Keynote Address

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The Ecosystem Approach: New Departures for Land and Water, Keynote Address

Douglas P. Wheeler*

It has been an extraordinary development to see the evolution of ecosystem management, both in science and in policy, as a means by which to reconcile economic and environmental objectives. And I am pleased to be able to say that nowhere is this strategy put to better and more extensive use than here in the state of California.

I daresay not many of you saw last Sunday's New York Times, and particularly the article about the Natural Communities Conservation Planning (NCCP) process.¹ The author of the article, who is the science editor for the Times, makes the point that I would like to make about California's role, and about the significance of our "experimentation" with ecosystem management.

The lead paragraph by William Stevens states: "The nation's most ambitious attempt to reconcile the preservation of nature with urban development has reached a pivotal moment, and the future of an important aspect of Federal conservation policy may turn on the outcome." Stevens is referring to the vote that will be taken by the City of San Diego early next month to adopt one of the subregional plans, which is in turn a component of the larger NCCP process across the five counties of Southern California.²

Stevens makes one important misstatement. Not only does the adoption of ecosystem management have profound implications for federal environmental policy, but increasingly, it is guiding our efforts at the state level as well. This, in turn, appropriately involves and engages local governments, which make critical land-use and resource

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management decisions, in cooperation with the state and national governments.

When I was first invited to assume my current responsibilities, I was challenged by Governor Wilson to find an approach that would break the impasse that has characterized so much of our debate over land-use, growth management, and resource management in California. And we chose as the test bed for that experiment a place that Interior Secretary Bruce Babbitt, our partner in the enterprise, describes as "the 800 pound gorilla of urban development": intensely contested, enormously valuable, extraordinarily attractive to developers, portions of southern California. These are areas where the state enjoys extraordinary biological diversity. And the conflict between the development impulse on the one hand, and our commitment to protect natural resources on the other, had left a kind of stasis in its place. Neither side, through litigation or other means, had been able to achieve its objective or hegemony, but each was frustrated with its inability to either guarantee adequate environmental protection or provide the degree of certainty that the economic and development communities demand.

Our effort was really quite simple: it was to take what we have learned from the science of ecosystems and attempt to apply that in a collaborative, anticipatory process to resolve those conflicts in Southern California that center ultimately on the listing of a single species, the California gnatcatcher, pursuant to the federal Endangered Species Act.\textsuperscript{3} That species, as we have come to learn, is in turn dependent upon an entire ecotype, the coastal sage scrub. And we felt that, not only the protection of the gnatcatcher, but also the protection of the entire ecosystem, depended upon our ability to adequately protect coastal sage scrub throughout its 6,000 square mile occurrence in Southern California.

So, fools rush in, as the saying goes. We decided to embark upon a planning exercise over the entirety of that reach of coastal sage scrub—6,000 square miles and five counties—building as we went the kind of policy and legal infrastructure that, until that time, did not exist, and still does not exist today except for our efforts there, and now in other places in California.

In fact, we have, as a legacy of the environmental activism of the 1970s, a series of laws that address environmental problems as if they exist and can be treated in discrete bites. We have a Wilderness Act;\textsuperscript{4} we have an Endangered Species Act;\textsuperscript{5} we have a Wild and Scenic Riv-

\textsuperscript{3} 16 U.S.C. §§ 1531-1543 (1997)

\textsuperscript{4} Id. §§1131-1136 (1964).

\textsuperscript{5} Id. §§ 1531-1543 (1997).
ers Act, and so on. We do not have an Ecosystem Act; nor, until quite recently, did we understand the importance of protecting habitat to sustain entire communities of plants and animals; nor did we understand adequately the relationships between species—endangered and otherwise—and their habitats. So, endangered species management begat a concern for habitat management, which led us to ecosystem management, variously defined.

Cymie Payne has already shared with you the essential tenets of effective ecosystem management, and I agree with her description. I might add one or two components, and I will relate those to our experience. But first and foremost is the willingness of the participants in a collaborative process to acknowledge the legitimacy of one another’s objectives—that is to say, to recognize that economic development will occur, in fact it must occur to sustain the growing population of this state, and at the same time that economic vitality depends upon our ability to safeguard California’s quality of life, through whatever means, public or private, are available to us.

