

# 4

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## *Traditional Analyses of the Endangered Species Act*

**T**raditional theories of public policy include pluralism, policy sciences, public choice theory, and critical theory (Schneider and Ingram 1997). These theories provide foundations from which public policies are developed and analyzed. Czech defined another tradition of policy analysis: "policy specialism" (1997a:60). Policy specialism does not constitute a coherent policy theory, however, so we refer to the four theories and policy specialism as "policy perspectives." These five perspectives differ dramatically in epistemology, normative stance, and the role expected of public policy. The ESA has been analyzed from each of these perspectives. In this chapter, we review these perspectives and the ESA analyses performed pursuant thereto.

### PLURALISM

Pluralism is the oldest theory of public policy. Dominating political science for much of the twentieth century, it serves as more than a model for policy studies. It is also one of the four dominant theories of American government, along with democracy, elitism, and hyperpluralism (Lineberry 1980). It incorporates four concepts: (1) limitation on the power of government, (2) responsiveness of government to public preferences, (3) multiple identities and overlapping memberships of citizens, and, (4) denial of the existence of a public interest (Schneider and Ingram 1997). It emphasizes the location of power in society and optimistically views the fragmentation of power in America as intentionally, constitutionally derived. It is supposed to be an empirically testable theory that

documents how, and attempts to explain why, government behaves the way it does and why it remains stable. As such, its view of policy is process-oriented, focusing on power formation, agenda setting, and policy adoption. It usually gives less attention to the implementation and evaluation of policy content.

Given pluralism's seniority in public policy studies, it is appropriate that one of the first scholarly studies of ESA was conducted in classic pluralism terms. Yaffee (1982) portrayed ESA as a paragon of "prohibitive policy," a type of policy that defines societal goals, prescribes the means to achieve them, and restricts the behavior of citizens in the process. Yaffee's pluralistic perspective of ESA can readily be detected in the following statements: "The logic of the [legislative] process assumes that if there is a valid interest, then someone will rise up to advocate its position. In the pure model, the significance of an interest is measured by how effectively it can make itself heard" (43-44). "Implementation entails building support, mediating conflict, and negotiating compromise within agencies, between agencies, between branches of government, between agencies and interest groups, and between all of these parties and the media" (8). Most revealing of a pluralistic perspective "If there are ends that are well served by prohibitive policies, then perhaps inefficiency is tolerable. More important, if bargaining and negotiation do take place, then the outcomes cannot be considered to be inefficient unless the negotiations are inadequate" (15-16).

Yaffee addressed the pre-ESA evolution of wildlife law more thoroughly than would analysts from the other policy perspectives, but instead of focusing on the laws produced, he focused on the groups producing them. He identified the rapidly expanding wildlife profession of the mid-twentieth century as the most important party in determining the endangered species agenda, because wildlife ecologists were the first to define the problem, and did so as a technical one. Furthermore, wildlife professionals actively pursued species conservation legislation and federal land acquisition. They were supported, especially in the latter effort, by outdoor recreationists who had become increasingly powerful during the postwar economic boom.

While there were few detractors to endangered species legislation (chapter 3), Yaffee's investigation illuminated a fur industry mobilization against provisions of the 1969 act. This mobilization supported Yaffee's pluralistic vision of a group rising up to advocate its position. By the 1980s, however, pluralism had been much criticized, and pluralists were well aware of the weaknesses of a pure model. Yaffee noted, "In reality, how-

ever, some interests have limited resources to promote their case, others are ineffectual, and still others are unaware that their interests are at stake" (1982:44). The latter weakness of classical pluralism was exploited by interest groups, which later claimed that with ESA, Congress and many supportive interest groups had only intended to protect well-known, charismatic species.

Pluralism portrays the legislation of new agencies and programs as susceptible to sabotage through "political compromise," in which congressional opponents offer support only on the condition of including amendments subtly designed to cripple the program (Moe 1990). But such compromise is only necessary for highly contested, partisan issues—which ESA was not. Despite the relative paucity of political compromise manifesting ESA, with Section 6 the only noteworthy exception (chapter 3), Yaffee found ample compromise during implementation. For example, when ESA was passed, FWS recognized four subspecies of gray wolves: each were classified as endangered. The status of the eastern subspecies was controversial, because cattlemen in Minnesota wanted Section 9 flexibility in cases involving depredation. Responding to pressure from the cattlemen, FWS combined the four subspecies in 1978, making it easier to downlist the Minnesota population, which had suddenly become a subset of a much larger total population. Yaffee likewise found political motives behind listing decisions involving the Mexican duck, glacier bear, Furbish lousewort, and several sea turtle species.

Yaffee's pluralistic acumen was revealed in his interpretation of endangered species research. He saw the technical function of species research as secondary to the political function, at least in some cases. With empirical evidence from the Houston toad controversy, Yaffee noted, "One response to controversy is to study the issue further. A study gives added credibility, time to let things sort themselves out, and occasionally a better technical basis to make a decision" (1982:95).

Yaffee showed how the Progressive model of bureaucratic hierarchy is programmed to resolve interagency conflict. In Progressive bureaucracy, technical experts report to professional administrators, who in turn report to political appointees. With ESA, the model works well, at least in terms of resolving conflict. The biologists, who work directly with the species and would find it difficult to be flexible in negotiations, are largely information providers for higher-level officials, who then do the negotiating. The FWS officials in Washington, being far removed from the field and the species they protect, and closely connected with the secretary of the interior, president, and Congress, have considerable incentives for cre-

ative resolution of problems. Yaffee attributed a relative lack of conflicts between ESA and economic development projects to these incentives.

