The Role of the Forest Service in Ski Resort Development: An Economic Approach To Public Lands Management

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I. INTRODUCTION

In the past few decades, the American downhill ski industry has grown from a small number of crude rope tows to a high-volume, capital-intensive business. This growth has been most remarkable in the West and Midwest, where skier visits increased at an annual rate of nearly twenty percent throughout much of the 1960's. While the growth rate has declined in recent years, several new ski developments have been proposed annually to satisfy increased downhill skiing demand.

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1. This article is based on the author’s doctoral dissertation. R. Lovett, The Role of the Forest Service in the Development of Ski Resorts: A Proposal for More Efficient National Forest Management (1981) (available from University Microfilms, Ann Arbor, MI) [hereinafter cited as Lovett Dissertation]. The author thanks Peter Steiner, Richard Porter, Daniel Rubinfeld, and Joseph Sax for their assistance on his dissertation committee. Preparation of this article was funded in part by a grant from the joint program in Law and Economics of the University of Michigan.

2. Johnson, This Could be the Last Resort, SPORTS ILLUSTRATED, Dec. 15, 1980, at 78.


Large ski resorts may yield substantial producer and consumer benefits, but they may also involve significant external costs. Intensive use of a previously natural area, for example, is likely to produce environmental degradation, which may contribute to displacement of wildlife and low-intensity users such as hikers.

Because most large resorts are on federal land, the federal government, usually represented by the Forest Service, typically determines whether a permit for resort development will issue. It thus has the unenviable task of determining whether the benefits of ski development outweigh the external costs—a task which requires striking a balance between many competing interests to ensure that lands are put to their most appropriate uses.

To regulate commercial uses of national forest lands, the Forest Service employs a leasing process. Known as the special use permit procedure, this process requires certain prospective users to obtain permits for their proposed activities. A permit defines the scope of the special use and the period for which the use may continue. For a major development such as a ski resort, the permit must be preceded by an environmental impact statement discussing environmental effects and alternative uses of the permit area.

This article studies the special use permit process as a regulatory procedure and attempts to determine the ideal role of the Forest Service as a licensing authority. The first inquiry is whether regulatory interference is necessary at all in a process that could be left to the free market. Chapter II will discuss the factors that justify federal regulation and will examine topics the Forest Service should consider in evaluating a permit application. Chapter III will study actual Forest Service priorities as reflected in two recent impact statements. Current agency objectives will be identified and contrasted with the cost/benefit objectives discussed in Chapter II. Chapter IV presents an alternative to current Forest Service evaluation methods. The proposed decision-

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5. Between 1976 and 1979, the Forest Service issued at least nine final environmental statements for proposed western ski resorts. See infra notes 3, 114, 159, 160.

6. An external cost is any cost of construction or operation not incurred by the private developer. Similarly, external benefits are social benefits which are not enjoyed exclusively by the private developer. Together, these costs and benefits are referred to as “externalities.” See generally 5 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 268 (D. Sills ed. 1968).


8. Permits may be authorized for up to thirty years. 16 U.S.C. § 497 (1976); 36 C.F.R. § 251.53(d) (1976).

making process incorporates the cost/benefit considerations discussed in Chapter II but eliminates the biases and errors revealed in Chapter III.10 Chapter V will complete the analysis by applying the recommended decisionmaking procedure to several recent ski resort proposals.

This study has several self-imposed limitations in scope. First, only ski resorts on Forest Service land will be considered, and the inquiry will be limited geographically to areas in or west of the front range of the Rocky Mountains.11 Nonetheless, the decisionmaking process outlined in Chapter IV can be modified easily to apply to proposed wilderness development projects anywhere in the country.

Second, this study will not consider whether ski resorts are a legitimate use of federal lands; their legitimacy will instead be assumed. In addition, it will be assumed that a significant number of environmentally acceptable undeveloped downhill ski resort sites currently exist in the regions under consideration. Thus, this article will focus not on the propriety of ski resort development in general, but on the appropriateness of particular entrepreneurs' proposed schemes or choices of location. Finally, this article will not address implementation of the recommended procedure. While the proposed decisionmaking process presented in Chapter IV does not appear inconsistent with present national forest legislation12 and judicial doctrines,13 existing statutes and regulations do not require its use. Therefore, implementation of the proposed procedure will probably require either Forest Service cooperation or congressional action. Both subjects are beyond the scope of this discussion.

II

THEORETICAL CONCERNS

A. Introduction

If the Forest Service did not undertake a regulatory role, decisions

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10. Aside from changes in decisionmaking procedures, the Forest Service could improve decisionmaking by structural changes within the agency. Hiring more natural resource economists or rotating personnel, for example, might expand officials' perceptions of their clientele and decrease the risk that personnel will be captured by local economic interests. See generally M. Clawson, The Economics of National Forest Management 103, 116 (1976).

11. Because most recent ski resort controversies have involved western resorts, more information is available about western conditions. Furthermore, Western resorts present fewer complications from nearby unregulated private-land operations.


13. The public trust doctrine, which advocates a judicial role in ensuring optimal utilization of important public resources, might be employed to force the Forest Service to adopt the best available decisionmaking procedure. See generally Wilkinson, The Public Trust Doctrine in Public Land Law, 14 U.C.D.L. Rev. 269 (1980).
to develop ski resorts would be made strictly on the basis of developers’ comparisons of private costs and private benefits.\(^{14}\) If there are no externalities, such a procedure would produce socially beneficial results; otherwise, there is no guarantee that this would be the case. In general, a project will be socially beneficial only if the sum of private and external benefits\(^{15}\) exceeds the sum of private and external costs.\(^{16}\) Mathematically, this is equivalent to requiring that private profits exceed net external costs.\(^{17}\)

There are two ways to ensure that ski resorts are built only when they will produce net social benefits.\(^{18}\) The Forest Service may either (1) grant a special use permit only when an investigation reveals that the project is socially beneficial or (2) establish individualized special use permit fees which would effectively force developers to internalize\(^ {19}\) all social costs and benefits.

The first method is essentially a licensing approach. If properly carried out, it will ensure that only socially beneficial projects are built, but will fail to shift the project’s external costs onto the skiing public. In essence, this subsidizes skiing, thereby stimulating a demand for more skiing facilities than would be socially desirable.\(^ {20}\)

False subsidies will be eliminated by the fee-setting approach,\(^ {21}\) but this theoretically attractive methodology has prohibitive practical

\(^{14}\) Private costs and benefits are those incurred by the developer. Thus, they are the opposite of externalities. See 5 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, supra note 6, at 268-74.

\(^{15}\) An external benefit is a social benefit which is not included in the producer’s total revenues. 3 id. at 271.

\(^{16}\) This cost/benefit analysis must include private as well as external costs and benefits, for the developer is as much a member of society as persons affected by the proposed development. This premise is a fundamental principle of many studies in welfare economics, but is seldom explicitly stated. See generally 16 id. at 504-12.

\(^{17}\) Algebraically, the first condition can be expressed as:

\[ \text{Bp} + \text{Be} > \text{Cp} + \text{Ce} \]

where Bp is private benefits, Be is external benefits, Cp is private costs, and Ce is external costs. This can be algebraically rearranged as:

\[ \text{Bp} - \text{Cp} > \text{Ce} - \text{Be} \]

which is equivalent to the last statement in the text.

\(^{18}\) The ideas developed in this paragraph are a simple application of basic environmental economics. See generally W. BAUMOL & W. OATES, ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE 230-45, 323-45 (1979).

\(^{19}\) An externality is said to be internalized if market or legal structures require it to be included in a developer’s costs or revenues. The ideal method for internalizing externalities has been the source of continuing debate among economists. See 5 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, supra note 6, at 268-74. See also ECONOMICS OF THE ENVIRONMENT: SELECTED READINGS (R. Dorfman & N. Dorfman eds. 1972); Coase, The Problem of Social Cost, 3 J. LAW ECON. 1 (1960).

\(^{20}\) For a more complete discussion of this problem, see Lovett Dissertation, supra note 1, at 7-9.

\(^{21}\) There is some theoretical dispute over what fee-setting structure would best achieve this result. See supra note 19.
difficulties. For example, it is difficult, if not impossible, to assign accurate dollar values to all expected externalities of a project. Further, the lack of standardization that would inevitably result from case-by-case assessments of special use fees might raise the spectre of lawsuits from quibbling developers. For these reasons, the licensing method is probably superior, and this article will assume that the Forest Service will continue to employ it when evaluating special use permit applications.

The remaining sections of this chapter will discuss four basic steps the Forest Service should follow in implementing a licensing scheme: (1) analysis of external costs, (2) analysis of external benefits, (3) comparison of net external costs and predicted private profits, and (4) consideration of the long run impacts of an essentially irreversible commitment of resources.

B. External Costs

1. Direct Environmental Costs

A study of external costs may begin with an assessment of “direct environmental costs.” In ski resort development, these costs may take many forms, including aesthetic damage to the hillside, reduced wildlife populations, erosion, noise, air pollution resulting from the concentration of automobile traffic, and damage to archaeological sites. Forest Service personnel are well equipped and well trained to identify the nature and magnitude of environmental costs, so they need little guidance in this area. Guidance is needed, however, in evaluating these costs in dollar terms. Unfortunately, environmental economists have not yet succeeded in evaluating many types of environmental harms. It is still possible, however, for the Forest Service to tabulate relevant environmental impacts. The very act of tabulation will improve the decisionmaking process and, over time, the Forest Service may accumulate sufficient case history data to allow the use of statistical revealed preference techniques to calculate explicit figures for pre-

22. This difficult task is only partially present under the licensing approach, for it is possible to make a licensing decision even when all costs and benefits have not been expressed in monetary terms.

23. This danger is still present under the licensing approach, but it is less serious, for the Forest Service can more easily defend a “go/no-go” decision than it can a decision to impose a particular, and necessarily somewhat arbitrary, special use fee.

24. The fee-setting approach and the licensing approach are not necessarily mutually exclusive. In the field of pollution control, for example, regulatory schemes employing aspects of each basic approach have been proposed. See Baumol & Oates, The Use of Standards and Prices for Protection of the Environment, 73 SWED. J. ECON. 42 (1971); Roberts & Spence, Effluent Charges and Licenses Under Uncertainty, 5 J. PUB. ECON. 193 (1976). Mixed approaches designed for pollution control, however, are not easily applicable to the special problems inherent in ski development decisions.
viously implicit dollar values. These revealed values could then be employed in future decisions, or, if they appear inappropriate, the Forest Service might be inspired to reassess its implicit priorities.

2. **Displacement Costs**

When a development interferes with other existing or future uses of an area, displacement costs may arise. For example, a project may interfere with present or future timber production or mineral exploitation on or near the permit area. The displacement cost which is most difficult to quantify is interference with low-intensity recreational use of the permit area and surrounding terrain. Low-intensity users may be forced either to abandon their preferred backcountry areas, or to continue using them with their enjoyment diminished by the presence of the resort and its concomitant manifestations of civilization. If the area proposed for development is similar to other nearby backcountry regions, the only cost incurred by displaced users is a small addition to their transportation costs. If the terrain is somehow unique, however, there may be no good substitutes, and low-intensity users may lose substantial amenity values.

Low-intensity users displaced by a new ski resort probably will also increase the congestion of nearby backcountry areas. The magnitude of this added congestion cost will depend on prior usage levels of neighboring regions, the number of low-intensity users displaced from the vicinity of the ski resort, and the size of the region to which they are displaced. A recent study suggests that even relatively low increases in

25. Such an approach has been applied to freeway routing decisions. See McFadden, *The Revealed Preferences of a Government Bureaucracy* (pts. 1 & 2), 6 BELL J. ECON. 401 (1975); 7 BELL J. ECON. 55 (1976). See also *infra* text accompanying notes 81-83.

26. Displacement costs are often easy to estimate in dollar terms. The Forest Service should not consider each of the displaced activities in isolation, however, and simply add their costs together for a total figure. Because some of the displaced uses may be incompatible, the agency must determine the optimal mix of uses in the absence of the resort before it can arrive at an accurate figure for actual displacement.

27. Although the Forest Service could force a developer to internalize this cost through use of its fee-setting power, the Forest Service does not presently take the quality of the timber stand in the permit area into account in determining resort permit fees. *Forest Service, U.S. DEP’T OF AGRICULTURE, FOREST SERVICE MANUAL*, §§ 2715, 2721.61b [hereinafter cited as FSM]. The special use permit fee should not be ignored in the analysis of a development’s displacement costs, however. Instead, it should be offset against these costs, for despite its economic illogic, the fee represents a partial accounting for the resort’s external costs.

28. The proper measure of any displacement cost should take the displaced user’s alternatives into account. The “supramarginality” of the displaced use, or the extent to which pre-development levels of enjoyment exceed those from the best post-development alternative, is the proper measure of the displacement cost of development. See Steiner, *Choosing Among Alternative Public Investments in the Water Resources Field*, 49 AM. ECON. REV. 893, 894 (1959).
usage rates may create high congestion costs. This potential problem should be investigated before any ski development is permitted in an area receiving more than a low level of backcountry use.

3. Non-User Values

Ski developments have several other types of external costs which bear strong relationships to displacement costs. For example, some people place high value on the mere existence of the area proposed for development in its pre-development state. This "existence value" appears to be most important for areas which are relatively pristine.

Closely related to existence values are option values. These values reflect the interests of present non-users who wish to retain the option of future use. In the case of ski developments, option values may weigh in favor of either preservation or development. Preservation option values are likely to be more significant, however, for they are enhanced by the fact that a decision to develop is much less reversible than is a decision to leave the area in its natural state. One particu-

29. A recent survey of Montana backpackers indicates that congestion causes significant declines in "willingness-to-pay" for backcountry trips. Cicchetti & Smith, Congestion, Quality Deterioration, and Optimum Use: Wilderness Recreation in the Spanish Peaks Primitive Area, 2 SOC. SCI. RESEARCH 15 (1973). "Willingness-to-pay" measures the maximum amount of money that an individual would be willing to pay in order to consume a given amount of the commodity under consideration, and may be significant even for low-priced or free commodities. Since "willingness-to-pay" is a concept similar to demand, see generally infra notes 50-52.

Smith and Krutilla have extended the Cicchetti and Smith congestion study through the use of a computer simulation model. This model confirms Cicchetti and Smith's intuitive conclusion that relatively small increases in usage rates can significantly influence the number of trail and camp encounters, thereby strongly reducing backpackers' overall willingness-to-pay. See Smith & Krutilla, A Simulation Model for the Management of Low Density Recreational Areas, 1 J. ENV. ECON. & MGMT. 187 (1974). For a more detailed discussion and application of these studies, see Lovett Dissertation, supra note 1, at 14-18.

30. One economist has described these people as "the spiritual descendents of John Muir," and notes that today they tend to join such organizations as the International Wildlife Federation. Krutilla, Conservation Reconsidered, 57 AM. ECON. REV. 777 (1967). Substantial donations to conservation groups seeking to preserve species or wildlands geographically distant from donors' homes indicate the importance aesthetic existence values can have. These donations become particularly significant when it is realized that such organizations face substantial free-rider problems.

31. Weisbrod, Collective-Consumption Services of Individual Consumption Goods, 78 Q.J. ECON. 471, 472 (1964). Option values exist for any commodity for which purchases are infrequent or uncertain and the re-expansion of production, once curtailed, is costly. See generally Lindsay, Option Demand and Consumer's Surplus, 83 Q.J. ECON. 344 (1969).

32. Despite its intuitive appeal, the option value concept has had a controversial history in economic literature. The supporters of this concept argue that an option value is a positive risk premium existing independently of expected consumer surplus. Detractors from the concept argue that it is simply another measure of expected consumer surplus or a minor adjustment of indeterminant direction. Proponents of the option value concept have tended to prevail in recent years, but they have been forced to refine the theoretical underpinning of their arguments. For the purposes of this paper, the explanations of Weisbrod and Lindsay are sufficient, but readers interested in the details of the option value debate
larly important form of preservation option value is the value of a nat-
uural environment as a storehouse of wild plant and animal species. The Endangered Species Act is partially designed to protect this option value, and the Forest Service is therefore bound by law to consider this aspect of ski resort development.

Option values and existence values are not the only forms of ab-
sentee interests in land use decisions. The interests of future genera-
tions in particular natural environments may also play a role in a development decision. "Bequest values" have long been considered in economic consumer behavior models, and similar values are arguably of particular importance when irreversible commitments of natural resources are proposed. Like option values, bequest values may favor either development or preservation, and are likely to be highest for preservation alternatives.

Existence values, option values, and bequest values are extraordin-
arily difficult to measure. They will almost certainly increase as the uniqueness of the area under consideration increases, but their dollar values are highly uncertain. Donations to private environmental groups could be used as a rough measure of these values, but this measure suffers from many drawbacks, including free rider problems and the fact that people often contribute money to the general funds of environmental groups, not to specific projects.

For these reasons, the Forest Service probably should not attempt to make numerical estimates of any of the non-user values discussed


33. See Bishop, Endangered Species and Uncertainty: The Economics of a Safe Mini-
mum Standard, 60 AM. J. AG. ECON. 10 (1978); Krutilia, supra note 30, at 11-15.


35. The Forest Service should not simply rely upon the letter of the Endangered Species Act, however. Substantially lower levels of interference than those enumerated in the Act may impose significant externalities which should play an important, or even decisive, role in determining whether to grant a special use permit.


37. The fact that some of an organization's donations may come from persons seeking to protect their own present low-intensity use of the area under consideration also makes application of this measure difficult.
above. Instead, estimates of their magnitudes should be limited to qualitative approximations obtained by observing the number and vehemence of non-local participants in the public comment period of the environmental impact statement process. The Forest Service can compare these comments to similar comments elicited by previous proposals to determine whether the new resort is likely to have higher or lower than average option, bequest, and existence costs. Such an analysis will not allow the Forest Service to calculate the total dollar value of these costs, but will at least alert the agency to proposals for which these unquantifiable externalities may be of particular importance.38

4. Uninternalized Future Risks

A developer's private decisionmaking process may not only fail to internalize all presently known costs, but may also fail to internalize all possible future risks. For example, if the resort goes bankrupt, the maximum possible public loss far exceeds the maximum private loss to the developer. The Forest Service could be left with an ugly and useless hillside, while the investors in the development are unlikely to lose more than their investments.39 Because developers will probably not bear the full extent of the public's loss, their private perceptions will be somewhat biased in favor of undertaking risky projects.

If the resort is financed by industrial development bonds, as are many recent developments,40 the public loss is even greater. Under the laws of many western states, any town or county may issue bonds to financially assist a recreational project such as a new ski area.41 Under this type of financing, a developer may be even more likely to proceed with a project with unacceptably high risks, for it is no longer risking the funds of its own investors. Furthermore, industrial development bonds may achieve tax exempt status, allowing developers to obtain capital at a lower rate of interest than that available for equally risky

38. In considering these costs, however, care must be taken to avoid double-counting externalities that have already been included as direct environmental costs.

39. "Generally, the shareholder's liability for corporate obligations is limited to what he has invested in the corporation." H. HENN, HANDBOOK OF THE LAW OF CORPORATIONS AND OTHER BUSINESS ENTERPRISES 96 (2d. ed. 1970).


Like the developer, the authority issuing industrial development bonds may be biased in favor of a project. Under state statutes, all that such authorities are usually required to consider is the "public interest of the municipality or county." Because this requirement can be met without considering the national interest in protecting the national forests from the wasteful consequences of an unsuccessful ski development, local governments may approve projects with negative overall expected social values.

The Forest Service is the only interested party in a position to consider the broad range of potential social costs associated with a project's failure. Therefore it must consider all of the risks discussed above and determine the extent to which they cause the expected social value of the project to diverge from its expected private value. In addition, the Forest Service is obliged to determine the appropriate degree of risk aversion to be used in considering such uncertainties as the developer's future financial condition and the future levels of direct environmental costs, displacement costs, existence costs, option costs and others.

Initially, it appears that the Forest Service should react to these uncertainties in the same way that a private firm would react—by imposing a "risk premium." A risk premium reduces the present value of uncertain future benefits and increases the value of uncertain future costs by changing the interest rate by an amount theoretically calculated to be equivalent to the degree of uncertainty. The decisionmaker is thereby encouraged to shun risky undertakings, for the riskier the project, the higher the risk premium will be. Risk premiums are the traditional method for dealing with social risks. Although their indis-

42. I.R.C. § 103(b)(4)(B) provides tax exempt status to industrial development bonds for "sports facilities".

Technically, use of industrial development bonds creates two distinct classes of externalities. First, bonds may bias the developer's assessment of a project's potential future risks. Second, federally financed interest rate subsidies constitute an additional social cost. Because both of these externalities operate through the mechanism of artificially depressed interest rates, they are discussed together in the text.

