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**Speech by
Steve Johnson***

Natural Community
Conservation Planning: A
Targeted Approach to
Endangered Species
Conservation

*West-Northwest Symposium
March 1, 1997*

I need to begin with a disclosure. I'm not a lawyer. I hope that doesn't sound too Nixon-ish. My best friend is a lawyer. A lot of people I work with are lawyers. I'm here today because I'm a conservationist. I'm here today because I work for the Nature Conservancy as the Director of Conservation Science. But I'm also here today because I was one of the architects of NCCP [Natural Community Conservation Planning]. And in that capacity, one of the things that has struck me is that there is a tremendous amount of dialogue about the relationship of NCCP to the "no surprises" policy; the relationship of NCCP to other "products" of the program. There's virtually no dialogue about what NCCP is.

Numerous people come up to me all the time, because they know my relationship to NCCP and they say, "Is NCCP a model?" Can they save Coho Salmon using NCCP? Can they save Ferry Shrimp using NCCP? And my response to them is always the same thing. It depends upon the basic conservation premises that you're dealing with and how they relate to the basic conservation premises of NCCP as to whether or not this is a good fit; as to whether or not this is a good model. It's not about "no surprises." It's not about the other sort of ancillary features of NCCP. It's about the basic premises. And so, with your indulgence, what I'd like to do today is talk about two of what I consider to be the fundamental premises underlying NCCP — one ecological, and one land use.

The first premise that I'd like to talk about is the ecological premise. It's the ecological premise that gave natural community conservation planning program its name, and that is the natural community premise of NCCP. Have you ever thought about the causes of extinction? I have. I've spent a lot of my career thinking about the causes of extinction here to truly understand the premise of NCCP. The brown pelican, noble bird, well on its way to extinction at one point in time. Why? Pesticides. Pesticides were causing their egg shells to thin; thin to the breaking point. No eggs, no pelicans. You know, the American Alligator was hunted almost to the brink of extinction. In the desert, pup fish are eaten by exotic fish that we put there. We drop bass and bluegill into these ponds, and what do you think they do? They eat the pupfish. We have pupfish eaten by exotic fish. We have salmon blocked by dams and barriers. We have alligators being hunted to extinction. But for many species — and in California, many, many species — what's driving these species to the brink of extinction is something relatively simple. Land use changes are driving them out of house and home.

There are some habitat types, that we in the trade call natural communities, that were once very plentiful in

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California, and now have been reduced to single digit percentiles of their former extent. Let me give you some examples. In Central California along the Sacramento River, for example, there is a beautiful, rich forest type comprised of oaks, cottonwoods, and willows. John Muir described it as a forest of tropical luxuriance. That forest of tropical luxuriance probably covered something like four hundred thousand acres in the state. Now it covers about ten thousand acres in the state. The salt-bush scrub of the San Joaquin Valley, of Central California, has been reduced to probably a single digit percentage from its former extent. Coastal sage scrub: Dennis Murphy quoted some reduction of its former extent down into some ten or fifteen percent of its former extent; certainly not as dramatic as the loss of riparian habitat, certainly not as dramatic as the loss of salt-bush scrub habitat, but dramatic in its loss nonetheless. And also, what's left is highly fragmented, surrounded by seas of urbanization.

What happens is that the species that depend on these natural communities simply head down the highway to extinction along with the communities as they go. The most sensitive species, the most ecologically dependent species are the first to go, but sooner or later they all go. California has many species that are on the road to extinction. California has many species. But the reason that we have such an overwhelming preponderance of endangered species in the state isn't just because we have a lot of species here, it is because we have natural communities that these species evolved with through time, that occur primarily on private lands, that have been essentially decimated. If you look at the Sacramento Valley again, of all of the natural communities that have been so reduced think about this in terms of endangered species. You've got this vast reduction in natural community. The fish in these streams in the Sacramento Valley are endangered. The bugs that live on the banks are endangered. The birds in the trees on the banks are endangered. The snakes that live in the slopes next to the river are endangered. And in one of the streams there, the bunnies that live in the bushes on the banks are endangered. Accident? I don't think so. They are all related to the same thing: the decimation of the natural community that they occurred in.

