Watershed Restoration Groups and Democratic Forest Trusts as Evolutionary Learning Communities

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I begin this paper by describing a problem. Some societies adapt successfully to their environment, and some do not. History is filled with chilling failures as well as happy successes (Diamond, 2005). If we look at the success stories they exhibit co-evolution. The human world influences the other-than-human world, and vice versa, but in both cases in ways enriching both. It can be done and has been done, and our society's future depends on whether it will be done, for it currently is not.

Ecology teaches us about keystone species, species whose presence transform the environment out of proportion to their numbers. Ecologists Daniel Botkin and Edward Keller write of keystone species that "The balance of the entire system is keyed to the activities of this species; its removal or the alteration of its role within the ecosystem would change the basic nature of the community" (Botkin and Keller, 2000, p.106). In terms of network theory, keystone species are key hubs linking the entire network together (Barabási, 2003, p. 116). Wolves re-establishment in Yellowstone impacted not only prey species, they also facilitated the return of willows, cottonwoods, and aspen to stream sides, stabilized erosion, and encouraged re-establishment of beaver colonies, changing the hydrological environment in ways that enriched the area's biological diversity. Wolves are keystone species. So are sea otters, prairies dogs, salmon, and mycorrhizal fungi. Human beings may be the keystone species for the entire planet, but if this is to be a blessing rather than a curse, we need to learn how to live here all over again.

The Laszlo's evolutionary learning community model offers important insights as to how this goal may be achieved. A part of the model's value is that for it to manifest people do not need to read the Laszlo's work. ELCs can and do arise independently. This paper will explore how watershed restoration groups along the North Pacific coast closely resemble the Laszlo's model, and then explore how this kind of human community can be

facilitated in another area where institutional barriers currently prohibit their existence: our national forests.

A Pre-Modern Success Story

If we examine the history of how human societies have interacted with sensitive environments, we find cases of both success and failure, with a disturbing number of failures. From famous cases such as Easter Island, the Anasazi, and Viking communities in Greenland, to cases of collapse where environmental degradation played a significant supporting role, as in Western Classical civilization. For all our creativity and ability to learn, human beings have not done a particularly impressive job developing long term cultures able to live at peace with their surroundings. Even success stories such as Egypt are due apparently at least as much to good luck as to wisdom, for unlike the Tigris and Euphrates, the Nile washed away salts and renewed the soil's fertility in its annual floods.

The Anasazi of Chaco Canyon lived there for 600 years before disappearing, longer than Europeans have lived in North America. Greenland's Viking culture lasted 400 years. Ecological long runs are quite different from what most people think of as a long time. Jared Diamond writes that, excepting only the Pueblos, North American Southwestern agricultural Indian cultures "all were ultimately [abandoned] due to the same fundamental challenge: people living in fragile and difficult environments, adopting solutions that were brilliantly successful and understandable 'in the short run,' but that failed or created fatal problems in the long run. . ." (Diamond, 2005, p. 155, Krech, 1999)

But there are successes as well. Learning to exist sustainably with the natural world is not entirely a matter of luck. Apparently for thousands of years, along the north Pacific coast Native Americans lived sustainably with salmon, even though they had both the technologies and motives to take enough that they could have destroyed much of the resource. Dried salmon were prized trade goods and weirs were very effective at catching lots of fish. Judging from discoveries of ancient nets they had also fished for thousands of years; at least three to five thousand in Washington and British Columbia (Montgomery, 2003, p. 41). Further, natural salmon populations fluctuate dramatically, in large part due to ocean conditions, rendering them vulnerable to extinction during natural population dips if fishing methods were not sensitive to these changes. Yet when

Europeans arrived the runs were enormous, as were the harvests of fish for consumption and trade.

For these native peoples salmon taking was enmeshed in a cultural, moral and ritual frame workable to preserve abundant runs not simply for a few decades, but for thousands of years. This institutional framework enabled them to accumulate intergenerational knowledge about salmon, allowing them to respond appropriately to conditions new to many, perhaps all, of the community's current inhabitants. Native Americans deliberately "took less than half the available fish. In contrast, modern Euro-American salmon managers harvested as much as 90 percent of the run" (Montgomery, p. 43) Their oral traditions frequently told of disasters brought about by greedy, disrespectful, and thoughtless behavior towards the fish (Montgomery, pp. 43-7; Taylor, 1999, pp. 13-38; Lichatowich, 1999, pp.28-41). Their practice and warnings alike were successful where American science and ingenuity has so far proven a failure.

The case of salmon and Northwestern tribes was not unique. Many, though by no means all, Indian tribes managed to live in a sustainable relationship with their environment for thousands of years. If, as some argue, the demise of Pleistocene megafauna was largely human caused, its implications for our learning to live harmoniously with nature may actually be more positive than negative. If so, this extermination was obviously brought to a halt lasting for 10,000 years7(Vecsey, 1980, 1-37; Martin, 1980, pp. 38-45) .

Enter Modernity

There are many explanations competing to account for modernity's rise. I want to focus on one: that modernity is characterized by a radical increase in the breadth and depth by which equals who are relative strangers, can cooperate. The modern world's defining emergent institutions of the market, science, liberal democracy, and civil society all share this common characteristic. Each can be described as a more or less narrowly circumscribed realm within which people enter as legal equals to pursue self-selected projects within a common context of procedural rules. These rules generate positive and negative feedback, facilitating others in pursuit of their own ends. Modernity vastly increases the impact of social emergent processes

By "social emergent processes" I refer to complex patterned systems arising independently of their participants' intentions. On balance, these patterns enable people acting within them to pursue independently chosen goals within a context maximizing their likelihood of success. This characteristic distinguishes emergent orders from chaotic systems that are also unplanned, but where any patterns that exist are so hard to discern they offer actors no reliable guidance in pursuing their goals.

Modernity's benefits are well known, and so, increasingly, are some of its short comings. One in particular underlies the central tension between the modern social world and nature. The distinction between social and natural emergent orders rests on how dominant modes of adaptation and change takes place within each. In non-human nature adaptive change is overwhelmingly biologically determined rather than culturally rooted. To be sure, cultural elements exist in some animal groups (Bonner, 1980; Goodall, 1971). Nevertheless, in the other-than-human world, most adaptation is through genetic change. Unviable (or simply unlucky) organisms die, and do not leave descendents. Their genes are removed from the species.

While biological adaptation takes place in the human world, so far its impact is largely overcome through social adaptation taking place through changing customs, institutions, and ideas. Unviable customs, institutions, and the ideas making them possible die instead of people. I am not arguing that good ideas always win out, or that if an idea wins out it is always good. Many factors other than an argument's value enter into their survival. But when free discussion and evaluation are allowed, to that degree the advantage lies with ideas that can survive rational criticism. Rejected ideas leave no descendents, while individuals adapt, learn, and continue reproducing. In both biology and society adaptation occurs, but through different media.

Because those holding unviable or simply less desirable habits and ideas can abandon or modify them in favor of new ones, great change and adaptation can occur within a single human generation. Many people born around 1900, when most transportation was by horse, watched the first human steps taken on the moon in 1969. This ability to learn means that the pace of change and adaptation in human society can far outstrip biological adaptation except for the most fecund, adaptable, and rapidly reproducing organisms, such as bacteria, and rapidly reproducing plants and animals.

Market orders exemplify this difference between society and nature to a particularly strong degree. Markets adapt based on feedback generated by shifting preferences of individuals acting largely independently of one another. Other social emergent orders also adapt through feedback generated by changing minds. Science depends upon widespread acceptance of new theories and explanations in order to change (Polanyi, 1969; Ziman, 1978, 1968). Liberal democracy also depends on people accepting new proposals or reaffirming old ones (diZerega, 2000;Kingdon, 1995). Science, democracy, and the market all change far more quickly than most multi-celled organisms.

This distinction clarifies the core challenge to harmonizing modernity with nature. Adaptation by learning unleashes power in the short run that threatens to undermine the long term viability of the natural systems upon which, in the long run, that same human society depends. Geared to different communicative systems, one genetic, the other conceptual, natural and social emergent processes interact but not necessarily in ways promoting a synergistic relationship between the two.