43. See, e.g., MONT. CODE ANN. § 90-5-104 (1982). Other state statutes are equally local in their orientations.

44. Bond purchasers are also interested parties, and their analysis of a project's risks will be reflected by the bonds' interest rate. Like the developer, however, they face a loss of no more than their investment, so the interest rate which they demand will not entail full internalization of a project's social risks. Furthermore, if the bonds in question are industrial development bonds, the interest rate demanded will be even further from that required to fully internalize risks, for investors' analyses will be strongly influenced by the bonds' tax-exempt status.

45. The present value of any object (in this case, a ski resort) includes all future costs and benefits expected to flow from the object. If these future costs and benefits are uncertain, the present value of the object is decreased. The amount of this decrease is known as the "risk premium."
criminate use has recently come under serious criticism in the technical economic literature, they are still essentially valid when irreversible development of a valuable natural area is at stake.

Unfortunately, the analysis of risk will not be simple, for the interest rate which best represents the correct social risk premium is unknown. To avoid this difficulty, the Forest Service might require the developer to post a performance bond large enough to cover all possible risks of the project. This would have the advantage of putting the entire cost of all uncertainty on the developer, but the difficulty in quantifying social harms might make enforcement legally impractical. Furthermore, such a solution is probably not justified on economic grounds, for there is no guarantee that the developer's private risk premium will equal the correct social risk premium. As a preferred alternative to this approach, the Forest Service could calculate cost/benefit ratios without consideration of uncertainties, and then merely postpone decisions on projects which are both risky and "close" pending more detailed studies. Such a pragmatic approach necessarily involves an implicit risk premium, but it does not bind the Forest Service prematurely to the use of any specific numerical values which it may later find difficult to change. Over time, the Forest Service will build up a body of regulatory experience which may permit future refinement in these calculations.

5. Miscellaneous External Costs

The preceding analysis has not covered all possible external costs of ski resort development. For example, uncompensated social costs from skier injuries may be a factor the Forest Service should consider. In addition, many resorts are heavily subsidized through the mechanism of public-financed road construction. All such externalities and


48. Actually, the social risk premium that such an approach would entail would be the sum of the surety's risk premium and the surety's overhead. There is no reason to suppose, however, that such a hybrid risk premium bears any relation to the proper social risk premium.

49. Another omitted externality is the change in energy consumption, both on-site and in transportation to and from the ski resort. Since a new ski development may create complex changes in skier travel patterns, this externality may be either a cost or a benefit, depending on whether total skier travel increases or decreases. Energy externalities, while potentially sizeable, will not be discussed herein because they result more from artificially low energy prices than from resort development itself.
subsidies must be taken into consideration, but detailed analysis of them is unnecessary for this discussion.

C. External Benefits

Development of a ski resort may also produce a number of external benefits which should be considered in Forest Service decisionmaking. The most significant of these is likely to be the uncaptured consumer surplus of the skiing public. “Consumer surplus” refers to the public benefit produced when goods or services are available at a price lower than the maximum price the consumer would have been willing to pay.\(^{50}\) Since consumer surplus is an artifact of downward-sloping demand curves,\(^{51}\) the calculation of consumer surplus depends on an accurate demand curve determination.\(^{52}\) Such an analysis is not simple, however, for competitive and financial constraints limiting the range of lift ticket prices preclude direct observation of the entire range of existing resorts’ demand curves. This problem does not render demand curve estimation impossible, however. Such problems commonly arise in the economics of outdoor recreation, and several estimation techniques have been developed for use in similar circumstances.\(^{53}\)

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50. See 3 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, supra note 6, at 354-58. In general, consumer surplus results from the fact that consumers usually pay the same price for all units of consumption even though they may be willing to pay more for their first units of the commodity in question than the price actually charged by the seller.

Naturally, some consumers are not willing to pay an additional amount, and will therefore enjoy no “consumer surplus.” Thus, any recreational activity will produce varying degrees of consumer surplus for different consumers. An aggregate consumer surplus can nonetheless be estimated if the demand curve for the activity is known. See infra note 52.

Also, any particular consumer will usually receive different amounts of consumer surplus on different outings. For example, suppose that a particular consumer is willing to pay $30 for the first ski outing of the year, $25 for the second, $20 for the third, and $15 for the fourth. Suppose also that ski outings cost the skier $19 each. Under such circumstances, this skier will take three such outings per year and will receive a consumer surplus of $18 ($11 from the first outing, $6 from the second, and $1 from the third).

Consumer surplus may be at least partially captured when sellers engage in price discrimination, or the practice of selling highly demanded units of consumption at higher prices than are charged for those less strongly demanded. \textit{Id.}

51. Demand curves are described in infra notes 52-56 and accompanying text. They are almost always downward-sloping because willingness-to-pay usually declines with the number of units already consumed. Since consumers generally pay the same price for all units of consumption, downward-sloping demand curves ensure the existence of at least some consumer surplus. See supra note 50.

52. A demand curve shows consumption over a range of price levels. See generally 4 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, supra note 6, at 96-104.

53. These methods include (1) visitor surveys, (2) use of the Water Resource Council’s guideline values for particular classes of recreation, (18 C.F.R. §§ 713.901-.927 (1982)), (3) computation of total costs incurred by recreational users, (4) computation of total govern-
The best of these techniques is the travel costs method. This method assumes that the price of a visit to a recreational site is composed of two elements, the entry fee and the cost of transportation to and from the site. Although entry fees are determined by relatively fixed market factors, travel costs differ widely among individuals, thereby allowing observation of consumption patterns in the face of a wide range of overall prices. Demand curves for existing resorts may be calculated from this data and then used to predict the demand curve for a resort having the properties and location of the new development.

The consumer surplus inherent in the predicted demand curve does not necessarily reflect all of the potential demand-related externalities of the new resort, however. For example, a new resort may incorporate expenditures, calculation of opportunity costs, comparison with price structures in comparable private markets, and the travel costs method.


54. The travel costs method was first proposed in 1947 in a letter from Harold Hotelling to the director of the National Park Service. See J. Krutilla & A. Fisher, The Economics of Natural Environments: Studies in the Valuation of Commodity and Amenity Resources 196 (1975). Later studies have refined the technique. See M. Clawson, A Method of Measuring Demand for and Value of Outdoor Recreation (1959); M. Clawson & J. Knetsch, Economics of Outdoor Recreation (1966). Recently, it has been applied to determine the demand curve of a ski resort. J. Krutilla & A. Fisher, supra, at 189-218.

55. An appropriate wage for time spent in transit should be included in the transportation cost.

56. For a more thorough description of this process, see Lovett Dissertation, supra note 1, at 40-45. In practice, deriving a demand curve will probably be facilitated by dividing the skiing market into three product submarkets: local skiing, regional skiing, and national skiing. Local skiing is skiing by people whose choices are strongly constrained by factors of time and distance. It typically takes the form of day visits to nearby skiing facilities. National skiing, on the other hand, is skiing by people whose choices are multitudinous. This type creates the market for so-called "destination resorts," designed for long visits by people willing to travel to widely dispersed geographic regions. The third form, regional skiing, falls somewhere between these two extremes. This type is skiing by people whose choices are constrained, again by factors of time and distance, to a cluster of ski areas. It typically takes the form of weekend excursions, during which a skier spends at least one night at the resort or in the resort community.

The calculation of separate demand curves for each of these submarkets greatly simplifies the travel cost method for determining demand curves. First, it allows the separate variables influencing each market to be analyzed independently. Second, it mitigates the problems inherent in the fact that travel costs for regional or national skiers will probably include substantial amounts of money spent on food and lodging, while comparable costs for local skiers will not. Without the use of submarkets, some means would have to be found for apportioning food and lodging expenses between the necessary costs of a vacation and its additional pleasurable concomitants. When submarkets are used, such apportionment can be avoided, for each class of skiers can be regarded as purchasing one of several types of packages. Separate demand curves can be calculated for each of these packages, and consumer surplus can be computed based on each package's total price.
crease or decrease the number of skiers at pre-existing resorts. Decreases in demand at existing resorts are easy to understand as the result of increased competition for a limited number of skiers. Increases in demand, on the other hand, may arise from regional synergism among new and existing resorts. Such synergistic effects have been observed in Colorado, Utah, and several other areas, and are apparently caused by substantial numbers of skiers vacationing at clusters of resorts in concentrated skiing regions, rather than at individual resorts. An increase in the number or variety of resorts in a region is thus likely to increase the attractiveness of the region to this class of skiers, and therefore augment the demand for all resorts within the area.

Competition and synergism entail two important externalities. First, they may alter the profits of existing resorts. In general, profits will increase in the case of synergism and decrease in the case of competition. Second, they may change skiers' perceived congestion costs. Competition will reduce congestion and related aggravations, but synergism will have the opposite effect. Clearly, these two externalities work in opposing directions. Which will predominate in any particular case is an empirical question that must depend on such factors as the magnitude of the demand shift, the operating costs of existing resorts, and the magnitude of skiers' congestion costs. It seems reasonable to predict, however, that the profit effect (i.e., the magnitude of the increase or decrease in other resorts' profits) will almost always be substantial, while the counteracting congestion effect will become

57. See Mount Hiebgen FES, supra note 3, at B-9 to B-10 app.

58. Profits lost by existing ski resorts because of competition are properly considered to be a social cost because producer surplus is reduced. They may be offset by an increase in consumer surplus resulting from decreased prices, but in general this offset will not be total. Similarly, synergistic demand increases will produce price rises and accompanying consumer surplus losses, but as in the case of competition, these consumer surplus losses are unlikely to be as large as the profit increases against which they must be offset. For a more detailed explanation of a special case uncomplicated by price changes, see Lovett Dissertation, supra note 1, at 45-51.

59. Except for congestion effects and the effects of price changes, changes in skiers' consumer surplus attributable to changed demand for existing resorts should not be considered in the analysis of competition or synergism. Other changes affecting consumer surplus are already taken into account in the computation of the new demand curve. See id. at 45-50. For further information about this somewhat technical issue, see E. Gramlich, Benefit-Cost Analysis of Government Programs 83-85 (1981); E. Mishan, Cost-Benefit Analysis 40-45 (1976); Harberger, Three Basic Postulates for Applied Welfare Economics, 9 J. Econ. Lit. 785, 789-91 (1971); R. Porter, Secondary Markets in Benefit-Cost Analysis (1979) (unpublished mimeo available from University of Michigan Dep't of Economics); and H. Varian, Notes on Cost-Benefit Analysis (1979) (unpublished mimeo available from University of Michigan Dep't of Economics).

60. See Lovett Dissertation, supra note 1, at 48-50.

61. The profit effect will be substantial because a large fraction of the costs for any ski resort are fixed and irrecoverable. Most resorts can therefore accommodate increased numbers of skiers with very little additional expense, but will recover little of their investments if,
important only if relatively high levels of congestion already exist in the area.

The presence of pure synergism or pure competition is fairly easy to detect, as owners of existing resorts will most likely inform the Forest Service of whether or not they favor construction of a new development. Unfortunately, both effects may be present simultaneously in many cases, for there is no reason to believe that a new facility will have uniform effects on all neighboring resorts. Nonetheless, if there exists uncertainty as to which effect predominates, the Forest Service can always resolve ambiguities by a full-scale study of the underlying demand curves. Since such a study may later prove necessary to determine the magnitude of the relevant effect, its use to determine which effect is predominant will often present little additional administrative burden.

In addition to demand-related external benefits, a new ski resort may also produce economic benefits in the local resort community. One such benefit is an increase in the flow of money through the community and a concomitant increase in local job opportunities. Not every dollar spent locally, however, can properly be treated as local gain. From an economic viewpoint, only the producer surplus of the local suppliers of goods and services required by the development should be counted as net gain.

Furthermore, any gains generally will be offset by corresponding

in response to decreased demand, they attempt to reduce the scale of their already-completed developments.

62. In addition, the Forest Service can search for pre-existing local market factors which might predispose the region toward either synergism or competition. For example, a region with a moderate number of resorts clustered around a year-round airport is very likely to give rise to synergism, while one featuring a large number of resorts or a few mutually inaccessible resorts is more likely to exhibit competition. Similarly, if pre-existing resorts already engage in group advertising, synergism is probably high, but if group advertising is non-existent, competition is more likely to exist.

63. For a discussion of when a full scale cost/benefit study will be needed, see infra note 170 and accompanying text. For a general discussion of how to derive a demand curve, see supra notes 52-56 and accompanying text.

64. For purposes of predicting synergism or competition, it may again be useful to analyze skiing demand in terms of the local, regional and national submarkets. See supra note 56. If obvious factors in one or more of these submarkets render significant synergism or competition unlikely, then detailed study of such effects may be reserved for the submarkets in which it is likely to be more important. For a more thorough discussion of how the three skiing submarkets may be used to simplify the analysis, see Lovett Dissertation, supra note 1, at 51-56, 251-63 app.

65. A concept somewhat analagous to profit, producer surplus is the difference between the amounts people receive for their productive activities and the minimum amounts necessary to encourage them to produce (production in this context referring to the use of capital, labor, or both). For example, if a worker values free time at $2.00 per hour and receives an extra hour of work at $5.00 per hour, the net benefit (surplus) is $3.00. Similar calculations can be made for owners of capital. See generally 3 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES, supra note 6, at 356.
losses to communities which would have received the developer’s attention had the proposed resort not been constructed. Thus, unless there is some reason to expect the planned development to produce a higher level of “spin-off” benefits than would alternative uses of the developer’s capital and managerial talent, either in the downhill ski industry or elsewhere, the local economic benefits from the proposed resort will be entirely composed of transfer payments, with no net creation of either jobs or income. As will be shown below, the Forest Service currently treats these transfer payments as net economic gain, even though this is usually only true from a local, not a national, perspective.

Even if they are exclusively transfer payments, the net local spending externalities of a new resort are not necessarily zero, for the transfer of money to the resort community might itself be a socially beneficial redistribution of income. The pre-existing communities near many new ski developments are relatively poor, and often experience high seasonal unemployment at the height of the skiing season. Traditional income distribution goals therefore may be better served by the ski resort than by most of the developer’s non-local alternatives. In addition, the jobs created by a ski resort may produce a larger worker surplus than alternative investments, for local workers probably place a relatively low value on their winter free time.

Such redistributinal and worker surplus gains may not be as large as expected, however, because the isolation of the local labor market and the market power of the ski resort probably would cause local wage rates to be below the national average. Thus, while some worker surplus gains and redistributional benefits may exist, they are likely to be small, and should probably be ignored unless the Forest Service has precise information about the economic effects of the developer’s alternative investments.

Jobs and income are not the only local economic impacts of a new ski resort. Communities may enjoy increased tax revenues and consequent improvements in services. However, the resort itself will increase community and local government expenses. Thus, only net tax gain

66. A transfer payment is a movement of money from one group of people to another, with no change in total income or production. Social Security taxes and payments are a commonly used example. See 4 id. at 478.

67. See, for example, infra notes 100-103 and accompanying text.

68. “Worker surplus” can be defined as the producer surplus (see supra note 65) of the resort’s employees.

69. Another factor potentially reducing redistributinal and worker surplus benefits is the probability that many of those receiving hourly employment will be non-local ski enthusiasts. Many upper-echelon employees are also likely to be “imported.” To the extent that jobs go to these outsiders, the ski resort’s redistributinal and worker surplus benefits will be reduced. The Forest Service appears to have recognized this fact in at least one recent impact statement. See TOWER MOUNTAIN STUDY, supra note 4, at 80.
should be counted as an external tax benefit. Furthermore, even an apparent tax benefit may not be a true gain on the national level, for it may represent a transfer payment from communities which would have received the developer's taxes had a special use permit been denied. This offset may not be total because of tax rate differences between communities and beneficial redistributional effects, but it probably is safe to assume that these benefits are close to zero from a national perspective, and therefore should not figure prominently in the Forest Service's analysis.

D. Private Profits

The externalities discussed in the preceding sections occupy only one part of the balance which the Forest Service should strike in considering a special use permit application. The Forest Service still must determine whether or not the development's anticipated private profits are large enough to justify construction despite the possible presence of net external costs.

In this analysis, the Forest Service cannot rely on developers' reported profit estimates, for that might encourage unscrupulous exaggerations of profitability. Nonetheless, the fact that a developer is seeking a special use permit is good evidence of at least normal potential private profits. Thus, if the net external effects of the project are either zero or beneficial, the Forest Service probably is justified in permitting a development without extensive efforts to independently compute the precise level of expected profits.

Similarly, the Forest Service can accept a developer's profit estimate as an upper bound on the actual level of expected profits. If the level of net external costs exceeds the developer's claimed profits, a permit may safely be denied without further computations; actual profits almost certainly will not be high enough to justify construction of the resort.

Unfortunately, no short cut analysis is available when net external

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70. If the cost of these necessary additional services exceeds the resort's tax payments, the resort produces a net external tax cost, rather than a net external tax benefit.

71. For a more detailed discussion of the measurement of tax costs and benefits, see Lovett Dissertation, supra note 1, at 61-63.

72. See supra notes 15-17 and accompanying text.

73. An incentive for self-serving answers could be countered by making special use permit fees proportional to a developer's profit estimates. In cases with low external costs, however, this approach might be a sufficient incentive to cause developers to understate expected profits deliberately in an effort to cheat the Forest Service out of legitimate fees.

74. This assumes, of course, that the developer is acting rationally. If there is some concern that such is not the case, the Forest Service may still be able to avoid a full profitability study by examining the developer's business and financial credentials for any history of "crackpot" dealings. For an additional discussion of this problem, see infra text accompanying note 178.
costs fall between zero and the developer's claimed future profits. In this situation, the Forest Service should perform its own study of the potential profitability of a proposed development. Such a study should not be particularly difficult, for the relevant demand curves will already have been calculated as a prelude to the computation of consumer surplus, and the technology of the downhill skiing industry is well enough known that costs can be accurately estimated.\footnote{75}

**E. Future Costs and Benefits**

Present externalities probably will not remain static. Thus, the Forest Service should include anticipated future externalities in its calculations. Unfortunately, there are numerous theoretical and practical problems involved in calculating expected future externalities. For example, because there is presently no universally acceptable rule governing intergenerational choice, it is unclear how heavily the interests of future generations should weigh against the interests of the present generation.\footnote{76} Furthermore, the Forest Service must realize that the pattern of its decisions will influence what the interests of future generations will be, for people learn to enjoy the types of recreation that are

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\footnote{75. The Forest Service might also attempt to estimate the expected profits for the proposed resort through a study of the case histories of a number of similar existing resorts. This method, however, suffers from two drawbacks: (1) it fails to account for the effects of synergism or competition upon the proposed resort's profits and (2) it is dangerous to try to project present-day profit trends into the future without first studying the underlying demand and cost factors.}

\footnote{76. The traditional method for evaluating future costs and benefits is to discount them to present value. Recent economic literature has shown, however, that such calculations allow current generations to hold dictatorial powers over the choices of future generations regardless of how a discount rate is chosen. See Ferejohn & Page, *On the Foundations of Intertemporal Choice*, 60 Am. J. Ag. Econ. 269 (1978). See generally Hanson, *The Existence of Group Preference Functions*, 28 Public Choice 89 (1976). For a discussion of these articles, see Lovett Dissertation, *supra* note 1, at 70-73.}

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Because of the limitations of this technique, the Forest Service should adopt a different rule for dealing with future costs and benefits. Unfortunately, economic theory demonstrates that all non-dictatorial intergenerational choice rules have a common drawback: if all subsequent generations are ultimately found to prefer one alternative, the preferences of the first generations must be ignored, and the preferred alternative of future generations adopted as the required social choice. See Ferejohn & Page, *supra*; Hanson, *supra*. Most decisionmakers would probably object to the "pie in the sky" qualities of such rules, however, presumably believing that they are potentially unfair to present and near-future generations. See Ferejohn & Page, *supra*, at 271.