The preponderance of political pacification by FWS was a disappointment to early supporters of ESA, who thought that the clear objectives of ESA would result in quick, effective action. Yaffee ascribed their surprise to two errant assumptions. The first was that the endangerment of a species could be clearly and technically defined. The second was that prohibitive policy limits agency discretion and thus limits compromise. Yaffee noted that the two assumptions fall together, because technical uncertainty is what opens the door for agency discretion. Biodiversity issues are rife with uncertainty in the best of administrative situations, but combined with the classic underfunding faced by FWS (Clarke and McCool 1996), ESA implementation has inherited an inordinate amount. In such an environment, bureaucratic discretion thrives.

Yaffee's interpretation of ESA, then, stressed the balancing of power in endangered species controversies, the effective limitation of FWS power despite the prohibitive clout of Sections 7 and 9, the responsiveness of FWS to public preferences, and the importance of interest groups in ESA adoption and implementation. These are typical emphases of pluralism, but they are an incomplete set of criteria with which to analyze policy or government (Schneider and Ingram 1997; McCool 1995). There is an inadequate normative stance from which to judge policy outcomes as right or wrong, no standard of citizenship entailed, and no prescription for better policy. For the most part, Yaffee's account fits this criticism. However, he did relate a summary of the arguments for preserving species, including potential moral and ethical obligations.

Other accounts of ESA that generally fit the model of pluralism include those of Mann and Plummer (1995), Yaffee (1994a), Barker (1993), and Raven (1990). In addition, legal analyses that examine ESA's language, associated regulations, and resulting case law contain many pluralistic observations (Cheever 1996; Lin 1996; Houck 1995; Patlis 1994; Smith et al. 1993; Littell 1992; Yagerman 1990; Rohlf 1989; Bean 1983).

## POLICY SCIENCES

The policy sciences are an attempt to apply scientific methods to the policy process, but they project no illusion of a "value-free" science. In contrast with the detachment of pluralist analyses, the policy sciences are intended to provide information that enables public policy to solve prob-

lems and achieve goals. As Brewer and deLeon described it, "Then and now the term defined an approach concerned with knowledge of the decision or policy process and knowledge in that process. The policy sciences join and integrate theory (knowledge of) and practice (knowledge in) to improve them both for human benefit" (1983:9). Policy scientists would replace the irrationality of politics and bureaucracy with the instrumental rationality of science and technocracy in the formulation and implementation of policy. The rational policy process would proceed as follows: (1) identification of goals; (2) formulation of policy alternatives; (3) assessment of the effects of alternatives; (4) adoption of the optimal policy; (5) implementation; and (6) evaluation of results.

An influential predecessor of the policy sciences was institutionalism, a prominent approach to policy studies until about 1960. The focus of institutionalism was the structure of government branches and agencies involved in policymaking and implementation. After being gradually superseded by behavioralist political science during mid-century, institutionalism has made somewhat of a comeback in the form of "new institutionalism," in which rules of behavior, norms, roles, and agency cultures are defined as institutions along with the basic structures of government that influence policy (McCool 1995:106).

Clark et. alia (1994) provided a policy sciences perspective of the endangered species issue. They presented nine case studies, which they followed with six theoretical perspectives. Indicative of the new institutionalism permeating the case studies, Reading and Miller found that, for the black-footed ferret, "Endangered species recovery programs could be greatly improved by addressing their professional and organizational weaknesses" (1994:73). Mattson and Craighead thought that a key to grizzly bear recovery" lies in changing the agencies and creating systemic risks and benefits such that managers are naturally led to pursue fulfillment of the ESA" (1994:121). Jackson said, "The major problem facing recovery [for the red-cockaded woodpecker] is the insistence by government agencies that management must fall within the constraints of "desired" management practices imposed by the forest industry" (1994:202). Snyder remarked of the California condor recovery program, "The same mistakes in organization and implementation seem to recur endlessly, despite considerable discussion of these mistakes" (1994:222). After analyzing the Florida panther recovery program, Alvarez summarized, "the nation has not made the proper arrangements to carry out the mandate of the ESA. The government agencies in charge were not formed for that specific purpose" (1994:222). These authors tended to acknowledge

but de-emphasize the specialized role of wildlife science in achieving endangered species recovery. Reading and Miller for example, thought that "these technical aspects, however, may be much simpler and less problematic than the professional and organizational issues facing ferret recovery" (1994:76).

Cumulatively, Clark et alia argued that "poor implementation of the ESA is itself a major cause of the continuing decline of species, and professionals and organizations are significantly responsible for the quality of implementation" (1994:4). Their major recommendation to those professionals and organizations was to learn more about policy sciences and to use that education in their management activities. In particular, they recommended the study of valuation, scientific management, innovation, psychology, small-group theory, organization theory, communications theory, and cybernetics. Their analysis revealed no flaws with the logic of ESA itself.