It seemed natural to ask the development community of Southern California; to ask scientists, and particularly conservation biologists; to ask all levels of government—to ask them to enter a collaborative process to tackle this problem in a way that would produce results benefitting all of the parties. This was simply a matter of convening those parties and indicating to them that if they were able to reach a successful conclusion, and to adopt credible tenets of ecosystem management—science-based and pragmatic in application—we at the state government, and ultimately the Federal Government, would commit to implementing those strategies using the authorities available to us, namely the aforementioned legacy of 1970s activism.

We have come a long way, but what I described in California, at least, is still very much a work in progress. As a part of this symposium, Marc Ebbin will describe in greater detail the program in Southern California. But I do want to underscore our identification and application of the elements of ecosystem management because they are very important in understanding what it takes to succeed.

Unfortunately, the first of those common elements is a sense of crisis, which I have already mentioned. And the crisis often occurs as a result of application of these most draconian of environmental laws: the federal and state Endangered Species Acts. I would like to think that sooner or later—maybe sooner—participants in this exercise would come to appreciate the need for anticipatory planning in the

absence of crisis. But it is not our wont to plan in that way, and so instead we respond, or we react.

What we have tried to do with California ecosystem management is to anticipate not just the need to protect a single species, but all of the species of an ecotype, whether or not they are listed pursuant to state or federal laws. In the case of the San Diego vote, which will occur on its Multiple Species Conservation Plan next month, more than seventy different plant and animal species will be protected by means of our commitment to protect their habitat for a period of fifty years—and beyond, assuming the program can be extended. That is an extraordinary commitment on the part of a community that is perhaps one of the most rapidly-developing in the United States. Assuming that the City Council approves the plan, as the Planning Commission has already done, its action will demonstrate that people understand the value of striking an appropriate balance.

I have described the evolution of NCCPs in a chapter that I submitted for inclusion in a recently-published book entitled, *Land Use in America*. That description provides all the details of the evolution of our thinking about NCCPs. I want to elaborate now upon a couple of the important components.

In addition to the need to acknowledge the legitimacy of one another's objectives, there exists the need for a response to a perceived or real crisis—that is, a recognition on the part of the relevant parties that they cannot achieve their objectives in a fashion other than through collaboration. Of course, there remains the need to understand the breadth of the enterprise, and to plan on a scale that is consistent with that dictated by good ecosystem management science. That does not always suggest a scale as large as 6,000 square miles—indeed, it could be as small as a discrete watershed—provided, that is, that the plan embraces the entire ecosystem and the interests of all of the principal stakeholders.

Involvement of all of the primary stakeholders is, in itself, another important principle to bear in mind during this process. In Southern California, we have brought to the table not only the public and private property owners, but also all essential levels of government, environmental advocates, and scientists.

Science was not an afterthought for us. In fact, we started with science on the assumption that, to meet the requirements of the state and federal laws that govern our activities, we needed a solution founded on credible scientific principles. To this end, we convened a panel of scientific advisors, including distinguished conservation bio-

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gists, chaired by Dennis Murphy at Stanford. We have followed the panel's guidelines in the establishment of twelve subregional preserves designed to protect inviolate the habitat types—in quantity, configuration, and array relative to one another—that are essential to preserving a functioning ecosystem over time, and thus to protect the species that depend upon that ecosystem.

In pursuing our objectives, we have also had to use and develop new tools. Indeed, the availability of certain tools—such as geographic information systems and computerized inventories of resources from a variety of sources—makes possible a solution that would have been beyond our capabilities only five or ten years ago.

One important tool is comprised of market mechanisms by which to provide for ecosystem and species protection through land acquisition. California has long required environmental mitigation as a part of the California Environmental Quality Act (CEQA). Our ability to impose that requirement enables us to set aside—sometimes without spending public funds—sufficient habitat to satisfy the mandates of planners and scientists. Tools such as mitigation banking and conservation banking are crucial to the success of this enterprise, and are increasingly used in lieu of public expenditures to achieve agreed upon land acquisition and mitigation objectives. Of course, land acquisition is not the only means by which to protect habitat; in certain instances, however, it is unavoidable.