For an argument for a more moderate rule involving equal intergenerational allocations of useable resource bases, see Page, *Equitable Use of the Resource Base*, 9 Environment and Planning A 15 (1977). This rule is proposed for allocating mineral or other resources for which useable reserves may increase with technological advances. It seems less applicable, however, to decisions involving essentially irreversible commitments of the steadily dwindling supply of pristine environments. For a more detailed discussion of these problems, see Lovett Dissertation, *supra* note 1, at 70-75.
made available to them. As a 1972 article in a popular magazine states:

If the history of the twentieth century has taught us anything, it is that men seem . . . capable of accepting the prevailing circumstances as natural. If all one has ever known about [an area] is that a huge resort covers the valley, well then, isn't that just the way it is? Twenty-five years from now there will still be many people who remember [the valley] as it once was, before development. Those who care will lament an irretrievable loss, but lamentation will be all that is left to them. As for the others, they will neither know nor care.

Important social values can be lost if supply conditions shift recreational tastes from traditional outdoor experiences, which emphasize some form of encounter with nature, to mechanized forms of recreation, which emphasize human technology and the "conquest" of natural obstacles. Although such an analysis is useful, the Forest Service cannot necessarily rest its decision upon an attempt to balance the projected reactions of future generations to resort development against their projected reactions to leaving an area in its undeveloped state; if it appears that future generations would adapt equally well to either alternative, the Forest Service must base its decision upon its vision of what kind of future the present generation would like to help create.

III
PRESENT FOREST SERVICE POLICIES
A. Introduction

The previous chapter identified various costs and benefits which the Forest Service ought to consider when evaluating a ski developer's application for a special use permit. These costs and benefits are listed in Figure III.

The present chapter examines the costs and benefits that are actually considered by the Forest Service, and reveals that these factors often bear little relation to the factors which economic theory indicates are important. In a different administrative context, such a study could be carried out by a statistical analysis of a large number of special use permit decisions. Because the Forest Service relies primarily on

78. Browning, Mickey Mouse in the Mountains, HARPER'S, Mar. 1972, at 65.
80. Some readers will probably be annoyed by the paternalistic flavor of this approach. These readers are reminded that Ferejohn and Page have shown that all politically acceptable intergenerational choice rules give the present generation dictatorial power. See supra note 76. As long as this generation must assume such a power, it is better that it be used for paternalistic purposes rather than selfish ones.
81. See McFadden, supra note 25.
FIGURE III

I. POTENTIAL COSTS CONSIDERED IN CHAPTER II:

1) Direct environmental costs.
2) Displacement costs.
3) Congestion resulting from displacement of existing users.
4) Existence values.
5) Option values.
6) Bequest values.
7) Uninternalized risks.
8) Industrial development bond subsidies.
9) Road-building and maintenance.
10) Competitive dilutions of some existing resorts’ profits.
11) Congestion at some existing resorts due to synergistic increases in demand.
12) Future costs.
13) Loss of socially important values due to changed tastes.

II. POTENTIAL BENEFITS CONSIDERED IN CHAPTER II:

1) Consumer surplus generated by the new resort.
2) Synergistic increases in some existing resorts’ profits.
3) Reduced congestion at competitively affected nearby resorts.
4) Expected private profits of new resort.
5) Future benefits.

poorly quantified or even qualitative data in its ski development decisions, however, such a statistical approach would be difficult to apply.82 For the purposes of this article it is therefore more instructive to study the agency’s present decisionmaking process on a case-by-case basis through the use of environmental impact statements for a small number of representative ski development decisions.83

B. Case Study #1: Mount Hebgen

The Mount Hebgen Final Environmental Statement was prepared in 1977 in response to a proposal by Ski Yellowstone Corporation to develop a 6500-skier resort twelve miles north of West Yellowstone,

82. The relative infrequency of ski resort decisions (the Forest Service receives an average of only two to three special use permit applications each year, see supra note 5) and the wide range of geographic, climatic, and demographic variables also contribute to the difficulty in ascertaining the underlying determinants of Forest Service choices through a statistical approach.

83. The case study method is inherently less susceptible to the problems of statistical analysis discussed in supra note 82. The lack of numerical data and the relatively small supply of relevant cases should therefore not greatly impede the analysis undertaken in this chapter.
Montana. This impact statement is particularly informative for several reasons. First, it is more thorough than usual, probably as a result of the proposed development’s proximity to wilderness areas in Yellowstone National Park and the surrounding Gallatin National Forest. Second, because one of the project’s opponents, the Montana Wilderness Association, submitted an application for developing a system of cross-country ski trails on the same site, the Forest Service was forced to perform a detailed analysis of on-site alternatives. Third, the statement is remarkably forthright and open in its analysis.

The most revealing sections of the impact statement are the discussions of alternative uses of the proposed resort site, for they implicitly reveal the Forest Service’s underlying priority system. The longest such discussion concerns the alternative eventually accepted, Ski Yellowstone’s resort proposal. The impact statement notes that a strong point favoring ski resort development is the fact that “it will provide a greater amount of recreational use to a great number of people.” Thus, a major concern of the Forest Service appears to be satisfying the largest possible number of people. This concern with numbers also appears in the impact statement’s assessment of the resort’s environmental impacts. In assessing the development’s effect on adjacent roadless areas, the statement considers substantially increased usage to be beneficial. Further, in response to outdoorsmen’s fears that the year-round crowds attracted by Ski Yellowstone would adversely affect existing recreational uses, the Forest Service acknowledges that larger crowds will necessitate more intensive regulation of currently uncrowded fishing, hunting and other activities. Nevertheless, the agency believes these detriments will be balanced by the greater numbers of people who will be getting recreational experiences in skiing, horseback riding, hiking, boating and other outdoor opportunities offered by Ski Yellowstone. A final example of the Forest Service’s concern with head-counting is the statement’s response to the Forest Service Manual’s requirement that a “need” be demonstrated before a special use
permit may be issued. The agency carries out this need evaluation predominantly by estimating the number of people that could be attracted to a heavily advertised ski resort. This numerical approach to need represents Forest Service policy at the highest levels, not merely the policy of one or more lower officials.

Other strengths of the Ski Yellowstone proposal, according to the impact statement, are the money, jobs, population stabilization, and concomitant social amenities that a new resort would bring to southern Gallatin County. These benefits were cited as additional reasons why the proposal meets the need requirement. Such a broad treatment of the need requirement has the explicit support of Forest Service Chief McGuire, and has some support in a later section of the Forest Service Manual.

This high level of interest in local economic benefits would cause relatively little harm if the Forest Service’s analysis also recognized that these benefits are almost entirely transfer payments. Unfortunately, the Ski Yellowstone impact statement shows only a partial awareness of this fact. The Forest Service apparently realizes that summer visitor expenditures are transfers from within the West Yellow-

91. The relevant section of the Forest Service Manual provides in part:

A permit shall not be granted simply to provide a commercial profitmaking opportunity. . . . A real public service or other justification must be evident in the report submitted with the application to show at least that the use meets a public need and will not conflict with National Forest objectives, programs, or purposes.

FSM, supra note 27, § 2710.3.

92. During its first ten years of operation, Ski Yellowstone may need to spend as much as ten percent of its revenues on marketing. MOUNT HEBGEN FES, supra note 3, at 109. It is beyond the scope of this study to consider the extent to which the Forest Service should consider the effects of marketing efforts in deciding whether a development is “needed.” It may be noted in passing, however, that the Forest Service currently believes that “the need for ski areas like this may be largely generated by advertising, and not by specific and identifiable public demands.” Id. at 109.

93. This estimate is made by looking at historical trends. Id. at 108-10.


95. MOUNT HEBGEN FES, supra note 3, at 101-02. As the Forest Service recognizes, a few local residents might view these changes in lifestyle with dismay. Id. at 180. The majority, however, would almost certainly view them as improvements.

96. Id. at 110.

97. McGuire, supra note 95, at 3.

98. The Forest Service Manual states:

[Term permits] may be issued for commercial uses or industrial uses which are necessary to a community and which render economic or social benefits to the community.

FSM, supra note 27, at § 2711.2(4). This section may not be applicable to ski resorts, for it is probably based on 16 U.S.C. § 497 (1976), which may limit its applicability to such purposes as power generation, water purification, and sewage treatment.
stone region, but recognizes only the small portion of winter visitor expenditures coming from in-state skiers as transfer payments. Over twenty pages is then devoted to the calculation of local economic benefits. The method of calculating local gains in business activity, employment, and income, and the importance granted to each in the impact statement, clearly indicate that the Forest Service is chiefly concerned with local and statewide benefits, not with counterbalancing costs to out-of-state communities.

The Mount Hebgen impact statement reveals more than concern with numbers of users and local economic benefits; it also indicates a Forest Service presumption in favor of developing a winter sports site in accordance with the developer’s desires. This presumption permeates much of the impact statement, but it is only made explicit in the section discussing the availability of the site for ski development:

Availability of a site for winter sports development is dependent upon the existing and potential encumbrances or uses on the area. If the site is committed for other uses which cannot be compensated, then competition exists, and a management decision is needed to determine for

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101. The impact statement asserts:

[T]he employment and personal income associated with summer tourist expenditures should be considered as a redistribution of employment and income within the local and state economies rather than an addition to it... Consequently, from the viewpoint of West Yellowstone, Gallatin County, and Montana, personal income, business activity, etc. associated with summer visitor expenditures are not attributed to the Ski Yellowstone development.

MOUNT HEBGEN FES, supra note 3, at 139 (emphasis in original).

102. Id. at 139-40. Specifically, the impact statement concludes:

Winter visitor expenditures will be “new” or “export” revenue from the viewpoint of West Yellowstone. However, from the viewpoint of Gallatin County and Montana, only that part from outside the county or state can be considered to be “new” money. For example, part of the visitors to Ski Yellowstone may come from other Montana ski developments such as Big Sky. To the extent that the winter visitor expenditures at the proposed Ski Yellowstone development would have been spent elsewhere in the Montana economy, they constitute a redistribution of economic activity within the economy and not an addition to it... The objective here is to present estimates of visitor expenditures and associated business activity which are the result of Ski Yellowstone and would not occur without the Ski Yellowstone development... It is assumed that 20 percent of the projected winter visitor expenditures would come from Montana residents and that in the absence of the Ski Yellowstone development, these expenditures would be made in Montana for similar types of activity. Consequently, the “out-of-state visitor expenditures” indicate the projected “external revenue” or “new money” which can be expected in the Montana economy as a result of Ski Yellowstone.

Id. at 139-40 (emphasis in original).

103. Id. at 135-57. The statement summarizes benefits to the local community as follows:

Annual visitor expenditures in Montana directly attributable to the development may total $12 million at the end of the 10-year development period, while total business activity generated may reach $23 million. Projected personal income generated for Montana residents could be $5 million annually. Total employment could reach 1,300 people. Tax revenues could be $1,688,000 per year.

Id. at iii.
which use the land will be made available.\textsuperscript{104}

According to this comment, the site is available \textit{unless} there is a current or potential "encumbrance" or use of the area. Only if the site is "committed" to other uses which "cannot be compensated" is a management decision even required on the issue of availability. Thus, the quoted statement expresses a subtle inertial presumption in favor of a ski developer’s proposal, similar to a procedural rule requiring that a particular party affirmatively raise certain issues. Like the procedural rule, the presumption carries an implication that the party challenging the ski development must produce a threshold level of evidence before his claim will be seriously considered.\textsuperscript{105}

A fourth Forest Service attitude apparent in the assessment of the Ski Yellowstone proposal is that the agency should only be concerned with environmental degradation on its own lands. Several passages of the Mount Hebgen statement suggest that responsibility for mitigating potential harm to surrounding private lands is a matter for local rather than Forest Service consideration. For example, the statement asserts:

- Perhaps more important [than impacts on adjacent public lands] are impacts on nearby private land where there is less direct government control. Here there will be demands for more intensive development. Some of the land is not suitable for heavy development unless some stringent regulations are enforced, which would involve zoning. Again, . . . the suitability of private lands to absorb projected impacts rests with the landowners [sic] ability to achieve effective zoning.\textsuperscript{106}

This attitude is in curious contrast to the Forest Service’s intense concern with the development’s impact on the local economy.\textsuperscript{107}

The Mount Hebgen impact statement’s consideration of three possible alternatives to the Ski Yellowstone proposal confirms the importance of the attitudes described above to the Forest Service’s ultimate decision. One alternative proposes that the Forest Service exchange a parcel of national forest land near the West Yellowstone community for private lands held by Ski Yellowstone at the base of Mount Hebgen.\textsuperscript{108} Under this plan, ski runs and base facilities still would be located on the mountain, but the resort complex and overnight facilities would be built on the exchanged parcel closer to town. This proposal would make better use of the numerous motels and other services of West Yellowstone and reduce impacts on the Lake Hebgen region by

\textsuperscript{104} \textit{Id.} at 102.

\textsuperscript{105} In the Forest Service’s analysis of the Ski Yellowstone proposal, the threshold level seems to have been met; the impact statement considers the effects of the development, then makes a management decision to proceed with the project.

\textsuperscript{106} \textit{MOUNT HEBGEN FES, supra} note 3, at 104-05.

\textsuperscript{107} For a discussion of the Forest Service’s emphasis on local economic benefits, see \textit{supra} notes 96-104 and accompanying text.

\textsuperscript{108} \textit{Id.} at 84-86, 110.
concentrating development in the already heavily developed community. The Forest Service clearly recognizes these advantages, but dismisses the land exchange alternative because Ski Yellowstone fears that a ski run located so far from the resort complex would not attract enough skiers to be financially successful. It is obviously not the agency's role to force a developer into a privately unprofitable venture. Nonetheless, the agency's conclusion here totally ignores the possibility that this alternative's environmental superiority might be high enough to warrant postponing mechanized development until market conditions change sufficiently to make a land exchange attractive to a developer. The Forest Service's failure to consider this possibility more seriously seems to indicate a strong agency policy in favor of the preferences of the recreational industry.

Forest Service priorities are also confirmed by the treatment given to the two other alternatives to Ski Yellowstone's proposed resort complex. One alternative was to deny permits for the construction of any type of facility on Mount Hebgen. This alternative is cursorily dismissed because "it does not help stabilize year-long residential use of the basin nor does it contribute [local] economic benefits such as those derived from the [Ski Yellowstone proposal or land exchange alternative]." The remaining alternative is a proposal by the Montana Wilderness Association to construct 30.5 miles of cross-country ski trails and one or more overnight huts in the Mount Hebgen area. This proposal is accorded slightly greater consideration than the no-permit alternative, but it too is dismissed for failure to provide the local economic and social benefits of the other two proposals. In addition, its dismissal is also based on the fact that it would provide recreational facilities for a much smaller number of people.

109. Id. at 110.
110. Id.
111. Id. at 112.
112. Id.
113. Id. at 110-12. Four other reasons are given for the dismissal of the Montana Wilderness Association plan. First, neither a parking area nor a warming hut was planned for the base of the mountain. Id. at 111. The agency considered inclusion of these facilities essential, even though the failure to include them could have been corrected easily. Second, the Forest Service believes the region already has sufficient cross-country ski areas. Id. Third, more suitable terrain for cross-country ski trails was believed to exist elsewhere, should a need for additional trails be shown. Id. at 111-12. Finally, the impact statement dismisses the Montana Wilderness Association's proposal because of the possibility that it might prompt extensive subdivision of private lands in the basin. Id. at 112. This last reason is inconsistent with the statement's lack of concern for the effects of development on peripheral private lands. Id. at 105.

These arguments are almost certainly not the primary reasons for dismissing the Montana Wilderness Association's proposal, however. The facile manner in which all are presented, along with their obvious weaknesses, suggest that they are merely intended as additional support for a decision that had already been made on other grounds.
C. Case Study #2: Arizona Snow Bowl

A careful study of the impact statement for another recent ski development, the Arizona Snow Bowl Ski Area Expansion Proposal, further confirms the importance of head-counting and local economic benefits in Forest Service decisionmaking. The Arizona Snow Bowl Ski Area is located on the southwestern flanks of northern Arizona's San Francisco Peaks, approximately ten air miles from the city of Flagstaff. In February of 1979, the Forest Service decided to permit the expansion of the existing Snow Bowl Ski Area from its present "comfortable carrying capacity" of 522 skiers to a "comfortable carrying capacity" of 2825 skiers.

This proposal has been the subject of much controversy because the San Francisco Peaks are unique in Arizona. The remnants of an ancient volcano, they rise to a height of 12,670 feet, and contain the only alpine tundra in the state. The expansion would make this tundra area and the peaks themselves more easily accessible to summer visitors, who could ride the chairlift to an elevation of 11,550 feet. Because the San Francisco Peaks are a single isolated mountain mass, with an alpine tundra region only 2.54 miles in length and an average width of only .75 miles, the visual impact of the ski resort and the increased summertime crowding will be acutely felt by backpackers and hikers.

The special status given the Peaks in the Hopi and Navajo religions is a source of further controversy. To traditionalists among these tribes, the mountains are the holy residences of certain supernatural beings. Tribe members compare the proposed expansion to "playing baseball in church" or "constructing a skate-board track in the Sistine Chapel." Hopi religion predicts that the desecration of the Peaks will cause the displeasure and perhaps even the departure of the beings who dwell there, resulting in drought, famine, and natural disasters.

114. See Forest Service, U.S. Dep't of Agriculture, S.W. Region, Coconino Nat'l Forest, Final Environmental Statement: Arizona Snow Bowl Ski Area Proposal (1979) [hereinafter referred to as Snow Bowl FES].
115. Id. at 114.
116. Id. at 76-77.
117. Id. at 76. Apparently, the present ski area operates a chairlift taking summer visitors to an even higher elevation. Id. at 51, 137. The controversy over summer use is still relevant, however, for one of the alternatives under consideration was the elimination of present facilities.
118. Id. at 214.
119. Id. at 236.
120. Id. at 233.
121. Id. at 60, 132-34. The religious costs outlined in the text cannot be dismissed as primitive superstitions unworthy of serious consideration. They represent perceived costs which are as real to the Indians as perceived psychic benefits are to downhill skiers. The
The uncertain snowfall in the San Francisco Peaks region heightens the controversy. The Forest Service concluded that in five out of the eighteen years for which snowfall near the permit area has been directly measured conditions “might be considered marginal for skiing.” Local residents commenting on the Draft Environmental Statement were considerably less optimistic about the possibilities of good snow, and even the Far West Ski Association recognizes that there will be a good snow base in only two out of three years. Furthermore, the use of snow-making equipment cannot be relied upon in bad years, for the cost of obtaining the necessary water is prohibitive.

A study of the Snow Bowl impact statement reveals themes similar to those apparent in the Mount Hebgen impact statement. Again, the prominent Forest Service goals seem to be aiding the local economy and ensuring use by the maximum possible number of people. Local economic impact was afforded a high status by being included among four basic criteria used to evaluate alternative development proposals. The economic effects considered were grouped into three classes: “expenditure impacts,” “employment impacts,” and “employment impacts of construction.” As defined by the Forest Service, the expansion’s “expenditure impacts” apparently were calculated by treating every dollar of local spending as a dollar of gain to the local economy, thereby grossly overstating the size of local benefits as well as ignoring the countervailing losses to other communities. This method of measurement was also used in the Forest Service's calculation of benefits resulting from the already existing development and from construction expenditures. “Employment impacts” and “employment impacts of construction” refer to seasonal employment or once-only employment resulting directly or indirectly from operation or construction of the resort, respectively. For a sample calculation, see id. at 64-65. See supra note 65 and accompanying text. See supra notes 65-67 and accompanying text. Snow Bowl FES, supra note 114, at 64-65. By counting every dollar spent on construction as a benefit, the Forest Service exactly offsets construction costs by construction benefits. Because of this error, the larger the development is, the more likely it is to receive a permit.
ployment impacts of construction” were almost certainly measured from an equally narrow perspective.

These calculations, though containing many errors, indicate that the Forest Service has some interest in a formal economic analysis. Unfortunately, like the Mount Hebgen impact statement, the Arizona Snow Bowl impact statement makes little effort to carry such an analysis beyond the computation of local economic benefits. Instead, it appears that the Forest Service is not interested in undertaking a complete cost/benefit study. This conclusion is supported by the following summary of the Forest Service’s reasoning in deciding to permit the proposed development:

After considering all effects, the Forest Service prefers development because: Legal requirements have been met; public sentiment favors development; environmental effects can be mitigated; it benefits the local economy; and is consistent with Forest Service plans and policies.134

The most striking feature of this statement is that benefits from providing skiing opportunities are never mentioned. Instead, ski development is to be allowed when the costs are not too high. This one-sided cost/benefit analysis is apparently the result of a general Forest Service policy to “encourage qualified individuals, groups, or cooperating agencies to develop and operate . . . suitable winter sports sites sufficient in number to meet public needs.”135 Apparently, the Forest Service has concluded that there are presently an insufficient number of winter sports sites to meet the “needs” of Southwestern skiers and that the consumer and producer surpluses from any development of the Snow Bowl area must therefore be substantial.

