it certainly is subtle. We're very inefficient in the way that we use water. But those are the kinds of topics that, if you're looking at long-term solutions, we can be talking about and looking at. And that goes for sources of power, as well. So, as you move through this contest, you might want to note that it is really a short-term contest—a part of this solution here is likely to be a more long-term solution.

**Mr. Fallows:** Very long-term . . . yes.

**Ms. Reeves:** Market economics certainly should inform the decision; but, from a judge's point of view, I would look to due process, which is what I think I was trying to discuss—namely, who decides and how do you decide? And has that process been followed properly? The legislature needs to have spoken, and all the interests—economic and non-economic interests—have to honor the appropriate process so that they are all protected. That is what I believe the courts need to be looking at.

**Mr. Fallows:** Any other entries in the contest? None? Let's shift now to the long-run question. I would like to ask Joel Cohen about the sort of unexpected note of Pollyannaism in your presentation; that is, you showed your discussion about demographic pressures. You were suggesting that high school dropouts were essentially the problem. If we could keep people in high school, everything would be okay. And connected to that, to all the other panelists, was a sense that our institutions—economic, legal, judicial—are just not well set up to handle the increasing pressure of human beings on these scarce resources.

Would you want to amend any impression of Pollyannaism I may have taken from your presentation and discuss what institutions you think might have to change? Then we will have responses from some of your legal colleagues. Joel's middle name is, in fact, Pollyanna.

**Mr. Cohen:** I presented those statistics on high school dropouts as an indicator of our investment in the human infrastructure of the next generation. I think we are significantly under-invested and that undermines all of our efforts to deal with these economic, legal, political, social, and cultural problems. I don't think it's just high school dropouts. I think we are under-investing at every level.

**Mr. Fallows:** And that is clear to you?

**Mr. Cohen:** To amend my Pollyanna position, I'd like to lay out some issues that need to be considered when we advocate free-market solutions to these environmental problems. I will name four assumptions.

First is the assumption of perfect information about the true costs of destroying species and habitat. We are assuming that the private land owner who put in those small dams that John Baden can take his canoe over really knew what the impact was going to be on the fish in that stream, and that

every decision we are making now is perfectly informed so that the prices in our markets are correct. Second, we are assuming that all the interested parties currently alive are parties to the transaction that markets price. Third, we are assuming that the values that would be held by future generations are fully reflected by the willingness of today's parties to pay. And fourth, we are assuming that there is no intrinsic value of non-human organisms or natural habitats. I am not an advocate for or against these assumptions, but I invite you to think seriously about how realistic they are.

**Mr. Fallows:** Who would like to reply to that?

**Mr. Baden:** Well, no reasonable economist would ever make those assumptions. When these dams were built, America, by today's standards, would be considered a Third-World country. And, quite frankly, we were interested mainly in production and subsistence. Environmental values, as we view them today, simply were not taken into account by the people who were doing this work.

The demand for environmentalism is very much like the demand for BMWs, foreign travel, and gourmet coffees. It is a highly superior good. As people become more wealthy, their demand for these goods goes up dramatically. And the people who built these dams simply were not concerned with that at all. Today we do not expect Third-World nations or people in Third-World nations to take these non-material, non-marketized values into account.

**Mr. Fallows:** But to interrupt if I might, isn't Joel talking about decisions made from this point forward, whether there are assumptions that would apply to them?

**Mr. Thompson:** I think Joel was absolutely right, and I believe that deciding, for example, how much water needs to remain in our rivers for environmental purposes is not a purely economic decision. Various points Joel made demonstrate how difficult it would be to try to determine on a purely economic basis how much water we need to retain in our rivers.

Having said that, however, if there were one major policy change that could be made in the natural resources area it would be convincing the Western population that the resources of the western United States are limited and that we, therefore, have to start recognizing the limited nature of them and pay the opportunity cost of those resources. Right now, none of us is willing to pay the full cost of the water that is delivered to us. When California faces an energy crisis, the one



Fish ladders help salmon bypass a dam on the Columbia River.  
(Courtesy of Bonneville Power Administration Archives)

thing that is off the table is the notion that California consumers should pay more for their energy. If we simply started charging people the full cost of delivering these resources to them, we would have made a long step in the correct direction.