In the San Joaquin Valley — any of you ever work in the San Joaquin valley? I have worked there, a lot. In the San Joaquin Valley, the ranchers there, the farmers there, the energy people down there feel picked on. Every place they look there is an endangered species. The lizards — the Bloodnosed Leopard Lizard is endangered. The Giant Kangaroo Rat is endangered. You would think that one at least

would be able to kind of hold its own ground, being the Giant Kangaroo Rat. The Tipton Kangaroo Rat is endangered. The Buena Vista Shrew is endangered. The Kit Fox is endangered. I don't know how many plants are endangered. Why are they all endangered?

Salt Bush Scrub has been reduced to a single digit percentage of its former extent. Southern California: I love Southern California. Can you imagine being the land use planner for a place like Camp Pendleton? Imagine the challenge that they face. Because in Southern California, we're not talking about one natural community that's been decimated. We're talking about virtually the whole mosaic of natural communities, each and every one of those, in and of itself, greatly reduced from its former extent. You're a planner at Camp Pendleton. You're trying to figure out where you could do maneuvers. Well, you can't do it in the trashed exotic grassland, because the endangered Stevens Kangaroo Rat is there. You can't go over to the better quality grasslands, because there are vernal pools and there are Ferry Shrimp there — they're listed. So you go to the slopes. Well, I'm sorry, there's Coastal Sage Scrub there, there's Gnat Catchers there. They're endangered. Well, let's go down into the willow bushes. Whoops! Stop the train! You can't go into the willow bushes, because that's home of the endangered Bell's Vireo. Well, maybe we can go out into the water? No. Not out in the water — Tidewater Gobi. That's federally endangered. What's left? The sand at the beach? Sorry about that! The Least Tern is federally endangered, so you can't go there either. The point here is that for the endangered species in much of the state, the problem is conceptually simple. The solution to the problem is equally conceptually simple. And that is why we need to preserve and restore the natural communities that these suites of endangered species depend upon.

Endangered species conservation, in that concept, then, becomes a derivative. It's a derivative of preserving the natural community that these species depend upon. In some situations, like the Sacramento River, preservation and management probably aren't enough. We probably need to do widespread restoration if we're going to preserve those species. But either way, the concept is the same. You focus on the natural community. And by focusing on the natural community, you have your best chance of saving these kind of suites of species.

Will this work for the Brown Pelican? Nah! Not their problem. They have pesticide problems. We've worked on that, solved that, the Brown Pelican is

doing fine. Would this kind of natural community approach work for the American Alligator? Nah! Not their problem. They were being hunted to extinction. There are habitat problems with all of these things. But basically, that wasn't the focus of their problem.

Likewise, highly migratory species present some unique challenges. Down in Texas, in the Valcones, they're setting aside habitat for natural community based habitat conservation for things like the Golden Cheeked Warbler. Well, that's good insofar as the Golden Cheeked Warbler is enjoying his time down in Texas. But it doesn't live it's whole life there.

So, if you think about it — if you think about the endangered species challenge in places like California, you have to think about natural community conservation as being *one* of the tools, not all of the tools, for conservation. My top picks, in terms of the appropriateness of natural community conservation, would be natural communities such as coastal dune systems. Relatively contained, most of the declining or endangered organisms on these things are relatively faithful to that community. In other words, they don't flit around, they don't go south, they just kind of hang around there. And if you can save the place, you can save almost all of the habitat that you need for almost all of their life cycles. Salt Bush Scrub (I've alluded to that before), riparian systems, old-growth coniferous systems, vernal pool systems: those are Steve Johnson's picks for natural community conservation efforts based on the need of conservation.

What about this multi-species thing? How come all these plans are called multi-species plans? I mean, we've got this natural community plan (you all understand what that's about now). What about this multi-species thing? How is it different from natural-community-based approaches? Well, my opinion is that, at their best, multi-species things aren't any different. In fact, the label "multi-species" is a sales tool. And what makes it a sales tool is that it is a way to say, "You got multi-species endangered species problems? Well, this plan is going to solve them. We're not just solving a single species problem. We're solving a multiple species problem."