An assumption of significant project benefits also appears to underlie the treatment of the Indian religion issue. The Forest Service clearly recognizes that Indians have significant religious values at stake, and it thus technically abides by the American Indian Religious Freedom Act of 1978, which mandates government consideration of traditional Indian religious practices.137 Nevertheless, the agency concludes that public benefits from use of the San Francisco Peaks area present “substantial and compelling reasons for continuance and im-

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133. See supra text accompanying notes 65-69.
134. SNOW BOWL FES, supra note 114, at 162.
135. Id. at 68, quoting from FSM, supra note 27, § 2342.03.
136. Id. at 161.
137. The Act provides:
   On and after August 11, 1978, it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

improvement of the development" which are sufficient to outweigh Indians' religious interests.\textsuperscript{138} This conclusion may be correct, but without some measure of the presumed benefits of development, this result is impossible to verify. Furthermore, such one-sided analysis easily leads to a strong pro-development bias, similar to the presumption in favor of development which underlies much of the Mount Hebgen impact statement.

This bias may do more than merely lead to undocumented conclusions about the level of benefits resulting from development; it also may cause the Forest Service to undervalue the external costs of development. For example, the Forest Service asserts that clearing accompanying development "would improve habitat for meadow users and dwellers."\textsuperscript{139} While technically true, this assertion is misleading, for summer use of the ski lifts may preclude utilization of the forage by big game. The Forest Service acknowledges this,\textsuperscript{140} but nevertheless treats the increase in forage as a benefit of the expansion.

The Forest Service's discussion of the adequacy of snow conditions at the Snow Bowl also may reflect a pro-development bias. Because long term snow depth data were not available for the Snow Bowl itself, the Forest Service attempted to correlate Snow Bowl snow depths to those at nearby Fort Valley. Unfortunately, the Forest Service's statistical techniques were so unsophisticated that estimated Snow Bowl depths were guaranteed to be adequate.\textsuperscript{141} When a local resident attempted to point out this error, the Forest Service made no effort to improve the analysis by the use of more sophisticated statistical techniques.\textsuperscript{142} Similarly, the Forest Service refused to evaluate the effect snow conditions other than depth would have on demand, explaining that it is "next to impossible to say what is 'good' snow versus 'bad'

\textsuperscript{138} Snow Bowl FES, supra note 114, at 161.
\textsuperscript{139} Id. at 126.
\textsuperscript{140} Id. at 187.
\textsuperscript{141} To estimate snow depths for years when no actual measurements from the Snow Bowl were available, the Forest Service used the following correlation equation:

\[
Y = 1.84 (x) + 20.12
\]

where \(x\) = snow depth at Fort Valley (inches)

\(Y\) = snow depth at Snow Bowl (inches)

\textsuperscript{142} Id. at 40. Because twenty inches of snow was considered to be the seasonal average necessary to maintain a "good" base (id. at 39), this equation always yielded a satisfactory snow depth at the Snow Bowl Ski Area, even if no snow had actually fallen at either Fort Valley or the Snow Bowl. In defense of the Forest Service, it can be noted that little use was apparently made of the results of snow depth correlations: The conclusion that five of eighteen years might be considered marginal for skiing (id. at 39) was based on years for which actual Snow Bowl data were available. Nevertheless, the impact statement devotes two pages to the analysis of the correlation data, and presents the results in a full-page table. Id. at 42. This analysis and the resulting table are highly misleading.

\textsuperscript{142} Id. at 185.
At Snow Bowl, average winter temperatures significantly above freezing are likely to result in less than ideal powder conditions, and the effect of this factor on skier preferences could have been evaluated using any of a number of forms of demand analysis. This inadequate evaluation of snow conditions could be due to either a poor grasp of evaluation techniques or a prior conclusion that the development should be allowed regardless of the results of snow studies.

Another shortcoming of the Snow Bowl impact statement, also found in the Mount Hebgen statement, is the tendency to rank the benefits of competing alternatives by the number of users involved. This type of head-counting analysis occurs throughout the Snow Bowl statement, but is most evident in the discussion of citizens' letters. Public sentiment, one of the four basic "analysis elements" employed to judge the alternatives under consideration, is defined simply as "[t]he percentage of total inputs and signatures that favored an alternative." The agency apparently made no effort to determine whether the letters were genuinely reflective of broad-based public sentiment or, instead, the products of well-organized interest group campaigns. Further, it made no attempt economically to assess the strengths of the "votes" of various individuals. Perhaps seduced by the appearance of democracy in the head-counting technique, the Forest Service replaced an economically proper consumer surplus analysis with a simple tabulation of the numbers of people known to favor each alternative.

This unsophisticated head-counting orientation is evident in several other contexts. For example, one of the social effects considered was "access to areas of outstanding natural beauty." Increases in accessibility, with accompanying increases in usage, were treated as positive aspects of the proposed development and of other intensive-use alternatives. Conversely, a reduction in winter access to such areas was treated as a detriment to the alternative of removing present facilities. Even solitude and wilderness values were apparently consid-

143. Id.
144. Id. at 44.
145. These techniques could have ranged from simply observing skier behavior patterns to relatively sophisticated travel costs studies of the type discussed in supra notes 54-56 and accompanying text.
146. SNOW BOWL FES, supra note 114, at 73.
147. Id. at 138-39.
148. In evaluating alternative designs for the Snow Bowl road, the agency assessed the impacts on levels of sledding, snowmobiling, cross-country skiing, pleasure driving, hiking, and other activities. Id. at 148-51. Increases in these activities were not directly referred to as beneficial, but drawbacks to such increases were mentioned only in the context of cross-country skiing, where it was acknowledged that greater access might be viewed as allowing intrusions on formerly undisturbed areas. Id. at 149. Interestingly, no similar drawbacks were mentioned about far more controversial activities such as snowmobiling.
ered enhanced by increased access,\textsuperscript{149} for the impact statement notes that road upgrading accompanying development will increase the number of people taking short hikes from the end of the road.\textsuperscript{150}

The head-counting orientation also appears to have influenced Forest Service treatment of the Indian religion issue. In deciding to proceed with the development despite that controversy,\textsuperscript{151} the agency found it critical that the construction of the preferred alternative would not “deny access to sites or prevent use and possession of sacred objects and [would] allow Native Americans to worship through ceremonies and traditional rites within the permit area.”\textsuperscript{152} While this factor might indeed mitigate the development’s harmful effects, the importance given to it suggests that the Forest Service is unduly interested in finding a compromise under which both Indians and skiers could make physical use of the mountain. Before such a compromise can be accepted, the Forest Service should first give more thorough consideration to the spiritual, aesthetic, and religious costs which would be imposed on the Indian culture.

The Snow Bowl impact statement reveals an aspect of Forest Service decisionmaking not readily apparent in the Mount Hebgen impact statement—the “concept” approach. Under this approach, the Forest Service does not concern itself with all environmental, social, and economic details in a draft impact statement. Rather, it treats any development plan introduced as simply a “concept” which may be evaluated in the abstract.\textsuperscript{153} For example, the Forest Service declared that congestion problems arising from summer usage were outside the scope of the Snow Bowl impact statement\textsuperscript{154} even though this problem might have a strong bearing on whether to fully develop the ski area. By choosing a full-development “concept” without first addressing the congestion problem, the Forest Service may have committed itself to

\textsuperscript{149} The Forest Service acknowledges that the “opportunity for solitude will be disrupted around the permit area.” \textit{Id.} at 12.

\textsuperscript{150} \textit{Id.} at 150.

\textsuperscript{151} Specifically, the agency states:

\begin{quote}
The Forest Service recognizes there will be an adverse effect on Native American religious beliefs. . . . however, the Forest Service finds public use of the Snow Bowl and the goods and services the public desires from the San Francisco Peaks as a substantial and compelling reason for continuance and improvement of the development.
\end{quote}

\textit{Id.} at 161.

\textsuperscript{152} \textit{Id.} at 161.

\textsuperscript{153} The Snow Bowl draft impact statement asserts:

\begin{quote}
The Master Concept Plan as presented by Northland Recreation, Inc. was simply a concept. The alternatives to it also became concepts. By definition, a concept is abstract and does not deal with details.
\end{quote}

\textit{Id.} at 176.

\textsuperscript{154} \textit{Id.} at 177. The apparent reason for ignoring this problem is that summer usage will present management problems no matter which alternative is accepted. \textit{Id.}
keeping the lifts open in the summer;\textsuperscript{155} at least it may have limited itself unnecessarily at a crucial decisionmaking stage.

Perhaps this method of administrative simplification may properly be used to eliminate clearly inferior "concepts." However, the Forest Service should not use the concept approach to make its ultimate decision without a more complete consideration of the comparative levels of costs and benefits. If analysis of an issue is to be postponed, the Forest Service first must show that a complete cost/benefit study would not change the optimal development "concept." This it failed to do when the analyses of key "details" such as summer visitation were postponed.

\subsection*{D. Summary: Analysis and Critique of Forest Service Goals}

The preceding case studies demonstrate that the Forest Service is not presently carrying out a detailed cost/benefit analysis when evaluating special use permit applications for ski resort development. Rather, the agency is guided in its decisionmaking by a set of objectives which may be summarized as follows:

1) the maximization of the number of users of the tract of land under consideration;\textsuperscript{156}

2) the provision of economic and social benefits to the local

\textsuperscript{155} One possible alternative was to limit summer access while allowing expanded winter use. Such a solution is not rendered physically impossible by a full-development concept. As a practical matter, however, the Forest Service is likely to be sympathetic to the developer if, after construction has begun, it becomes apparent that summer operation is vital to overall profitability.

\textsuperscript{156} One probable origin of this policy is a 1905 letter from Secretary of Agriculture James Wilson to Forest Service Chief Gifford Pinchot which states in part:

In the administration of the forest reserves, it must be clearly borne in mind that all land is to be devoted to the most productive use for the permanent good of the whole people and not for the temporary benefit of individuals or companies . . . . [W]here conflicting interests must be reconciled, the question will always be decided from the standpoint of the greatest good of the greatest number in the long run.

FSM, \textit{supra} note 27, \S 1012. The Forest Service Manual describes this letter as "[laying] down basic principles and public-service policy which the Forest Service has continued to follow ever since." \textit{Id.} While the letter appears simply to represent a non-economist's attempt to emphasize the importance of basing decisions on long run economic efficiency rather than short run private gain, the Forest Service apparently has been overly attracted by the letter's catchy but economically meaningless phrase, "the greatest good for the greatest number."

This misunderstanding probably has been strengthened by a misreading of the Multiple-Use Sustained-Yield Act of 1960, 16 U.S.C. \S\S 528-531 (1976), which provides that national forest resources be utilized to "best meet the needs of the American people." \textit{Id.}, \S 531(a). The Forest Service appears to have interpreted "needs" to mean desires, or quantities demanded at low, or even zero, prices. This reading appears improper, for the Act also requires that "consideration [be] given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output." 16 U.S.C. \S 531(a) (1976).
community;\textsuperscript{157}  
3) the simplification of the decisionmaking process; and  
4) the promotion of the desires of the recreational industry.\textsuperscript{158}  
A fifth objective, the mitigation of environmental harms, is also implicit in these two impact statements. It takes a secondary role in the Forest Service's analysis, however, as it is used only to modify details of already-approved general development schemes.\textsuperscript{159}  

Studies of other

\textsuperscript{157} The goal of enhancing local economic benefits represents an understandable concern, for the Forest Service must carry out a large portion of its day-to-day business with the people living near national forest lands. In addition, many residents of western states are already suspicious of the federal government's role as a major landholder, and it is not surprising that the Forest Service should consider appeasing them to be a major objective. Finally, like the Forest Service's head-counting methodology, concern with the local economy has deep historical roots. For example, in his 1905 letter, see supra note 156, then Secretary of Agriculture James Wilson advised that the Forest Service should use resources for the benefit of area residents and local industry and avoid clearly wasteful and antagonistic disruptions of existing facilities. FSM, supra note 27, § 1032. Local considerations should not dominate the analysis of proposed ski developments, however. See supra text accompanying notes 65-66.

\textsuperscript{158} This attitude is apparent in the Forest Service's view of its legal authority for granting special use permits to large ski developments. The statute authorizing the issuance of special use permits for the development of recreational facilities explicitly limits the size of tracts to no more than eighty acres. 16 U.S.C. § 497 (1976). The Forest Service has attempted to avoid this limit for ski developments requiring greater acreage by issuing each developer two special use permits; a "term" permit covers the eighty acres of national forest land upon which the most intensive development will occur and an "annual" (or "revocable") permit covers additional acreage to be utilized for ski slopes, ski trails, and similar purposes. See FSM, supra note 27, § 2711.1(1).

The legal status of this dual permit system is unclear. A sound historical basis for the use of revocable permits exists. See, e.g., 16 U.S.C. § 551 (1976 & Supp. 1980); United States v. Grimaud, 220 U.S. 506 (1911). However, the subsequent enactment of the eighty-acre limit of § 497 may have pre-empted existing special use permit authority. This issue has been the subject of litigation at least three times in the past decade, and has yet to be resolved. See Wilderness Society v. Morton, 479 F.2d 842, 884-87 (D.C. Cir. 1973), cert. denied, 411 U.S. 917 (1973); Sierra Club v. Hardin, 325 F.Supp. 99, 122, (D. Ak. 1971); and Sierra Club v. Hickel, 433 F.2d 24, 34-36 (9th Cir. 1970), aff'd sub nom, Sierra Club v. Morton, 405 U.S. 727 (1972). Even if the Forest Service's use of annual special use permits for the development of ski resorts is not a violation of statute, it may be a violation of the Forest Service's own regulations as outlined in the Forest Service Manual. See FSM, supra note 27, §§ 2711.1(1), (4) (defining annual permits as generally authorizing low-capital uses of short duration).

Although the legality of the Forest Service's dual permit scheme is open to substantial debate, its persistent use by the Forest Service indicates a desire to promote larger-scale resort development than would be possible under a more restrictive reading of § 497. For further discussion of this issue, see generally Lovett Dissertation, supra note 1, at 120-34.

\textsuperscript{159} The Mount Hebgan impact statement, for example, devotes nineteen pages to a discussion of environmental effects and possible mitigations of the Ski Yellowstone proposal. These mitigations, however, do not contemplate changes in the general development scheme, but only changes in such admittedly important details as soil erosion, sewage disposal, and the number of wood-burning fireplaces in the resort complex. MOUNT HEBGEN FES, supra note 3, at 113-31. The Snow Bowl impact statement indicates similar concerns, but postpones a careful study of detailed environmental mitigations to a later date. SNOW BOWL FES, supra note 114, at 72, 74, 124-30, 160.

Environmental concerns have been resolved in other ski development proposals by
resort proposals further confirm these objectives.160

IV
PROPOSED ECONOMIC DECISIONMAKING PROCEDURE

A. Introduction

As the case studies in Chapter III reveal, the method the Forest Service now employs to evaluate special use permit applications for ski resort developments is woefully inadequate. The Forest Service not only places strong emphasis on factors such as head-counting and local economic benefits, which have little place in the theoretical analysis outlined in Chapter II, but also virtually ignores many of the cost/benefit variables discussed in that section. Economically rational decisionmaking will not result unless some means is found to correct the Forest Service’s biases and misunderstandings, and to guide its decisionmaking along a path that will lead to results at least approximating those of a full-fledged cost/benefit analysis.

Simply requiring the Forest Service to carry out in-depth studies of the external costs and benefits outlined in Chapter II probably will not achieve this goal, however, for some externalities are so difficult to quantify that even the best-intentioned administrators may find the studies difficult to perform. In addition, the degree of subjectivity inherent in some stages of such an analysis would make it difficult to police agency compliance; Forest Service officials necessarily would have large areas of discretion within which they could follow their conscious or unconscious biases with little threat of outside intervention.

cutting back the scale of development. See, e.g., FOREST SERVICE, CAL. REGION, SEQUOIA NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, MINERAL KING FINAL ENVIRONMENTAL STATEMENT 12 (1976) (skier capacity reduced from 10,000 to 8,000) [hereinafter cited as MINERAL KING FES]; FOREST SERVICE, CAL. REGION, U.S. DEP’T OF AGRICULTURE, SIERRA SKI RANCH PROPOSED EXPANSION FINAL ENVIRONMENTAL STATEMENT 46-47, 80 (1977) (skier capacity reduced from 9,500 to 7,000) [hereinafter cited as SIERRA FES]. While these reductions in scale represent contractions of 20% and 26%, respectively, they do not involve dramatic changes in the overall development schemes.

160. See SIERRA FES, supra note 159; FOREST SERVICE, PACIFIC N.W. REGION, MOUNT HOOD NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, MT. HOOD MEADOWS SKI AREA FINAL ENVIRONMENTAL STATEMENT 1 (1978) (expansion of a day use area from 4,500 to 8,600 skier capacity); FOREST SERVICE, S.W. REGION, CARSON NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, RED RIVER SKI AREA—AN EXPANSION PROPOSAL: FINAL ENVIRONMENTAL STATEMENT 2-4 (1977) (expansion from 1,650 to 3,000 skier capacity) [hereinafter cited as RED RIVER FES]; FOREST SERVICE, ROCKY MTN. REGION, MEDICINE BOW NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, RYAN PARK WINTER SPORTS SITES FINAL ENVIRONMENTAL STATEMENT i (1976) (expansion of a small local ski area from 70 to 500 skier capacity); FOREST SERVICE, N. REGION, FLATHEAD NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, BIG MOUNTAIN SKI RESORT FINAL ENVIRONMENTAL STATEMENT 1 (1976) (expansion from 1,840 to 4,670 skier capacity); FOREST SERVICE, INTERMOUNTAIN REGION, UINTA NAT’L FOREST, U.S. DEP’T OF AGRICULTURE, FOUR SEASONS DEVELOPMENT FINAL ENVIRONMENTAL STATEMENT 25 (1976) (construction of a new 8,300-skier resort on the outskirts of Provo, Utah) [hereinafter cited as FOUR SEASONS FES].
In fact, even if Forest Service personnel accept the goal of economic rationality, a full-scale cost/benefit analysis is not necessarily required. Because such an analysis is expensive and time consuming, it should be avoided if a simpler approach will suffice. The purpose of this chapter is to present one possible simplified approach. Section B will outline the major steps in the approach, while sections C, D and E will present detailed discussions of the more critical stages of the procedure. This chapter does not argue that the recommended approach is unique, or that the present Forest Service decisionmaking process ignores all of the recommended concerns. Neither does it assume that all or even most ski proposals can be handled without resort to full-scale cost/benefit analyses. The argument presented is simply that the recommended decisionmaking criteria are economically rational, easily implemented, and judicially enforceable despite at least moderate agency recalcitrance.\textsuperscript{161}

\textbf{B. Procedure}

The first step in developing a set of decisionmaking rules is to outline the procedure under which they will be implemented. The present environmental impact statement procedure obviously has much to recommend it, but it needs minor revisions to adjust to the rules proposed later in this chapter. Including these revisions,\textsuperscript{162} the recommended procedure involves seven basic steps, and is outlined in Figure IV-1. This outline is by no means complete. Details concerning specific problems of implementation, such as the right to administrative appeal and a schedule for preliminary public hearings, are omitted. Such details are either safely left to Forest Service discretion or are beyond the scope of the present discussion.

\textit{Step (1). Receipt of special use permit application from prospective developer.} Prior to receiving a special use permit application, the Forest Service need not actively promote the development of sites which it believes to be suitable for ski development. Instead, it can rely on the profit motive to bring forth applicants for most such projects, for socially desirable ski developments are also likely to be privately profitable.\textsuperscript{163} An active early role is not only unnecessary, but unwise. If the agency commits itself to promoting the development of a given area, it is in danger of losing its status as an impartial decisionmaker, and may

\textsuperscript{161} These criteria may not be judicially imposable under existing statutes and regulations, however. \textit{See supra} notes 12-13 and accompanying text.

\textsuperscript{162} In general, divergences between the recommended procedure and current NEPA requirements will not be specifically identified. NEPA issues are beyond the scope of the present policy-oriented inquiry.

