

SELECTION 5

WHAT IS CONSERVATION?

A discussion between two conservationists who are interested in conserving different things often degenerates into polite name calling or worse. Smith will tell Jones that he doesn't know what *true* conservation is. And Jones will reply acidly that what Smith proposes—far from being conservation—is profligate waste. Finally the discussion ends from boredom or exhaustion, with each conservationist walking away shaking his head and saying to himself that he doesn't see how anyone could hold such inane views. The outsider viewing this fruitless exchange is puzzled. If both parties are for conservation, which everybody seems to think is a good thing, what are they quarreling about?

One of the difficulties is that the word "conservation" is used with varying meanings, often without telling the other party to the discussion what one's own definition is. But the confusion is not simply a matter of failing to let the other fellow in on one's private definition, for many users of this term seem to have no clear definition of their own and seem to prefer the ambiguity that results.

The imprecision surrounding use of the word "conservation" has been associated with widespread attempts to appropriate its persuasive sound for special interests. If a certain proposal is labeled a conservation proposal, or to go even further, if the proposal is said to represent *true* conservation—implying that there is a subtle but compelling case

for its adoption—there is probably a tendency for more favorable reaction than if a less emotive term is used. After all, if a person is asked whether it is better to conserve or not conserve, he no doubt will vote for conservation. Of course it would be unthinking of him to vote at all since he didn't ask the questioner what meaning was to be given to conservation, but the point is that the mere mention of the word tends to stimulate favorable response rather than a search for meaning.

The confusion surrounding use of the term "conservation" and the attempt to appropriate favorable reaction to it for special interest proposals and programs is readily apparent to even the most cursory examination. It is an interesting exercise to go over speeches or writings on conservation matters and to ask what definition of conservation the person might have had in mind. Quite often it turns out that he believes his policy should be adopted *because* it will conserve (that is, save for future use or preserve for use) a *particular* resource product, for example, water for irrigation. But confusion arises when the city dweller insists that the water should go to the city for drinking, cooling, etc., because *that* is really conservation.

Sometimes general definitions are given. A widely favored one is the following: "Conservation is the use of natural resources for the greatest good of the greatest number for the longest time." This is the definition that Gifford Pinchot, the founder of what historians are wont to call the Conservation Movement, was fond of using. Pinchot credits the definition to W J McGee (who insisted on no periods after the initials), a freewheeling intellect of very wide interests and great ability who worked with John Wesley Powell and later with Pinchot.¹

When this definition is read off rapidly—conservation is the use of natural resources for the greatest good of the greatest number for the longest time—the three superlatives have a delightful ring. If this is conservation, how could anyone be opposed to it? No one could be, of course, unless he stops to ask himself how three variables can be maximized at the same time. Imagine a father trying to distribute a bag of candy to his children so as to maximize the amount of candy received by each child who gets candy *and* the number of children receiving candy *and* the length of time the candy will be visible.

Still another general formulation has enjoyed great popularity with politicians for over half a century, and with others whose audiences are of opposing minds. Again let us take Pinchot's formulation, which may have been fathered by him: "Conservation implies both the development and the protection of resources, the one as much as the

¹ Gifford Pinchot, *Breaking New Ground* (New York: Harcourt, Brace and Co., 1947), p. 326.

other. . . ."² On the surface, this should command general assent, for who among us is opposed to development? Who is opposed to the protection of resources? The trouble comes when the blanks are filled in. Suppose that development means covering a canyon with a lake for purposes of power and irrigation while preservation means leaving the canyon alone so that its beauty can be seen. An excellent example is provided by the Echo Park controversy. It was indeed impossible both to develop the dam site and at the same time preserve one of the products of this natural resource, namely, the beauty of Echo Park and the nearby canyons. Unfortunately, a verbal incantation that reconciles the irreconcilable does not in fact resolve the very real conflict between development and preservation. There is no inconsistency between development and preservation, however, if one's objective is the "conservation" of only one of the uses of the resource.

In the case of mineral resources, the stock of which is used up in the act of consumption—perhaps with some recirculation—the injunction to develop and preserve simultaneously is even more mystifying than it was in the preceding case. Development in the case of minerals means production, but preservation presumably means postponement of consumption. How can both be done simultaneously except by accumulating an ever larger inventory of metal above the ground?