The trouble starts when this multi-species approach starts insinuating itself into the planning process, where you end up with a planning process that looks something like this: you got a plan for species A, you got a plan for species B, you got a plan for species C, and then somehow you integrate all of those plans into a multi-species plan. What that does is, if you're trying to apply that approach to where the problem is — natural community

based — what you get is a distortion, and a misdirection of effort based upon the unique and peculiar needs of whatever species came out of the listing box first. You've got to remember that what's good for the goose isn't necessarily good for the gander. There's always this dynamic tension, you know, herons are eating frogs, and frogs are eating fish, and somebody's winning and somebody's losing on a day-to-day basis. If, all of a sudden, you, acting in the capacity as a planner, decide somehow that herons reign supreme, and we don't care about frogs and fish anymore, you're going to end up with a very hungry heron at some point in the planning process. And so it's very important not to let this multi-species sales talk affect how we think about going about our conservation planning.

I will admit that there are instances where in a geographic area, it's extremely hard to make an ecological link between two endangered species that you have to deal with. What is the ecological linkage between a Ferry Shrimp and a Kit Fox? I don't know. I suppose you could come up with some sort of "Lion King" web-of-life kind of theory on this thing, but in terms of what your actions would be, it's hard to do something that wraps them together in a natural community. But I think that by and large, most of the endangered species problems that most of us deal with most of the time have to do with the decimation of natural communities, and the conservation solutions are the reconstructions of those things.

I'd like to talk now about something that I consider a very important underlying land use assumption that is specifically about the Southern California Coastal Sage Scrub NCCP. Simply stated, or maybe simplistically stated, I believe that all regional conservation planning exercises can be categorized as either a two color mapping exercise, or a working landscape work-up. I'll explain what I mean by this. These two approaches are dramatically different. They lead to dramatically different results, both in terms of their effect on conservation, but particularly in terms of the ongoing relationship of the landowning community in these planning processes and the regulators. The two color map exercise is what I believe most people think of when they think of habitat conservation planning. The concept is simple. The sides sit down with a map. They negotiate what part of the map is green, and what part of the map is white. The biological premise of a two color map exercise is that the white portions of the map are subject to land uses that have ultimately nothing to do with the conservation of the species. The green portions of the map are dedicated exclusively, or as a second

choice, primarily, to the ongoing conservation of the species.

There are some assumptions here: that the green is sufficient to preserve the species that are in the green; that the land use in the white is more or less predictable; and that it's more or less been established that the land use in the white is more or less not going to have a seriously detrimental effect on what is in the green. The green areas are essentially permanently dedicated and the white areas are basically permanently excluded from any significant further conservation intervention.

The focus of the two color map exercise is how much green can we get on the map. The focus of the exercise is configuration of the green. The focus of the exercise is how much funding there is to manage the green. How much management goes into the green? What kind of assurances that the green will stay green?

The NCCP process in Southern California is a two color map exercise and I have the map to show it. The green is proposed preserved. The white is proposed free-fire zone. It's interesting to note that in this kind of two color map exercise, some issues like assurances packages become much more tolerable, in a sense, to the environmental community. Why is that? This exercise divides up the pie. What happens right after the division? The part that developers get gets eaten. You don't have to worry about or think about what's going to happen 20 years from now — those options are precluded. When the pie is cut, the cut piece is gone. It's not too hard to feel good about an assurance package in a situation like that.

The working landscape workout is a much more challenging proposal. Much of California's timberlands, much of California's farmlands, much of California's rangelands harbor endangered species. I don't think anyone knows what the numbers are, but I would suspect that there are probably more endangered species and more of them in the working landscape than there are in these urbanizing areas that seem so perfect to the two color mapping exercise. Outside of these rapidly urbanizing areas, like in Southern California, when you get into the timberlands, the rangelands, and the farmlands of the state, it is hard to imagine how you would do a two color mapping exercise. How could you conceptually take all of California's timberlands and divide them up into a set of preserves and divide them up into a set of free-fire zones? It seems financially impossible. From a property rights standpoint, it seems impossible. And from a biological standpoint, I'm not sure that anybody would believe that it's desirable.