\textsuperscript{163} This does not mean, of course, that all privately profitable resorts are socially beneficial.
instead become one of the active combatants in the fight for development. 164

Step (2). Review of proposal for obvious shortcomings. The Forest Service should not be required to waste its efforts on detailed analyses of plainly unsuitable or incompletely described projects. One way to prevent this is to require each proposal to pass a series of initial screening tests. 165 A proposal which fails this initial screening should be provisionally rejected. 166 Such rejection should not necessarily be final, however. Because the tests are designed to expedite decisionmaking rather than create artificial procedural barriers to development, a decision should be reversible if the developer either corrects the proposal's shortcomings or convinces the agency that special circumstances make mechanical application of one or more of the initial screening criteria unjust. 167

Step (3). Screening for "controversiality." Once a proposal passes the initial screening, it should be examined to determine if it will produce significant benefits or significant external costs. A proposal with both significant benefits and significant costs will be deemed to be "controversial;" all others will be termed "non-controversial." Controversial proposals must undergo a full cost/benefit analysis before the

164. The history of the proposed Mineral King development well illustrates this danger. As early as 1945, the Forest Service had noted the attractiveness of the Mineral King valley for a major ski resort, and in 1949 it began an active search for prospective developers. See MINERAL KING FES, supra note 159, at 10. The Forest Service located a developer in 1965, and development plans were prepared. The project encountered stiff environmental opposition, but the Forest Service continued to pursue it until 1978, when Congress banned ski development at the site. 16 U.S.C. § 45f (Supp. IV 1980). For a more complete discussion of the history of the Mineral King proposal, see Nienaber, Mineral King: Ideological Background for Land Use Disputes 124-144 (1973) (unpublished doctoral dissertation available at the University of California-Berkeley Library).

165. See infra text accompanying notes 176-195.

166. The proposed decisionmaking procedure provides no mechanism for an equally summary acceptance of projects featuring unusually high levels of benefits. There are two reasons for this asymmetry. First, since a decision to develop previously undeveloped land is irreversible, social risk aversion must be considered. See supra note 47 and accompanying text. One manifestation of such risk aversion should be a decisionmaking process which requires even apparently reasonable projects to undergo some minimum level of testing before they are allowed to proceed.

Second, it is much easier to discredit a bad proposal than it is to prove that a good one is optimal. An initial screening procedure will therefore serve more appropriately to eliminate plainly unsuitable proposals, rather than to grant summary approval to advantageous ones.

167. This second ground for reversal should be used sparingly, however, for the proponent of a provisionally rejected project should not be able to use the appeal process to force the Forest Service into what would be virtually a complete cost/benefit analysis. In such an appeal, therefore, the developer should bear the burden of proof, and the Forest Service should decide merely the limited question of whether or not one or more of the initial screening criteria are inapplicable to the specific proposal under consideration. If the initial screening criteria have been carefully chosen, very few appeals are likely to be successful.
FIGURE IV-1
PROPOSED DECISIONMAKING PROCEDURE

Proposal Received

Screen for Obvious Faults

Screen for Controversiality

Full Cost/Benefit Study

Write & Circulate Draft Environmental Statement

Re-examine Decision

FFS

Implement Decision

Appeal Possible

Return to Appropriate Box

appeal
succeeds
appeal
fails
reject
accept
not sure
decision affirmed
appeal
fails
appeal
succeeds
non-controversial
controversial
Forest Service can make a final decision, but applications for non-controversial proposals may be acted upon as soon as non-controversiality is established. Thus the Forest Service should deny applications for non-controversial projects featuring only significant external costs, and permit non-controversial projects featuring only significant benefits.

Proper disposition of proposals featuring neither significant costs nor significant benefits is not as simple. The values at stake in these projects are not likely to be worth the expense of performing a full cost/benefit analysis, yet it is unclear whether such projects should be permitted or prohibited. To avoid unnecessary transaction costs, there should be a rule for summarily deciding the fate of these proposals. While automatic acceptance is perhaps justifiable, automatic rejection is probably the better alternative because pro-development decisions are comparatively irreversible.

Step (4). A thorough cost/benefit study for controversial proposals. This analysis should consider not only the costs and benefits of the proposal under consideration, but also the costs and benefits of all reasonable modifications of that proposal, including off-site alternatives such as development at a different location or expansion of existing ski areas.

Traditionally, the goal in a cost/benefit analysis is to assign dollar values to the costs and benefits of the various alternatives and to calculate a set of numerical cost/benefit ratios. Attaining this goal may entail a great deal of time, expense, and uncertainty, however, for the study of natural resource economics is not yet sufficiently advanced to allow easy assignment of values to all potential externalities. Nevertheless, a cost/benefit study is a useful decisionmaking tool because it forces explicit recognition of all of the trade-offs inherent in a developer's proposal.

Step (5). The environmental impact statement, public comment, and public hearings. If a proposal survives the initial screening, the environmental impact statement process should begin immediately.

168. The primary argument in favor of automatic acceptance would be the desirability of minimizing government interference with private firms' business decisions.

169. For a discussion of the importance of irreversibility, see supra text accompanying note 47.

170. Current judicial interpretation of NEPA seems to require that federal agencies perform a cost/benefit analysis for every proposed project. Pennsylvania v. Morton, 381 F. Supp. 293, 300 (D.D.C. 1974). To the extent that this decision might be read to require a full-scale analysis of all proposals, it establishes bad judicial policy and should be reconsidered. Further analysis of this NEPA issue is beyond the scope of this article.

171. See supra text accompanying note 25. It may even be dangerous to attempt to assign prices to costs and benefits until they are fully understood, for subjective value judgments can be masked behind even an honest effort at numerical calculation.

172. It would be contrary to the purpose of the initial screening to begin drafting the environmental impact statement at any earlier stage in the analysis.
When enough information has been gathered to allow disposition of the application under consideration, a draft environmental impact statement should be circulated for public response. This statement should include the Forest Service's tentative decision, but it should emphasize that the decision is subject to change. Final decision should await whatever new information may emerge from the public comment process.

Step (6). Reconsideration of tentative disposition. Reconsideration of the draft impact statement's tentative disposition should be based upon information previously gathered, public comments elicited by the draft statement, and the advice of all government agencies whose expertise might be useful.\footnote{173} If re-examination casts any doubt upon the propriety of the tentative disposition, the decision should be suspended. If necessary, the Forest Service should resume the decisionmaking procedure at the point at which it was interrupted. Preparation and circulation of a revised draft environmental impact statement probably will be appropriate.

Step (7). Final environmental impact statement. After a final decision is reached, a final environmental impact statement should be published to explain the reasons underlying whatever decision the Forest Service makes.\footnote{174} The agency should publish a final statement even if it denies the application because such statements give future developers a better understanding of the standards for issuance of special use permits.\footnote{175}

C. The Initial Screening Process

The initial screening process introduced in section (B)(2) above consists of a search for flaws which are sufficiently serious to indicate that the proposal is either highly unlikely to survive a full cost/benefit examination or is so incomplete that the developer should be required to provide more information before the proposal can receive serious consideration. The initial screening should require little administrative effort. It may, however, require the Forest Service to undertake a cur-

\footnote{173} This requirement is similar to current NEPA requirements. 42 U.S.C. § 4332(2) (1976).

\footnote{174} The draft and final impact statements serve different purposes. The draft statement is intended to facilitate the decisionmaking process, while the final statement is designed to explain the ultimate result. NEPA currently requires only one impact statement, but there is no reason that the recommended two-statement procedure should be disallowed under the present statute. See 42 U.S.C. § 4332(2)(C) (1976).

\footnote{175} Current judicial interpretation holds that NEPA requires no impact statement in the event of agency "inaction," for otherwise agencies might be forced to prepare an unmanageable number of statements. Defenders of Wildlife v. Andrus, 627 F.2d 1238, 1243-47 (D.C. Cir. 1980). Although such a fear may generally be legitimate, it is not relevant if the Forest Service is being required merely to explain its reasons for rejecting a specific proposal.
sory survey of both the land slated for development and the more obvious features of the project's economic and ecological impacts.

With this goal of administrative simplicity in mind, it is possible to devise a list of criteria any one of which, if met, is sufficient to trigger provisional rejection. If an occasional proposal requires in depth study before the presence or absence of a particular criterion can be conclusively determined, the Forest Service should either require the developer to supply the necessary data or assume that the factor is absent and perform a more complete study during the controversiality analysis.

The initial screening criteria should include:

1) *The presence of high avalanche danger or some other unusually high threat to human safety.*¹⁷⁶ This initial screening factor is not likely to be strongly opposed by ski developers, for construction at sites which are too dangerous to generate a high level of skiing demand is not in a developer's financial interest. This factor embodies the Forest Service's concern with potential public displeasure over allowing resort development in an area with significantly higher levels of danger to human safety than are present at existing resorts. The political costs of such a development, measured in terms of the danger of public outrage, may be high enough to justify abandonment of any offending portions of a proposal, even if the developer is prepared to accept the private cost of such accident dangers.¹⁷⁷

These political costs are legitimate externalities, for they reflect real public displeasure at perceived governmental risk-taking. They are a particularly appropriate concern for the initial screening test, for the level of possible public outrage probably will become significant only when a resort's dangers reach some threshold level that may be termed "unusual." The determination of that threshold level may appropriately be left to the Forest Service. As the analysis in Chapter III indicates, the Forest Service is clearly a politically sensitive agency, quite capable of recognizing the concerns of those classes of citizens whom it views as its clientele.

2) *Financial irresponsibility on the part of the developer.* A developer's inability to secure a performance bond sufficient to cover the cost of restoring the site of an unsuccessful project to its natural state, or a history of "crackpot" proposals and poor financial judgment, may

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¹⁷⁶ These dangers, especially avalanches, already appear to weigh fairly heavily in the Forest Service's regulation of ski developments. See FSM, *supra* note 27, § 2342.5.

¹⁷⁷ The type of accidents most likely to provoke this kind of public outrage are those caused primarily by terrain features, design defects, or administrative negligence, rather than skier incompetence or foolhardiness. For example, the 1976 gondola crash at Vail produced ramifications lasting several years. See Ackland, *US Cover-up in Vail Disaster*, Chicago Tribune, Mar. 4, 1979, § 1, at 1.
be bases for denying a permit at the initial screening stage. While these factors have no bearing on whether a project is socially non-beneficial, they do suggest the propriety of waiting for another developer to propose developing the same site. A resort site which fails to attract a financially responsible developer probably either cannot be developed at a private profit or is of such dubious social benefit that no rational developer would waste time applying for a permit.

3) Necessity of public construction or maintenance of resort access roads. Ideally, resort developments should be forced to internalize the costs of road construction and maintenance. This may not always be feasible politically, however, and in many cases it may be more practical to treat these costs as easily quantifiable externalities which may be added to other external costs when calculating the net social cost of a proposal. When uninternalized road construction costs constitute a substantial percentage of a project's private construction costs, however, or when uninternalized road maintenance or snow removal costs amount to a substantial percentage of a project's net income, internalizing these costs would quite likely cause the project to become privately non-profitable. Hence, the Forest Service may provisionally reject projects with high external road construction, maintenance, or snow removal costs. On appeal, the developer should have the burden of proving that estimated private profits are sufficiently high to ensure that the proposal could survive internalization of these costs.

4) Excess capacity or severe financial problems at nearby existing resorts. A developer proposing new resort construction when neighboring resorts are experiencing difficulties probably expects to make money either by diluting the profits of existing resorts or by some method not directly related to the ski development itself. In either case, the Forest Service should not grant the special use permit. Such a development is likely to have strong competitive effects on its neighbors, and its skiing profits are therefore apt to be largely offset by losses

178. A developer's failure to obtain a performance bond indicates not only that the proposal is highly risky, but that the Forest Service will probably have to bear most of the cost of removing an unsuccessful development. If the developer is suitably bonded, the project may still have externalities, but the risks associated with financial failure will be substantially reduced. Consideration of a developer's financial condition is already required in the present special use permit process. See 36 C.F.R. §§ 251.54(e)(2) & 251.54(h) (1981).

179. This appears to be the Forest Service's present method for dealing with road construction externalities. The agency assumes that ski developers will seek public construction of access roads, FSM, supra note 27, § 2342.32(a), but requires the Regional Forester to determine whether “the cost of access roads . . . will be justified by use.” Id. at §§ 2342.32(a) & 2342.1.

180. Chapter V of this article will discuss two recent proposals with potentially significant road construction externalities. See infra text accompanying notes 250-278.

181. For example, such a development may be designed primarily to facilitate the sale of condominiums. Whether it should be allowed should turn in part on whether special use permits for condominium developments are permissible under 16 U.S.C. § 497 (1976).
to existing resorts. Furthermore, these losses are unlikely to be offset by the new resort's contribution to skiers' consumer surplus, for the underutilization of existing resorts indicates that demand for the new resort is likely to be weak. Potential profits from non-skiing operations should not allow a development to survive this initial screening criterion, for such a development should not be judged as a ski resort if it has another predominate purpose.

While excess capacity at pre-existing resorts is therefore a useful initial screening criterion, there is one important caveat that the Forest Service should keep in mind: Although the construction of a new ski resort may not be necessary under present market conditions, skiing demand may grow, and nearby resorts may no longer have excess capacity by the time the new resort is completed. This problem is real, but it can be guarded against by refusing a permit on the basis of this criterion only when pre-existing levels of excess capacity are fairly substantial. Furthermore, occasional errors are not serious, for initial screening decisions are subject to appeal, and a developer should succeed in such an appeal if it establishes that skiing demand will increase so dramatically that its project will be necessary by the time it can be constructed.

5) Significant interference with endangered or threatened plant or animal species. There are several reasons why this factor is included on the initial screening list. First, the Endangered Species Act (ESA) forbids any activity that "harms" or "harasses" an endangered or threatened species. Because a proposed resort probably will never fall within the narrow exception to this mandate, the presence of this factor almost always will preclude development.

182. For a detailed discussion of effects on existing resorts, see supra notes 57-61 and accompanying text.

183. It is possible, of course, that the new development might have a synergistic effect on existing resorts. Such an effect probably would be signalled by existing resorts' approval of the new project. See supra note 62 and accompanying text. If existing resorts register such approval, the Forest Service should ignore this initial screening factor and proceed to the next factor on the initial screening list.

184. The Forest Service can implement this initial screening factor only if it knows which, if any, endangered or threatened species inhabit the region under consideration. If the Forest Service does not have the necessary information, this criterion may be too time-consuming to apply at this stage in the process. It should, however, be reconsidered whenever more detailed information becomes available. See supra text following note 175.


186. The Endangered Species Act allows exemptions for harmful projects if three conditions are met:

(i) there are no reasonable and prudent alternatives to the agency action;
(ii) the benefits of such action clearly outweigh the benefits of alternative courses of action consistent with conserving the species or its critical habitat, and such action is in the public interest; and
(iii) the action is of regional or national significance.

Second, the existence, option, and bequest values threatened by a project are likely to be very high if the last remnants of a species are in danger. Therefore, even without the ESA, consideration of this factor is essential for an economically rational decision.\textsuperscript{187} Finally, a decision to permit construction of a development which might hasten the extinction of a species is far more irreversible than are decisions concerning other resorts. Thus, the appropriate social risk premium for such a project should be much higher than those for proposals with more easily reversible effects.\textsuperscript{188}

6) \textit{Developer's failure to include requested information in special use permit application}. The success of both the initial screening process and later stages of the decisionmaking process will depend upon ready access by the Forest Service to pertinent factual data. Much of this information is most appropriately collected by the developer, especially since the developer, not the government, should bear the costs of data collection.\textsuperscript{189} Thus, the Forest Service should prepare and publish a list of information which should be included in any ski developer's special use permit application. An application lacking any of the requisite information should be deemed incomplete and provisionally rejected until the applicant either provides the missing information or persuades the Forest Service on appeal that its proposal should be exempted from the normal information requirements.

7) \textit{Data presented by developer is dishonest or self-serving}. A proposal should be rejected if a developer submits false or misleading information. Such action is necessary to protect the integrity of the decisionmaking process from developers who might attempt to undermine it. If a developer appeals from a provisional rejection for violation of this screening criterion, the Forest Service should not permit any arguments regarding expected social benefits from the project. Instead, the appeal should concern only the factual issue of whether the developer intentionally attempted to mislead the Forest Service through either false data or a self-serving presentation of required information. If the proposed project is indeed socially beneficial, it almost certainly will attract another more honest developer.

\textsuperscript{187} For a general discussion of existence, option and bequest values, see \textit{supra} text accompanying notes 30-37. If these values are widely enough held, they may amount to only a fraction of a dollar per individual yet still outweigh any conceivable level of the proposed resort's internal and external benefits.

\textsuperscript{188} See \textit{supra} text accompanying notes 46-47.

\textsuperscript{189} It might be appropriate, for example, for the developer to be responsible for the initial survey for endangered species. As long as proper precautions are taken to prevent bias (see, for example, initial screening criterion (7), \textit{infra}), such a requirement would give the Forest Service a reasonable data base for initial screening criterion (5) without burdening the agency with extensive flora and fauna surveys at such an early stage in the proceedings.
Consideration of the developer's honesty should not be restricted to the initial screening stage of the decisionmaking procedure. Because this factor is designed primarily as a deterrent, it should be implemented whenever the Forest Service discovers a developer's dishonesty, even if the decisionmaking process is otherwise virtually complete. Requiring the Forest Service to verify all of the developer's data at an early stage in the proceedings would place too large a burden on the agency, would be contrary to the spirit of administrative simplicity in the initial screening procedure, and would increase the chances that a developer could successfully mislead the Forest Service into granting an application for a socially non-beneficial project.

8) Preliminary survey indicates substantial local opposition to resort development. Community opposition to a new ski resort may arise from a number of sources, including concern about direct environmental costs, anger at possible displacement of existing uses, and fear that the influx of tourists attracted by the resort will harm the local quality of life. These objections should be respected, whatever their cause, for they indicate that local benefits from development may not be sufficient to compensate for local externalities. If the developer cannot find a way to compensate even local externalities, its proposal should be rejected, for there is very little chance that expected benefits can exceed the sum of both local and non-local externalities.

9) Environmentally more suitable means of meeting downhill skiing demand. Development alternatives may range from construction in

190. While it is impossible to please all local residents, more than a simple majority of local community residents should support the proposal. The level of local support required should be determined by careful study of experiences with previous "popular" and "unpopular" proposals. The Forest Service must be particularly careful to check for bias under initial screening criterion (7) if it allows the developer to survey local opinion.

191. There are many ways for a developer to placate local opponents. For example, it might modify its development scheme, assist in solving other environmental problems, finance a city park, or simply create a large number of new jobs. Any of these approaches is sufficient to meet this initial screening criterion, and the Forest Service can expect developers to use great ingenuity in finding the least expensive yet most effective means of achieving the desired result.

Proposals which survive this initial screening test will not necessarily be socially beneficial, however, for many of the benefits used to appease local opposition may be transfers which do not enter into the social cost/benefit analysis. See supra notes 65-71 and accompanying text.

192. Many non-economic arguments can also be used to support the inclusion of this factor on the initial screening list. These arguments primarily address the unfairness of imposing a development on an unwilling community, especially when there are likely to be other suitable sites where development would be favored by neighboring residents.

193. This factor is properly included here because alternatives should be identified before the agency devotes too much time to the study of the proposed development site. The Forest Service cannot leave identification of these alternatives solely in the developer's hands, however. Thus, this criterion may require a substantially more detailed analysis than other initial screening criteria.
a different location to expansions of existing resorts. The alternatives considered at this stage, however, all involve activities at locations different from the developer's proposed resort site; alternative forms of on-site construction do not involve such radical changes in the cost/benefit analysis, and need not be considered until a later stage in the decisionmaking process. Whenever off-site alternatives appear to be environmentally preferable to the original proposal, the Forest Service should provisionally reject the proposal and require the developer to prove either that each such alternative is infeasible or that its own proposal is socially preferable.

10) Generally. The above list of initial screening criteria is not meant to be exhaustive, but only to establish a minimum standard that each proposal should meet. Beyond these criteria, any proposal may also have one or more idiosyncratic externalities of such importance that early rejection is warranted even if none of the listed factors is present. Furthermore, experience and careful economic studies may suggest previously unincluded factors that may indicate whether a project is socially non-beneficial. The Forest Service thus should continuously refine its list of factors so it can more frequently eliminate applications for socially non-beneficial projects without extensive investigation.