Pinchot's casual approach to the problem of definition is even further illustrated on the same page where we are admonished both to develop and to preserve. For example, "The essence of conservation is the application of common sense to the common problems for the common good." Or, "Conservation is simple, obvious, and right." Comment would be superfluous.

Slackness and confusion in definition, so clearly exemplified in the writings of Pinchot and his contemporaries, have continued down to the present. It is only the exceptional writer on conservation whose use of the word is not self-contradictory or a mere camouflage, whether deliberate or not, for the promotion of some special interest such as special wilderness areas, irrigation, power, and so on. The definitions of Pinchot's time, perhaps better called slogans, have been repeated ever since. "The greatest good for the greatest number for the longest time" will be with us for a long time to come. And almost any speech on natural resources coming out of the Department of the Interior contains the contradictory admonitions to develop and to preserve within the same sentence.

What is the origin of this confusion in definition? Why has it con-

² *Proceedings of the Joint Conservation Conference*, Sen. Doc., 60th Cong., 2nd Session, Vol. 10, p. 123.

tinued for so long? In my view this indifference to clarity of definition rests in considerable part on the existence of deep underlying conflicts among various interest groups in the area of conservation policy, by which I mean the policy problems involved in determining how natural resources are to be used. Proponents of special conservation interests, in their zeal to alter governmental policy, have made clarity and consistency of definition a secondary consideration. Indeed, clear definition might lose all the advantage to be gained from using so fine sounding a word as "conservation" or the related "develop and preserve." Clarity about real intentions might unnecessarily antagonize those who otherwise would not press home to the real meaning behind generalities.

Certainly one of the dominant conflicts in the field of conservation was and is the conflict between development and what I shall call nature preservation. By "development" is meant the use of natural resources in such a way as to involve the construction of auxiliary capital goods such as dams, roads, processing plants, hotels, etc. "Nature preservation" is a term which embraces the whole spectrum of groups interested in preserving various aspects of nature as she is (Or is it with some "development"?) for the direct enjoyment of individuals. Such diverse things are involved as birds (to be preserved for eye, ear, and palate), solitude, scenery, trees, flowing water, naturally still water (that is, natural lakes), etc. This is sometimes said to constitute the birds and bees school of conservation, a phrase that can be uttered with a tone of either affection or derision, depending on whether one is in or out of the group.

The antagonism between development and nature preservation has always been present in the field of conservation. Even the founder of the movement in the United States, Gifford Pinchot, was not disposed to ride both these horses at the same time. It is quite clear on reading his writings that he was a developmentalist first and a preservationist only secondarily, if at all.

For example, in 1903 Pinchot made the following statement in an address to the Society of American Foresters: "The object of our forest policy is not to preserve the forests because they are beautiful . . . or because they are refuges for the wild creatures of the wilderness . . . but . . . the making of prosperous homes. . . . Every other consideration comes as secondary."³ It is not surprising that the nature preservationist groups became increasingly dissatisfied with Pinchot's views on what conservationists should be doing, and that they came to feel he

³ Quoted in Samuel P. Hays, *Conservation and the Gospel of Efficiency* (Cambridge: Harvard, 1959), p. 41.

was using the Conservation Movement to promote policies to which they were strongly opposed. This divergence in points of view was an important factor in bringing about the disintegration of the Conservation Movement.⁴

The conflict between development and nature preservation has erupted from time to time in pitched battles. For example, New York's constitutional provision requiring the Adirondack State Park lands to be kept "forever wild"—that is, with no lumbering—was the subject of intense controversy in the constitutional revisions of 1895 and 1915, and there are always attempts to nibble away at it. Most recently the nature preservationists tilted with developmentalists who wanted a thruway constructed to pass through the eastern part of the Park. This controversy is especially interesting for our purposes because it also provided an example of the conflict between development and preservation *within* the ranks of the preservationists. That is to say, the preservationists were divided, with one group, whose *bona fides* is not open to question, supporting the thruway partly on the ground that it would not prevent the preservation of anything worth preserving. The constitutional amendment required to allow construction of the thruway (called the Northway) was passed, and construction is in progress.

The Hetch-Hetchy controversy, involving construction of a dam across a beautiful valley to supply water for San Francisco, is still remembered by many. The establishment and the regulations governing the uses of wildlife refuges, national parks, and national forests have been and continue to be the source of controversy between the two groups. Recently an intense struggle has been going on over a bill that would establish wilderness areas on certain parts of Federal land holdings.