If you want an idea of the complexity of these working landscape workouts, think of the Northwest forest plants. You have zones. You have maps of many colors. Some colors represent areas where there are modified timber practices. Others are areas where timber practices are allowed, but only certain stem diameters can be removed. Other areas have green on them, which are totally preserved. Other areas have white. But it's a matter of shades of green in the working landscape workout. The bigger the pure green patch the easier the workout is. But in most of these instances, nobody wants to concede the big green. They want to have options reserved. And options mean shades of green. It means restrictions, regulatory restrictions. This "shades of green" problem means that in contrast to the two color mapping exercise as was done in Southern California, the focus of environmental concern, the focus of biological concern isn't on the green. It's on the shades of green. The focus is on what you as a land owner can do today, can do tomorrow, can do the next day. How can that be modified if it's not working? It flips the equation around, in a sense. It's no longer about the preserve system, it's about the modified land use practice.

NCCP as a process, in my experience, sheds little light on the subject of working landscape workouts. Urbanizing area — two color exercise — the proof is in the pudding, there are the two colors, there's the map. But if we are going to succeed in conservation in a state like California, we really have to figure out how to work out the working landscape model. If NCCP has taught us anything it is that there is high value for land owners in the two color map exercise in that it is probable that the full potential of regulatory relief will only be realized in processes that are primarily two color map exercises.

So all of this gets back to the original question: is NCCP a model for future conservation in the State of California and elsewhere under the Endangered Species Act? My response is the same in the beginning and the end: it depends on the underlying assumptions that we face with the Endangered Species Act. Is it about natural communities or is it about pesticides? Is it about a two-color map exercise or is it about constant intervention in the working landscape? To me, NCCP is living proof that there is no "cookie-cutter" solution to conservation planning.

Question: Can you talk a little bit about the difference between the NCCP and the HCP [Habitat Conservation Plan]?

Answer: There's a wide variety of HCP's. But the essence of the difference, if you will, is that HCP's are designed, at least initially, to deal with single species, with the needs of endangered species. And in fact, because NCCP's ultimately have to meet the "HCP" test, within an NCCP process, although it is essentially community based, special attention is paid to each listed species and potentially listed species to make sure they jump through the hoops that would be necessary to conserve them under an HCP process. HCP's, in a sense, could be the equivalent of an NCCP because NCCP's at least have to meet the standards of HCP's for listed and "covered" species.

But generally speaking HCP's, as they have been administered in the past, address species either one at a time or in groups rather than dealing with natural communities as a whole. There is no legal requirement for anyone to take on the conservation of a natural community. Natural community conservation is a voluntary program. NCCP is a voluntary program. It happens to be probably the most cost effective, regulatorily efficient, and reliable way to solve endangered species problems of a certain type. But there is no requirement.

There is a requirement, if you are a private landowner and you want to engage in a "take," to undergo an HCP process. That's the main difference.

Question: What kinds of things did you do in the timberlands that would deal with the owls, the Marbled Murrelet, and the salmon?

Answer: That's a very tough question. The Coho experience was, I think, a telling one. It was an attempt to do an NCCP for Coho Salmon, and some of the obstacles that they faced were the fact that it's difficult to understand the natural community connection between salmon and Marbled Murrelets and Spotted Owls. So, right there there is a big thing to get your hand around.

You are dealing with a multiple natural community problem. You are also dealing with a lot of problems that aren't directly related to simple habitat reduction. They are related to habitat degradation. Those are much harder to get a handle on, and much harder to remedy, than habitat destruction. We spend very little money on biology as an endeavor worldwide. When you think of how much money we spend to figure out whether Excedrin irritates your liver, or Tylenol irritates your liver, compared to what we know about endangered species, it would probably exceed all endangered species expenditures by 100 fold. So we know a lot about our livers, but nothing at all about most organisms

in the field. Because of that, it's hard to make that linkage, it's hard to understand the biological needs of such varied species as Olympic Salamanders and Marbled Murrelets. So that was a big challenge in and of itself.