**Mr. Cohen:** I agree with that.

**Ms. Schiffer:** Just a couple of additions. I agree with Joel's list, too, and I also would add, as sort of an embroidery on it, that when you are talking about having the interests of all the parties being taken into account, you also have to look at whether they have been given equal voice. Because, as we all know, when you are weighing interests, some interests sometimes speak more loudly than others or have more influence than others. Being sure that you are giving voice to the less loud interest is sometimes not so easy to do.

The other piece that I think is implicit in Joel's viewpoint is that it is not only the people of the Pacific Northwest who have an interest in these issues. Those of us who live in other parts of the country care about what is going on and have an interest in what is going on here. And, while that is an additional complexity, it is one that sometimes people of the Pacific Northwest think should not be taken into account, but it does need to be taken into account.

**Mr. Redman:** The flip side of that issue is that these problems are made immensely more complicated by the fact that we have a totally closed system. The one party that is protected in the whole situation is the federal treasury. Bonneville generates a lot of extra power and sends it to California. The reservoirs are depleted. The rates have to be higher because Bonneville's rate payers have to pay 100 percent of the costs of Bonneville to make timely payment to the Treasury.

To the extent it's driven by the Endangered Species Act, you see what's happened. More money has been spent on the Pacific salmon, by the Endangered Species Act, by factors of many orders of magnitude, than on all the other Endangered Species Act-listed species in the country, for a very good reason. It is being paid for by rate payers. It is not coming out of the Treasury.

That is one of the principal reasons why we go on without facing up to this issue. If you are going to treat this fish as an endangered wild animal to be saved, you cannot come up with a justification for deliberately killing it. What we are doing is spending hundreds of millions of dollars to reduce accidental killings of an animal that we intend to go on killing intentionally. This creates a contradiction in the policies that make the costs that have to be incurred much higher than they would otherwise be.

If we looked at it purely in economic terms, leaving aside the tribes which I have to for this point, and focused just on the fact that there are so many non-tribal fishermen killing salmon as we speak today, and said to everyone who is killing a wild animal, "We will buy your right to kill that wild animal until it has recovered to a level where it can be killed again," it would be much more inexpensive for us than everything else that we are doing to try to sustain a stock of combined wild and non-wild animals for people to go on killing.

The classic number is not an exaggerated number. The wild salmon that return to the Columbia River are costing the rate payers about \$300,000 a fish, and, as you know, this year they are being caught in enormous numbers commercially and being sold. The fishermen are getting about fifty cents a pound for these fish, and that is not an economist's solution to the problem. It is not a problem that couldn't have a better economic win-win solution for everybody involved.

**Mr. Fallows:** I'm going to interrupt the salmon discussion arbitrarily at this moment to shift to one final area where I would like you to give some advice to the audience. Again, we are here with a number of jurists before us, and we have to think about these long-term issues.

You all talked about the incoherence of our legal and political structure in giving us long-term economic and scientific issues. How should judges think about these long-term pressures? Should they assume that they are a lagging indicator or is there some leading indicator role they can play in giving more coherence to how we think about this? Who would like to volunteer how judges can be forward looking and think about the environmental issues?

**Mr. Baden:** It seems to me that the most basic and fundamental fact is that across time and across culture, as people become more educated and wealthier, they become more environmentally conscious. So that implies that ecological issues and ecological quality and ecological restoration will increase in importance—that I think addresses some of Joel's points on what the future will want. We cannot anticipate that with any clarity, but that is your best single bet.

**Ms. Reeves:** The judges also need to recognize that the legislatures have been very reluctant to act in these areas, in part because it is politically unpopular to raise rates or to pay money to protect species. Anything that requires raising taxes or raising rates is so politically unpopular that legislatures, as we have seen in California, have been frozen and unable to deal with issues.

That may mean we have to turn to the courts to see if there is room within existing law for the courts to give a nudge to the legislature or agencies to take steps that need to be taken. We need a forum where the different parties can come together and jawbone at each other and trade with each other, and I'm not sure whether that's a creative activity that judges undertake: the design of ways to bring people together.