D. The Controversiality Analysis

A proposal which survives the initial screening procedure should then undergo an examination for controversiality. The Forest Service should subject "controversial" projects to thorough cost/benefit analyses, while permitting or rejecting "non-controversial" projects without further analysis.

The Forest Service can perform the controversiality analysis in a manner similar to the initial screening procedure. Two lists of factors can be prepared, one to identify significant external benefits or potentially substantial profits and the other to identify significant external costs. Like the list of initial screening criteria, each of these lists may

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194. Currently, there is no need to fear that the Forest Service would abuse this open-ended power to create new initial screening criteria. Instead, there is more danger that this power will be underutilized, for the Forest Service's present-day pro-development bias, discussed in Chapter III, will probably make the agency reluctant to restrict development by creating previously unannounced initial screening criteria.

195. Publication of the list of initial screening criteria should also help achieve this goal, for potential developers will generally be encouraged to submit applications only for projects which will meet all of the published requirements.

196. See supra text accompanying notes 168-169.

197. See supra text accompanying note 168.

198. For a discussion of the importance of private profits, see supra notes 16-17, and accompanying text.

199. Like the initial screening test, the controversiality analysis is intended to permit
contain a number of internal redundancies, for at these stages in the analysis it makes no difference whether a project involves several or only one of the factors on a given list. Unlike the list of initial screening criteria, however, each of these lists must be complete. If the initial screening list fails to identify some clearly non-beneficial projects, little harm results other than a waste of administrative resources. If either of the "controversiality" lists omits a relevant factor, however, the Forest Service may prematurely truncate its analysis and make a wrong decision.

With the above general guidelines in mind, the following factors are recommended for inclusion on the list of pro-development factors:

1) Other overcrowded or highly profitable ski resorts near the proposed site. The presence of such resorts in the general vicinity of a proposed development indicates substantial local excess demand for skiing. A new development therefore is likely to produce a high level of consumer and producer surplus.

2) Weather and terrain at proposed resort site offer exceptionally high quality skiing conditions. Exceptional skiing conditions are likely to produce high demand, thereby encouraging both substantial consumer surplus and substantial producer surplus.

3) Nearby resorts express strong support for the new development. Concerted lobbying by a substantial portion of the new resort's apparent competitors strongly indicates that its construction would produce significant synergistic benefits. While these benefits may be offset by increased congestion costs, the sum of the consumer and producer surpluses for the new and existing resorts may be substantial.

4) Greater proximity to major population centers than similar existing resorts. Construction of a new resort closer to populated areas may create substantial social benefits even if its private profits are offset by corresponding reductions in the earnings of existing resorts. Reduced travel costs may greatly increase the consumer surplus for geographically-favored skiers.

5) Letters urging construction are sent by a substantial number of people other than local merchants. Letters of approval indicate that skier interest in a project is high enough that the Forest Service should consider allowing construction even if no other pro-development fac-

relatively expeditious treatment of certain classes of proposals. Factors on the two controversiality lists must therefore be chosen to identify the likely presence of significant costs or benefits with as little data collection as possible.

200. See supra note 50 and accompanying text.
201. See supra note 65 and accompanying text.
203. To identify situations where congestion costs may exceed synergistic profits, there is an appropriate counterfactor on the anti-development list. See infra notes 216-217 and accompanying text.
tors are present. The Forest Service should consider these letters even if they are received after a special use permit has been denied, for it is possible that the initial low number of pro-development letters reflected lack of public information rather than lack of interest. In these cases, the Forest Service should suspend its earlier decision and resume the decisionmaking process at the point at which it was interrupted.  

6) Significant level of pre-existing commercial development in the permit area. Unlike the previous pro-development factors, this factor is not correlated to total consumer and producer surpluses. Instead, the existence of substantial nearby development indicates that the new resort is likely to have extremely low uninternalized displacement, existence, option, and bequest costs. The presence of this factor also indicates that the new resort's harm to the region's environment may be unusually low, for the environment is already significantly less than pristine.

Thus, the presence of a significant level of nearby commercial development should be a decisive factor in the analysis of a proposal which exhibits none of the other controversiality factors. Normally, such a marginally beneficial proposal would be automatically rejected in order to avoid the risks inherent in the irreversibility of pro-development decisions. When nearby areas are already developed, however, this conservative conclusion is unnecessary. It is already too late to return much of the surrounding terrain to its pristine state, and the risks of development therefore are likely to be low. Under these circumstances, even marginally beneficial projects exhibit net social benefits. As long as the developer acted rationally in submitting its application, such a project should be permitted.

This pro-development factor alone cannot be used to require a full cost/benefit study of a project which exhibits potentially significant external costs, for then the Forest Service can no longer presume that these costs are unusually low. Thus, it is atypical not only because it is a "negative" factor (i.e., it proves only the absence of social costs, not the presence of social benefits), but because it is useful only to prevent

204. This analysis differs from the type of vote counting decried in Chapter III, see supra text accompanying note 146, for it does not directly compare the numbers of letters favoring or opposing development. See infra note 218. Instead, letters are here used simply to alert the Forest Service to possible externalities that might otherwise be overlooked.

205. This factor does not necessarily represent a departure from the conventional assumption that pollution costs rise increasingly rapidly with each additional increment to the overall pollution level. See, e.g., Dorfman & Dorfman, supra note 19, at 137. Instead, it seems reasonable to assume that external costs behave in the conventional manner for the high degradation levels commonly recognized as pollution, but rise at a decreasing rate for the lower degradation levels likely to be encountered at most proposed ski developments.

206. See supra text accompanying note 169.
automatic rejection of a project triggering none of the other controversiality factors.

7) **Substantial tracts of topographically and ecologically similar public lands nearby.** Displacement, existence, option and bequest costs are again likely to be unusually low when large areas of similar terrain nearby will remain unaffected. As long as future development of nearby tracts remains under government control, few of the risks associated with irreversibility will be present because most of the surrounding pristine land will be protected from unregulated commercial development. Because this is only a negative factor, however, it should not, either alone or in conjunction with the preceding factor, be sufficient to require a full cost/benefit study of a proposal featuring significant external costs. Instead, the controversiality test should always prohibit such a proposal unless one of the "positive" pro-development factors is present.207

8) **Indications of potentially significant idiosyncratic benefits.** The Forest Service should recognize all idiosyncratic benefits; otherwise, it might summarily reject a proposal for a project which is actually socially beneficial. There are few risks in considering factors not listed above, for projects likely to be harmful will probably trigger anti-development factors. Thus, the worst harm likely to result from a falsely claimed idiosyncratic benefit is the social cost of an unnecessary full-scale cost/benefit study, not the social loss accompanying a wrong decision. As long as the probability of false recognition is low, the Forest Service should risk over-inclusion rather than accept an inadequate pro-development list. Ideally, fewer errors will occur as Forest Service experience grows, and the list of pro-development factors will become an increasingly efficient indicator of truly socially beneficial projects.

If none of the pro-development factors are present, a proposal can be rejected without reference to the anti-development list.208 Anti-development factors will therefore serve primarily to identify projects that trigger one or more pro-development factors yet should not be permit-

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207. "Negative" factors can also be proposed for the anti-development list. Low expected snowfall, for example, could be considered as an indicator of low potential profits and low consumer surplus. See supra text accompanying notes 141-142. Such factors will not be included on that list, however; like pro-development negative factors, they do not raise sufficient controversy to necessitate a full cost/benefit study for a project featuring no other anti-development factors. Negative anti-development factors cannot, therefore, alter the results of the controversiality analysis, see supra text following note 167, and such issues need not be considered unless a full cost/benefit study is otherwise required.

208. A proposal triggering no pro-development factors will either be non-controversially detrimental or, as long as neither negative pro-development factor is triggered, unimportant enough to warrant immediate rejection. See supra text accompanying notes 168-169, 205-207.
ted without a thorough cost/benefit analysis. With this goal in mind, the following anti-development factors are proposed:

1) **Significant environmental deterioration of the permit area.** Testing for the presence of this factor should involve more than a simple measurement of direct environmental impact because it is the social cost of environmental damage, not its absolute magnitude, that should be important in the Forest Service's analysis. Since social costs vary with the level of pre-existing environmental degradation, the standards used in applying this factor should take pre-existing degradation into account. For example, a ski resort proposed for an area which is already substantially developed might be permitted as non-controversial despite sizeable direct environmental effects. On the other hand, equal or lower impacts in a previously pristine valley might trigger this factor, thereby precluding development unless the project can successfully withstand a full cost/benefit analysis.

2) **Interference with an officially designated wilderness area or a sizeable de facto wilderness.** Interference resulting from resort construction may be direct, as in actual physical intrusion upon the area in question, or indirect, as in visible or audible intrusion upon a nearby wilderness area. Either type of interference may impose substantial displacement, option, bequest or existence costs upon present and future users of the affected wilderness areas. Furthermore, because of the dual pressures of increasing demand and decreasing supply, pristine wildlands are likely to become much more valuable in the future. Therefore, even if present-day costs are actually low, future costs may be much larger, and even projects interfering only with little-used or undesignated wilderness areas may entail a risk of quite high future externalities. Such projects should not be permitted until their future effects are more carefully investigated.

3) **Opposition from owners of a substantial percentage of nearby local, regional or destination class resorts.** Opposition from other re-

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209. See supra note 205.
210. For purposes of the present analysis, a “de facto wilderness area” is defined as a region in which human intervention (except trail construction and related activities) is not obvious. One important requirement for such an area is that it not be penetrated by either public or private roads. Another is that it not be already influenced by nearby heavily travelled roads, towns, logging areas, mines, or other high intensity human activities. A third requirement is that the area be sufficiently large that interference with it involves the destruction of potentially significant wilderness values. The minimum size generally necessary for designating wilderness areas under the Wilderness Act is 5000 acres. 16 U.S.C. § 1131(c) (1976). This size would seem to be a logical standard for defining a “de facto wilderness area” as well.
211. Direct interference with an officially designated wilderness area is illegal. 16 U.S.C. § 1133(c) (1976).
212. For a more thorough discussion of these four types of costs, which may be quite substantial, see supra text accompanying notes 26-38.
213. See supra note 56.
sorts, even though it could be directed at either socially beneficial or non-beneficial proposals, is an important factor because it is a good indicator of significant competitive effects.214 Because competitive declines in the profits of existing resorts represent potentially sizeable offsets to a new development’s external and internal benefits, the Forest Service must carefully consider the magnitude of these effects before permitting a development which is likely to produce significant competition.215

4) Present overcrowding in existing synergistically affected resorts. Consideration of overcrowding is designed to counter pro-development factor (3), synergistic benefits.216 It should be triggered only when pro-development factor (3) has been triggered, and then only when synergistically affected resorts are so crowded that synergism is apt to cause a significant increase in existing resorts’ average congestion costs.217

5) Substantial numbers of letters opposing the construction of the proposed ski resort. Letters of opposition are important even if no other anti-development factors are present, for they indicate the presence of potentially significant real or perceived external costs. Like letters supporting the proposed resort, anti-development letters should be considered even if they are received after an initial decision to permit development has been made. Again, delay is more likely to be caused by lack of public information than by lack of public interest.218

214. See supra text accompanying note 62.
215. These competitive losses, of course, may be offset by reduced congestion costs. See supra notes 57-61 and accompanying text. This does not detract from the value of this anti-development factor, however, for substantial pre-existing congestion will trigger pro-development factor (1), preventing premature rejection of a project with uncertain net competitive externalities. See supra text accompanying notes 200-201.
216. See supra note 202-203 and accompanying text.
217. For a discussion of synergism and congestion, see supra text accompanying notes 57-64.
218. The threshold number of letters necessary to trigger this inference may be extrapolated from the Forest Service’s experience with previous proposals with high external costs. As few as 300 or 400 letters may be sufficient, for even the highly controversial Arizona Snow Bowl project only inspired approximately 340 anti-development letters. Snow Bowl FES, supra note 114, at 4.

The threshold number of letters for the corresponding pro-development factor may differ significantly. Since one side may be more vocal, better organized, better informed or receiving more concentrated benefits than are its opponents, it would not be particularly revealing simply to compare the number of anti-development letters to the number of pro-development letters. Rather, the actual numbers of opposing letters received should be considered significant only as indicators for the actual levels of pro-development and anti-development sentiment.

Clearly, the threshold levels used for both this and the corresponding pro-development factor will have to be varied with the scale of the project. Furthermore, the entire spectrum of threshold levels will have to be adjusted upwards once the public discovers the increased power of the letter-writing tool, for any given number of letters will then represent a lower level of perceived costs or benefits than it did before. No a priori rules can be given for making such adjustments. Instead, the Forest Service must proceed by trial and error, rec-
6) **Present high level of uses potentially incompatible with a ski resort in permit area and surrounding terrain.** A substantial number of low-intensity users of the proposed resort site indicates that both present and future displacement costs may be significant.

7) **Unique or locally unusual features of proposed development site which would be damaged or destroyed by construction of the resort.** A permit area may have topographic, geological, ecological, scenic or even historic features which would be threatened by development. Under such circumstances, development is likely to produce irreversible and unusually high displacement, existence, option or bequest costs. Because virtually every tract of land is unusual in some way, it may be difficult to identify terrain unique enough to require a careful cost/benefit study. The subjectivity inherent in this determination should not, however, deter the Forest Service from making the attempt. Experience gained from previous cost/benefit studies and careful consideration of environmentalists' concerns should enable the agency to identify unique features the destruction of which would have potentially significant external costs.  

8) **Presence of easily accessible private land nearby, neither controlled by the developer nor subject to a strong local zoning ordinance.** Construction of a ski resort will vastly increase the value of private land nearby, and may open the door to haphazard and unsightly development. To the extent that the costs of irresponsible development are reflected by skiers' demand curves, they are already at least partially internalized. To the extent that they are borne by non-skiers, however, they represent potentially substantial external costs which should be considered.

9) **Financing, in whole or in part, through industrial development bonds.** Industrial development bonds afford a substantial interest rate subsidy. A development should therefore be more than marginally beneficial to justify such subsidized financing. This factor is included to assure that no proposal financed in this manner will be permitted until its benefits are shown to exceed the value of its interest rate subsidy.

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219. The enumeration of proper anti-development considerations and the possibility of judicial review will help ensure that the Forest Service's analysis of subjective anti-development factors will not be founded on past biases and misunderstandings.

220. This internalization will not be complete, however, for reductions in demand will also cause reductions in consumer surplus.

221. Similar externalities may accompany the new resort's own base facilities. These costs, however, can more appropriately be considered along with the development's other direct environmental costs. See *supra* text accompanying note 209.

222. See *supra* note 42 and accompanying text.
10) One or more initial screening factors are present at too low a level to trigger automatic rejection, but at a high enough level to raise a significant fear of substantial external costs.\footnote{For example, anything beyond a trivial increase in pre-development levels of governmental responsibility for road construction, maintenance, or snow removal should trigger this factor, although the same rise may not warrant automatic rejection in the initial screening stage. See supra text accompanying notes 179-180.}

11) Accompanying road or lift construction which would significantly increase accessibility of nearby heavily used backcountry areas. Increased backcountry accessibility can be either socially beneficial or socially costly. If the areas in question are large or little-used, increased accessibility may divert users away from previously overcrowded areas and thereby reduce overall congestion costs.\footnote{Such changed usage patterns could be one of the development’s idiosyncratic external benefits under pro-development factor (8).} When the areas in question are small or already heavily used, however, increased accessibility may produce potentially substantial congestion costs,\footnote{While these costs might be partially or completely avoided through the use of a permit system limiting access, such a system would probably have significant administrative costs, and would greatly reduce the pleasure which some backcountry users would otherwise receive from their outdoor experiences.} and may even cause significant environmental degradation.\footnote{In this case, however, there is no chance that false recognition of idiosyncratic costs will lead to premature rejection, for projects with neither significant costs nor significant benefits would have been rejected anyway. See supra text accompanying notes 168-169. Hence, the only risks from an overly inclusive anti-development list are expensive and unnecessary cost/benefit analyses, not wrong decisions.}

12) Potentially significant idiosyncratic external costs. The reasons supporting inclusion of this factor are essentially the same as those supporting the corresponding pro-development factor.\footnote{See supra text accompanying note 29.}

13) Alternative methods of developing the proposed resort site that would achieve many of the proposal’s benefits with significantly lower external costs. On-site alternatives may entail reductions in the scale of the project, other alterations in the basic plan of development, postponement of development, changes in the proposed means of access to the resort site, or even development for purposes entirely unrelated to either downhill skiing or present low-intensity uses.

This alternative use factor need not receive serious consideration at this stage if a proposal features other anti-development factors, for the addition of one more such factor will not change the outcome of the controversy analysis. In such a case, alternatives may merely be listed, and the complex multi-subject cost/benefit analysis that this factor requires may be postponed until the original proposal undergoes the required full cost/benefit study. At that time, the Forest Service can more efficiently perform the multi-subject analysis.
If no other anti-development factors are present, however, this factor may require the Forest Service to engage in a more complex study, the depth of which should be compatible with the purposes of the controversiality analysis. If the proposed development would otherwise have been permitted as non-controversially beneficial, a full cost/benefit study should be unnecessary and implementation of this factor should consist only of a search for superior alternatives. If such alternatives are found, the best one should be immediately permitted, for it may safely be assumed that it, too, is non-controversially beneficial.

The limited uses of the alternative use factor does not mean that it is unimportant to the controversiality analysis. No proposal should be permitted without consideration of its alternatives, and an early listing of alternatives both reminds the Forest Service of the importance of this consideration and reduces the chance that important options will be ignored later in the decisionmaking process.

The controversiality analysis outlined above serves three important functions. First, it identifies applications for which proper treatment is obvious and ensures that they will be processed with a minimum of administrative effort. Second, by explicitly stating the standards for an acceptable project, it is likely to produce a long-run decline in the percentage of clearly non-beneficial proposals. Similarly, it will reduce the number of proposals requiring full cost/benefit analyses, for the expense and delay of such analyses will encourage developers to submit applications for projects which they believe will be non-controversially beneficial.

The third function of the controversiality analysis is perhaps its most important: By forcing the Forest Service to produce a list of the proposal's probable costs and benefits, it makes it much easier to conduct a full cost/benefit study if one proves necessary. Furthermore, the expedited analysis illustrated by the controversiality test can be adopted to simplify all but the most difficult cost/benefit studies. Such an expedited cost/benefit process is outlined in Figure IV-2 and the final section of this chapter.

**E. The Cost/Benefit Analysis**

Once the Forest Service finds that a project features both one pro-

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228. NEPA currently requires that such alternatives be considered before a development is permitted. 42 U.S.C. § 4332(2)(C)(ii)(1976). Such a rule is clearly good policy.

229. This channelling effect will not occur in all cases, of course, for even some highly beneficial projects are bound to be controversial. Nevertheless, the existence of relatively clear and unambiguous requirements for a socially acceptable project should channel at least some proposals along non-controversial lines.
development factor and one anti-development factor, the controversy analysis is complete, and the cost/benefit analysis may begin. The Forest Service should not, however, ignore the remaining controversy factors. On the contrary, the first step in the cost/benefit analysis should be to examine all remaining factors, for they will serve as a valuable checklist of a development’s potential externalities.

FIGURE IV-2
COST/BENEFIT FLOWCHART

---

Develop an impact statement

---

Reject Application

---

Study Other Alternatives

---

Choose Best Alternative

---

Is One Alternative Dominant?

---

Is Delay Acceptable

---

Do Significant Externalities Remain?

---

Examine Most Important Remaining Externality

---

Quantify Demand-Related Benefits, Private Costs & Private Benefits

---

social costs

---

benefits

---

social costs clearly exceed

---

benefits clearly exceed

---

controversial project

---

unsure

---

project clearly beneficial

---

project clearly non-beneficial

---

benefits clearly exceed

---

social costs

---

unsure

---

yes

---

no

---

yes

---

no

Once this checklist of factors is complete, the Forest Service should begin its cost/benefit analysis by quantifying a proposal’s net contributions to consumer and producer surpluses. These benefits should be studied first, for the travel costs method of demand curve estimation makes them relatively easy to assess, and they are likely to be the most important component of any new proposal’s social benefits. Estimates of these benefits will therefore provide a relatively easy-to-obtain, dollar-denominated benchmark against which the Forest Service may compare the project’s other externalities. The presence of such a benchmark may greatly simplify the remaining stages of the cost/benefit analysis, for the calculated benefits may be so high or so low that the proposal’s social status becomes immediately obvious.