With respect to nature, most Americans care about the environment and want natural areas protected from despoliation. A 1999 survey for the EPA and the President's Council on Sustainable Development found between 60 and 70 percent of Americans agreeing with strongly pro-environmental values and beliefs. Over 80 percent believed that we should treat our environment with an eye on the well being of the seventh generation (Ray and Anderson, 2000. pp.139-67). Our institutions do not come close to reflecting our beliefs.

The reason is relatively straightforward. Despite their support for environmental issues, most Americans also consistently indicate they consider other political issues are more important than environmental concerns. Americans' relative neglect of environmental issues enables politicians unsympathetic to environmental issues to wage and win campaigns on other grounds, opening environmental policy to manipulation by the private interests who finance their campaigns and the bureaucracies charged with implementing the law.

In the modern world social institutions developed with relatively little attention paid to facilitating sustainable action within an ecosystem. To address these issues we

rely instead on moral exhortations, such as "think globally act locally," or on institutions that developed in response to very different problems. Neither markets nor democratic politics arose to promote or preserve sustainable relationships with nature. The feedback enabling them to coordinate more information than individuals could ever deliberately order is disconnected from the feedback supporting ecosystems. In terms of harmonizing society and nature, as the old Maine saying goes, "You can't get there from here." Now that the human impact on nature is vast and growing rapidly vaster, we need to develop institutions able to facilitate wise care for natural processes while still enabling us to make use of them for our economic, physical, psychological, and spiritual well-being. Civil society is the alternative context, and evolutionary learning communities describe the form harmonizing institutions should take.

Civil Society

In the sense used in this analysis, civil society refers to networks of voluntary cooperation across a richer set of values than can be encompassed within the standardized society-wide feedback signals generating the market order, liberal democracy, or science. Like democracy and the market, civil society is an emergent order. However, its feedback processes are more complex than either the electoral or price system, and are able to incorporate a much richer and deeper set of values into decision making, learning and adaptation (On economics see: Boettke, 1998; Caldwell,2004; Horwitz, 1999; on democracy: Crick, 1964; Kingdon, 1995; diZerega, 2000).As such, civil society is the most institutionally compatible modern context within which evolutionary learning communities can be established.

Market and democratic emergent orders arising from people following largely explicit procedural rules generating relatively easily interpreted feedback signaling how others can act more successfully within their contexts. Standardized feedback facilitates cooperation by reducing the depth of agreement people need to work together. They are accordingly ethically shallow, a purely descriptive term. Due to the simplicity of their feedback signals, most social emergent orders are relatively impersonal. This impersonality and therefore distancing of their feedback signals from the complexity of

human motivations enables us to develop abstract theories about them. Thin values lead to thick theories.

In civil society values are thick and theories are thin. Here market and political information combines with scientific, cultural and psychological feedback to generate the complex field of social information people use when pursuing their various projects. These different feedback signals are weighed differently by those immersed within their fields. Unlike prices or votes, no general standard exists to coordinate individual actions within a complex culture. Civil society is therefore more difficult to describe abstractly, but this difficulty arises from its being better able to respond to the full breadth and depth of human motivation than can more simplified coordination processes.

Civil society is the most complex social communication field whereby people can discover information to assist them in accomplishing their plans. If money serves to enable price information to be transmitted within the market, social capital enables cooperation to be more easily entered into within civil society, particularly what Robert Putnam terms "horizontal" or "bridging" social capital (Putnam,2000, pp. 22-4; 1993, pp. 173-6). While not nearly as effective at maximizing the relatively narrow set of values characterizing action in the market order or democracy, feedback complexity enables a greater variety of values to be effectively pursued. Charles Taylor recently described how even fashion contributes to this field, for in fashion (Charles Taylor, 2002, p. 85).

> we sustain a language together of signs and meanings, which is constantly changing but which at any moment is the background needed to give our gestures the sense they have. If my hat can express my particular kind of cocky yet understated self-display, this is because how the common language of style has evolved between us up to this point. My gesture can change it, and then your responding stylistic move will take its meaning from the new contour the language takes on.

To fashion we can add the many other forms custom takes: body language, symbols, the cultural meaning of historically or generationally weighted words, society-specific habits, and even music (Desai). Often tacit and taken for granted, being noticed more when they are not followed than when they are, these complexes of meaning

facilitate cooperation among strangers by immersing them within a common context of orientation and expectation that is itself sustained and modified by the networks of cooperation it makes possible.

How important these customs are can be demonstrated by attending to the different experiences we have when in our home culture compared to living within a quite different one. Even when they follow the same abstract procedural rules with respect to science, the market, or democracy, the concrete form their cultural rules take differs, sometimes dramatically. I think this freedom from domination by standardized feedback tuned to purely abstract values is why James C. Scott exempts civil society from the "high modernism" that characterizes science, governmental programs, and the market order (Scott, 1998).

Cultures possessing strong civil societies develop customs and rules facilitating varied and complex cooperation among strangers. They are high in social capital, the capacity for relative strangers to cooperate easily. High social capital is reflected in high levels of trust, and high levels of trust facilitate a complex civil order (Putnam, 1993). These characteristics provide the prerequisites for developing communities able to exist sustainably in both the social and natural worlds.

Evolutionary Learning Communities as Institutions of Care

As our brief examination of how Native American communities learned to live in salmon ecosystems indicated, sustainability requires a culture able to learn as new information becomes available, and incorporate it into the knowledge framework residents rely on when confronting what for them may be new situations. As ecosystems are never constant, being characterized by both systemically generated cyclical changes and new developments arising from outside whatever system boundary is considered relevant, communities need to be adaptive. Evolution is the process of adapting better to existing situations or to new ones. In the case of human societies, evolution takes place at several levels. First, it occurs as internal social adaptation, such as developing technologies and customs structuring people's interactions. Second, evolution occurs in their relationship with the wider natural world and with other societies. Finally, and more controversially, evolution may occur in consciousness. We can easily see that some once

hallowed institutions have been transcended, and no decent people regret their demise, such as legal slavery. In addition. the civilized world now argues that political power must be subordinated to human rights, and is legitimated only by its capacity to serve a community of equals. Whether consciousness evolution can be carried further on more than an individual basis, and whether even individually it is better conceived as consciousness development rather than evolution, are questions this discussion will touch on.

As communities, these groups need a shared identity, a "we" about whom members care. Sustainability apparently requires this "we" to include the other-than-human as well as human world. Evolutionary Learning Communities (ELCs) minimally combine a capacity to adapt and evolve with a self-aware ability to learn within a community of caring members.

If they are to enable the human world to coexist harmoniously with that of nature, ELCs are better rooted in the complex networks making up civil society than in the much more ethically shallow systems of the market and traditional institutions of democratic governance. Such communities must bridge the social world and that of nature, existing within different kinds of emergent orders geared to different principles of feedback, and harmonizing these relationships within a context that is both dynamic and adaptive.

ELCs such as these must use information arising from the social emergent orders of the market, science, and democracy and the local knowledge characteristic of particular natural systems and human communities, while situating them within a deeper, more inclusive ethical framework. This result can only happen when people are able to bring the full richness and subtlety of human ethical action effectively to bear in realizing their goals. Those involved do not have to all care in the same way, but they all have to care, and their care must matter. *Deep human rather than shallow systemic values need to predominate.*

Two additional and somewhat conflicting requirements confront us in developing sustainable institutions open to deep human values of care for nature and serving to channel the thinner values promoted in the market and democracy so they do not undermine the natural world. On the one hand, they need to exist on a scale where local knowledge, concern, and responsibility become empowering forces in harmonizing the

human with the natural world. Scott describes the superiority of Squanto's teaching the Pilgrims to plant when oak leaves are "the size of a squirrel's ear" rather than by any more abstract principle for determining proper agricultural cycles. Much more, and more flexible, information is contained in such teachings than could have been made available through more standardized abstract kinds of direction such as the *Farmer's Almanac* (Scott, 1998, pp. 311-13). Local knowledge is [practical, both theoretical, and experientially rather than conceptually based (Abram, 1996, p. 124; Heron and Rason, 1997); Scott, 1998).

Local knowledge is more than an awareness of the unique qualities and rhythms of particular natural places, though that is a crucial a part of it. Local knowledge also includes knowing the unique characteristics of the concrete human communities in those places, the social networks and personalities that vary from place to place and time to time (Scott, 1998; Blomquist, 1992; Ostrrom, 1992, 1990; Tang, 1992). In both its ecological and social contexts this local knowledge is irreducibly concrete. Evolutionary learning communities focusing on sustainability must depend on and empower the use of local knowledge.