Maybe it's through the mediation service. Maybe there is some other kind of institution. We need to bring together the farmers, the downstream users, the tribal fishers, and the power suppliers, and let them trade in some way so that we get a decision that is more economically, socially, and environmentally rational. Whether judges are the people to create these things I don't know, but maybe they could find opportunities in the cases that come before them.

**Ms. Schiffer:** I love judges, and certainly in this room I would say I love judges, no matter what. I think they serve a very important function, as does, I think, the legal structure in helping to move us forward in solving this problem. But it is not the only tool. If judges are cognizant that we need to have other institutions that have an active involvement in this

arena as well, we will probably help them address this problem and move forward.

**Mr. Thompson:** The reason why these disputes are ending up in the courts is that the legislatures are not able to deal with them directly. And so I think the courts can play an extremely important role in helping to drive solutions here.

As I also mentioned earlier, however, the laws are really not designed to come up with final solutions to these various problems. That can only occur through complex negotiations. So, although the courts need to be driving this process, one of the things that would be very valuable is to drive it in the direction of negotiation to get the parties to sit down and come up with solutions of their own.

**Mr. Redman:** I would suggest two things that I think judges could do that are very helpful. The first is to recognize, especially on issues such as the ones we have talked about, how narrow the information presented to the court is in relation to the total situation. It seems to me it has to be the judges' job to push for more information than what the parties have presented so as to try to put the situation in a broader context and understand it.

The second is to recognize, and this is much more controversial, that in a time when there is so little consensus and such inability to deal with issues when the parties are split in the Congress—this has essentially paralyzed legislation compared to in the days when I worked there. There is so little new legislation coming out in such a definitive fashion, that one thing that is going to be coming before the courts more and more is agencies that feel themselves compelled to, in effect, start making laws through their policy interpretations of existing law because there has not been sufficient political consensus to result in new law. So the agency does its best, and courts, I think, need to do their very best to be very alert. Rules we used to follow twenty years ago on agency interpretations and how courts looked at the agency for interpretation of the statutes, I would suggest to you, are like an endangered species, and they should be because the premises twenty years ago of what the agency acted on or what Congress told them about how to deliberate compared to what's going on today, which is much more of a free-for-all, make the role of judicial review of the agency much more difficult and not subject to the mechanical rules that were once followed.

**Mr. Fallows:** Here's one last question: If we assume that the big environmental challenge of the future—the salmon issue

of the future if you will—will involve greenhouse gases, global warming, etc., is there anything we have learned from these last imbrolios which will make it easier and saner to sort that one out? Who has any hope to offer here? Pollyanna?

We may leave that issue hanging for another day.

## ARTICLES OF RELATED INTEREST

Below we list articles recently published in journals of history, law, political science, and other fields that we believe may be of interest to readers. Although comprehensive, the list is not definitive, and the editor would appreciate being informed of articles not included here.

Aoki, Keith, "No Right to Own? The Early Twentieth-Century 'Alien Land Laws' as a Prelude to Internment," *Boston College Law Review*, December 1998.

August, Jack L., Jr., "Water, Politics, and the Arizona Dream: Carl Hayden and the Modern Origins of the Central Arizona Project, 1922-1963," *Journal of Arizona History* 40 (Winter 1999).

Bell, Ronald L., and Jonathan D. Savage, "Our Land Is Your Land: Ineffective State Restriction of Alien Land Ownership and the Need for Federal Legislation," *John Marshall Law Review* 13:3 (Spring 1980).

Carey, Janis M., and David L. Sunding, "Emerging Markets in Water: A Comparative Institutional Analysis of the Central Valley and Colorado-Big Thompson Projects," *Natural Resources Journal* 41 (Spring 2001).

Chan, Sucheng, "A People of Exceptional Character: Ethnic Diversity, Nativism, and Racism in the California Gold Rush," *California History* 79 (Summer 2000).

Choy, Catherine Ceniza, "Asian American History: Reflections on Imperialism, Immigration, and 'The Body,'" *Amerasia Journal* 26:1 (1999).

Cohen, Joel E., "How Many People Can the Earth Support?" *The Sciences* (November/December 1995).