Unfortunately, an expedited cost/benefit analysis is probably not possible in most cases, for many resorts’ net producer and consumer surpluses will probably fall at an intermediate level. In this situation the Forest Service must carefully examine the remaining externalities identified by the controversy analysis. The fact that the present state of natural resource economics may not permit accurate assessments of dollar values does not preclude close scrutiny of these externalities; it is important for the Forest Service to recognize the trade-offs inherent in any pro-development decision even if it cannot arrive at a precise cost/benefit ratio.

At some stage in the process of tallying externalities, the proposal’s net social status may become obvious. If the Forest Service finds the

230. See supra notes 50-52 and accompanying text.
231. See supra note 65 and accompanying text.
232. See supra notes 53-56 and accompanying text. This method may also be supplemented by studies of the past profitability of existing resorts.
233. The Mineral King proposal (see discussion in infra text accompanying notes 250-262) might have been an example of such a development if it could have survived even the initial screening procedure, for one travel costs study has indicated that the project would have produced no more than $6.1 million per year in consumer surplus ($1.50 per skier-day). While this figure does not include the resort’s producer benefits, it is still surprisingly low. Given the project’s high external costs, it is extremely doubtful that the combined consumer and producer surpluses would have been sufficient to justify construction. See J. Krutilla & A. Fisher, supra note 54, at 189-218.

Another example of a situation in which a cost/benefit study could have been truncated early is evident in the Hells Canyon controversy. See generally id. at 84-150; Krutilla & Cicchetti, Evaluating Benefits of Environmental Resources with Special Attention to the Hells Canyon, 12 Nat. Resources J. 1 (1972).
project to be socially costly, it may immediately terminate its analysis, reject the proposal, and explain its reasoning in the final environmental impact statement. If, on the other hand, the agency discovers that the proposal's benefits exceed its costs, it cannot yet terminate the analysis, for it must still examine alternative uses of the permit area. Similarly, if the original proposal's status remains uncertain after all potentially significant externalities have been carefully analyzed, the Forest Service should still make no decision until alternatives have been considered, since one of these alternatives may prove to be a clearly superior use of the proposed development site.

The analysis of alternatives should proceed in a manner similar to the analysis of the original proposal. First, the travel costs method should be used to compute net consumer and producer surplus. Then, each alternative should be screened for external costs and idiosyncratic benefits, and the revealed externalities carefully studied. If at any time it becomes obvious that any alternative, including the original proposal, is inferior to one of the others, the inferior alternative should be eliminated. Costs and benefits of the surviving alternatives should continue to be tallied, however, until either a single possibility is identified as clearly superior, or all significant externalities for each alternative have been considered. If the latter occurs without a clear decision becoming obvious, the Forest Service may attempt even more refined analyses, but ultimately a subjective decision will probably be necessary. As a general guideline, the Forest Service may choose to rely on social risk aversion to tip the scales against all irreversible options. Often, this will mean delaying any form of development. If delay is unacceptable, the Forest Service can only do its best to make a rational choice, and proponents of unchosen alternatives may at least be satisfied that the eventual decision was based on an explicit recognition of the trade-offs inherent in each possibility.

V
APPLICATIONS

A. Introduction

The decisionmaking procedure developed in the preceding chapter can be summarized in worksheet form, as shown in Figure V. The first

234. It is possible, of course, that the Forest Service may wish to continue its analysis as part of a long-term regional planning process. Such regional planning, however, is beyond the scope of this article.

235. See supra note 228.

236. It would be improper, of course, for the Forest Service to reject postponement or any other alternative simply because it is unattractive to the present developer. If future information reveals development to be the best alternative, the Forest Service can always await the application of a new developer. See supra text accompanying note 163.
section of the worksheet is simply a checklist of initial screening criteria (I.S.C.). If any of these criteria are present, no further analysis is necessary, and the project can be summarily rejected. The middle section of Figure V summarizes the pro-development factors (P.D.F.) and anti-development factors (A.D.F.) of the controversiality analysis. Notations on no more than one of the controversiality lists indicate that either acceptance or rejection is appropriate, while notations on both lists indicate that the project is sufficiently controversial to require more extensive study. The results of further study should be tallied in the third section of the worksheet, including both the costs and benefits of the original proposal and the costs and benefits of development alternatives.

The remainder of this chapter will illustrate this methodology by applying it to five relatively recent and representative special use permit proposals: Mount Hebgen, Mineral King, Arizona Snow Bowl, Heritage Mountain, and the Red River Ski Area expansion.

Before undertaking these studies, two caveats are in order. First, the primary sources of data in all five cases are the relevant impact statements. The data in these statements may be faulty, and is often incomplete. It has therefore been necessary to fill in the gaps with either reasonable inferences or educated assumptions. While the methodology illustrated by these examples is valid, the reader is warned to view the case studies as illustrative discussions based on actual proposals, rather than as definitive analyses.

Second, the reader should recognize that the cost/benefit analysis contemplated in the third section of the worksheet cannot begin without accurate demand data, and the collection of the necessary data is beyond the scope of this paper. This limitation should not greatly restrict the value of the case studies, however, for it is the initial screening procedure and the controversiality analysis which are the most unique and interesting aspects of the procedure set forth in Chapter IV.

B. Mount Hebgen.

The Mount Hebgen proposal, already discussed in Chapter III, is a

237. See supra text accompanying note 166.
238. Two of these cases, Mount Hebgen and Arizona Snow Bowl, are chosen because they have already been discussed in Chapter III. The simplicity with which they can be treated under the proposed decisionmaking procedure will serve to confirm that procedure's superiority over the Forest Service's present techniques. Mineral King is chosen because of its size and because few, if any, ski proposals have been as hotly contested. Finally, Heritage Mountain and the Red River expansion are chosen to balance the discussion by considering two less controversial proposals.
239. Information from the impact statement for Heritage Mountain has been supplemented by personal observations from a brief on-site visit in March of 1981.
# FIGURE V
## PROJECT EVALUATION CHECKLIST

<table>
<thead>
<tr>
<th>Criteria (I.S.C.)</th>
<th>MOUNT HEBGEN</th>
<th>MINERAL KING</th>
<th>SNOW BOWL</th>
<th>HERITAGE MOUNTAIN</th>
<th>RED RIVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High safety risks.</td>
<td>??</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Financially irresponsible developer.</td>
<td></td>
<td></td>
<td>XX</td>
<td>??</td>
<td></td>
</tr>
<tr>
<td>3. Major public construction or maintenance of access roads.</td>
<td></td>
<td>XX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Excess capacity at nearby existing resorts.</td>
<td>XX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Danger of interference with endangered or threatened species.</td>
<td>XX</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Inadequate information in application.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Dishonest or self-serving data submitted by developer.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Substantial local opposition.</td>
<td>??</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Superior off-site alternatives to meet skiing demand.</td>
<td>??</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Other idiosyncratic externalities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## I. INITIAL SCREENING PROCEDURE

### Controversiality Analysis

#### Pro-Development Factors (P.D.F.)
1. Overcrowding at existing resorts. XX XX
2. Exceptional skiing conditions. XX XX
3. Support from owners of existing resorts. (Evidence of synergism) XX
4. Greater proximity than existing resorts to major population centers. XX XX
5. Many pro-development letters. XX XX
6. Substantial pre-existing development in permit area. XX XX
7. Similar undeveloped land nearby. XX XX
8. Potentially significant idiosyncratic 'benefits. XX XX

#### Anti-Development Factors (A.D.F.)
1. Significant environmental deterioration. XX
2. Interference with wilderness area. XX PP XX
3. Opposition from owners of existing resorts. (Evidence of competition)
4. Synergism, when nearby resorts are overcrowded. XX
5. Many anti-development letters. XX XX
6. High level of incompatible uses. XX PP
7. Locally unique terrain in permit area. XX PP
8. Nearby unzoned private land. XX
10. One or more initial screening factors present at a low level. XX XX
11. Detrimental increases in backcountry accessibility XX PP
12. Idiosyncratic costs. XX XX
13. On-site alternatives to resort development. ?? ?? ?? ??

### Key:
- **XX** Factor is present.
- ?? Factor may be present.
- **PP** Factor is present in completed resort but significantly worsened by expansion proposal.

## III. COST/BENEFIT ANALYSIS

(SEE FIGURE IV-2)
plan to build a 6500-skier resort on the slopes of Mount Hebgen, near West Yellowstone, Montana. An initial screening analysis of this proposal quickly reveals that several of the initial screening criteria are satisfied. For example, since the proposed development lies immediately adjacent to an already well-maintained highway, it will necessitate no public road construction. Similarly, there is no indication that the developer has been dishonest or uncooperative. Therefore, I.S.C. (2), I.S.C. (3), I.S.C. (6), and I.S.C. (7) may reasonably be assumed to be absent. In addition, I.S.C. (8) (adverse public sentiment) is also readily dismissed: In a 1975 survey of local residents conducted by the developer, only five percent of those who responded were opposed to the development.\footnote{Mount Hebgen FES, supra note 3, at 171. Such a low level of local opposition is acceptable. It is not reasonable to expect a developer to find ways to compensate all injured local residents, for even such a small community will contain people with widely differing interests and lifestyles.}

The four remaining initial screening criteria require more careful consideration. For example, I.S.C. (9) (off-site alternatives) must be given a question mark pending further investigation. The impact statement provides no information about other nearby locations amenable to development, so it is impossible to determine if there is a more appropriate location for a ski resort in the Mount Hebgen region. Furthermore, even if Mount Hebgen is the best location for a new development, it is not clear that a new resort is the best way to meet anticipated increases in downhill skiing demand. There are already several resorts in the western regions of Montana and Wyoming, and all of them are at least as accessible to the skiing public as Mount Hebgen.\footnote{Id. at 62-66.} Several of these areas may have room for expansion, and expansion at these locations might therefore be superior to development at Mount Hebgen.

Similarly, I.S.C. (1) (unusually high safety risks) must also be given a question mark. Mount Hebgen lies adjacent to a major fault line which was responsible for a 1959 earthquake registering 7.1 on the Richter Scale. Geologists consulted by the Forest Service have warned that this poses hazards to future users of the area.\footnote{In discussing the geological characteristics of the area, the Forest Service noted that: The principal [dangers] in order of ranking from most threatening to least [are]: (1) danger from fault offset, (2) danger from rock fall . . . (3) danger from landslides, (4) danger from snow avalanches . . . (5) danger from flooding caused by a seiche in Hebgen Lake, and (6) danger from solution collapse within a very limited zone on the east summit of Mount Hebgen. Id. at 22.} While the recency of the Hebgen Lake earthquake indicates that the Mount Hebgen site
may be relatively safe for at least the near future, it is clear that development at the site entails significantly more danger than does development at the average ski resort location. Whether this danger is of sufficient magnitude to concern the Forest Service, however, is not clear. Fortunately, this difficult question does not have to be resolved because two other initial screening criteria are more obviously present. The Mount Hebgen proposal can therefore be dismissed on other grounds.

First, the project would interfere with an endangered or threatened species, thereby triggering I.S.C. (5). The permit area is adjacent to 30,000 acres of tentatively identified critical grizzly bear habitat. While none of this critical habitat is within the permit area, the Forest Service admits that "bears in the surrounding area may be affected by the [year-long] disturbing proximity of approximately 2,000 people . . . " In addition, the increased summer and winter usage of the Mount Hebgen area will cause more people to enter the surrounding backcountry, inevitably leading to an increase in human/grizzly encounters. While neither these encounters nor the presence of the resort development will directly damage the grizzly habitat, they may nevertheless render nearby areas uninviting to grizzlies. Development might thereby violate the spirit, if not the letter, of the Endangered Species Act.

The second clearly applicable initial screening criterion is the presence of nearby underutilized or financially troubled resorts (I.S.C. 4). There are now four major resorts within the western regions of Montana and Wyoming: Bridger Bowl, Big Sky, Grand Targhee, and Jackson Hole. All four are more conveniently located than Mount Hebgen, yet only Jackson Hole is operating near its comfortable capacity. At least two of these resorts, Big Sky and Jackson Hole, have had a history of financial difficulties.

The results of the Mount Hebgen case study are summarized in Figure V. Only the top portion of the worksheet has been completed; because the project fails to pass the initial screening test, there is no need to proceed with the remaining stages of the decisionmaking process. In fact, there was no need for the analysis to proceed beyond

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243. Id.
244. The impact statement relies on one consultant's conclusion that dangers are not sufficiently great to warrant abandoning Mount Hebgen as a site for human habitation. Id. Whether the Forest Service should encourage high density habitation of the area is a different matter, however, and this issue is not adequately addressed by the impact statement.
245. Id. at 129.
246. Id.
247. See supra note 35.
248. MOUNT HEBGEN FES, supra note 3, at 63.
249. Id. at F-16 app., F 88-89 app.
I.S.C. (4), for the Forest Service can reject the special use permit application as soon as one initial screening factor is found to be present.

C. Mineral King

The Mineral King proposal is also easily evaluated under the proposed decisionmaking procedure. This proposal involved a Walt Disney Corporation plan to build a $60,000,000, 7,000-skier resort and extensive base facilities in the previously isolated Mineral King Valley of California’s Sequoia National Forest. It included a plan to either substantially upgrade or replace a 24-mile access road, part of which would traverse a section of Sequoia National Park. The proposed development and accompanying road produced a storm of controversy that eventually reached the U.S. Supreme Court. Ultimately, after nearly a ten year battle, Congress annexed the Mineral King Valley to Sequoia National Park and specifically prohibited any form of ski development.

A number of issues were involved in the Mineral King conflict. Pro-skiing interests expected that a developer with Disney’s reputation would design an exceptionally attractive resort. In addition, Mineral King would have been closer to Los Angeles than most existing resorts, and would have allowed skiers to save significantly on travel expenses. Environmentalists, on the other hand, strongly opposed the resort because it would be a magnet for large numbers of both winter and summer visitors. The crowds, they argued, would displace many present users of the valley, and, more importantly, induce a sudden influx of day hikers and backpackers into what had previously been one of the more isolated backcountry regions of Sequoia National Park. The result would be congestion with all of its accompanying psychic costs and environmental degradations.

Thus, the Mineral King proposal had both substantial benefits and substantial costs. It was almost certain to generate higher than normal producer and consumer surplus, yet it also had a wide range of displacement, option, existence, and bequest costs, as well as fairly signifi-

250. MINERAL KING FES, supra note 159.
251. Id. at 12. See also Graber, Loving the Sierra to Death, CRY CALIFORNIA, Winter 1977-78, at 9.
252. MINERAL KING FES, supra note 159, at 28. See also Browning, supra note 78, at 66.
256. MINERAL KING FES, supra note 159, at 7.
257. Id.
258. See generally id.; Schrepter, supra note 254.
cant aesthetic and environmental externalities. It is not surprising that it took several years and large sums of money to resolve this battle.

The difficulties presented in the Mineral King case might have been avoided if the Forest Service had considered the initial screening criteria listed in Chapter IV. I.S.C. (3), for example, would have been conclusive: The original Mineral King proposal required the construction of over $18,000,000 of high quality mountain road at state expense.\(^{259}\) The State of California was originally willing to accept the expense,\(^{260}\) but this should not have caused the Forest Service to ignore this factor. To the extent that road-building expenses were necessitated by the development, the state’s offer constituted a subsidy, and Disney should have been required to prove that its proposal was sufficiently beneficial to deserve such heavy state support.\(^{261}\) Unless it met that burden of proof, no further Forest Service action would have been necessary, and all other issues complicating the Mineral King controversy could have been avoided.

This conclusion is summarized in the worksheet depicted in Figure V. The worksheet shows only one notation on the initial screening list, but this is sufficient to require the development’s provisional rejection.\(^{262}\) In addition, Figure V identifies the controversy factors triggered by the Mineral King proposal. These factors would only have played a role in the decisionmaking process, however, if Disney could have proven that its project deserved a road-building subsidy.

### D. Arizona Snow Bowl

On first consideration, the Arizona Snow Bowl proposal appears to involve a situation similar to that presented by Mineral King. While it entails the expenditure of only $1.2 million, as opposed to the Mineral King figure of $60 million, it, too, involves substantial road improvement externalities. Seven miles of road were scheduled to be upgraded at an initial cost of approximately $2.2 million, with additional maintenance costs of an estimated $30,000 per year.\(^{263}\) Since these road construction externalities are actually larger in proportion to resort size

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259. This figure represents a 1975 cost estimate. MINERAL KING FES, supra note 159, at 10, 28.
260. In 1971, the state changed its mind, indicating that it was unable to finance all of the proposed road. Id. at 11. Thus, while the discussion in the text is useful as a case study, more must be known about later road financing plans before it can be applied to post-1971 conditions.
261. It cannot be argued that the state’s willingness to grant such a subsidy necessarily proves its value. State road-building decisions may be highly political, with little basis in economic rationality.
262. This discussion may not apply to the post-1971 Mineral King proposal. See supra note 260.
263. These figures reflect 1978 cost estimates. SNOW BOWL FES, supra note 114, at 18.
than those of Mineral King, it would appear that this proposal should also be summarily rejected unless the developer can justify such a large subsidy.

Such a conclusion, however, is premature. The proposed road is not the least expensive means for providing access to the development. According to the impact statement, the present road could be satisfactorily upgraded for a cost of only $190,000, plus $68,000 in required annual maintenance.\textsuperscript{264} Furthermore, some degree of road improvement appears necessary even without resort development, for autumn sightseers already strain the capacity of the present road.\textsuperscript{265} Thus, the Snow Bowl's road-building externalities may actually be much smaller than the costs of upgrading and maintaining a minimally adequate road.\textsuperscript{266} The exact magnitude of this externality need not be determined at this stage of the decisionmaking process, for even the full $190,000 is probably not a large enough amount to warrant summary dismissal of an application for a $1,200,000 project.

Once the road-building issue is resolved, attention may be turned to the other initial screening criteria. Most of these are easily eliminated. The Snow Bowl proposal shows no signs of developer misbehavior (I.S.C. 2, 6 & 7), entails no unusual dangers (I.S.C. 1), interferes with no underutilized resorts (I.S.C. 4), and has no clearly superior off-site alternatives (I.S.C. 9).\textsuperscript{267} Finally, while the Snow Bowl area contains several plant species which have been nominated for inclusion on the endangered or threatened species lists, there is no indication that winter use of the proposed resort will cause these species any long-term harm (I.S.C. 5).\textsuperscript{268} Thus, the presence of these rare plant species does not necessarily preclude development of the resort, though the danger of summertime trampling or picking must be carefully considered before uncontrolled off-season lift operation is permitted.

The remaining initial screening criterion, strong local anti-development sentiment (I.S.C. 8), is not as easily dismissed. The Snow Bowl proposal generated a relatively high degree of criticism, and nearly six-

\textsuperscript{264} Id. This inexpensive road would only be adequate if supplemented by a shuttle bus system. Id. at 112. The developer might lose interest in the project because of the added costs of such a system, but this should not concern the Forest Service. If the development could not survive the internalization of shuttle bus expenses, it would never survive the internalization of the $2.2 million in road-building expenses otherwise required.

\textsuperscript{265} Id. at 50, 112.

\textsuperscript{266} Sightseers may explain why the impact statement recommends the construction of such an expensive road. It is possible that the Forest Service is using the proposed Snow Bowl expansion simply as an additional argument to support road-building plans that it desired to implement beforehand. Thus, the proposed road may be justified, but only a small portion of its expenses should be attributed to the Snow Bowl expansion.

\textsuperscript{267} This information is gleaned from a general reading of the impact statement.

\textsuperscript{268} Id. at 47. In fact, one rare species may actually be aided by the resort, for it apparently thrives in the new open areas created by the existing resort. Id. at 176.
Although the impact statement does not clarify the degree to which this statistic reflects local sentiment, it does imply that local sentiment is strongly polarized on such issues as environmental preservation, deference to traditional Indian religious beliefs, and “growth versus no growth” for the Flagstaff area. Since sixteen percent is a relatively high degree of local opposition, this factor is given a question mark on the checklist in Figure V. This question mark can best be removed by a random poll of local residents, but it might also be removed if the Forest Service categorized its public inputs according to respondents’ home addresses. For the remainder of this case study, however, it will be assumed that local anti-development sentiment is not high enough to warrant a conclusion that the local community has not been sufficiently compensated for the local external costs of the project.