On the other hand, these institutions also need to operate on scales suitable for preserving the natural processes requiring protection. Some ecosystems are quite small, and local knowledge, appropriately institutionalized, may be all we need to preserve them. Some are large, such as the Sacramento River watershed. Others are truly vast, such as the Mississippi, Colorado, or Columbia watersheds or the Great Basin, not to mention the oceans themselves. One requirement turns our gaze to the local and the small; the other to the almost inconceivably large. Somehow we must attend to both, and in all likelihood the institutions able to deal with them will be almost as intricate and complex as these systems themselves.

These contrasting requirements suggest no single strategy will suffice to harmonize human societies with the world that sustains them. A wide variety of institutions of care will be needed, and the most public policy can wisely do is to facilitate their emergence. This paper does not argue that ELCs immersed within civil society can fully replace either democracy or the market. Nor does it argue that all ELCs should resemble watershed restoration groups or democratic forest trusts. Rather, it

argues that ELCs are a *vital* element in developing any sustainable relationship with nature because they can bridge both society and nature while remaining sensitive to the fully complexity of relevant human values. This capacity enables them to act effectively in harmonizing tensions that neither traditional politics nor the market can resolve effectively.

The crucial role of local knowledge means ELCs cannot be constructed by assembly line or from an ideological blueprint. They must be discovered as opportunities, often by people no one would have anticipated as playing that role, and then painstakingly shaped and tailored to the specific needs of a particular time and place. Still, we can make some broad observations.

The first observation is critical. In the absence of effective institutions of care, laws and principles established to protect ecological sustainability have proven inadequate to the task. Laws have been repeatedly tried and repeatedly failed. Without communities of people who are personally committed to protecting natural systems, and possessing the institutional resources to challenge corporate greed, bureaucratic inertia, corruption, myopic self-interest, and shortsighted localism, efforts will fail as they have in the past.

Second, the task's complexity requires these institutions to be associated through networks rather than organizational hierarchies. Only in this way can a wide variety of institutions seeking to harmonize human society with nature be able effectively to bring pressure on economic and political organizations without themselves falling victim to the organizational pathologies of rigidity and redefinition of their goals to serve themselves. These institutional networks must themselves constitute a kind of social ecology knitting together humanity and nature within an invigorated civil society.

I want now to explore briefly two examples of how these principles can be applied to policy change and improvement. The first set of examples will be that of community based watershed restoration groups. The second will be an argument for applying the same principles in the very different context of our public lands. In both instances, locally based evolutionary learning communities will be seen as essential elements in any sustainable relationship between the modern and natural worlds.

Watershed Restoration Groups

Along the North Pacific coast once abundant salmon runs have withered, the victim of habitat degradation and overexploitation, although these days habitat degradation is probably the main problem. Laws have been on the books of states such as Washington and Oregon, as well as in Canada, that if enforced would have prevented the crisis. But those laws were not, and even today often are not, enforced. This problem is not only an American one, for it also occurs in Canada and Europe (Hume, et. al., 2004; Montgomery, 2003; Lichatowich, 1999). Were it not for the efforts of local communities within whose lands salmon runs once flourished, the outlook would be far grimmer than it is.

Watershed restoration communities in California, Washington, and elsewhere are examples of evolutionary learning and gradually shifting cultural awareness through confronting the concrete challenges of becoming native to and caretakers of a place. They are re-establishing in modern form the idea of an extended local community encompassing more than the human, while networking with other similar communities across long distances. These examples also help explore how evolutionary learning can be integrated into existing society, the weaknesses and strengths traditional governmental and economic institutions bring to this process, and why outside civil society evolutionary learning institutions face systemic environments subversive to their values.

Seth Zuckerman writes that in 2003 there were at least 410 watershed restoration groups in California, Oregon, and Washington (Zuckerman, 2004, p. 72). A former student, Tristan Peter-Contesse, and I conducted interviews in five North Pacific community based watershed restoration groups: the Mattole Watershed Alliance, Chumsortium, the Puget Creek Restoration Society, the Walla Walla Watershed Alliance, and the Carmel River Watershed Council. Part of this section and the next incorporates some of Peter-Contesse's excellent contributions.

The groups were selected in part to demonstrate their enormous variety and the very different kinds of human dynamics that took place within organizations pursuing similar goals in dissimilar contexts. All have been successful in substantially improving habitat, and in some cases achieving significant increases in salmon runs. In other instances while increases have been small, probable extinction has been prevented. When

increases have been limited, this has usually been due to environmental factors not amenable to short term solutions, such as overheating of water in the summer due to logging all old growth near the water. The trees have to grow. Even in these cases, their efforts have made a difference. (These studies are included in the manuscript *Of Fish and Men: Salmon and the Dream of Controlling Nature.* It is currently being considered for publication by a major university press, and chapters can be made available to interested parties. Please contact this author.)

The Mattole Watershed Alliance is the best known watershed restoration group, having been the subject of Freeman House's excellent, *Totem Salmon* (1999). The Alliance is located in the Mattole River watershed on the northwest California coast. Chumsortium's efforts are focused near the town of Port Townsend on Washington's Olympic Peninsula. The Puget Creek group is situated within Tacoma, Washington, the creek itself being entirely contained within the city. The Walla Walla group is centered around the Walla Walla, Washington area, on the dry southeast side of the Cascades, far from saltwater. The Carmel river group is located in and near Carmel, California, just north of the Big Sur coast. The variety of ecosystems, communities, and kinds of problems they face is enormous.

The history we uncovered for each group is what would be expected of an evolutionary learning community, with low levels of hierarchy, self-selected members, creative and unpredictable adaptations to both natural and social challenges, and a growing adaptive capacity to deal effectively with their environments while pursuing their goals. Their rules for decision making usually require consensus, and departures from this principle are rare and rooted in the interpersonal dynamics of particular places and people.

House's book offers an in depth discussion of how a diverse community of counter-cultural newcomers and old ranching families bridged substantial differences in life style to come together to restore a fish beloved by all. His book will likely remain the gold standard for such studies. Our own efforts support House's argument while illustrating the tremendous diversity within such groups.

Theoretical Contexts

Watershed restoration groups are usefully conceptualized in terms of discursive social theory. This approach has an ancient lineage, originating with Aristotle, including contemporary theorists of "deliberative democracy" and culminating in many ways in the model of an evolutionary learning community. I shall explore each in turn, each enabling us to delve more deeply into the kind of human association we are examining.

Watershed restoration groups markedly resemble Aristotle's classical political ideal of politics in a polis, contemporary analyses of "discursive democracy," and the ideal of an evolutionary learning community. What unites these three perspectives, making the ultimately complementary to one another, is a common focus on speech among equals, a conception of action that goes beyond the traditionally self-interested, and the transformative effects such action has on those participating. Aristotle emphasized that our political nature is rooted in speech, and that it is in coming together as equals to discuss what is good and not so good for our community that we best exemplify this uniquely human characteristic. This conception of politics is little understood today, and its absence helps blind us to the possibilities inherent within groups like the Mattole Watershed Alliance. This is so for four reasons.

First, Aristotle emphasized that politics is best practiced through rational persuasion, not control over force. He did not deny that coercion existed in the cities of his time, in fact, most of his *Politics* discusses the issue in its various manifestations. But Aristotle regarded it as more a sign of corruption than an adequate defining characteristic of politics as such (diZerega, 2000, pp.13-51). Being rooted in civil society, the Mattole and other restoration groups had no power to coerce, yet their members certainly came together as equal members of a community concerned with its well-being. They are political and focused on the public good, without being governmental, but today the "public" is usually associated with government.

Secondly, the public these groups serve is a dimension of a larger society, rather than self-sufficient, as Aristotle conceived his ideal Greek *polis*. Aristotle's concern with the polis as independent and self-sufficient was due to the fact that in Greek society it was only there that (male) people could come together as genuine equals. Further, for rational persuasion to be practiced, such gatherings had to be small. In Aristotle's time it was only in the Greek *polis* that politics in his sense could be practiced.