These few brief references give only a hint of the depth and pervasiveness of the perennial conflict between development and nature preservation. It should be emphasized again, however, that this is not the only controversy within the groups who call themselves conservationists. Various types of development often turn out to be incompatible with each other: irrigation versus urban water supply, for example. And within the nature preservation group there are latent conflicts that come into the open every now and then. The split over construction of the Northway has been mentioned, but there are many more. For example, the National Park Service—certainly a nature preservationist organization—frequently comes under fire because it concedes too much to development in the form of roads, accommodations, and so on. Struggles within the preservationist group frequently involve a

⁴ *Ibid.*, *passim*.

difference of view in the amount and type of development in the form of facilities that should accompany "preservation."

It is these conflicts, then, which are an important source of uncritical or intentional usage according to which the statement that a certain action or policy is conservative in nature (in the everyday meaning of conserve) is meant to imply the desirability of that action or policy. "Build the dam, because that will *conserve* water and prevent its waste in spring floods." Or, "It is only by not building the dam that the natural beauties of the valley can be *conserved*." Each side has tried to wrap itself in the favorable reaction surrounding the word "conservation."

Broadly speaking, there are two ways by which usage can be brought to heel so that it will aid rather than hinder understanding. One way is to say that the goal of conservation policy is to adjust outputs through time in such a way as to maximize the return from *all* resources at the disposal of society. In the process of doing this, some resources will be used up, perhaps "completely," and there may be a gradual transformation of "natural" resources into man-made capital "goods" of many different types. To put it differently, this view of conservation policy equates it with "wise use of resources."

This is a view that enjoys considerable currency. If carefully adhered to, it avoids what we have called the main difficulty in usage, for on this view you cannot say that a certain policy represents "true conservation" until a *complete* economic analysis of its effects has been attempted, and no reasonable person can ask for more than that. But to equate conservation with "wise use" is to attain a defensible usage only by assimilating the problem of conservation completely into the general economic problem of maximizing output and by departing radically from the everyday meaning of the word "conserve."

It is preferable, in my opinion, to preserve common usage and to agree that a conservative act is one which saves something for future use instead of present use or which saves something for use instead of nonuse. This usage leaves open the possibility that the conservation of one resource may entail the sacrifice of another resource which others may want to conserve. Thus there is *no* justification for concluding that a certain policy should be adopted simply because it conserves some resource, for it may involve so much cost either in the form of current productive services required (e.g., to build a dam) and/or in the destruction of *other* resources that it is not justified. A proper usage, if the everyday meaning of "conserve" is retained, should *not* involve the implicit view that conservation is always desirable. Sometimes it is, but sometimes it is not. The question always is whether the gains outweigh the costs.

If this obvious but important point is neglected, the way is open to advocate policies that make no economic sense at all. An extreme example is provided by those who have been able to conclude—without examining costs—that government policy should be directed to the full regulation of nearly all the nation's streams over the long run. (Full regulation means the complete or nearly complete evening out of flow on a stream. The usual means for doing this is to build storage capacity behind dams.) Other cases of error resulting from neglect of costs may be more subtle. For example, no satisfactory argument can be constructed for an indiscriminate policy of maximum sustained yield from "forest lands." Nor can a satisfactory argument be made for a policy to conserve coal by requiring coal operators to mine 100 per cent or any other percentage of the coal in a deposit. Such questions cannot be discussed usefully without reference to costs.

Conflicts within the conservation area will not be eliminated even if the term "conservation" is used in a proper way; that is, without pretense that a particular conservation policy is desirable, *ipso facto*, without reference to costs. But clear usage is a tool which at least will not hinder—and probably will aid—the resolution of conflicts over the use of resources. It is likely that a clear usage, always with the realization that conservative action is desirable only if benefits exceed costs, will be of increasing importance, for the intensity of conflicts over the use of certain resources probably will increase as time goes on.