Following this illustrative effort, Clark (1997) more thoroughly employed the policy sciences to critique black-footed ferret recovery efforts and discussed the implications to endangered species recovery at large. Both studies constitute the major efforts to analyze ESA via the policy sciences. Meanwhile, some legal analyses have bordered on the policy sciences to the extent that they have provided abundant, systematic observations of the policy implementation process and the institutions devoted thereto (e.g., Lin 1996; Patlis 1994; Yagerman 1990). The same can be said for some pluralistic analyses, including those of Yaffee (1982, 1994a) and, most notably, Yaffee's (1994b) lead-in to the case studies of Clark et alia (1994).

The policy sciences are criticized for a lack of normative content (Schneider and Ingram 1997). Although the policy sciences acknowledge the existence of a public interest and were developed to serve the human prospect, a focus on material efficiency as typified by valuation studies has weighed heavily upon the reputation of the policy sciences. The lack of a consistent focus outside of cost-benefit analysis also reflects the difficulty of applying scientific methods to much of the policy process. Perhaps the policy sciences have not come far since Brewer and deLeon observed, "Policy research, analysis, and training were professional fads, and everybody wanted to get with it. The results are now in, and their sober appraisal directs us back to the intellectual drawing board if we are to prepare policy analysts and practitioners for their exceptionally difficult trade" (1983:9).

## POLICY SPECIALISM

While the policy sciences apply scientific principles to the policy process, policy specialism applies the scientific method to the policy subject. In energy policy, for example, policy scientists focus on the efficiency of the nuclear bureaucracy, but physicists and engineers (policy specialists) determine what policy alternatives will work best from a technical perspective. In wildlife issues, the policy specialists are wildlife biologists. In the endangered species policy arena, they are often specialized further as conservation biologists, evolutionary ecologists, population geneticists, and landscape ecologists.

Providing a consummate example of policy specialism, the National Research Council (NRC) (1995) limited its analysis of ESA to biological and ecological considerations to determine if ESA had a sound basis in natural science. The NRC showed a penchant for defining the terms of the issue by introducing the “evolutionary unit . . . a group of organisms that represents a segment of biological diversity that shares evolutionary lineage and contains the potential for a unique evolutionary future.” Adopting the term would subtly improve upon the problematic application of traditional species concepts—including the biological, cladistic, cohesion, evolutionary, phylogenetic, and recognition concepts (Cracraft 1989)—to ESA regulations.

In its consideration of habitat, NRC recommended the designation of “survival habitat,” which would be designated for a species at the time of listing, and would be “that habitat necessary to support either current populations of a species or populations that are necessary to ensure short term (25–50 years) survival, whichever is larger” (1995:77). The number of years constituting “short-term” is left to adjustment by species experts, based upon generation time and other species-specific biological traits. The purpose of designating survival habitat would be to provide immediate, emergency habitat protection for a species until the “critical habitat” designation mandated by ESA can be developed by biologists. Policy specialism, more than policy sciences and far more than pluralism, would substitute political maneuvering and bureaucratic discretion with scientific knowledge.

For recovery planning, NRC (1995) found no scientific reason for the lesser protection of plant (versus animal) species afforded by ESA, or for different standards of protection on public and private lands. It recommended further quantification of recovery goals, which would be ex-

pressed in terms of survival probability per unit time, rather than the typically employed population size goals. For example, a recovery goal might be to achieve the conditions required for 95 percent probability of species survival for the next 200-year period. With the unrelenting emphasis on quantification that characterizes scientific endeavor, NRC proposed, "Although it will often be difficult to make these estimates, even the attempt to make them will have value by requiring an objective analysis and by requiring assumptions to be specified" (1995:10).

As no other policy framework would, the NRC's policy specialism identified a subtle weakness of scientific convention as applied to endangered species recovery. Studies designed to determine the impact of an activity on a population usually test a null hypothesis of the generic form: there is no effect of the activity on the population. Meanwhile, scientists traditionally emphasize the avoidance of Type I error (rejection of a true null hypothesis) at the increased risk of Type II error, in which one fails to reject a false null hypothesis. In testing for harmful effects of an activity on an endangered species, however, the consequences of Type II error are much more grave. The NRC cautioned researchers and research interpreters to take heed.

Overall, NRC provided a rational, specialized analysis of ESA from an eco-evolutionary and probabilistic perspective. The NRC focused its recommendations on the elimination of technically arbitrary ESA clauses, the development of quantifiable norms for implementation, and the continual refinement of ESA procedures by scientific experts.

There are practically innumerable critiques of ESA clauses and procedures that fall under the rubric of policy specialism (e.g., Waples 1998; Pennock and Dimmick 1997; Easter-Pilcher 1996; Tear et al. 1995), especially if one includes portions of articles that are primarily about other topics. The ESA as a whole has been addressed via policy specialism, too (e.g., Carroll et al. 1996; Miller 1996; Eisner et al. 1995). None of these analyses have the breadth or depth contained in the NRC report, however.

While the policy sciences are criticized for a lack of normative content, policy specialism is characterized by a lack of normative coherence. Each policy specialist tends to promote the values and goals of his or her profession, leaving the public and policymakers confused about widely divergent policy prescriptions. Policy specialists are hard to debate on technical grounds, and policy scholars concerned with the health of American democracy criticize the technocratic hegemony that policy specialism wittingly or unwittingly encourages (Schneider and Ingram 1997; Fischer 1990).