In today's liberal societies the realm of equal association has expanded both in inclusiveness and in areas of interaction. This is why Alexis de Tocqueville could emphasize the capacity of civil association to broaden and enlighten the outlooks of those involved in it, just as had Aristotle's political action. For Tocqueville, individualism, a concern only with oneself, ones family and friends, would gradually enervate public life, and allow political liberty to fade. Political association was the essential corrective, breeding habits of liberty and moderation, of respect for others and a wider vision of one's place in the community (Tocqueville, 1961, pp.138-44). What is feasible for us today is not an impossible Aristotelian autarky, but rather the sense of equals being part of a community with identifiable interests and to which they acknowledge others to also belong, others whose ideas can legitimately differ from their own.

Third, Aristotelian politics concerned the community in its entirety. Collective decision making was combined with deliberation among equals. But in the world today the complexity of modern society requires that citizens focus on particular dimensions of their community if they seek to improve its well-being. No one knows enough to master all the issues confronting even a small town. All of us are unavoidably dependent on the expertise and judgment of others concerning issues about which we may strongly care, but that we do not deeply understand. Even in a groups as small, remote, and rooted in local knowledge as the Mattole community, there is an important role for outside experts, and fisheries biologists contributed greatly to the group's success.

At the level of national politics, this differentiation of citizens into specialized self-constituted groups concerned with particular issues has been labeled "issue networks" (Heclo, pp. 87-124). The interlocking realm of issue networks comprises a "policy sphere" which, in American politics today, is probably the only where ideas matter more than interests, power, and money in making public policy (Kingdon, pp. 116-44). The same processes occur at local levels, where the Mattole Watershed Alliance networked with other interested parties, and in turn inspired still new groups to become involved in salmon restoration (Dryzek, 1990, pp. 72; Habermas, pp. 297-8, 305). These characteristics do not undermine Aristotle's reasoning about the discursive character of political action.

To be effective today, networks of mutual interdependence exist not only within a territorial community, such as the Mattole watershed, they must also link that watershed into other networks extending throughout the larger society. A community of care must play a role not only in terms of its most immediate focus: this watershed, this forest, this bay. They also must be able to network with similar communities elsewhere, to defend and preserve more inclusive public values their own smaller publics are immersed within, and depend upon. One's watershed can be in excellent condition, yet exploitive fishing practices on the oceans or offshore salmon farms can still destroy its salmon runs. These communities need to be able to combine together to force governments and corporations alike to respect the ecological relationships of which each smaller community constitutes a part. But in doing so they need to preserve their independence, and not end up as lower levels in a top-down hierarchy. This requires them to be rooted in civil society.

Among contemporary political theorists, perhaps the most insightful work exploring Aristotelian kinds of political action and the institutions they require has been among "discourse" or "deliberative democracy" theorists. Like Aristotle, they focus on the conditions of political communication among citizens as key to the well or ill-being of the political process. Among contemporary discourse theorists, John Dryzek has focused more attention on environmental issues than most (Dryzek, 1997). His work further deepens our understanding of the broader implications raised by Watershed restoration groups.

In *Discursive Democracy*, Dryzek outlines the possibility for enhanced democratic participation by expanding "discursive rationality" into the realms of social problem solving, politics, and policy-making. He contrasts discursive rationality with instrumental rationality, the capacity to devise, select, and effect good means to clarified ends. Dryzek argues instrumental rationality goes astray as applied in many modern political institutions by creating, among other things, increasing bureaucratization, antidemocratic concentrations of political power, and an overall system that represses individuals (Dryzek,1990, pp. 4-5).

Rather than relying on instrumental rationality to shape our lives, Dryzek proposes instead that decisions affecting our social and political lives be sought through communicative rationality. Communicative action, which leads to communicative

rationality, "is oriented toward inter subjective understanding, the coordination of actions through discussion, and the socialization of members of the community," Communicative rationality, then, "is the extent to which this action is characterized by the reflective understanding of competent actors" (Dryzek,1990, p. 14).

Dryzek and the deliberative tradition of which he is a part argue that policy-making and social problem solving can best be addressed by associations themselves formed through processes of free criticism, universal access to information, and open discussion. Though the design of each institution should be left up to the individuals involved, in order that particular interests not have an opportunity to co-opt the design process, Dryzek proposes they nonetheless should conform to certain basic principles. First, to avoid ingrained hierarchy, effective discursive designs should base individual authority exclusively on "good arguments." In other words, *what* an individual says matters more than *who* they are. Second, any interested parties should be able to participate. Third, there should be no formal autonomous constitutions or rules. Individuals should be communicatively competent, with access to necessary information. And where shared community norms exist, decision-making should proceed by consensus (Dryzek, 1990, p. 42).

These principles have recently been recognized as central to the growth of "social production" described as production outside the market or organized hierarchies (Benkler,2006).   Particularly well developed within the internet, where the success of Wikipedia, Linux, and similar efforts by volunteer networks have produced impressive results, social production appeals to deeper levels of human motivation than simple self-interest, and can flourish when the needs for capital and centralized control are not high. Watershed restoration communities are of this nature, for they demand volunteer effort and commitment, but do not require either centralized organization or large money capital investments.

The confidence Dryzek articulates in the potential for discursive designs to lead to more effective decision-making is exemplified in the Mattole and other watershed restoration group cases. Dryzek proposes that one area in which discursive designs prove most appealing is in their capacity to discover a "generalizable interest," which "exists beneath the surface misconceptions of actors" (Dryzek, 1990, p. 54). Actors most often

discover generalizable interests through sustained discussion; arguments that prove most persuasive to the group as a whole *transcend* the desires of particular individuals and find common ground with everyone involved. Again, we see this to be the case for social production, be it Wikipedia or community based ecological restoration.

The generalizable interest in the Mattole was the restoration of native salmon. One could argue persuasively that this interest was clear to all participants before any of them even came to the first discursively modeled meetings. In this sense, if everyone already knew what they wanted, what was the use of open discussion, free criticism, and hours upon hours of gatherings? As previously mentioned, the question to participants in restoration strategizing was not *if* they wanted salmon, but exactly *how* they would go about bringing them back.

Significantly, it took the intervention of the California Department of Fish and Game, applying the "one size fits all" proclamation that logging activities in the valley should contribute a net zero sediment discharge and not warm water temperatures, to cause a large bloc of the community to temporarily forget what they had in common with others. The top of the region's DFG hierarchy issued a recommendation specifically designed to be inflexible. As a result, ranchers felt threatened, and communication broke down. However, as soon as the government was left out of the process, members of the old Mattole coalition came back together. Recall Freeman House's words on the gains made once a discursive dynamic existed again: "[We] were finally able to hear each other clearly enough to recognize a common basis for communication in our shared concern for the health of the watershed and most particularly in the survival of the native salmon (House, p. 194).

The unanticipated disruptive results from DFG's attempt at solving just one part oft he Mattole watershed's habitat problem illustrates Dryzek's assertion that instrumentally rational, bureaucratic arrangements are ill-positioned to deal with complexity (Dryzek, 1990, p. 57).

House's in depth study of the Mattole community serves as a real-world example of how complicated relationships across social and ecological boundaries can be. Not only were ecological associations such as natural landslides, ocean conditions, and tributary creeks reshaping themselves extraordinarily complex, poorly designed human

interventions such as those causing even worse land slides as well as economic, political and social factors greatly added to the difficulty of bringing all positions to bear on any given situation. Nonetheless, the various Mattole restoration groups were quite successful.

Complex problems, such as those facing the Mattole, have ties to a human population "at various points in the disaggregation of sets and subsets." In other words, applied to the Mattole, each degraded tributary creek, failing logging road, or potential juvenile salmon refuge had its lobby. Since no barriers to participation exist in discursive designs, any and all of these lobbies could be "let loose" on problem solving. In terms of political analysis, this is the process Charles Lindblom described as "muddling through" as a strategy to be more sensitive to the complexities of complex policy implementation than would any attempt at unified planning (Lindblom, 1959). But in contrast to pluralist analysis such as Lindblom's, no one, or few, were just lobbyists. They generally saw themselves as members of a common and valued community of interest (Dryzek,1990, p. 70).

As Dryzek put it, "The locus of problem solving . . . shifts away from the instrumental manipulation of systems by would-be policy engineers and toward cooperative efforts on the part of a wide range of participants (who may, as individuals, still take instrumental actions). The cognitive burden at the center of decision-making is correspondingly reduced"(Dryzek, 1990, p. 70).