The Snow Bowl proposal does not fare as well under the controversiality analysis as it does under the initial screening procedure, for the resort expansion triggers several anti-development factors. Local anti-development sentiment, for example, may not be high enough to trigger summary rejection under I.S.C. (8), but it is clearly high enough to raise serious questions under A.D.F. (10). Furthermore, a total of over 1200 anti-development responses were received. Even though this represented only sixteen percent of the total number of public inputs, such an outpouring of public sentiment should be sufficient to trigger the warning of A.D.F. (5) that significant external costs might be present.

Even without such expressions of anti-development sentiment, however, the Snow Bowl proposal still triggers several anti-development factors. Its interference with traditional Indian religious values is clearly a sufficient idiosyncratic cost to trigger A.D.F. (12). Furthermore, the development threatens to interfere with hikers and backpackers on the only above-timberline peaks in Arizona (A.D.F. 6, 7 & 11). Finally, the Snow Bowl resort may significantly erode the value

269. *Id.* at 4. Over 36% of the 960 people who expressed their opinions through individual letters favored no further development. *Id.*

270. *Id.*

271. See supra text accompanying notes 269-270.

272. See supra text accompanying notes 119-121.

273. Many hikers presently climb Humphreys Peak, and a substantial number of them follow the ski runs or begin their climbs from the upper terminus of the longest chairlift. *Snow Bowl FES,* supra note 114, at 51. While these hikers would appear to be unperturbed by the presence of the ski area, an unknown number of more reclusive hikers and backpackers probably have already been displaced by the existing development. Furthermore, at least some of the present hikers would almost certainly find their experiences more enjoyable without the presence of the ski development.
of an adjacent proposed wilderness area, since construction scars and ski trails will almost certainly be visible from many of the nearby ridgelines (A.D.F. 2). Several of these wilderness and displacement costs, however, are not likely to be greatly increased by the proposed expansion. Because these costs are the result of any significant development of the permit area, the scale of development is not nearly as important as the fact that some form of intensive development exists. Nevertheless, the controversiality analysis cannot ignore these externalities unless the existing development is known to be socially beneficial. If no rational cost/benefit study was undertaken for the existing resort, or if conditions have changed since such a study was performed, the existence of pre-expansion externalities may indicate a need to reconsider whether the existing facilities are beneficial. Alternatives to the present development, including the removal of the present facilities or the curtailment of their summer operation, may be superior to the proposed expansion. They should certainly be subjected to careful cost/benefit analysis before the existing development is allowed to expand.

Figure V summarizes the results of this discussion. Since a number of other anti-development factors are clearly present, on-site alternatives such as removal of present facilities need not be carefully studied at this stage in the analysis. A.D.F. (13) is therefore given a question mark. A.D.F. (5), A.D.F. (10), and A.D.F. (12), on the other hand, are indicated as clearly present. A.D.F. (2), A.D.F. (6), A.D.F. (7) and A.D.F. (11) are labelled as present in the expanded Snow Bowl, but probably only marginally worsened by the proposed expansion. The remaining anti-development factors are either unambiguously absent or so cursorily treated in the impact statement that, for purposes of this case study, they will be assumed to be absent. The Snow Bowl expansion should not automatically be deemed non-beneficial, since it also exhibits several pro-development factors. The resort site, for example, is closer to the metropolitan centers of Phoenix and Tucson than are resorts located in Colorado, New Mexico, and southern Utah (P.D.F. 4). It is also presently overcrowded (P.D.F. 1). In the good snow year of 1977-78, total usage was 117% of comfortable capacity, and weekend usage averaged 228% of comfortable capacity. In addition, the expansion is favored by the only other Flagstaff area ski resort

274. The Snow Bowl site is surrounded on three sides by a proposed 14,650-acre wilderness area. Id.

275. The only such factor worthy of discussion is direct environmental costs (A.D.F. 1). In the case of the Snow Bowl, environmental costs generally appear to be either short run, controllable, or aesthetic. Since aesthetic costs will continue to be present even if the existing facilities are removed, this factor does not appear to be strong enough to warrant any notation in Figure V, especially since aesthetic externalities have already been partly dealt with under A.D.F. (2).

276. SNOW BOWL FES, supra note 114, at 52.
Finally, despite the fact that the draft impact statement generated a high level of anti-development sentiment, it also generated over 6600 pro-development responses, approximately 610 of which were individually signed letters (P.D.F. 5).278

In good snow years, the Snow Bowl therefore has the potential for generating substantial levels of new producer and consumer surplus. Whether these benefits are great enough to outweigh the costs of development cannot be determined through the controversy analysis. Instead, that determination must await a more thorough study of each of the costs and benefits of the resort. The results of such a cost/benefit analysis are difficult to predict, for the Snow Bowl's uncertain snowfall will significantly reduce its expected benefits. Nevertheless, it is the author's opinion that the benefits from expansion will probably outweigh the increase in external costs. If this is the case, the correct decision would be either to permit expansion with possible summertime restrictions or to reduce or remove the present operations, thereby eliminating many externalities already associated with the present scale of development. Which of these alternatives is preferable cannot be determined in this study, for it requires a level of cost/benefit analysis which is beyond the scope of this article.

E. Heritage Mountain

The Heritage Mountain proposal279 envisions a 4,500-acre, 8,300-skier destination-class resort in the Wasatch Mountains on the outskirts of Provo, Utah.280 Its base facilities will be located within the city limits of Provo, adjacent to a residential neighborhood which is only fifteen blocks from the center of the city.281 Skier access to the permit area will not be by road, but instead by a 6,100-foot funicular railroad leaving from the base facilities in Provo and carrying visitors to an elevation of 7,600 feet.282 From the upper terminus of the railroad, a network of chairlifts, gondolas, and ski trails will service the rest of the resort, which will include up to 917 acres of ski runs and four resort villages.283 These villages will feature 391 hotel units, restaurants,
shops, a swimming pool, and a small convention center.\textsuperscript{284} In addition, the base facilities in Provo will provide nearly 2,400 parking spaces, a golf course, another convention center, an extensive "Mountain West Heritage Cultural Center," condominiums, townhouses, more shops, and 712 additional hotel units.\textsuperscript{285}

The resort is intended for year-round use. The Cultural Center itself is expected to be a major tourist attraction, and many of its visitors will undoubtedly wish to ride the gondolas and visit the upper resort villages. In addition to sightseeing, the high country will also be open to a number of other uses, including hiking, picnicking, mountain climbing, orienteering, organized camping, tennis, roller skating, and environmental education.\textsuperscript{286} Total summer usage is expected to range from 4,500 visitors on weekends and holidays to 1,200 visitors during off-peak periods.\textsuperscript{287} As these numbers may suggest, summer operation is probably essential to the profitability of the development.

The Heritage Mountain proposal provides an excellent example of a large-scale development which easily survives the initial screening procedure. In its final form, the proposal requires no publicly financed road construction (I.S.C. 3), has no obviously superior off-site alternatives (I.S.C. 9), and shows no evidence of developer irresponsibility (I.S.C. 2, 6 & 7). Furthermore, most Provo and Salt Lake City ski areas appear to be doing well (I.S.C. 4), and few of Provo's 60,000 residents appear to be opposed to the development (I.S.C. 8).\textsuperscript{288}

The remaining initial screening criteria require more discussion. The Heritage Mountain permit area lies adjacent to potential nesting areas for an endangered species, the peregrine falcon (I.S.C. 5).\textsuperscript{289} It

\begin{thebibliography}{99}
\item \textsuperscript{284} Id. at 21.
\item \textsuperscript{285} Id. at 16.
\item \textsuperscript{286} Id. at 33-36.
\item \textsuperscript{287} Id. at 39.
\item \textsuperscript{288} The initial Heritage Mountain proposal contemplated an even larger development than that ultimately permitted. Even the original proposal, however, generated only 207 individual letters and 56 comments at public hearings. Id. at A-127-267 app., A-272-275 app. Public sentiment was also expressed, however, through less traditional channels, such as letters to the editor and attendance at public meetings, id. at 233-34, but this opposition appears to have come largely from a small number of people living near the proposed base facilities. Interview with Provo-based Forest Service officials (Mar. 1981). While these complaints are legitimate, they probably represent too small a segment of the local community to trigger rejection under I.S.C. (8). Furthermore, complaining neighbors have been partially appeased by the reduction of the proposal to its present form. Four Seasons FES, supra note 160, at 13. Further formal and informal opposition was received following publication of the final environmental statement. This opposition came chiefly from local environmentalists concerned that the Forest Service would be unable to supervise developer compliance with necessary mitigation measures. Telephone interview with Gary Coleman, Uinta National Forest, Provo (Apr. 5, 1983). This concern may represent a vital fear, but it will be present in all government-licensed development projects, and is therefore beyond the scope of this paper.
\item \textsuperscript{289} Id. at 69.
\end{thebibliography}
also lies adjacent to an active fault line (I.S.C. 1). Neither of the resulting dangers can be completely eliminated, but both can be controlled through appropriate mitigating measures. Since the Forest Service appears to be willing to take the necessary measures before it permits development, it will be assumed that the final proposal has reduced these dangers to an acceptable level.

Although the Heritage Mountain proposal generated relatively little public argument given its size, the checklist displayed in Figure V suggests a significant level of controversiality. Three pro-development factors are present, as are several anti-development factors. The three pro-development factors are: (1) exceptional skiing conditions (P.D.F. 2), (2) idiosyncratic benefits in the form of heavy summer visitation (P.D.F. 8), and (3) the presence of substantial tracts of similar undeveloped land nearby (P.D.F. 7). The anti-development factors include: (1) interference with a wilderness area (A.D.F. 2), (2) potential low-level interference with peregrine falcons (A.D.F. 10), and (3) potentially significant environmental degradation due to watershed damage and the extensive construction of lifts, trails, and resort villages in previously isolated terrain (A.D.F. 1). In addition, idiosyncratic costs are present in the form of competitive effects (A.D.F. 12), for despite the silence of most nearby resorts, a large share of the new development’s revenues will almost certainly be transfers from other resorts in the presently highly competitive local skiing market.

Since it features both potentially significant costs and potentially

290. Id. at 73-77.
291. Id. at 110-11, 128-29.
292. Id. at 41-43.
293. This will be particularly likely for the earthquake danger, for this danger is common to all of the nearby ski resorts, as well as the Provo and Salt Lake City metropolitan areas. Thus, earthquake danger cannot be described as locally “unusual,” and the political externalities underlying I.S.C. (1) do not appear likely. See supra text accompanying notes 176-177.
294. See supra note 288.
295. Four Seasons FES, supra note 160, at 57.
296. Id. at 39.
297. Id. at 90.
298. A small portion of the permit site lies within the 17,750-acre Provo Peak Roadless Area. Id. at 90.
299. The danger of harm to peregrine falcons may not be sufficient to warrant summary rejection under I.S.C. (5), but it should still be sufficient to trigger a warning of potentially significant external costs under A.D.F. (10).
300. Id. at 187-88.
301. Id.
302. Only one resort lodged any response to the Heritage Mountain proposal. Id. at A-92 app.
303. The conclusion that the Salt Lake City and Provo area local skiing market is competitive is based largely upon personal observations and discussions with local skiers carried out in March of 1981. It is also supported by Brighton Ski Area’s response to the draft impact statement, which stated that Utah resorts are “quite competitive” and expressed
significant benefits, the Heritage Mountain proposal, like the Snow Bowl proposal, must be subjected to a more thorough cost/benefit analysis. The results of such an analysis are not easy to predict, however, for neither the external costs nor the benefits of Heritage Mountain's ski operations appear to be large enough to be decisive. Therefore, the decision will probably turn on the impact of the resort's summer operations. These operations are an integral part of the proposed development; over one-third of the anticipated 750,000 annual visitor-days will come during the summer. Summer activities are thus likely to significantly increase the resort's consumer and producer surplus. Even though some of the listed externalities would be reduced if the resort were closed during the summer, it is quite probable that Heritage Mountain's unusual off-season potential will tip the cost/benefit balance decisively in favor of full-scale development.

F. Red River Ski Area Expansion

The Red River Ski Area\textsuperscript{304} is a regional resort located in the Sangre de Cristo Mountains twenty-three miles northeast of Taos, New Mexico. Its present comfortable capacity is 1,650 skiers, but by 1976-77 it was attracting an average of 2,100 skiers during peak weekend periods.\textsuperscript{305} The Red River expansion proposal is a plan to increase the resort's capacity to roughly 3,000 skiers. The first stage of the plan entails the construction of a short novice lift and the clearing of up to twenty-two acres of much needed novice terrain. An existing mountain-top lodge will also be expanded during this phase of the proposal. Subsequent expansions will await the improvement of sewage facilities located in the adjacent town of Red River. Ultimately, a new lift will be built one mile from the present lift, thirty-seven additional acres of new trails will be cleared, and modest base facilities will be constructed at the lower terminus of the new lift. No new accommodations are planned, and resort visitors will be encouraged to stay in motels in the nearby town of Red River. Since the ski area lies very close to the Red River townsite, no new parking areas will be constructed. Instead, the present shuttle bus system will be expanded to include both base areas, as well as any new motels which might be built as a result of the expansion.

The Red River expansion proposal triggers none of the initial doubts about the wisdom of a new resort in the area. \textit{Id.} These sources of information may not be conclusive, but they are sufficient for the purposes of this discussion.

\textsuperscript{304} See generally \textit{RED RIVER FES}, supra note 160.

\textsuperscript{305} \textit{Id.} at 36. The winter of 1976-77 might have been an exceptional one for the Red River Ski Area, for, while most other Western resorts had disastrously poor snow conditions, Red River was able to manufacture its own snow. \textit{Id.} at 12, 29. The data in the impact statement, however, shows that 2,100 skiers was not a significantly higher level of usage than that to be expected from extrapolating growth trends of the two or three preceding years.
screening criteria. No new public roads will be needed, the developer has a history of honesty and good judgment, and essentially no local opposition exists. Further, neither unusual safety risks nor threats to endangered species are present, and the Forest Service is correct in its assertion that, in order to keep land use options open for as long as possible, "areas already committed to skiing should take up the expansion in the ski market before undeveloped areas are considered."  

Thus, the only significant initial screening question raised by the expansion proposal is whether it is more appropriate to expand Red River Ski Area or the nearby Powder Puff Ski Area. No discussion of this issue can be found in the impact statement, but for the purposes of this case study, it will be assumed that the Forest Service is correct in its implicit conclusion that Red River is the best site at which to meet the rapidly increasing northeastern New Mexico skiing demand.

The Red River proposal also fares well under the controversiality analysis, for it features several important pro-development factors (see Figure V). Overcrowding, for example, regularly occurs at existing resorts (P.D.F. 1); pre-expansion conditions at the Red River resort itself clearly attest to this fact. In addition, the Red River Ski Area is blessed with an abundant water source, allowing it to use snow-making equipment to offer unusually attractive snow conditions (P.D.F. 2), especially in years when less fortunate resorts are plagued by sporadic natural snowfall. Finally, expansion of the ski area would serve to shorten skier travel distances (P.D.F. 4). Most of the resort's present visitors come from the Texas and Oklahoma panhandles, northeastern New Mexico, and plains cities even further east and northeast. If the resort is not expanded, overcrowding will undoubtedly divert many of these skiers to more distant resorts. Expansion may thus save significant travel expenses, thereby causing the resort to generate substantial levels of consumer and producer surplus.

The Red River expansion also features the two "negative" pro-development factors. Because of the proximity of the new construction site to both the existing resort and the town, the area is already heavily influenced by human activities (P.D.F. 6). Thus, expansion of the existing resort will not substantially alter the character of the area, and external costs are likely to be unusually low. Furthermore, the area under consideration is similar to large portions of the Carson National

306. Id. at 18.
307. The ability to install such snow-making equipment is itself unusual. It requires an abundant supply of water, which the ski area is able to purchase from the town of Red River. Id. at 2.
308. Id.
309. This factor is not triggered by the Heritage Mountain proposal. Although that site is physically close to Provo, the topography of the Wasatch Front gives the area a relatively isolated atmosphere. Personal visit (Mar. 1981).
Forest; in fact, substantial tracts of better nearby terrain are available for low-intensity use (P.D.F. 7).\textsuperscript{310} Hence, even the removal of the present facilities would not benefit low-intensity users, and effects of the proposed expansion are likely to be quite small.

The Red River expansion proposal nearly qualifies as non-controversially beneficial. Its most significant direct environmental danger is the potential overloading of the Red River sewage system (A.D.F. 1),\textsuperscript{311} but this danger has been controlled by the postponement of the more ambitious stages of the expansion program. The only other significant direct environmental danger is soil erosion, and this problem can be satisfactorily controlled by phased construction and the use of snowmaking equipment to aid revegetation.\textsuperscript{312}

Most other anti-development factors are more clearly absent. Little if any anti-development sentiment has been expressed (A.D.F. 5),\textsuperscript{313} existing resorts have registered no opposition (A.D.F. 3), and there is no indication that industrial development bonds will be utilized (A.D.F. 9). Furthermore, while the ski area lies with 3300 feet of the Columbine-Hondo Wilderness Study Area, no negative effects appear likely (A.D.F. 2 & 11), for that edge of the Study Area is already strongly influenced by a highway and the town of Red River.

Anti-development factor (8), the presence of nearby unzoned private land, however, is clearly triggered by the proposed expansion. Much of the private land around the new base site is outside the boundaries of the town of Red River. While Red River has a zoning ordinance, the ordinance is ineffective in precisely those regions where the pressures for peripheral development are expected to be the most intense.\textsuperscript{314} Furthermore, no county zoning ordinance exists.\textsuperscript{315} Therefore, despite its obvious merits, the Red River proposal is not non-controversially beneficial.

The proposal's one flaw, however, suggests an interesting on-site alternative (A.D.F. 13): The Forest Service could condition the issuance of a new special use permit upon the presence of some form of control over peripheral development.\textsuperscript{316} Although this alternative must be subjected to a more detailed cost/benefit analysis, one point is clear:

\begin{itemize}
\item \textsuperscript{310} RED RIVER FES, supra note 160, at 8. The Wheeler Peak Wilderness Area is only eight miles away, and the Columbine-Hondo Wilderness Study Area is even closer. \textit{Id.} at 16.
\item \textsuperscript{311} \textit{Id.} at 24.
\item \textsuperscript{312} \textit{Id.} at 12.
\item \textsuperscript{313} Even the numerous environmental groups notified by the Forest Service failed to respond to the impact statement. \textit{Id.} at 19-29.
\item \textsuperscript{314} \textit{Id.} at 15.
\item \textsuperscript{315} \textit{Id.}
\item \textsuperscript{316} Such a conditional permit would not necessarily be non-controversially beneficial, for it might impose high transaction costs on the responsible government entity, thereby triggering A.D.F. (12), idiosyncratic costs.
\end{itemize}
Some type of expansion will almost certainly be found to be socially beneficial, even if peripheral development must be allowed to proceed unchecked.

G. Conclusion

The preceding case studies reveal several interesting points about the decisionmaking procedure proposed by this article. While it is relatively easy for projects to pass the initial screening test, few projects presently qualify as non-controversially beneficial. This does not necessarily mean that the controversy test is overly strict. The Forest Service's history of pro-development bias and its poor economic analyses have not created any incentives for developers to plan along non-controversial lines. If the methods proposed in this article are uniformly adopted and widely understood, developments will be designed to meet the new standards, and an increasing percentage of new ski proposals will undoubtedly be found to be non-controversially beneficial.

The proposed decisionmaking procedure has another practical benefit: It provides a continuous source of inspiration for socially beneficial modifications of the original proposal. Although the Forest Service must be careful not to prematurely exclude potentially viable alternatives, a policy of continuous amendment can greatly expedite the decisionmaking process by reducing the number of alternatives which must ultimately be subjected to a thorough cost/benefit analysis. Furthermore, as the case studies show, judicious modifications can greatly increase the acceptability of a proposal. It should even be possible in some cases for a series of clearly beneficial amendments to systematically eliminate all anti-development factors, thereby converting a proposal's status from controversial to non-controversially beneficial.

By inspiring such changes, the controversy test may also serve to channel the thinking processes of the Forest Service. It is specifically hoped that the decisionmaking process proposed herein will not only compel certain standards of minimum behavior from the Forest Service, but will also encourage the agency to search for the most economically rational means of meeting the requirements of downhill skiers. If this change in orientation can be accomplished, the Forest Service may still make occasional mistakes, butgrave errors of the type discussed in Chapter III should be eliminated. In addition, the Forest Service's growing economic expertise may spill over into its other regulatory activities, thereby encouraging better management of outdoor resources unrelated to those at stake in the realm of ski resort development.