## PUBLIC CHOICE THEORY

Public choice theory is characterized by a rather strict application of neo-classical economics to policy. Public choice theorists analyze policy under the assumption that human beings are self-interested utility maximizers and that maximization may be measured economically. Populated primarily by political economists, public choice theory supports the free market as the dominant form of social organization, while government is relegated to the role of policing the marketplace and providing goods and services not provided by the market. Privatization is the natural prescription.

Public choice theory developed in the 1950s and generated interest quickly. Green and Shapiro (1994) found that public choice articles first appeared in *American Political Science Review* in 1952 and, by 1992, nearly 40 percent of that journal comprised such articles. Public choice theory has greatly influenced American government, especially during the administrations of Presidents Ronald Reagan and George Bush, when public choice theory complemented presidential ideology (Schneider and Ingram 1997).

Some authors have recently employed a wide range of economic principles to analyze certain aspects of ESA (e.g., Bourland and Stroup 1996; Kennedy et al. 1996; Montgomery and Pollock 1996; Heinen 1995; and Heissenbittel and Murray 1992). Although these authors have applied methods and concerns associated with public choice theory, they have varied in the degree to which they subscribed to the larger public choice philosophy (especially privatization). Conversely, at least one primarily pluralistic account exhibited a public choice philosophy (Mann and Plummer 1995). O'Toole (1996) edited a special journal issue that applied public choice theory to ESA, but Simmons and Kay (1997) were the first to write a book-length manuscript on the topic. (The 1997 manuscript has apparently evolved into a forthcoming book, *Political Ecology: Politics, Economics and the Endangered Species Act*.)

In their critique of ESA, Simmons and Kay focused on how property values may have been impacted by the listing of species. They referenced data presented at a Texas water law conference that property values in Travis County, Texas, declined \$359 million after the golden checked warbler and black-capped vireo were listed. They also asserted that a landowner in North Carolina had effectively paid \$73,914 apiece for twenty-nine red-cockaded woodpeckers that resided on his property. (Both of these accounts have been contested by the United States Fish and Wild-

life Service [1995]). Simmons and Kay also noted that inaccurate data on population sizes can lead to erroneous listings and unjust economic hardships — a weakness of policy specialism.

Simmons and Kay took issue with the Supreme Court's 1978 opinion in *Tennessee Valley Authority v. Hill*, in which ESA was interpreted to define "the value of endangered species as incalculable." To Simmons and Kay, "It is, in fact an absurd statement. Few people can believe that preserving one of the thousands of varieties of beetles is more valuable than solving the economic and social crises in our central cities" (1997:93). (Simmons and Kay may have misinterpreted the word "incalculable," which literally means impossible to calculate, usually due to volume.)

Regarding species recovery, Simmons and Kay said nothing about the pluralistic process and focused on results. They noted that twenty species have been delisted, eight because they went extinct and eight because data supporting the original listings were inaccurate. They noted that ESA's contribution even to the other four delistings is controversial. After quoting praise for ESA delivered by Bruce Babbitt (secretary of the interior under President Clinton), Simmons and Kay said, "In our opinion, four contested delistings hardly qualify the ESA for such accolades" (1997:103).

In contrast to the pluralist Yaffee (1982), Simmons and Kay (1997:52) attacked the institution of Progressive bureaucracy: "Because public agencies are creatures of the polity in general and politicians in particular, they are political agencies, not the omniscient, impartial organizations envisioned by the designers of the civil service system. Because budgets are determined by political processes, the bureau must choose fiscal strategies of survival and growth that make political, if not economic sense." Not only is the political management of the bureaucracy inefficient, it discourages innovation and provides an incentive for bureaucrats to distort information about program activities and success, especially during the budgeting process. Once the distortion is perpetrated, it must be perennially perpetuated lest the bureaucrat responsible is discovered. Furthermore, policy implementation tends to the short term because top-level bureaucrats are tied to the election cycle.

Simmons and Kay presented case studies of the gray wolf, grizzly bear, and African elephant. The case studies highlight the skepticism of Simmons and Kay toward ESA, policy specialism, and Progressive bureaucracy. About the gray wolf, Simmons and Kay (1997:118) said, "All the government's recent wolf recovery reports, wolf population models, and studies regarding possible impact on big-game hunting are arbitrary and

capricious. They represent not science but a masterful job of deception." Simmons and Kay supposed that the motive for deception was to get wolves into the Rocky Mountain ecosystem so that larger populations could be produced under ESA protection. They posited that wolves were never common in Yellowstone, as commonly believed, but that they would quickly repopulate other parts of the West once reintroduced and cause major economic hardship. Simmons and Kay concluded, "Wolf recovery is a bad idea whose time has apparently come, unless, of course, the Endangered Species Act can be changed" (1997:153).

Simmons and Kay used the elephant, a species with proven-in-detail market characteristics, to invoke public choice theory. They recommended a smaller role for government and a larger role for market processes, and discussed the pillars of the market: prices and property rights. Harkening back to the classical economics of Adam Smith, they related that prices move like a hidden hand to prevent over-consumption, encourage efficiency, and distribute information about supply and demand. Meanwhile, property rights make owners responsible for their decisions, leading them to maintain their property in good condition. Government regulation is anathema to the market, because the resulting price regime is artificial and misleading, and property rights tend to diminish.