Dryzek is describing what in our terms are the emergent processes inherent in civil society. In House's account of the Mattole Watershed Alliance, Richard Gienger and his team of workers could begin restoring a somewhat remote tributary they knew was heavily damaged, Paul Hawken could solicit his well-financed connections for monetary support, and craftsman Jim Groeling could design a trap for adult salmon. Increasing complexity was met head-on with increasing numbers of problem solvers. Instead of relying on the center, the Mattole groups relied on everything outside of it. Feedback takes far more complex and sometimes ambiguous forms than is the case in traditional democratic politics, let alone the market, but by doing accommodated greater depths of value agreement than could more impersonal systems.

While the precise ecological, social, and economic circumstances of the Mattole will probably never be duplicated elsewhere, the general designs they used to make decisions have been. Locals have the resources to solve their own problems more often than not and in the end, it is they who need to make space for salmon, not the government. In a phone interview with Tristan Peter-Contesse, Seth Zuckerman explained: "The only way we can hope to sustain the gains we achieve is if the methods of resource extraction and habitation change, and the only way those are going to change deeply and honestly over the long term is if the intentions of the local people are somehow incorporated – people internalize that, yeah, you know, we've got to live here in a way that accommodates the salmon, too."

Beyond the similarities exhibited in their discursive designs, the watershed restoration groups described here are rooted in citizens motivated by a care for place. What Seth Zuckerman defined as "social capital" in the Mattole – evidenced by, among other things, the large turnout of locals at the first meeting of the Watershed Alliance in 1991 – also existed in the substantial cross-section of interests represented in the Olympic Peninsula's Chumsortium, in the Puget Creek Restoration Society and to a lesser extent the CRWC. Where the right combination of geography, topography, small local government, and places to meet come together, salmon and other ecological values might stand to benefit.

The Watershed Restoration organizations appear able to strengthen the basic empathetic relationship with nature that is vital if humankind is to develop a sustainable relationship with the natural world. Freeman House articulates the sort of relationship such efforts are able to strengthen and develop (House, p. 99):

> The word *empathy* comes from a Latin word meaning to suffer with
> gathered senses, and empathy is the human skill that recombines the
> elements of life that Western science has so thoroughly reduced to its
> component parts. Empathy with lives that are alien to our own is the
> human impulse that gives rise to vernacular practices that celebrate and
> regulate our links to other species…If our engagement with natural
> processes is beyond our ability to measure and quantify in the laboratory,
> it may be that the only way to immerse ourselves in those processes is

through the long practice of cumulative attentiveness. In the close-mouthed world of reciprocal perception, there is no way to learn to live in place but from the place itself.

With the Mattole Watershed Alliance now over 20 years old, and with its leadership entering its third generation, it would appear that House's hopes are well grounded. We must look beyond science, economics, and politics to civil society in order to seek solutions to the plight of wild salmon or equivalent issues of sustainability. Politics will always have value in its capacity to design general policy, distribute funds, and regulate stocks of salmon in immediate danger of extinction, such as the recent ban on commercial salmon fishing to protect Klamath River Chinook. Science will continue to generally guide and eventually validate local recovery efforts. Economics can generate the prosperity needed to free people from the lash of necessity in defining their relations with nature. None, however, can deal adequately with the ethical complexities and local variations that must be addressed if we as a culture are to subsist in a good way in this land.

Watershed Restoration Groups and Evolutionary Learning Communities

The concept of the evolutionary learning community builds on these earlier models to describe what can be termed integral organizations in Ken Wilber's sense of encompassing all four quadrants of theoretical analysis in their description: the interior individual quadrant of experience, the external individual quadrant of physiology, the interior cultural quadrant of inter subjective meaning and the exterior social quadrant of relations of power and instrumentality (Wilber, 1995, p. 193; 1996,pp.69-83). One need not accept Wilber's particular evolutionary model of consciousness, and I do not, to find the framework he has developed an important contribution, and I do. (For my encounter with Wilber, see diZerega, 1996, also recommended is Heron, 1998).

But ELCs take us perhaps a step deeper than this purely theoretical model, for their foundation in local, knowledge makes them in an important sense pre-theoretical. This is perhaps why blueprints cannot be devised. John Heron and Peter Reason's description of the four ways of knowing covers this pre-theoretical dimension perhaps more explicitly than does the four quadrant model. They distinguish experiential knowing as direct encounter, Martin Buber's *Thou* (Buber, 1958). Presentational knowing is what, in their words, "clothes our experiential knowing of the world in the metaphors of aesthetic creation." Robinson Jeffers, when writing of how we described nature, observed "The human sense of beauty is our metaphor for their excellence" (Jeffers, 1977, p. 57). Propositional knowing is theoretical knowledge, Wilber's realm of the four quadrants. Finally, practical knowledge is a knowing how, a "skill or competence" (Heron and Reason 1997; Laszlo, 1999). If I am correct in thinking this fourth kind of knowing resembles James C. Scott's "metis" I am unpersuaded that it is a culmination of the previous three rather than another type of knowing. (Scott, 1998, pp. 309-41). But that is another discussion. Whatever framework appeals to us, I think the ELC model enables us to encompass a wider and deeper range of human experience than even the discursive democratic models discussed above.

Issues that are appropriately termed spiritual are not addressed within watershed restoration groups, and in this sense the largest contexts of awareness, be it evolutionary or developmental, are not explicitly incorporated. But what is significant is how it is often tacitly incorporated because it is people's experience of nature as more than an *it* in Martin Buber's sense that motivates many towards involvement (Buber, 1958). Watershed restoration communities are examples of ELCs that can bridge the gap between people motivated by explicitly spiritual concerns, those whose motivation is deeply felt but regarded as "subjective," and those who see their reasons for involvement in more narrowly secular terms. As House puts the matter (1999, p. 157).

Salmon had taught us that we lived in watersheds, and the concept was no longer merely an abstraction. . . . As if to accommodate perceptual

differences among people, a watershed organizes itself into ever more available scales – from river to tributary to swale. Any individual might be able to create a relationship with one small part of it. . . .

What if we were to think of ourselves as operating within the time frame of geological processes and of the natural succession of ecological communities, rather than the quick wink of human generations or the even shorter fibrillations of political elections?

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The initial description of the ISSS session for which this paper has been prepared distinguished several key characteristics of ELCs:

- Self-directed sustainable development
- Community empowerment and participatory/anticipatory democracy
- Socio-ecological competence and the evolution of consciousness
- Design of ELCs as evolutionary guidance systems
- Evolutionary Systems Design as praxis
- Syntony as an organizing force in societal evolution.

I want to suggest that Watershed Restoration groups approximate this ideal rather well, and will briefly examine each of these theories in turn.

• Self-directed sustainable development

These associations only function when they are autonomous, although this very autonomy enables them to be effective learning organizations with respect to discoveries, insights, and experiences by other associations that are relevant to their tasks. It is their autonomy that enables the initial organization to develop the social trust and confidence that enables its members to work together over the long run. It also enables them to make full use of local knowledge unavailable to more centralized agencies and organizations, facilitating the adaptation needed for human communities to learn to exist sustainably with their natural environment.

They clearly evidence *self-directed sustainable development*, both with respect to human/nature interrelationships and over time within the human community. While far

from free of tensions and disagreements, the Mattole Watershed Alliance is over 20 years old and entering into its third generation of leadership.

• Community empowerment and participatory/anticipatory democracy

These associations are perfect illustrations of the viability of discourse models of democratic practice as developed in the work of John Dryzek and Jürgen Habermas. They indicate that s the promise of a bioregional framework for ELCs is neither utopian nor only a promise for the distant future. Members are self-selected and decision-making is either consensual or close to it. These groups arose without a theoretical foundation, but rather from the logic of independent and equal participants coming together to solve community problems indicates that these theoretical frameworks identify something basic to human social life, something that can be traced theoretically back as far as Aristotle.

• Socio-ecological competence and the evolution of consciousness

The ability of the earliest of these associations to engage large portions of their community, shift cultural perceptions, and recruit new leadership over several decades indicates their success at encouraging *socio-ecological competence and the evolution of consciousness*. The Mattole group brought together counter culture and traditional ranching communities that in many places have been antagonistic. At Carmel environmentalists and homeowners came to work together with a sense of a larger community and common concerns that many had once failed to see.