Although work remains to be done, the results thus far are encouraging. For example, in one of the subregional plans for Orange County, we have already set aside 30,000 acres of coastal sage scrub; we anticipate that an additional 30,000 acres will be set aside in a second subregional plan; and the San Diego vote will embrace 172,000 acres. These numbers are extraordinarily significant, particularly when compared to the current application of the Endangered Species Act (ESA), which provides for habitat protection only where habitat is occupied by a listed species. Across the 6,000 square miles of coastal sage scrub habitat, we would have identified only 43,000 such acres. Moreover, it is extremely unlikely that application of the ESA would have protected the entirety of that acreage. Thus, if our focus had been on protecting one species through the ESA, the result would have fallen far short of what we have already achieved through ecosystem management and the NCCP. We have devised a cooperative approach to land-use planning and growth management that, in effect, substitutes for the absence of legal and policy tools to achieve the same end.

10. CAL. PUB. RES. CODE §§ 21000-21177.
I would certainly not argue that habitat protection is the equivalent of growth management, or even that it functions by itself as comprehensive ecosystem management. Indeed, we are just now beginning to explore the possibilities of expanding the NCCP experiment to include other regulatory mandates, such as Section 404 of the federal Clean Water Act. This would provide an even more comprehensive strategy that consolidates additional state and federal environmental mandates. It will also require the cooperation of yet more federal and state agencies. It is simply more complicated, which is why we did not begin with a comprehensive approach.

We are now, however, beginning to think about expanding the scope of the process. Landowners in Orange County, who have participated with us in developing the NCCP, have approached us with the question of whether the NCCP and its habitat-based approach could be expanded to encompass the regulatory authority of the U.S. Environmental Protection Agency and Army Corps of Engineers. We have just approached the federal agencies with a proposal to consider such expansion as a means of integrating responsibilities of those agencies with habitat requirements.

We are also looking to expand the application of the NCCP into other regions of the state, particularly here in the Bay Delta. The prospect of confronting, for once and for all, the economic and environmental problems of the Bay Delta Estuary is a daunting challenge. But it is a challenge that reached at least its early steps of success with the signing, in December of 1994, of an agreement that commits all of the interested federal and state agencies to a process now know as CalFed. That was the first time in this state, and I believe in the entire country, that this degree of integration of authority and responsibility has occurred, backed by the willingness of those agencies to exercise their independent authority for habitat, water, or wetlands in support of an ecosystem strategy.

Thanks to California voters, Proposition 204 passed this fall. And thanks to Congress and the Clinton Administration, we will spend nearly a billion dollars over the next twenty years—money already in the bank on the state side—for a program of ecosystem restoration in the Bay Delta that is unparalleled in this country's experience. The same tenets will apply there as we have applied in Southern California—the use of new policy and legal structures, the notion of stakeholder involvement, the integration of economic and environmental objectives, and the belief that good science must dictate a strategy for ecosystem management.

It is, of course, too early to claim victory in the Bay Delta. But at the three year anniversary of that agreement, coming up at the end of this year, we will be able to demonstrate extraordinary progress.

We believe that is has been arduous, difficult, and well worth the effort to knit together these new arrangements of local, state, and federal authorities. On the one hand, we can thank Joe Sax, who was a stalwart in moving the Department of the Interior in the direction of ecosystem management while he was there, and Secretary Babbitt, who has strongly endorsed NCCPs. On the other hand, we can lament that we have had to do all of this in spite of the policy infrastructure that the Congress and the legislature has dealt us over the past twenty years—an infrastructure that, in some ways, is not only an obstacle, but a true impediment to our ability to construct a policy infrastructure that corresponds to our natural infrastructure.

Secretary Babbitt says that our result—successful to date—proves the flexibility of the ESA. And I would agree that he has demonstrated an unprecedented degree of flexibility in the ESA. However, I would also say that, because of its single species approach to protection, the ESA is, in many instances, a true impediment to the achievement of ecosystem management.

I will conclude by noting that, despite its successes, there have been critics of the NCCP approach on both the left and the right. The left believes that we are somehow at work here to undermine or weaken the ESA—that we intend to supplant the precision of the ESA with this vague and somewhat hard-to-grasp concept of ecosystem management. The response to that is that nothing has been changed about the ESA. If I were to recommend change, I would suggest only that the statute be brought more into conformance with the need to practice ecosystem management. On the right, some resistance derives from the realization that, following the tenets of ecosystem management to their logical conclusion, as we believe one should, we are talking about land-use planning on a scale never before undertaken in this country, and certainly not in California. This raises issues, currently being litigated, regarding our authority to regulate land-use and the degree to which compensation to private landowners may be required.

I conclude by challenging you, in conjunction with this symposium, to think about ways in which the legal and policy infrastructure

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of state and federal practice can be brought into conformance with the natural tenets of ecosystem management.