Simmons and Kay reviewed Hardin's (1968) tragedy of the commons and observed, "*Any action on a commons is intrinsically irresponsible because costs are socialized and benefits are privatized*" (1997:228, emphasis theirs). They classified species as common pool resources and cited the bison as a classic example of tragedy of the commons. They implied that treating species as private or toll goods would be a better conservation strategy.

A frequent criticism of public choice theory is the implications of its normative stance for democracy (Schneider and Ingram 1997). The degree of property rights championed by Simmons and Kay fits with the philosophy of the "rights revolution" discussed by Landy (1993), whereby ideals of citizenship and social responsibility have been neglected while the rights of individuals have proliferated. For example, Simmons and Kay claimed, "In the case of biodiversity, the landowners are producing a *benefit* and if members of society value the biodiversity the landowners produce, ways should be found to encourage the landowners to continue to produce the positive externality" (1997:275, emphasis theirs). This is an extreme view to nonpublic choice theorists because wildlife species were part of the environment pre-ownership and are perennially produced nat-

urally. (It would be incomprehensible to credit a landowner residing along a stream, for example, with producing the water that runs past; likewise with wildlife that literally and evolutionarily runs through.)

Critics also view the application of neoclassical economics to endangered species conservation as overwhelmed by complexity and detracting from responsible citizenship (Erickson 2000). Economic efficiency would only be an adequate standard for endangered species policy were it to account for the needs of all humans, present and future—even more complex issues of biocentrism aside. As such, it would require the calculation of the incalculable (e.g., the worth of species), the knowledge of innumerable and unknowable economic and ecological variables, and a crystal ball. Minus an omniscient public choice theorist, public choice theory renders a highly constrained contribution to the evaluation and prescription of endangered species policy.

## CRITICAL THEORY

Critical theory hearkens back to Karl Marx as the progenitor of the perspective. Critical theory is concerned primarily with oppression and domination, and engenders a commitment to participatory, nonhierarchical forms of political, economic, and social interaction (Schneider and Ingram 1997). With its overriding concern on oppression, the applicability of critical theory to endangered species policy is suspect at first glance. The only straightforward way that species endangerment could be considered an issue of oppression is to consider rare species as the oppressed—a truly biocentric and radical concept. As for human subjects, future generations denied a full endowment of species could also be classified as oppressed. Devall and Sessions, perhaps not critical theorists per se, nevertheless embraced both concepts explicitly in *Deep Ecology* (1985).

Critical theory rejects the benign view of government and policy processes held by pluralists and the economically derived priorities of public choice theory, but its most vitriolic critique is saved for the instrumental rationality of policy sciences and policy specialism. Instrumental rationality is viewed as the source of oppression in capitalist and socialist societies alike, and is cited as a root of species endangerment because it justifies the dominance of other species and the earth itself. One of the most consistent and intensive themes in critical theory, therefore, is the replacement of instrumental rationality with “communicative rationality” (Hayward 1994). In contrast to the abstruse jargon, distorted data, and

“value-free” decision making that typifies instrumental rationality in the context of pluralist politics, communicative rationality occurs when policy discourse is technically accurate, attendant to human freedom and equality, and comprehensible to a participating general public.

As critical theorists are prone, Devall and Sessions addressed a much broader concern than could be contained in a statutory policy arena. Their ultimate goal was to evangelize the citizenry to an ecological consciousness whereby humans exist not as independent entities but as parts of a living, spirited “Nature,” along with all other species: “We believe that humans have a vital need to cultivate ecological consciousness and that this need is related to the needs of the planet. . . . Deep ecology is a process of ever-deeper questioning of ourselves, the assumptions of the dominant worldview in our culture, and the meaning and truth of our reality” (Devall and Sessions 1985:8).

As for the lesser yet important concern of public policy, Devall and Sessions focused on endangered species and wilderness preservation. They identified a dominant worldview based in Judeo-Christian spirituality, instrumental rationality, capitalism, and patriarchal family structures. The characteristic of this worldview that leads directly to species endangerment and loss of wilderness is dominance: dominance of humans over other humans (including posterity) and over nature.

Devall and Sessions outlined the “reformist responses” to the ecological problems caused by the dominant worldview and found them wanting. In their view, the prominent philosophical reform has been the resource conservation and development philosophy, born during the Progressive forestry of Gifford Pinchot and subscribed to by the natural resources bureaucracy. This perspective is usually associated with utilitarianism but is more precisely defined by the application of instrumental rationality to natural resource management. Another philosophical response is humanism, which would replace God or gods with *Homo sapiens* at the rudder of existence, armed with the knowledge of nature’s laws. The other philosophical responses include the animal liberation movement and the “limits to growth” response. Each of the philosophical reforms, however, are ultimately anthropocentric and therefore anathema to deep ecology.

Devall and Sessions did not deem the reformist responses as totally useless. They acknowledged the value of some resulting policies, especially ESA and the creation of the wilderness preservation system. What they deemed more important, however, was that “many people have sensed that something is missing. They are asking deeper questions. They

understand that the environmental/ecology movement needs an articulate philosophical approach grounded upon assumptions which are different from those of the dominant worldview. They realize that a perspective is needed that will place the best of the reformist response into a coherent philosophical perspective — a philosophy based on biocentric rather than anthropocentric assumptions” (1985:61). Thus, they proposed deep ecology.