House and Zuckerman testify to the impact of the Mattole Watershed Alliance and its earlier incarnations on the community of people coming together to solve common problems. This impact crossed both cultural and human/nature lines, necessarily expanding the context of its members' thinking.

• Design of ELCs as evolutionary guidance systems

The most relevant findings from these examples so far support James C. Scott (1998, pp. 309-41) and F. A. Hayek's(1948a; 1948b, 1978) emphasis on local knowledge as fundamental to the success of learning within complex systems such as watershed

restoration groups. In addition, these examples support Elinor Ostrom's argument that local groups are necessary because even successful groups within one environment cannot generate reliable principles concrete enough to enable other successful groups to be organized elsewhere (Ostrom,1990). Once in existence, their pragmatic relationship with their environment as well as relationships of equality among members facilitate organizational learning and adaptation when confronting the complex and dynamic conditions of natural ecosystems, whether degraded or not.

• **Evolutionary Systems Design as praxis**

Theory and practice come together in these organizations. I think this is primarily because a rich civil society provides the least conducive framework for facilitating relationships rooted in domination, be it personal or systemic. These groups are independent of organized structures of domination, such as government and corporate bureaucracies, as well as impersonal systemic domination from the market order. They survive only so long as members willingly share sufficient common goals and values to work together towards ends which in many cases may be decades, or even generations, in the future, and they know it. Members relationships are better described in terms of the gift relationship (Hyde,1983) and social production (Benkler, 2006) rather than either the market or the government.

Perhaps of equal importance, the same principles can be adapted to a variety of other contexts. In the following section I argue the model of democratic forest trusts suggests how these lessons can be applied to a very different ecological context, the National Forests.

• **Syntony as an organizing force in societal evolution**

The experience of watershed restoration groups demonstrates how decentralized learning networks are able to spread and evaluate their and others' experiences in the absence of organizational hierarchies. They thus exemplify emergent order processes maximizing opportunities for harmonious relationships both within organizations and between organizations and their larger environments. That their members can put great effort into projects that may take years or decades to bear substantial fruit indicates a shift

in the context of relevant awareness towards a long term view not commonly encountered in American society. As House describes this process (House,1999, p. 99):

> If our engagement with natural processes is beyond our ability to measure and quantify in the laboratory, it may be that the only way to immerse ourselves in those processes is through the long practice of cumulative attentiveness. In the close-mouthed world of reciprocal perception, there is no way to learn to live in place but from the place itself. Even the waters can teach us, if we can quiet our appetite for "rational" explanation.

National Forests and the Case for Democratic Forest Trusts

These considerations raise the question of whether there can be a wider role for evolutionary learning communities with respect to ecological issues. I believe there can. While no single blueprint can be applied, certain general design principles can be employed to facilitate people's organizing other communities serving ecological values, as they desire. To explore how these insights might be exported, I want to turn to an example that is at present entirely theoretical.

Our 147 National Forests represent public values for many, probably most, citizens. They are also sites of serious contention among citizens concerned with their well being, but often motivated by conflicting priorities. These concerned citizens are themselves immersed within a larger sea of citizens for whom these values are of relatively little moment. Usually those elected to serve this more inclusive community owe little or nothing in their victory to their views on national forests. Most elected representatives find the well-being of forests of little importance unless they have a personal commitment, a commitment usually unconnected to their being re-elected. The dispersed publics that do care for them have often been unable to protect public values against the assault of organized private interests or malfeasance by the public agencies charged with protecting them except through the courts. But policy by lawsuit is a poor way to administer anything and the most corrupt political interests have now set about insulating themselves from court challenges, essentially privatizing a public value, a kind of theft.

One of the institutional barriers between traditional administrative agencies and sustainable use of national forests is exemplified by efforts by a small Indian tribe to rehabilitate forest lands in California. The Mountain Maidu are a small Indian tribe presently involved in implementing a tribal approach to forest management on 2,100 acres of Plumas National Forest. The forest is located in California's northern Sierra Nevada range, lying between Lake Tahoe and Mt. Lassen National Park. The tribe is working at restoring the oak and pine woodlands that predominate in the lower elevations of that region of the Sierras. Loreena Gorbet, a tribal member, is coordinating the tribe's activities with the US Forest Service.

In a recent account of their activities, Gorbet was quoted as saying her tribe views itself as deeply enmeshed within their natural landscape. "The plants and animals – they're our relatives. We talk to them to find out what they need." This is the language of relationship and ethical involvement, of Buber's Thous rather than Its. It is not the language of the US Forest Service. In Gorbet's words, to do her job she has had to learn to speak "Forest Service" (Little, 2005, p.7).

There is a larger problem here than the one of simply translating between two cultures with very different views of how we most appropriately relate to the earth. One is native to the place, the other is native to Washington, DC. Each is adapted to its own very different niche. This is why, as Jane Little writes in *High Country News* "the stewardship partners also approach forest management with diametrically different concepts of time. The Maidu's initial proposal involved a99 year demonstration – an eternity to an agency that gets its funding on a year-by-year basis. The Forest Service eventually agreed to a ten year project" (Little, 2005, p. 7).

When dealing with a forest ecosystem, ninety-nine years is a far wiser framework for action than ten years. The Maidu can think in those terms because they have been in this area for much longer than that, and they plan to stay well beyond that. Their customs and values developed in the midst of a long association with this land. As with the Navajo's knowledge of how to prevent illness from hantavirus, discussed in our previous chapter, it is likely that considerable practical knowledge and wisdom, exists within the tribe, but possessed and expressed in terms difficult for most modern westerners to access. For

discussions of this issue, see Abram, 1996; Scott, 1998, pp. 133-5, Thompson, 1989, pp. 1-42.

The Forest Service is only about 100 years old, having been created by Gifford Pinchot and Congress, largely through legislation passed between 1905 and 1911. It possesses a great deal of knowledge about the political ecosystem on which it depends. However, the Forest Service rotates its rangers on a regular basis, mostly to keep them loyal to the Service rather than "going native." As a consequence, while Rangers have a considerable local knowledge about the Service and its traditions, they do not have nearly so much about the particular locality where they happen for the moment to be stationed (Kaufman,1967, pp. 155-6, 175-197).

Were working with Congress and the Forest Service the only options to corporate greed and market feedback, we would feel justifiable despair for the natural world and, ultimately, for our own civilization. But the model of the evolutionary learning community, as exemplified by watershed restoration groups, suggests other possibilities may exist.

A Way Forward

In his essay "The Place, The Region, and The Commons" Gary Snyder has written that the public domain in North America constitutes a kind of national commons we "are all enfranchised to work on" (Snyder, 1990, p. 29). It is a commons in the sense of being community controlled and governed land. This is a different and more useful meaning of the term 'commons' as compared to Garret Hardin's use in his famous essay, "The Tragedy of the Commons" which referred to land controlled by no one at all (Hardin, 1968; Snyder, 1990, pp. 35-6) . But there is crucially more to a commons than this. Snyder elaborated "This definition fails to make the point that the commons is both specific land *and* the traditional community institution that determines the carrying capacity for its subunits and defines the rights and obligations of those who use it, with penalties for lapses. . . it is traditional *and* local"(Snyder, 1990, p. 30).

Public lands are not governed by communities that care about them. Most politicians are uninterested in their fate, at least compared to other values, and their votes are up for grabs. So the basic requirement for a successful commons does not exist at the

level of national administration. The mediocre to poor results we have experienced should surprise no one.

Snyder advocates returning these public lands to regional control (Snyder, 1990, p. 31). But what defines the region? The small Sierra Nevada watershed where he lived for many years was well suited to his vision. But the high plains of Wyoming and Montana and vast plateau of Washington's "Inland Empire" are not so readily bounded, either psychologically or ecologically. Even national forests do not easily fit into Snyder's model, as we shall see. Even so, his insight is a vital part of a solution.