The second challenge from an NCCP standpoint is NCCP the hyped version, was "one stop shop; get the regulators off your back, do the thing, get on with your life." But in a working landscape, you can't do it. Everything in a working landscape is about how many feet back from the stream can you cut; whether the road gets cut on the outbank or gets cut on the inside; whether the stem diameters are 24" or 34" It's all about that, so what does that mean? That means that you've got more regulators more of the time than you had before you had a program. And appropriately so. It was a difficult thing to address and I think that's one of the reasons that it was not successful.

Question: In Southern California recently there have been reports in the newspapers about the Nature Conservancy having been responsible for killing several hundred sheep, wild sheep on Santa Cruz Island. Would you care to comment on that, and if so, why aren't sheep as valuable as other species?

Answer: Well, I can answer the second, and then we can discuss the first part of your question at the break because we only have a few minutes. On Santa Cruz Island, sheep are an exotic species. They are farm yard animals that are left over from the earliest colonization. And there are very few places on the planet where natural processes are king. Santa Cruz Island is a place where we hope that through time, natural processes will prevail. And what that means is the removal of feral animals. It's very difficult to do. I've personally been involved in the removal of feral animals on Santa Cruz Island for many, many years, and it's a difficult and touchy subject, but it's one that I believe we are handling responsibly, and the basic premise of it is that the vegetation on Santa Cruz Island has evolved since the ice ages without any large herbivores. And sheep are not only a large herbivore, but the number of sheep that were on Santa Cruz Island has caused in many instances over three to five feet of soil loss through overgrazing. Something had to be done, and we addressed it.

Question: Previously, under the ESA itself, we tended to deal with the scale of planning having to do with the habitat of a particular species. Under NCCP we are dealing with natural communities as

the right scale for planning. I'm wondering if you have any thoughts either hypothetically, or reflecting on the NCCP plans that have been done, as to whether there is a different scale of planning that might be more appropriate, or an alternative kind of scale that would be useful in dealing with some of the connections you were talking about, as between the salmon and the murrelet for example, watershed scale, or something else.

Answer: That's a good question. NCCP in my way of thinking the scientific review panel that was responsible for science guides for the NCCP did an ingenious and, I think, scientifically remarkable thing. That is, they appropriately decided to look at the entire range of most of the rare species that were involved in Coastal Sage Scrub, and that was appropriate, but that was also unmanageable. From the Mexican border to L.A. What do you do with that, aside from saying "that's nice"? What they did is they went through a process of identification from a biological standpoint. They did a subregionalization scheme, and divided that area into essentially, I believe, 13 sub-units that had biological integrity and some degree of biological isolation that you can actually work at that subregional scale and do so meaningfully. So I think that was a very important finding of NCCP in terms of the science. I think that some effort to develop a subregionalization scheme for something like the KOA problem is very important, and the obvious ones I don't think work. Just a watershed, I'm not sure that cuts it. I'm not sure what does but as in the case of NCCP we didn't know what did either, until we put together a bunch of brainiacs to think it through, and they came up with something that I consider to be relatively ingenious. I think that is the kind of creativity that we are going to have to put to some of these processes, before we crack that very difficult nut.

Question: I'm not sure that I really understand some of what's been said today about the restoration aspects of this bit. What I am hearing is that, with this Southern California plan, there really isn't a restoration program in place. It seems to me that without that, going to a local enforcement of the Endangered Species Act is essentially giving away the store. I know that this concept of regional planning and the nature biodiversity applies very well with your organization's [the Nature Conservancy's] purposes and goals, but one of those other goals is real restoration, and I don't see anything here, and I don't see anything in my experience of 5 years or so of reading California environ-

mental impact reports, which typically have little statements like "the impact on the species is individually insignificant, but cumulatively perhaps significant," and that's all they do with it. I don't see any adequate mitigation in any vocalized EIR that I have ever seen as a local official that has ever led to anything, so I have no confidence. I wondered if you can give any further hope that there would actually be adaptive management that would actually work. Coming forth, there is no vision that I can see in our political bodies or in our economic bodies that implement that as far as I can see in California.

Answer: I think you ask, not only an important question, but probably the important question relative to the long term viability of species.