Critical theories supplement hypothetico-deduction and formal logic with what may arguably be classified as other forms of knowledge, including intuition, self-reflection, and normative valuation (Schneider and Ingram 1997). The norms valued by deep ecology are self-realization and biocentric equality. There is no firm line between self-realization and the understanding of nature, because humans and nature are one. The norm of biocentric equality assigns an equal worth to all species. Self-realization and biocentric equality are inextricable; when one endangers a species, one endangers nature and therefore oneself.

Aided by redundancy, Devall and Sessions were impressively clear, considering the metaphysical nature of their subject. Nevertheless, they had difficulty in analyzing ESA. They posited,

The biocentric intuition that species have a right to exist and follow their own evolutionary destinies was established in the United States in the Endangered Species Act of 1973. This act has been severely attacked by those who defend the belief that the Earth exists for human use. But the Endangered Species Act still has major limitations. The act includes complex procedures for designating a species endangered, although it rejects the economist's narrow approach of a cost/benefit analysis on each species. Nevertheless, it includes the concept of balance between human needs and species habitat preservation.” (Devall and Sessions 1985:126).

The “buts,” “althoughs,” and “neverthelesses” illustrate a unique aspect of ESA: critical theorists who generally anathematize prohibitive policy see some semblance of wisdom in ESA.

One of the most common criticisms of critical theory is that it has lost what it historically claimed as its distinguishing feature — practicality. Deep ecology may be especially subject to such criticism because it extends the ideal of justice to nonhuman species. The intent of deep ecology is to transcend the dominant worldview, and doing so would require the replacement of anthropocentrism with biocentrism, representative

government with consensual policymaking, instrumental rationality with communicative rationality, and economic efficiency with spirituality. These replacement concepts are far from the mainstream of societal thought. They are not impossible but are unlikely to occur within the time frame required to prevent many looming species extinctions. *Deep Ecology* (or similar literature) would probably have to sweep the nation like *Silent Spring* to effect such a conceptual shift, and in the 15 years since its publication, it has not done so.

#### SUMMARY OF TRADITIONAL ANALYSES

We conducted a comprehensive literature search with Quicksearch, a database linking and referencing program, in April 1996, using "Endangered Species Act" as a key phrase. We found 1,341 ESA articles published in natural science and popular environmental journals and 48 in social science (primarily legal) journals. The Congressional Record Index contained 273 records, corresponding approximately to the number of hearings in which ESA was a primary topic. The American Statistics Index included 42 quantitative publications of federal bureaus and congressional committees. Twenty-five M.S. and Ph.D. theses had been composed with ESA as a primary topic. Using the key words "endangered" and "species," 157 books were indexed, including ten that have been written about ESA or with ESA as a primary topic. An aborted newspaper database search revealed thousands of news articles published on ESA.

Almost all of the journal articles, government reports, dissertations, and books about ESA may be classified under one of the five traditional perspectives, except for a few that simply provide uninterpreted data (e.g., expenditure reports). Many of the congressional reports include testimonial ESA analyses from multiple sources, too, so that there are thousands of policy analyses published on ESA with varying degrees of comprehensiveness. As with most technically challenging policy issues, the majority of ESA analyses are from the policy specialism perspective, as reflected by the preponderance of articles in natural science journals. As with controversial issues in general, pluralistic analyses are common, too. Public choice analyses are also fairly common, because the implications of ESA to private property regulation invites public choice critique. Formal policy science analyses are less common, although many analyses include systematic observations of the institutions and processes associated with ESA. Critical theory analyses of ESA are uncommon because of the bio-

TABLE 2. *Emphases of Traditional Public Policy Perspectives*

<i>Perspective</i>	<i>Dominant Epistemology</i>	<i>Normative Ideals</i>	<i>Primary Functions Ascribed to it</i>
Pluralism	Behavioralism, deductive theorizing derived from inductive explanation	Political equality, legal primacy, procedural accessibility	Represent and respond to interests
Policy sciences	Value-based deductive theorizing derived from inductive explanation	Efficacy, efficiency, human dignity	Identify and solve societal problems
Policy specialism	Hypothetico-deduction, ostensibly value-free (not linked with normative stance)	Varies with specialty (e.g., preservation of biodiversity)	Base management guidelines on rigorous scientific research
Public choice theory	Broad deduction, methodological individualism	Efficiency, Pareto optimality	Convert individual rationality in collective rationality
Critical theory	Self-reflection, intuition, faith	Elimination of oppression	Engage public in consensual decision-making

Sources: Based primarily on Schneider and Ingram (1997), supplemented by Czech (1997a).

centric prerequisites and because critical theorists tend to focus on broader, contextual issues.

As these policy perspectives overlap conceptually (for example, the policy sciences emphasis on cost-benefit analysis providing a link to public choice theory), so do ESA analyses. The most common combinations appear to be those in which ecologists attempt, implicitly or explicitly, to take a new "slant" on ESA by incorporating aspects of political science. Thus, most combinations include a considerable element of policy specialism. For example, Easter-Pilcher (1996) and Scott et al. (1995) incorporated elements of the policy sciences and pluralism, respectively, in assessing decisions pertaining to the listing and recovery of endangered species. Invariably, however, the perspectives from which ESA has been analyzed have been readily identifiable and predominant.