A strategy increasingly mentioned for forest reform is increasing local control over national forest policy. From the Bush administration's vague proposal for Charter Forests to Daniel Kemmis's eloquent argument that experiments in local control should be tried as an alternative to current forms of "imperial" forest management, local control is "in" (Kemmis, 2001, p. 147-9) Kemmis emphasizes that due to the enormous amount of publicly owned land in most Western states, local citizens feel essentially colonized by a far away power over which they have no influence, and towards which they have considerable resentment. He writes when Westerners "balance their experience of joining with old enemies to solve hard problems together against the hidebound procedures of a national government and a national democracy that no longer seem to work, they feel they are the real democrat" (Kemmis, 2001, p. 226) Nor are such recommendations merely theoretical. The Quincy Library group, consisting of people in extractive industries and environmentalists, devised by consensus a governing plan to cover three National Forests which won endorsement by 434members of the House of Representatives. Such a lop-sided vote is virtually unprecedented.

'Collaborative conservation' is the focus on local solutions by local stakeholders to local environmental problems. It has been identified by many Americans as a promising solution to establishing viable environmental policies (Kemmis, 2001, pp. 127-49; Brick et. al., 2001). They are right. There is much to recommend in collaborative models. However, with respect to National Forests there is a basic weakness to *purely* local approaches to environmental management. Many, perhaps all, National Forests have a genuinely national constituency. Local control would freeze out many citizens with a strong interest in their well being from policy discussions in favor of some who may care

a great deal less. Further, there is no sure correlation between being local and caring about value, especially when by "local" we refer to Western states where some "locals" can live hundreds of miles away from and have never experienced let alone appreciated the values towards which they are assumed to care.

The political power that ended the Forest Service's rapid liquidation of all old growth forests came from aroused citizens at the *national* level, particularly in cities. Cities are the centers for ecological awareness, and even watershed restoration groups in regions as isolated as the Mattole frequently owe their existence to urban migrants. (For why cities are centers for ecological awareness, see diZerega, 2000a).   Local communities were deeply tied to business as usual, even when that business threatened their long term viability. Many local residents became naïve allies of logging corporations, trustingly accepting the companies' claims that layoffs were due to "regulation" caused by "radical environmentalists" rather than to mechanization, local resource depletion, and globalization. Once issues become more complex than what can be addressed by local knowledge, many relatively isolated small communities are all but powerless in confrontations with ruthless large corporations, as the citizens of Libby, Montana, have learned to their sorrow. Many residents of Libby have died and many more will die, due to corporate lies about the safety of asbestos mining (Matthews, 2000; Nijhuis, 2003). The political strength possessed by local citizens proposing alternatives to logging came from being part of a national movement.

James Madison observed the power of narrowly self interested factions is strongest at local levels. The rise of national corporations, mass media, and now, party discipline, is modifying his argument. However, with respect to public lands, economic interests have historically spoken most loudly at this local level, using Congressional access to back up their desires (McConnell,1966; Langston, 1995, pp. 209, 253). There is nothing necessarily amiss with this. Economic interests are certainly legitimate. But not only is the public interest, let alone personal care, unable to be reduced to economic terms, economic thinking offers a very bad framework for long-term forest management. West Yellowstone's snowmobile industry is appalling evidence that organized local interests can undermine a popular national park's public values, ignore the feelings of their own neighbors, and demonstrate that one doesn't need to cut down a forest to degrade it (Ring,

2002). For another example, salmon were deliberately exterminated in many Idaho lakes so more feisty "sport fish" could take their place to benefit local sport fishing interests. There are plenty of other examples (Taylor, 1999, pp. 172-4, 202).

At the same time, local interests *are* disproportionately impacted by forest policies over which they exercise little to no control. Further, in many cases local knowledge and support are vital components in developing effective policies able to be implemented successfully in a democratic system. Collaborative arguments focus on a key part of an effective solution to forest preservation, but are defined too narrowly because they ignore the larger context of national public values. They inappropriately apply a geographical conception of citizenship to an instance where it does not fit. Local interests deserve an important seat at the table, but they do not deserve all the seats.

Institutions are needed responsive to Americans who care about the environment while circumventing interference by politicians who don't. In the case of our national forests these institutions also need to be open to *all* Americans, for they are public lands. Gary Snyder's focus on local inhabitants is politically impossible to implement and may not be altogether wise if it were, but his model of a commons probably remains the only viable option to the failures of corporate forestry or political management. The key to applying his insight is that what made the local commons successful was that its members *cared*. Their personal values harmonized with the public interest.

A democratic land trust is a practical approach to this challenge (diZerega, 2000). The land trust concept offers an alternative institutional framework for managing forests that is also harmonious with the political realities of American democracy. Trusts are a time honored means by which a person or institution is charged with protecting and managing the property of another, "in trust."   They are widely used throughout private life, and are increasingly important in private conservation efforts.

Land stewardship trusts, the form of trust closest to that developed here, remove land from the real estate market, enabling it to be managed – "stewarded" – on behalf of future generations (Banighan, 1997, 1990).   Land trusts are traditionally non-profit, and often charitable organizations created to preserve the ecological, historical, agricultural, or wilderness value of the land. Land stewardship trusts focus on preserving and fostering sustainable forestry and agricultural practices, wildlife habitat, and recreation.

Because key property rights to the land are removed from the market "in perpetuity" or for an extended period, their economic value cannot be used as collateral for obtaining loans. Erecting a firewall between the land and domination by market forces, operating funds must come from other sources, such as fees, membership dues, and donations. The price system guides but cannot command. Unlike governmentally managed land, the law enables but does not control.

In the US, land trusts are increasingly relied upon to serve environmental values (Brewer,2003; Forbes, 2001). However, the history of American land trusts is short and most American trusts are small. Nor are most internally democratic. These limitations give reasonable pause to anyone trying to adapt land trusts to the care and protection of our national forests.

The National Trust of England, Wales and Northern Ireland is another matter. The world's oldest land trust, the National Trust celebrated its centenary in 1995. The National Trust's properties now extend to 612,000 acres (about 1000 square miles) in the UK, including almost600 miles of coastline, about 18% of the total coastline of England, Wales, and Northern Ireland. After the Crown, the National Trust is the largest landowner in the UK. It has over 3 million members, and is very popular, unlike the US Forest Service. A similar trust exists in Scotland. The National Trust's ability to incorporate ecological as well as historical values and its consistent acquisition of new land is impressive evidence of the concept's promise, even in densely settled lands.

Unlike many trusts, the National Trust has a substantial democratic component. Anyone can become a member simply by joining and thereby obtaining voting rights. As of 2005, The National Trust has a Council consisting of52 members, 26 elected by its membership, another 26 appointed by outside bodies. Direct management of the National Trust is through a Executive Committee, under which are a number of decentralized Regional Committees. Far from being devoid of political debate, the National Trust is frequently the site of vigorous campaigns by members seeking changes in policies regarding hunting, recreational use, and similar issues (Dwyer and Hodge, 1996, p. 84).

How Democratic Forest Trusts Could Work

Enabling legislation could be passed so National Forest Trusts could be established with primary responsibility for governing our national forests; one trust for each forest. Membership in each Forest Trust would be open to anyone, requiring only they pay a fee covering membership expenses in order to join. Judging from the dues of modern mass membership organizations, these fees would not be high. Even so, the hurdle of paying to join a Trust ensures that only people genuinely interested in the forest and its fate would usually make the effort to join. Perhaps, as Karl Hess, jr. suggested, work-trade arrangements could be made for people lacking the means to pay even these modest fees. A day repairing trails would do it, and likely commit the laborer far more strongly to the forest's well-being than simply writing a check, for he or she has actively created something, making a tangible difference.

Ecologically speaking, forest boundaries are not always wisely drawn. Snyder's watershed focus would often be better. But they exist and would be hard to alter. More to the point, given appropriate institutional protection and member care, the problems of ecologically irrational boundaries could be overcome.

Organizational details would be up to the membership and its Governing Board. It should also be possible for Forest Trusts to be formed only if there is substantial popular interest. Open procedures and membership, and a means for ensuring a diversity of member perspectives would be required, but little more. Apparently the very act of organizing a self-governing body helps to create the trust, skills, and infusion of local knowledge that enables an organization to survive (Blomquist,1992, Ostrom, 1990, Tang, 1992, Snyder, 1990, pp. 32-3). Once enough would-be members have created an organization meeting legal requirements a Trust would be established.