In the future as in the past, however, many conservation problems will continue to be settled for us by the working of the private market system. This is especially true of the minerals industries. By and large, we accept the price system as the arbiter between the present and the future, and there is little prospect that this practice will be abandoned. We do not, for example, impose a tax on the production of copper in order to save copper for use by future generations. The problem of the level of recovery is left to the mining company, the smelter, and the refiner. The reason why the price system can be trusted to yield a suitable solution to many of the conservation problems involving minerals is that costs and benefits involved in mining and related activities effectively enter into the calculations of private firms to a greater extent than is true for the exploitation of other natural resources.

The petroleum industry in the United States constitutes a notable exception, of course. The fact that single ownership was not coextensive with oil pools required some sort of action to prevent the needless multiplication of oil wells and to prevent economically wasteful loss of oil underground. Our attempts to cope with these problems seem to be running into increasing difficulty, however, not because the problem

of rational exploitation of an oil pool has suddenly become more difficult from a technical point of view, but because the particular method of control in vogue is yielding some undesired results.

The elements of our control system are, first, control (actually only partial) of total production of the industry. The objectives are mixed, of course, being both conservation and control of price. If control of price were not involved there would be no restriction of production of individual wells below "efficient capacity" or perhaps MER (maximum efficient rate). The second element of the system is spacing regulation. A third element is limitation of imports. An additional point, so important it must be called a fourth element of the system, is that there is essentially no restriction on the development of new producing capacity other than the test of profitability. The combined effect of these factors is the development of capacity to produce far in excess of current production, as could easily have been predicted.

The difficult conservation problems—and this includes U.S. petroleum production—arise in those cases where relevant costs and benefits are not united in the calculations of a single economic unit. In some cases, the benefits from a certain action cannot be appropriated by the business that would have to pay for the action. Elimination of stream pollution is a case in point. Or the benefits from a certain action may be worth the cost to a firm, but perhaps this action imposes costs on others for which the firm does not have to pay. Logging and grazing may increase the rapidity of runoff, for example, an effect that may be of no concern to the logger or grazer but of prime importance to downstream users of the water. Sometimes a governmental decision-making unit may neglect certain costs or benefits because it is engaged in stimulating one type of resource use. This may even be viewed—in practice if not legally—as its official mission. Sometimes certain costs or benefits are not brought to bear on a decision because they cannot be quantified in money terms or can be described only in vague non-quantitative terms.

It is likely that in the natural resource area this type of problem will become more pressing as time goes on, both because demands for each of the possible uses of some resources are growing relative to supply, and because new rival demands are rising rapidly whereas before they may have been inconsequential.

Consider, for example, just a few of the various parties with at least partially conflicting interests in the way land and streams are used. There is irrigation vs. power, irrigation vs. domestic and industrial water use, uses requiring dams vs. the scenery, fishing, etc., associated with flowing streams, in particular the whole complex of benefits associated with flowing streams vs. domestic and industrial water use.

There is the sand and gravel pit or the clay pit with its ugliness and sometimes dangerous pools of water vs. the residential area with its small children, logging vs. scenery, highways bringing a greater density of people to remote areas vs. solitude, logging and grazing vs. the people downstream who want a slower runoff, and so on.

There are two factors that will tend to intensify these conflicts as times goes on. One is the increase in population, with its obvious effects on the demands for the many different uses of water and on the supply of open space. The other factor is what appears to be an increasing per capita demand for many particular forms of outdoor recreation and for outdoor recreation in general. A number of these forms of recreation do require extensive space and a low density of people. The changing structure of demands for services of resources arising from these two factors suffices to insure no easing of problems in the conservation area.

Exploitation of minerals may be less affected than will be the use of other natural resources, but even here the increased density of population will have its effect—by zoning or otherwise—especially on the ubiquitous minerals. And even in areas where population density remains low, mineral operations will experience more frequent collisions with the various forms of outdoor recreation activity. This will not be a new problem, but it will arise more frequently.

How are the conflicts to be resolved? A first step has already been suggested, namely, to stop pretending that a policy is desirable just because it entails the conservation of something.

Some conflicts can be solved easily since they involve situations in which all the potential users of a resource can *effectively* voice their demands in monetary form. In such cases the presumption in our society (but perhaps rebuttable in some instances) is that the highest bidders should win, whether the resource is in public or private ownership. It is highly desirable that an effort be made to develop new forms of organization and procedure to permit more extensive use of the market to resolve questions of resource use.