Schneider and Ingram (1997) identified a shortcoming common to the traditional policy perspectives: narrow epistemological and normative foundations support incomplete visions of public policy (Table 2). Also the distinct perspectives make it difficult to assess the relative merit of



policy analyses; comparing a pluralist account with a public choice analysis, for example, is like comparing apples and oranges. Schneider and Ingram argued that a new policy perspective is required for policy analysis to contribute toward solving societal problems and serving democracy, and they called it policy design theory.

# Part 2

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*A Policy Design Analysis  
of the Endangered  
Species Act*

# 5

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## *Policy Elements of the Endangered Species Act*

**P**olicy design theory assumes that American public policy is supposed to serve democracy in addition to solving technical problems. A good policy has the rationale required to lead efficiently and effectively from clearly stated procedural requirements or incentives to a clearly stated goal. It encourages public participation and enables policy implementers to respond to public needs. It accounts for the social construction of its target groups and seeks to better their lot, being careful to encourage neither cynicism nor deception, or to lead to the oppression of one group by another. In other words, a good policy accomplishes a balance of the goals held in esteem by traditional perspectives and serves democracy in the process (Schneider and Ingram 1997).

The first, most fundamental step in policy design analysis is identification of the policy's legal proclamation and the agents, targets, and goals identified and established by that proclamation. The next step is identification of the rules and tools created by the policy for agents to use in pursuing the policy goals. Those relatively straightforward steps are followed by identification and assessment of the assumptions made and the rationale employed by the authors of the policy.

Identification of policy elements—proclamation, agents, targets, goals, rules, tools, assumptions, rationale—and their relationship to one another enables an assessment of the structural logic of the policy. For example, if it is difficult to identify the policy elements, then successful implementation is unlikely. Identification of policy elements also enables the practice of comparative policy, whereby the element arrangements and structural logic of various policies may be assessed relative to one another. The value of such comparison is suggested by similar pursuits

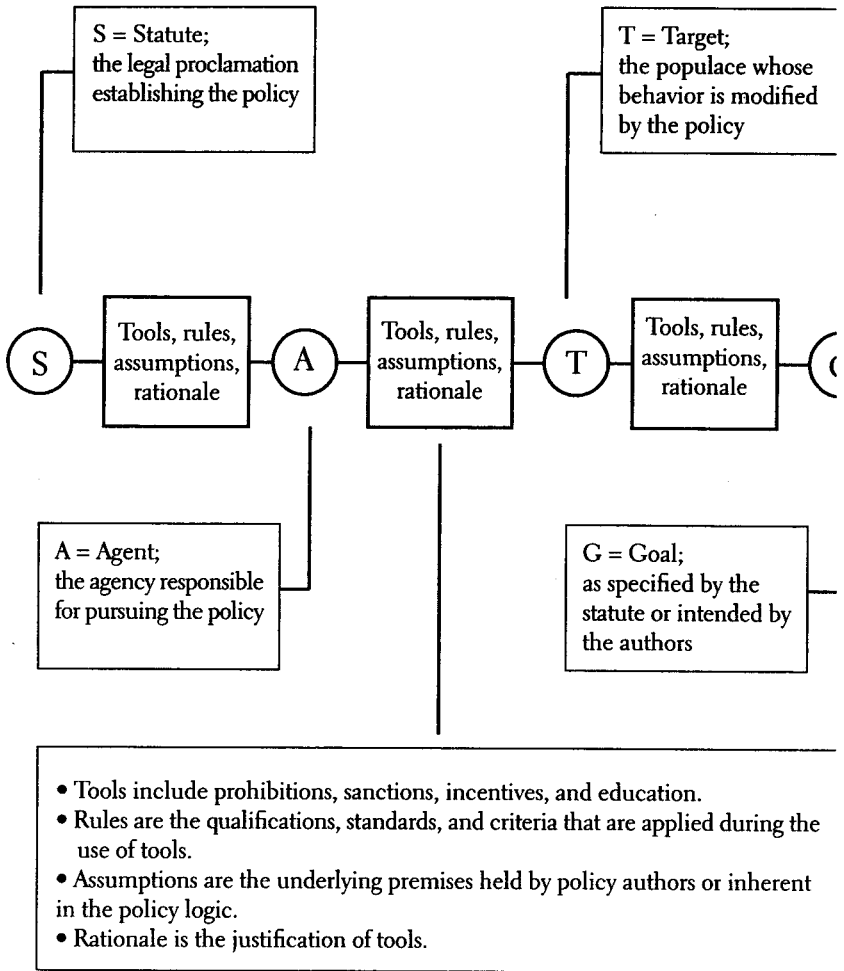


FIG 1. *Template of public policy elements.*

as widely dispersed as comparative anatomy, comparative literature, and comparative government. A template of policy design (Fig. 1) provides a starting point for comparative policy.