The potential for a large membership is high. The National Trust has 3 million members for a much smaller national population. Even when distributed among approximately 150 national forests, each Forest Trust would probably have tens of thousands of members, some far more. Members would include near by residents involved in extractive or recreational industries using forest resources. Many more, locals and non-locals alike would be people making personal recreational use of the

forest, and some might simply be people concerned with its well-being, even if they had never spent much time there.

To ensure significant level of citizen knowledge and commitment, and make any "packing" of voter roles by organized interests more difficult, there should be a limit on how many forest trusts a citizen could join. I suggest limiting membership to one. "One person – one trust" emphasizes the democratic principle of one person one vote and guarantees membership for any particular forest will probably be well informed, having joined the trust about which they most cared.

This institutional arrangement could go far to harmonize the interests of local communities with sustainable oversight, promoting greater learning and adaptation on all sides. This is often not the case today. For example, the USFS opens logging opportunities to competitive bid, which seems fair. But the contracts are usually for very large areas requiring many employees and high capitalization. In addition, bidding procedures are complicated, and the contracts offer irregular rather than sustained work in any given area. These circumstances penalize small local firms and work to the advantage of large mobile ones (Danks, 2003, pp. 247-52). As the Menimonee tribe in Wisconsin have demonstrated in their successful forest management, there is nothing inherent in wise management requiring such an approach, though it certainly benefits powerful logging companies (Davis, 2000).

A pilot project developed in California's Trinity County suggests the kind of alternative arrangements a Democratic Forest Trust would be well situated to institute. In 1997 loggers, environmentalists, local contractors, Forest Service employees, and concerned citizens met after the county's largest remaining employer, a sawmill in the small town of Hayfork, closed. They sought a way to recover from the loss in jobs and the crisis the county was undergoing. Cecilia Danks writes "The group determined that a properly scaled, multiyear, multitask contract that addressed all the stewardship needs of a given tract could provide steady, long-season work that would improve both the biological health of the forest and the economic health of the community" (Danks, 2003, p. 253).

As a result of these discussions, the Forest Service put together a contract oriented to the needs of the local communities as well as to the needs of the forest. Local

businesses won the contract, only to have it withdrawn later for lack of funding. In a phone conversation, Lynn Jungwirth, Executive Director, Watershed Research and Training Center, in Hayfork told me two more contracts along similar lines are being put together by the Forest Service. A democratic trust with considerable local membership would prove more amenable to following through with such opportunities, being able to make use of local knowledge to the benefit of both the forest and neighboring communities.

The governing Board would decide basic policy and select subcontracting agencies for their implementation. Initially the USFS could simply subcontract its services to the Board. However, to ensure the Service's responsiveness, the Board must be free to contract with other agencies such as state departments of forestry. The USFS should not have a monopoly. There is ample president for this alternative, as today many small US cities contract out police and fire protection to other cities' departments. The option to choose another agency would be the strongest factor keeping the Forest Service responsive to the Board's priorities. It would have to adapt to them as well as it currently adapts to Washington, DC's political environment. Existing environmental laws such as the ESA, NEPA, and other statutes would remain in force.

A democratic forest trust would be responsible for raising enough money to meet its normal costs. Financial independence from Congress should be a primary institutional goal. User fees of many kinds would probably be major income sources but, unlike the USFS, policy decisions would be determined by citizen members, most with no personally significant financial stake in the trust's income. There are many potentially important resource sources. In many contemporary land trusts and even national forests, volunteers provide considerable assistance. Additionally, private and foundation donations and grants could fund specific projects or, most importantly, help create a forest endowment that would grow over time. Given people's love for forests, it seems probable that in time endowments could become an important source of long term financial viability.

A well-endowed forest would be vulnerable to control by a self-perpetuating board. Democratic openness backed by law would be the best insurance against such an outcome. Studies of labor unions with genuine internal democracy compared to those

where the leadership largely controlled internal politics concluded internal democracy flourished best when there were many opportunities for members to acquire political skills, abundant independent channels of communication existed, and members enjoyed adequate free time and prosperity. In addition, ideology rather than self-interest were the major divisions within internally democratic organization. All these characteristics will be more common in forest trusts than in traditional politics (Lipset et. al., 1965, p. 347).

Unlike market models of reform or state forest trusts as they presently exist, National Forests would be under no institutional incentive to maximize profits. Although in most respects our arguments for trusts are similar, as a political theorist rather than an economist, my emphasis differs in this respect from Randal O'Toole's pioneering work. O'Toole advocated funding trusts from net revenues, creating a powerful incentive to respond to market values(O'Toole, 1995). While a vast improvement over current practice, I recommend instead that trusts be institutions of civil society, and therefore largely independent from both government and market, and able to use any mix of revenue, donations, and volunteer labor they can acquire. Over time their independence would grow, particularly if forest endowments increase.

Losing access to tax monies eliminates incentives to subsidize extractive industries or other private interests. It also prevents Congress from using financial threats to interfere with forest policies. The forests would become much freer from political intervention by parties unconcerned with their long-term well-being.

The enormous costs of fire suppression are a practical problem in transitioning from government to trust governance. While Congress will probably be willing to supply funding for fire fighting because they amount to considerable pork for many Western districts, in the long run such an arrangement is undesirable. One alternative is for forest trusts to take out insurance policies (Williamson, forthcoming). An advantage of this approach is that as the forest becomes less vulnerable to catastrophic wild fire, premiums will go down, providing an additional incentive for wise management.

Democratic Forest Trust would encourage an information rich environment, where the democratic process and laws requiring openness in the governance of trusts, combine to create a rich mix of insights and facts regarding actual and proposed policies. These incentives would be the opposite of those existing within hierarchical

bureaucracies, where information is a resource and tool of power, most useful when it is controlled.

Because there would be many trusts, each with responsibility for a single forest, members would focus on the needs of particular forests. Requirements for informed voters would not be overwhelming. With many local members local knowledge would be as accessible as more general and abstract principles of forestry and ecosystem stewardship. The internet enables every trust to have a website where information can easily be made accessible to members at a minimal cost (Benkler, 2006). The resulting networks arising within and between democratic forest trusts, and probably including other lands trusts as well, would likely create a communication field able quickly to differentiate members' time and other resources from addressing very local issues to ones of national or even international importance.

Such an institutional arrangement maximizes the advantages of having a multiplicity of decision-making centers, while using this same characteristic to minimize the impact of poorly chosen policies. Inevitable policy errors will usually be confined to a single area or forest. System-wide error such as the USFS's "no fires" approach to wild fire would be unlikely (Langston, 1995, pp. 132-7). However, local successes will often be copied or adapted to different conditions elsewhere. As much as human beings can, I think it avoids the weaknesses of organizational management while utilizing the strengths.

Most Americans already support environmental values. The trusts' independent status would be buttressed, probably by many millions of motivated citizen members opposing legislative overruling of trust self-governance in favor of private interests. They will already be organized and have close ties with the rest of society, protecting forests from Congressional and corporate intervention in their affairs. Further, they will have many non-member connections as with often sympathetic friends and family members.

People who use the forest will be able to observe for themselves the impact of managerial decisions. Renewal of directors through public debate and elections, where contrasting visions compete for the allegiance of voters deeply concerned with the

forest's fate, would inhibit the rise of self-serving elites and in-grown administrations (Moskowitz and O'Toole, 1993; diZerega, 1998; Best, 2003; Brighton, 2003).

While this argument is purely theoretical, I think its core suppositions are rooted in the dynamics observed in watershed restoration communities. Members are self-selected and most have little to no major economic stake in what is done. They join primarily because they care. This care facilitates their learning and active involvement. It also encourages their spending time in the forest, taking pride in its well being, and acquiring a protective attitude towards threats against it. A community of care arises, one likely to become in its own way, an evolutionary learning community.

Conclusion

I believe this discussion demonstrates the enormous promise local and networked ecological protection and restoration groups have to develop into effective evolutionary learning communities. Unlike groups located within the market order, government, or even science, they are able to address the depth of values that enter into our relationships with the other-than-human – and some of us would say more-than-human world, and do so united not by any particular philosophy. Further, this very ethical depth provides an institutional framework wherein people can act effectively on values and insights usually denigrated within the modern world, and in the process, lay the foundation not only for personal change, but also for the cultural changes needed if modernity is to learn to live sustainably with the natural processes that sustain it.

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