But in many cases there are serious difficulties standing in the way of a thoroughgoing market solution of the problem of rival demands. While interference with and modification of the market's solution will not necessarily yield a better result, the possibility is open. Regulation of the way a resource is used may be desirable where the private user does not take account of significant costs or benefits that his action imposes or gives to others. Some decisions have long-lasting consequences requiring an estimate of demands and costs far into the future, with some cases involving social penalties for underestimate (or overestimate) that may not effectively enter into the private decision. Some

benefits and costs do not yield easily, if at all, to valuation in terms of money, even for current flows of benefits and costs, let alone those of the future. Here we must analyze and calculate as best we can, trying to search out *all* benefits and costs, some of which may have to be measured and described in nonmonetary terms. It should be recognized that there *are* benefits flowing from natural resources for which individuals cannot express their preferences in money terms, simply because there is no feasible way for this to be done. In particular, it will not do to argue that society "needs" lumber or minerals but that scenery, etc., can always be dispensed with. This is an unreal choice, for the problem always involves a specific location. If consumers could express their preferences in economic terms, they might well indicate they want a particular slope to be forested rather than bare.

A consequence of the fact that some flows of benefits and costs do not receive effective expression in monetary terms is that some of the decisions about the use of natural resources inevitably involve substantial redistributions of real income. The losers from the destruction of the beauties of nature are rarely compensated. The point is not that they should be compensated or that "nature" must always be preserved. The point is that, at a minimum, those whose responsibility it is to make decisions on the use of certain resources should be aware that attention to total costs and benefits may not be enough, for the effects on the real incomes of particular individuals may be substantial.

Unfortunately there is no magic formula that will resolve these problems. The "multiple use" solution, for example, is certainly applicable in many cases, but in some cases it turns out to be just a slogan serving to camouflage the complete sacrifice of one use to others. For example, a reservoir may yield multiple uses including certain forms of recreation, but it is also true that construction of a reservoir entails the complete sacrifice of all uses that depend on the presence of a flowing stream. Once again the lesson is that no slogan, not even one so appealing as multiple use, can resolve all the conflicts present in resource use. Some uses are simply inconsistent with some other uses.

In any particular decision involving incompatible uses, one or the other must be sacrificed, of course. But for a group of decisions involving different projects, uses need not be inconsistent for all projects in an area taken together. It is only by paying close attention to the evolving pattern of use decisions that it is possible to give recognition and at least partial satisfaction to incompatible demands. An indiscriminate application of a multiple-use slogan runs the danger that certain uses which are inconsistent with "multiple use" will get neglected in decision after decision, thus securing no recognition in the final picture that emerges.

In many cases the instrument for resolution of conflict will have to be the political process. The participants include not only those ordinarily thought of as politicians, but the varied types of participants in any significant political problem, such as interested voters, government employees, lobbyists, journalists, and so on. Obviously *some* sort of resolution comes out of the process, but the question is how to make the results better. Certainly information and understanding of effects are necessary. Apart from this we need ingenuity and imagination in the formulation of new or variant solutions—new compromises, if you like. And in this area, as in many others, the majority ought to take very seriously its obligation not to trample unheedingly over the minority. In the case of nature preservation issues, especially, certain segments of the population may receive an important part of their real income—measured in satisfaction—from publicly or privately owned resources in which they have no legal interest.

If this advice is taken to heart by the participants in these conservation problems, a change in posture will be required in some cases. While it may seem tactically wise—and may even be pleasant—to oppose all dam construction or to damn the wilderness enthusiasts as a minute nonworking portion of the population with perverted tastes, any progress toward a more suitable resolution of conflicts as they arise is going to be made by those who are less inflexible. An abandonment of fixed positions would be helpful.

The main burden of this discussion perhaps will not be attractive to those who believe that greater conservation of some one thing is always desirable, whether that be songbirds, irrigation water, trees, or grass for sheep, for we have downgraded the term. As often used, it is taken to imply sufficiency for action. The view suggested here, on the other hand, is that a conservative act may or may not be desirable, depending on all the associated benefits and costs and perhaps on the redistribution of real incomes involved. But this downgrading of the term, if it should be called that, does not carry with it any implication that conservation issues are unimportant. Rather, insistence that acts of conservation should not be undertaken simply because something is conserved reflects a view that conservation problems are so important that it is unwise to deal with them on the basis of slogans.