Rarely are public policies as simple as the template, however. The policy language does not have to be statutory and may be hidden in obscure court opinions or vague administrative law. Agents are often multiple, and one may or may not be acknowledged as the lead. Sometimes it is difficult to distinguish between agents and targets. Targets and goals may be multiple. The ostensible goal of the policy may be one of many held by the

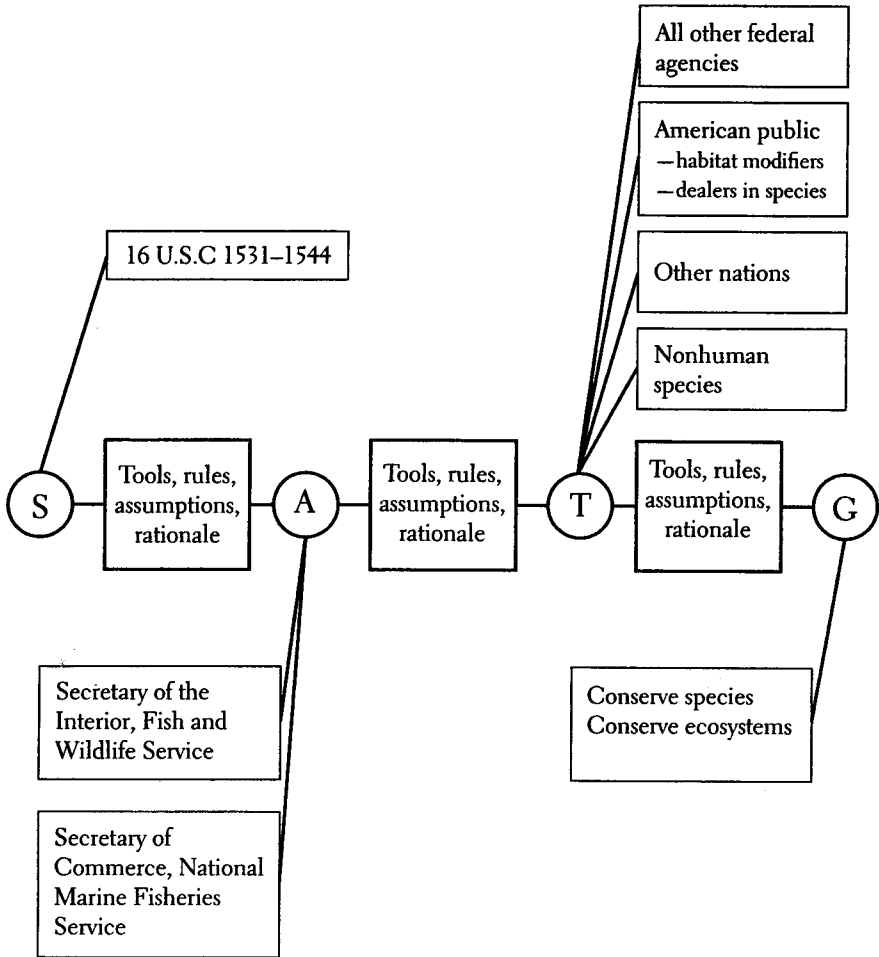


FIG. 2. Policy elements of the Endangered Species Act.

authors and may even be opposite the goals of some authors, owing to legislated political compromise (Moe 1990). The rules, tools, assumptions, and rationale often encompass a tremendous amount of technical and political complexity that may or may not logically lead from the legal proclamation to the accomplishment of the goal.

The ESA is clearly the focal statute in endangered species policy and is relatively straightforward. Nevertheless, it produces an element structure with several uncommon properties (Fig. 2), notably the targeting of federal agencies in addition to sectors of the American public and a seem-

ing biocentricity of goals. Given the novelty of these aspects and the demands they place on agencies and citizens, it is not surprising that ESA implementation faces challenges from inside the government and out.

Many authors, including those reviewed in chapter 4, have shown how ESA is intended to conserve species and ecosystems through the prohibition of federal and private activities that destroy species and their habitats, overseen by FWS and NMFS. In effect, they have described the agents, targets, and goals of ESA. Some researchers (especially legal scholars) have minutely dissected ESA's statutory language and its associated federal regulations, and have identified the tools and rules applied by the agents (see e.g., Cheever 1996; Lin 1996; Houck 1995; Patlis 1994; Smith et al. 1993; Littell 1992; Yagerman 1990; Rohlf 1989; and Bean 1983). Cumulatively, these authors (especially the legal scholars) have provided a thorough assessment of the rationale connecting these policy elements, with ESA generally receiving high marks. However, the assumptions underlying the design of ESA have been largely ignored.

An assessment of the assumptions underlying the progression of policy elements from statute to goal is essential to the analysis of policy design, because if an assumption is wrong, then the policy may be structurally flawed, regardless of apparent rationality. In formal logic terms, an argument may be valid (its conclusion must follow from its premises) but unsound (its premises are incorrect and therefore its conclusion will not follow). Likewise, a policy may be valid (its goals will be achieved if the assumptions of its authors are correct) yet unsound (the assumptions are incorrect, and therefore its goals will not be achieved). In other words, a valid policy is rational but not necessarily sound and not necessarily destined for success.

Given the copious literature on the other elements of ESA design, we have focused on the assumptions of the authors. The ascertaining of assumptions is not an entirely objective process, and there is no mechanical device with which to measure the accuracy or precision of those undertaking the task. Nevertheless, assumptions can — and for the purposes of policy design analysis must — be ascertained. Legislative history and statements of legislators can provide insight to assumptions, but logical analysis of statutory language is the most objective method. Furthermore, some assumptions are embodied in the logic of statutes and may never have been the topic of discussion among legislators or even consciously derived. Despite the lack of legislative history, these “assumptions in effect” have a direct bearing on implementation and interpretation in the courts.